UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA, Plaintiff, and TOBACCO-FREE KIDS ACTION FUND, AMERICAN CANCER SOCIETY, AMERICAN HEART ASSOCIATION, AMERICAN LUNG ASSOCIATION, AMERICANS FOR NONSMOKERS' RIGHTS, and NATIONAL AFRICAN AMERICAN TOBACCO PREVENTION NETWORK Intervenors, v. PHILIP MORRIS INCORPORATED, et al. Defendants.	Civil Action No. 99-CV-02496 (GK) Next scheduled court appearance: (none scheduled) **REDACTED FOR PUBLIC FILING**[1]

UNITED STATES' FINAL PROPOSED FINDINGS OF FACT
(Incorporating Errata of August 16, 2005)

[1]Information designated by Defendants as "Confidential" pursuant to Order #7, Order #36, and Order #638 in the above-captioned action has been redacted. Order #7 allows each Defendant to designate as "Confidential" such information, document or material that it in good faith believes "derives independent economic value, actual or potential, from not being generally known to the public or to other persons who can obtain economic value from its disclosure and use; and is the subject of efforts that are reasonable under the circumstances to maintain its secrecy;" or information otherwise entitled to protection under Rule 26(c) of the Federal Rules of Civil Procedure. Order #36 allows each Defendant to designate as "Confidential" information that is entitled to protection pursuant to Order #7 and meets the further requirement that it is "so proprietary or competitively sensitive that its disclosure to a competitor would cause irreparable competitive injury." Order #638 supplements and adds to the provisions of Orders #7 and #36 and sets forth procedures for "any party wishing to make confidentiality designations for Information and/or Designated Prior Testimony."

TABLE OF CONTENTS

GLOSSARY OF ABBREVIATIONS

The following abbreviations are used throughout the United States' Post-Trial Proposed Findings of Fact for citations to the trial record:

United States' Post-Trial Proposed Findings of Fact	US FF
Witness Written Direct Testimony	WD
Witness Trial Testimony	TT
Designated Prior Deposition Testimony	PD
Designated Prior Trial Testimony	PT
Exhibit Admitted During Trial	(A)
Exhibit Offered During Trial	(O)

EXECUTIVE SUMMARY

In the course of trial that began in September 2004 and lasted nearly nine months, the United States established facts that prove that each of the Defendants in this action has committed violations of Sections 1962(c) and 1962(d) of the Racketeer Influenced and Corrupt Organizations Act ("RICO"), 18 U.S.C. §§ 1961-1968, as alleged in Counts 3 and 4 of the United States' First Amended Complaint. The evidence introduced by the United States – presented through 58 live witnesses, over 10,000 documents, and testimony of 120 witnesses appearing by prior designation – proves that Defendants have engaged in a massive 50-year scheme to defraud the American public, including consumers of cigarettes, and that Defendants' past and ongoing conduct establishes a reasonable likelihood of future violations. Accordingly, the totality of the evidence compels a finding that Defendants have violated RICO and warrants imposition of equitable relief to prevent and restrain Defendants from committing ongoing and future violations. The evidence supporting these findings is set forth in the United States' Post-Trial Proposed Findings of Fact.

In the course of the trial, the Court had the opportunity to observe the many witnesses proffered by both sides, and to assess their credibility in its role as finder of fact. The experts proffered by the United States were all highly qualified to assist the Court in the areas in which they testified. The United States' experts testified on topics that extended naturally from their own professional work, reached conclusions that find widespread support in the relevant fields or disciplines and that rested on the broadest range of relevant evidence; therefore, the United States' experts were highly credible. Many of these witnesses – Dr. Jonathan Samet, Dr. Allan Brandt, Dr. Neal Benowitz, Dr. Jack Henningfield, Dr. Jeffrey Harris, Dr. Paul Slovic, Dr. Neil Weinstein, Dr. David Burns, Dr. Frank Chaloupka, Dr. Michael Fiore, Dr. Michael Eriksen, Dr.

Anthony Biglan, and Dr. Max Bazerman – are widely recognized as among the world's preeminent experts on the precise subjects on which they offered testimony. Thus, their testimony rested – in addition to materials reviewed for this particular case – upon years of education, training, and personal research and experience on the matters on which they were called to testfy. Many had dozens, in some cases hundreds, of peer-review publications on smoking and health issues in their respective field of expertise, and several have been selected as editors or senior editors on Reports of the Surgeon General or other consensus-based reports of scientific and public health bodies on smoking and health topics.

By contrast, Defendants' experts – and their scientific experts in particular – were markedly less credentialed and accomplished in the particular areas for which they were called to testify. In contrast to the United States' experts, many of Defendants' experts – including Edwin Bradley, Peter Rowell, James Langenfeld, Richard Semenik, James Heckman, Donald Rubin, Daniel Fischel, William Wecker, Roman Weil, and Dennis Carlton – have few or no peer-reviewed publications on smoking and health issues. In addition, some of these experts, including Langenfeld and Semenik, offered opinions about Defendants' conduct without reviewing tobacco company documents directly relevant to the subject matter of their testimony. While many had expertise in a particular field, that field was tangential or marginally related to the actual subjects on which they testified to this Court. For most of these witnesses, their involvement with the subject matter of their testimony began when they were recruited by Defense counsel for consulting or expert witness work, and their work in the area has been confined to lucrative service as expert witnesses or consultants for these Defendants in smoking and health litigation.

Additionally, Defendants' fact witnesses – including adverse fact witnesses called by the

United States during its case-in-chief – were handsomely paid current and former employees who repeatedly offered or embraced strained readings of documents, often basing testimony on single documents that were not representative of the weight of the evidence on a particular topic. In other instances, Defendants' witnesses offered post hoc explanations for conduct that were directly contradicted and impeached by documents created contemporaneously with the events. Thus, the testimony of Defendants' witnesses, on the main, was less well grounded in documentary support, more effectively impeached during cross-examination, and thus less credible.

Cigarette Smoking, Disease and Death

Cigarette smoking and exposure to secondhand smoke kills nearly 440,000 Americans every year. The annual number of deaths due to cigarette smoking is substantially greater than the annual number of deaths due to illegal drug use, alcohol consumption, automobile accidents, fires, homicides, suicides and AIDS combined. Approximately one out of every five deaths that occur in the United States is caused by cigarette smoking, which adversely effects almost every organ in the body. Among the major diseases caused by smoking are lung cancer, atherosclerosis, cerebrovascular disease, chronic obstructive pulmonary disease, cardiovascular disease, including myocardial infarction and coronary heart disease, esophageal cancer, kidney cancer, laryngeal cancer, and oral cancer. The Reports on Smoking and Health prepared by the Office of the Surgeon General since 1964 have detailed smoking's role in causing death and disease. The 2004 Surgeon's General Report offers an effective compilation of the consensus conclusions of the scientific and medical communities as to the list of diseases caused by smoking.

As cogently explained at trial through the testimony of Dr. Samet, Chair of the

Epidemiology Department at Johns Hopkins Bloomberg School of Public Health, and Dr. Brandt, who occupies an endowed chair as a Professor of the History of Medicine at Harvard Medical School and is Chairman of the Department of the History of Science at Harvard University, the focus on smoking as a possible cause of disease began in the middle of the twentieth century. Physicians and public health officials in the United States had widely noted an alarming increase in numbers of cases of lung cancer. Virtually unknown as a cause of death in 1900, by 1935 there were an estimated 4,000 deaths annually. A decade later, the annual death toll from lung cancer had nearly tripled. The meteoric rise in lung cancers followed the dramatic increase in cigarette consumption that had begun early in the twentieth century. Annual per capita consumption of cigarettes in 1900 stood at approximately forty-nine cigarettes; by 1930, annual per capita consumption was over 1,300; by 1950, it was over 3,000. Population studies showed that the increases in lung cancer cases and deaths, though they lagged in time behind this increase in cigarette use, closely tracked the spike in cigarette smoking. This apparent association led to considerable speculation about the relationship between cigarette smoking and ill health. The initial speculation was confirmed by scientific study.

By late 1953, there had been at least five published epidemiologic investigations, as well as others identifying and examining carcinogenic components in tobacco smoke and their effects. The researchers conducting these studies had come to a categorical understanding of the link between smoking and lung cancer. This understanding was both broader and deeper than that obtained from the case studies and preliminary statistical findings earlier in the century. While some of the epidemiological methods were innovative, the scientists using them were careful to approach them in a thorough manner; these methods were completely consistent with established scientific procedure and process. Epidemiology was not just based on statistics, but also was an

interdisciplinary, applied field. The studies substantially transformed the scientific knowledge base concerning the harms of cigarette use. Unlike earlier anecdotal and clinical assessments, these studies offered new and pathbreaking approaches to investigating and resolving causal relationships.

The Formation of the Enterprise and the Launch of the Scheme to Defraud

In response to this growing body of evidence that smoking caused lung cancer, Defendants and their agents joined together and launched their coordinated scheme in the early 1950s. Defendants developed and implemented a unified strategy that sought to reassure the public that there was no evidence that smoking causes disease. At the end of 1953, at the urging of the chief executive of the leading cigarette manufacturer at the time, American Tobacco, the chief executives of the five major cigarette manufacturers in the United States – Philip Morris, R.J. Reynolds, Brown & Williamson, Lorillard, and American – met at the Plaza Hotel in New York City with representatives of the public relations firm Hill & Knowlton and agreed to jointly conduct a long term public relations campaign to counter the growing evidence linking smoking as a cause of serious diseases. The series of meetings at the Plaza Hotel spawned an association-in-fact enterprise ("Enterprise") to execute a fraudulent scheme in furtherance of their overriding common objective – to preserve and enhance the tobacco industry's profits by maximizing the numbers of smokers and number of cigarettes smoked and to avoid adverse liability judgments and adverse publicity. The fraudulent scheme would continue for the next five decades.

As a result of the Plaza Hotel meetings, the companies launched their public relations campaign by issuing the "Frank Statement to Cigarette Smokers," a full page announcement published in 448 newspapers across the United States in January 1954. The Frank Statement included two statements that lay at the heart of Defendants' fraudulent scheme – first, that there

was "no proof" that smoking was a cause of any disease; and second, that the industry would jointly sponsor and disclose the results of "independent" research aimed at uncovering the health effects of smoking through the new industry-funded Tobacco Industry Research Committee ("TIRC"), later renamed the Council for Tobacco Research ("CTR"). At the same time that Defendants told the public that "we accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business," they established a sophisticated public relations apparatus in the form of TIRC – based on the "cover" of conducting research – to deny the harms of smoking or to claim that the issue of whether smoking causes disease remained an "open controversy." Defendants' two pronged approach was designed both to reassure smokers that they could keep smoking because proof of smoking's harms was lacking, and to reassure the public that they were responsible companies that were most interested in discovering the answers.

As Dr. Brandt concluded after extensive historical study of both the developing body of scientific evidence and Defendants' conduct, the "controversy" over the question of smoking and health did not exist in the scientific world. Defendants' contention that through the 1950s and 1960s eminent scientists equally and independently lined up on both sides of a "controversy" about the harms of smoking, is not supported by evidence. Instead, Defendants developed and effectuated **public relations** strategies to attempt to maintain and foment controversy in the face of new research, ever-mounting evidence, and emerging scientific consensus. And once they had organized and set in motion the essential strategy of generating "controversy" surrounding the scientific findings linking smoking to disease, Defendants stuck to this essential approach, without wavering, for the next half-century.

Over time, other entities joined and actively participated in the affairs of the ongoing

Enterprise and conspiracy, including Defendants Liggett and BATCo, Brown & Williamson's affiliate. Much of the evidence proving the existence of the Enterprise – and each Defendants' association with it and participation in its affairs – exists in documents and prior designated testimony submitted to the Court record. In 1958, the members of TIRC formed Defendant The Tobacco Institute, Inc. ("Tobacco Institute"), to assume many of TIRC's public relations functions. After its incorporation in 1985, Philip Morris Companies joined the Enterprise, becoming a direct parent to Philip Morris as well as to Philip Morris International, which had previously been a division of Philip Morris.[1] The Enterprise operated through both formal structures, including jointly funded and directed entities such as TIRC/CTR and the Tobacco Institute, and other less formal means, including scientific and legal committees, and direct contacts among and between Defendants, to communicate, advance, and maintain a united front, and to ensure lockstep adherence to achieve their shared aims. Defendants developed and used this extensive and interlocking web because they recognized that any departure from the industry-wide approach to the content of public statements made anywhere in the world, or the nature of research would have severe adverse consequences for the entire industry. To coordinate and further their fraudulent scheme, Defendants made, and caused to be made and received, innumerable mail and electronic transmissions from the 1950s through present.

Evidence introduced by the United States through witnesses and documents proves that Defendants' fraudulent scheme to publicly deny that smoking was a proven cause of disease occurred on the massive scale and for the duration that it did only because individuals both

[1] In January 2003, Defendant Philip Morris Inc. changed its name to Philip Morris USA Inc., and Defendant Philip Morris Companies Inc. changed its name to Altria Group, Inc. These Post-Trial Findings of Fact refer to Philip Morris USA as "Philip Morris" and "Philip Morris USA" interchangeably, and refer to Altria as "Philip Morris Companies" and "Altria" interchangeably.

employed by and associated with Defendants acted intentionally and specifically in furtherance of that scheme. The same is true for all other components of the overarching scheme to defraud as well. The record is replete with documented instances of Defendants' employees choosing courses of conduct with explicit acknowledgment that the conduct was motivated not by the "merits," but by the commitment to protect and further Defendants' scheme. In addition to express evidence of Defendants' fraudulent intent in the Court record, the evidence in the case offers powerful circumstantial evidence of Defendants' intent to defraud the American public.

The Role of TIRC/CTR and the Tobacco Institute in Defendants' Decades-Long Campaign to Deny and Distort the Health Effects of Smoking

From the outset, the dual functions of TIRC/CTR, public relations and scientific research, were intertwined. Rather than carefully and critically assessing the emerging scientific data concerning the harms of smoking, TIRC/CTR focused its energies and resources in two areas. First, in its public relations capacity, it repeatedly attacked scientific studies that demonstrated the harms of cigarette smoke and worked to reassure smokers about cigarettes. Defendants' control of CTR meant it could never and would never conclude that smoking causes any disease, and in its 46 years of existence ending in 2000, it never did. Second, it developed and funded a research program that concentrated on basic processes of disease and that was distant from, if not completely irrelevant to, evaluating the immediate and fundamental questions of the risks and harms associated with smoking. Dr. Brandt testified that CTR "never developed an approach to carcinogenesis and tobacco that could resolve the question of the harms induced by cigarette smoking."

From its establishment in 1958, the Tobacco Institute became the main public voice of Defendants. The Tobacco Institute employed numerous means of communication – issue statements, advertisements, pamphlets, testimony, and television spokespersons – to advance

Defendants' jointly formulated positions on smoking and health issues, including denying that smoking cigarettes causes diseases, and supporting the false claim that the link between smoking cigarettes (and exposure to secondhand smoke) and adverse health effects remained a legitimate "open question." In this way, the functions (public relations and research) of these two entities were integrally related – by Defendants' intentional design, both organizations were fully committed to Defendants' goals of denying and discrediting the substantial scientific evidence of smoking's harms and convincing the public (especially smokers and potential smokers) that smoking was not harmful to health.

Defendants repeatedly represented to the public that they were sponsoring independent research aimed at discovering the health effects of smoking. Indeed, Defendants told the public that they created TIRC/CTR to administer this effort. These statements were misleading and deceptive half-truths, because in fact, as shown through the testimony of numerous documents and witnesses – both those appearing live and by prior designation – the Cigarette Company Defendants[2] used TIRC/CTR to serve as a "front" organization to advance their public relations and litigation defense objectives. Through CTR, the Cigarette Company Defendants funded "Special Projects" – research projects conceived and directed by committees of industry representatives, including lawyers, to support scientists who had shown a willingness and ability to generate information and provide testimony that could bolster the industry's litigation defenses before courts and governmental bodies and cast doubt on the scientific evidence that smoking caused cancer and other diseases. Similarly, Defendants also sponsored jointly funded research

[2]As used here and throughout the United States' Post-Trial Findings of Fact, "Cigarette Company Defendants" refers to Defendants American Tobacco, British American Tobacco (Investments) Limited ("BATCo"), Brown & Williamson, Liggett, Lorillard, Philip Morris, and R.J. Reynolds.

through lawyer-administered "Special Accounts" – to recruit and support industry-friendly researchers to serve as expert witnesses in litigation and to represent the industry's scientific position in legislative and regulatory proceedings.

Within the individual Cigarette Company Defendants, high-ranking scientists and executives recognized the legitimacy of the scientific consensus, and the limited amount of internal research that their scientists did perform was wholly consistent with the results of mainstream scientific study. The Court heard unchallenged testimony from Dr. William Farone, a physical chemist who Philip Morris hired in 1976 to oversee its development of potentially less hazardous cigarettes, that it was "well accepted" within Philip Morris during his eight years there that smoking causes disease. Dr. Farone's testimony was buttressed by similar testimony from Jerry Whidby, a scientist for 26 years at Philip Morris, who admitted that when he began at Philip Morris in 1972, he already believed smoking to be a cause of disease.

Yet Defendants' executives and lawyers, as well as outside lawyers representing the companies, also recognized that any public disclosure or acknowledgment of this internal understanding that cigarettes cause disease would jeopardize their unified public relations position, would threaten industry profits, and would expose not just individual companies, but the entire industry, to legal liability and product regulation. Thus, numerous exhibits discuss and explain a particular Defendant's conduct by overt references to what is good for the "industry" as a whole, and the need to maintain "industry cooperation" or "coordination."

The starting point for evaluating whether Defendants' public statements on the health effects of smoking were fraudulent is the statements themselves, and what Defendants intended the public to take away from those statements. It is clear that the actual public statements issued by organizations like TIRC/CTR, the Tobacco Institute, and Cigarette Company Defendants

themselves, were flatly inconsistent with Defendants' actual understanding of the causal link between smoking and disease. For example, when Defendants assured the public through their "Frank Statement" that "there is **no proof** that cigarette smoking is one of the causes [of cancer]" (emphasis added), citing approvingly to unnamed "authorities," that was not true at the time, and Defendants knew it. Defendants' internal documents acknowledge that their public denial that smoking cigarettes causes disease both was contrary to the overwhelming medical and scientific consensus – established through extensive epidemiological and other scientific investigation by the early 1950s – and was intended to convince smokers and potential smokers that there remained genuine scientific "controversy" about whether smoking caused disease. Indeed, some internal documents state explicitly that Defendants' public statements were false, contrary to the overwhelming weight of scientific evidence, and not scientifically defensible.

In short, the evidence before the Court demonstrates that Defendants' public statements denying that smoking causes adverse health effects were knowingly false, deceptive, misleading, or otherwise fraudulent when made.

The Agreement Not to Compete on Health Claims or to Perform Certain Biological Research

Defendants' joint commitment to publicly deny that any marketed cigarettes were a proven cause of disease had profound effects on all aspects of their business, including their marketing and research activities. For example, documentary evidence as selected and explained at trial by Dr. Jeffrey Harris, an economist from M.I.T., proves that Defendants recognized that there was a substantial market for a cigarette that could be marketed as potentially less hazardous, but that they collectively agreed not to do anything in the marketing and development of cigarettes that would jeopardize the public relations position at the core of the scheme to defraud: the denial that any commercially sold cigarettes were a proven cause of disease. In his

trial testimony, Dr. Farone confirmed that he personally learned of these agreed-upon limitations on marketing and research conduct while at Philip Morris, and that the agreement imposed actual restrictions on the type of research Philip Morris would conduct on cigarettes in their United States' laboratories. And Dr. Harris's testimony explained the basis for his conclusion that Defendants' behavior in this area has evidenced overt economic collusion among Defendants rather than vigorous competition.

Defendants made public statements proclaiming their commitment – and ability – to develop potentially less hazardous cigarettes, but always with the caveat that such actions were unnecessary unless and until cigarettes were proven to cause disease. For example:

- In 1964, Bowman Gray, Chairman of the Board of R.J. Reynolds, stated publicly on behalf of R.J. Reynolds, Philip Morris, Brown & Williamson, Lorillard, Liggett, and American, that "[i]f it is proven that cigarettes are harmful, we want to do something about it regardless of what somebody else tells us to do. And we would do our level best. This is just being human."

- In the January 24, 1972 issue of the *Wall Street Journal*, Philip Morris Senior Vice President James Bowling declared that "[i]f our product is harmful . . . we'll stop making it. We now know enough that we can take anything out of our product, but we don't know what ingredients to take out." Bowling further stated that "[w]e don't know if smoking is harmful to health, and we think somebody ought to find out."

- In June 1978, a Tobacco Institute Vice President, in the magazine *Business Horizons*, reflected the industry's public stance that cigarettes need not be made safer because they were already safe: "A question often asked of the tobacco industry is whether researchers are developing a 'safe' cigarette. . . . The tobacco industry is convinced that no cigarette has been proved unsafe. Therefore, they regard any suggestion of a 'safe' or 'safer' cigarette as tortured logic."

As explained by Dr. Farone and supported by documentary evidence going back to the Plaza Hotel meetings in December 1953, this restriction on their business activity had two related components. First, Defendants agreed not to compete on smoking and health issues in the

marketing of cigarettes, because any suggestion that one brand was less harmful than another begged the implicit recognition that others were more hazardous – an implication that contradicted Defendants' public stance that no cigarettes were unsafe.

Accordingly, when a Defendant designed a cigarette – or developed a cigarette component – intended to potentially reduce the delivery of harmful smoke constituents to the smoker, the Defendant intentionally chose not to provide such information to the consumer, even if they believed it to be truthful scientific information. As an RJR lawyer told officials at the Food and Drug Administration and other federal health agencies in 1987, when discussing the "Premier" cigarette that RJR believed to be less hazardous, Reynolds would not make health-related marketing claims about Premier because the tobacco industry maintained that "conventional cigarettes are not unsafe, and that it would never reverse this position." Promoting one cigarette as "safer" than others "would be an indictment of the tobacco industry and its long standing position that conventional cigarettes are not unsafe."

In another instance, Defendant Liggett spent twelve years and $15 million developing a cigarette – the XA – that its research showed to be significantly less carcinogenic than its conventional cigarettes. However, Liggett killed the entire project before marketing the cigarette to consumers after B&W threatened Liggett's "very existence" if it marketed the cigarette. B&W also threatened to freeze Liggett out of joint defense agreements and exclude Liggett from the Tobacco Institute. Delivered through B&W's representative on the Tobacco Institute's Committee of Counsel, the threat was based on B&W's view that selling XA would be an admission against the interest of all Cigarette Company Defendants.

The second part of this agreement, the so-called "Gentleman's Agreement," was a joint commitment not to perform certain types of biological tests using commercially sold cigarettes in

their domestic research facilities. This research restriction was intended to prevent Defendants from generating internal evidence that could, if ever disclosed, suggest that the companies believed there was any need to examine whether a causative link existed between smoking and disease, let alone generate scientific information that confirmed such a link. While Defendants did undertake product development research in their labs, the evidence shows it was of a defensive nature, to be prepared should the agreement not to compete break down.

At trial, Defendants proffered an expert, Dr. Langenfeld, to suggest another reason for Defendants' failure to compete in this area – the threat of FTC regulation or enforcement actions. However, this expert did not look at Defendants' internal documents, and thus was unable to opine credibly about Defendants' state of mind. In fact, as Dr. Harris and Dr. Farone explained, supported by internal contemporaneous documents, it was the joint commitment to the fraud – not the FTC – that motivated Defendants' actions.

Secondhand Smoke

Evidence indicting passive smoking (also called secondhand smoke, environmental tobacco smoke, or "ETS") as a health hazard grew in the 1970s and 1980s. In 1986, the volume and strength of that scientific evidence prompted the Surgeon General, the National Research Council, and the International Agency for Research on Cancer to conclude that passive smoking causes lung cancer. In addition, passive exposure of infants and children adversely affects respiratory health, increasing the risk for severe lower respiratory infections, middle ear disease (otitis media), chronic respiratory symptoms, asthma, and sudden infant death syndrome, as well as reducing the rate of lung function growth during childhood. At trial, the testimony of United States' experts Dr. Jonathan Samet, who has contributed to several of the major consensus reports by public health bodies evaluating the evidence on secondhand smoke, and Dr. David Burns,

who has been a senior scientific editors of multiple Surgeon General's Reports, was consistent with this scientific consensus.

The consensus scientific conclusion that secondhand smoke causes disease and other adverse health effects rests on several grounds, including knowledge of the health risks of active smoking, the carcinogenicity and toxicity of components of mainstream and sidestream smoke, the evidence of the absorption by nonsmokers of disease-causing components of tobacco smoke, the absence of a threshold level for carcinogenic effects, and epidemiological studies that have assessed the association of passive exposure with disease outcomes.

During the 1970s, as the scientific evidence suggesting that passive exposure was hazardous began to grow and public health authorities began to warn of a potential health risks, Defendants recognized a major threat to their profits through smoking restrictions a general decrease in the social acceptability of smoking. In 1974, Tobacco Institute Chairman Horace Kornegay warned that smoking restrictions not only impacted sales but also "could lead to the virtual elimination of cigarette smoking." Reynolds CEO Ed Horrigan wrote Lorillard executives in 1982: "We all know that probably the biggest threat to our industry is the issue of passive smoking." A 1986 BATCo document recorded: "The world tobacco industry sees the ETS issue as the most serious threat to our whole business." Philip Morris Companies Vice Chairman Bill Murray was advised in 1987: "The situation can't get any worse. Sales are down, can't be attributed to taxes or price increases. ETS is the link between smokers and non-smokers and is, thus, the anti's silver bullet."

In response, Defendants crafted and implemented a broad-based "open question" strategy that echoed the fraudulent approach Defendants had taken with respect to what referred to as the "primary issue" – the adverse health effects for smokers themselves. The heart of Defendants'

strategy lay in their sustained, coordinated efforts to attack and distort the evidence indicting passive smoking as a health hazard. Defendants' objective was to deceive the public, government officials, and scientists into believing that an independent "controversy" existed as to the health risks of passive smoking.

As the testimony and documentary evidence established at trial, Defendants' initiatives went far beyond making false and deceptive public statements denying and distorting ETS's known health risks. Defendants have covertly funded favorable research through front organizations, secretly recruiting and training a network of consultants to parrot the industry's position worldwide. While John Rupp, a longtime industry counsel personally involved in these efforts, attempted to portray these activities in a benign light, his testimony was directly undermined and impeached by the contemporaneous documentary evidence. The Court also heard, during the examination of Reynolds scientist Michael Ogden, how Defendants' scientists and lawyers ghostwrote scientific articles published under the names of consultants, and directed "symposia" to get the consultants' industry-favorable papers and opinions into the scientific literature. Similarly, the trial testimony of Rupp and Reynolds' lawyer Mary Ward, and prior designations of Shook Hardy & Bacon's Donald Hoel, revealed the intense management of ETS scientific projects by lawyers – including these three witnesses – to maximize the use of the data and conclusions they generated. All of these initiatives were carried out as Defendants, including Tobacco Institute spokesperson Brennan Dawson, told the public that they would seek the truth and conduct objective research, and in spite of internal research confirming that secondhand smoke was a health hazard.

As part of Defendant's strategy, Philip Morris, Lorillard, and Reynolds created the Center for Indoor Air Research ("CIAR") in 1988. B&W formally joined CIAR in 1995, and BATCo

participated in the funding and management of certain CIAR "sponsored" projects. In the words of Philip Morris's Tom Osdene, CIAR's main purpose was intended to provide the industry with "ammunition" on the ETS "battlefield." CIAR took over the research responsibilities of the industry committee that had previously operated under the direction of Defendants' law firms Shook, Hardy & Bacon and Covington & Burling. Through the trial testimony of Max Eisenberg, who was hired to administer CIAR, the United States established that Defendants controlled CIAR and sought to conceal that control and instead portray CIAR as an "independent" research funding organization. BATCO's Chris Proctor viewed CIAR as a "buffer" that would give the industry's ETS projects legitimacy while still allowing "strong control of the projects." CIAR counsel John Rupp wrote in March 1993: "In sum, while one might wish it otherwise, the value of CIAR depends on the industry's playing an active role (1) in identifying research projects likely to be of value and (2) working to make sure that the findings of funded research are brought to the attention of decision makers in an appropriate and timely manner."

CIAR funded over $21 million in "Applied Projects" around the world to undermine the scientific consensus that ETS was a health hazard, while Defendants hid their management of scientific projects behind a facade of scientific independence. The CIAR Board of Directors, composed of executives and top scientists from the cigarette manufacturer members, had exclusive funding authority. Applied Projects were funded with no review by the organization's Scientific Advisory Board for scientific merit. Once funded, Applied Projects were closely managed by Board members and industry attorneys. The data and conclusions from the Applied Studies were then used by Defendants with the media, public health authorities, and government officials to dispute the known health risks of ETS. Thus, CIAR allowed Defendants a means to

create the perception of an independent "scientific controversy" surrounding the health effects of ETS exposure, for the purpose of opposing smoking restrictions and make smoking more publicly acceptable.

Similarly, as acknowledged by BATCo's Sharon Blackie at trial, Defendants developed an ETS Consultancy Program as an extension and amplification of domestic initiatives by industry law firms to counter ever-mounting evidence of secondhand smoke's harms. Through this global program, Defendants worked to covertly identify, "educate," and pay scientists in every world market to make public statements, author scientific papers, pen letters to scientific journals, and plan and attend scientific conferences. Defendants' explicit intent was to influence three particular audiences: "the scientific community, regulatory authorities, and the general public." BATCo's Blackie wrote: "If independent scientists back up our position, it becomes more credible, not only to the general public and the media, but to politicians and other decision-makers." For this reason, Defendants created a facade of independence by making contact with consultants only through the lawyers, having the consultants bill the law firms instead of the companies for their work, founding new organizations that consultants could point to publicly as their source, and omitting attribution to the companies in their public statements. Like CIAR, the overarching goal of the consultancy program was to create the false impression of a legitimate scientific controversy in order to forestall smoking restrictions and make smoking more publicly acceptable. B&W attorney Kendrick Wells called the consultancy program a "public relations program, not a scientific research operation." And, in the words of John Rupp, using the law firm "buffer" had the added benefit of protecting documents behind privilege.

Defendants' conduct with respect to passive smoking continues to this day. Currently, no Defendant publicly accepts the overwhelming scientific consensus that passive exposure to

cigarette smoke causes disease and other adverse health effects.

Addiction and the Manipulation of Nicotine Levels in Cigarettes

Cigarette smoking is an addictive behavior, a drug dependency characterized by compulsive use, psychoactive effects, and drug-reinforced behavior. Underlying the smoking behavior and its remarkable intractability to cessation is the drug nicotine. Nicotine is the primary component of cigarettes that creates and sustains addiction to cigarettes. This was established through the testimony of the United States' addiction experts – Dr. Neal Benowitz and Dr. Jack Henningfield, among the world's leading experts in their particular fields – and bolstered by the admissions of Defendants' sole nicotine expert, Dr. Peter Rowell.

At trial, Defendants offered little to no evidence to counter the documentary evidence and witness testimony demonstrating that the specific public statements that Defendants have made on the subject of addiction were intentionally false, misleading, or otherwise fraudulent when made.

Defendants have studied nicotine and its effects intensively since the 1950s. The trial record is replete with documents describing Defendants' examination and knowledge of nicotine's pharmacological effects on smokers, whether they characterized that effect as "addictive," "dependence-producing" or "habituating." The testimony of numerous witnesses, including former Philip Morris scientists Drs. Farone, Victor DeNoble, and Paul Mele, former Brown & Williamson Vice President Jeffrey Wigand, and Dr. Henningfield, demonstrates unequivocally that this focus on nicotine stemmed from Defendants' understanding of the central role nicotine plays in keeping smokers smoking, and thus its critical importance to the continued profitability, and very existence, of their industry. Indeed, witness testimony and trial exhibits show that Defendants purposefully designed and sold products that delivered a

pharmacologically effective dose of nicotine in order to create and sustain nicotine addiction in smokers. For example, an internal document drafted by high-level Philip Morris scientist Helmut Wakeham in 1969 recognized:

> We share the conviction with others that it is the pharmacological effect of inhaled smoke which mediates the smoking habit. . . .
>
> We have then as our first premise, that the primary motivation for smoking is to obtain the pharmacological effect of nicotine.
>
> In the past we at R & D have said that we're not in the cigarette business, we're in the smoke business. It might be more pointed to observe that the cigarette is the vehicle of smoke, smoke is the vehicle of nicotine, and nicotine is the agent of a pleasurable body response.
>
> This primary incentive to smoking gets obscured by the overlay secondary incentives, which have been superimposed upon the habit. Psychoanalysts have speculated about the importance of the sucking behavior, describing it as oral regression. Psychologists have proposed that the smoker is projecting and ego-image with puffing and his halo of smoke. One frequently hears "I have to have something to do with my hands" as a reason. All are perhaps operative motives, but we hold that none are adequate to sustain the habit in the absence of nicotine.
>
> We are not suggesting that the effect of nicotine is responsible for the initiation of the habit. To the contrary. The first cigarette is a noxious experience to the noviate. To account for the fact that the beginning smoker will tolerate the unpleasantness, we must invoke a psychosocial motive. Smoking for the beginner is a symbolic act. The smoker is telling the world, "This is the kind of person I am. . . ."
>
> As the force from the psychosocial symbolism subsides, the pharmacological effect takes over to sustain the habit . . . .

Similarly, R. J. Reynolds researcher Claude Teague acknowledged in an internal 1972 report, "Thus a tobacco product is, in essence, a vehicle for delivery of nicotine, designed to deliver the nicotine in a generally acceptable and attractive form. Our industry is then based upon design, manufacture and sale of attractive dosage forms of nicotine."

In March 1982, the National Institute on Drug Abuse noted that "five major national and

international reviews of this question, which have involved the most knowledgeable and experienced authorities in the area, have all reached the same conclusion: cigarette smoking is an addiction." Dr. Henningfield explained that in 1988, the Surgeon General's Report on "The Health Consequences of Smoking: Nicotine Addiction" affirmed this existing scientific and medical consensus. Dr. Rowell, Defendants' expert, agreed with the definition of "drug dependence" in that report, and agreed that nicotine is a drug of dependence.

Yet beginning in 1982, Defendants made numerous public statements that:

- Smoking cigarettes is not addictive because some smokers can, and have, quit smoking on their own;
- Smoking cigarettes is not addictive because it does not lead to physical "dependence";
- Smoking cigarettes is not addictive because it does not lead to "intoxication"; and
- Smoking cigarettes is not addictive because cigarettes are not like other addictive drugs, but rather smoking cigarettes is merely a "habit" like playing tennis, jogging, eating candy or listening to rock music.

At trial, not a single Defense witness – including Brennan Dawson, a former Tobacco Institute spokesperson who made many such statements on Defendants' behalf, and Dr. Rowell, Defendants' expert on nicotine – could provide any support for the proposition that any drug-taking behavior, including smoking, is not addictive if users can quit. Similarly, Dr. Rowell also readily testified that it is wrong as a matter of science to say that a drug is not addictive because it does not cause intoxication or physical dependence (as marked by withdrawal), and agreed that some addictive drugs, like cocaine and metamphetamine, have withdrawal of a severity comparable to nicotine; moreover, Dr. Rowell testified that at the time Defendants made these

statements, there was evidence that smoking cigarettes does in fact cause physical dependence. Dr. Rowell also agreed with the United States' experts that, as an addiction, smoking cigarettes involves a drug and is **not** comparable to non-drug "habits" like nailbiting, jogging, or playing tennis; and that nicotine the drug plays an essential role in cigarette use. Under questioning from his own counsel, Dr. Rowell testified to similarities between cigarette use and "hard" drug use, and he stated unambiguously, "there is clearly addiction for cigarette smoking."

To this day, Defendant cigarette manufacturers omit material information by failing to inform smokers about the addictiveness of the drug nicotine in cigarettes. At trial, Defendants' witnesses – including Philip Morris's current General Counsel and Senior Vice President, Denise Keane – admitted that the fact that nicotine is a drug and primarily responsible for addiction is important, material information for a smoker. Yet no Defendant has publicly admitted that nicotine delivered by cigarettes is addictive. Defendants' current public statements on addiction – including statements on their respective corporate Internet websites that acknowledge, to varying degrees, that smoking is addictive – avoid any mention of nicotine, let alone its role in addiction. Dr. Henningfield and Dr. Michael Eriksen, former director of the CDC's Office on Smoking and Health, both testified that Defendants' current statements about addiction omit material information by failing to inform smokers that smoking is addictive because cigarettes deliver the addictive drug nicotine.

Defendants have intentionally maintained and coordinated their fraudulent position on addiction and nicotine as an important part of their overall efforts to influence public opinion and persuade people that smoking was not dangerous. In this way, Defendants have kept more smokers smoking, recruited more new smokers, and maintained or increased profits. Additionally, Defendants have sought to discredit proof of addiction in order to preserve their

"smoking is a free choice" arguments in smoking and health litigation.

As part of Defendants' focused study of nicotine and its effects on the smoker, Defendants dedicated substantial resources to devise techniques to modify and manipulate the amount of nicotine that their products deliver. Dr. Farone, testifying from his personal experience and as an undisputed expert in cigarette design, and Dr. Henningfield, based on extensive review of Defendants' documents, testified that Defendants have studied extensively how every characteristic of every component of cigarettes – including the tobacco blend, the paper, the filter, and the manufacturing process – impacts nicotine delivery, and have utilized that understanding in designing their cigarettes on the market. In light of Defendants' recognition that "no one has ever become a cigarette smoker by smoking cigarettes without nicotine," Cigarette Company Defendants have designed their cigarettes with a central overriding objective – to ensure that smokers can obtain enough nicotine to create and sustain addiction.

As a necessary corollary to Defendants' fraudulent denial that smoking and nicotine are addictive, Defendants have publicly and fraudulently denied that they manipulate nicotine. The evidence shows that Defendants' particular statements denying manipulation of nicotine have been intentionally deceptive, misleading, or otherwise fraudulent when made. Through these and other false statements, Defendants have furthered their common efforts to deceive the public and carry out their fraudulent scheme.

Light and Low Tar Cigarettes

The Cigarette Company Defendants have designed and marketed so-called "low tar/low nicotine" in a manner intentionally designed to serve and further the fraudulent objectives of the Enterprise by keeping people smoking. As explained by several of the United States' experts, particularly Dr. David Burns, Dr. Benowitz, Dr. Henningfield, and Dr. Farone, and supported by

a extensive documentary record, Defendants developed cigarettes that would register lower yields on the standardized machine-smoking test whose results were reported by the FTC beginning in 1967 ("FTC test"), but that allow human smokers to obtain higher doses of nicotine needed to sustain their addiction. Defendants engaged in massive, sustained, and highly sophisticated marketing and promotional campaigns intended to portray these "health reassurance" brands – cigarettes with low FTC tar and nicotine ratings – as less harmful than regular cigarettes, and thus an acceptable alternative to quitting, while at the same time carefully avoiding any admission that any negative health impacts from smoking had been proven. However, Defendants knew that because the cigarette design itself influenced how people would smoke, their "low tar" or "light" cigarettes were unlikely to present any meaningful harm reduction over cigarettes with higher FTC tar yields.

As awareness and concern about the adverse health risks associated with smoking began to grow in the early 1950s, Defendants began developing cigarettes they internally referred to as "health reassurance" brands in an effort to keep smokers in the market. Initially, Defendants explicitly marketed and promoted these brands as safer as the result of an added filter which purportedly protected smokers from the harmful tar in cigarette smoke. Having established the link in the minds of consumers between low tar/filtration and reduced harm through use of explicit – but baseless – health claims, Defendants' later advertisements contained implied health claims that built on their earlier advertisements, but avoided alerting consumers explicitly to the adverse health effects of smoking. As Dr. Robert Dolan testified, for several decades Defendants have marketed and promoted their so-called "low tar/nicotine" cigarettes using brand descriptors like "Light," "Ultralight," "Mild" and "Medium" and claims of "low tar and nicotine" to suggest to consumers that these products are safer than regular, higher tar cigarettes.

Defendants made, and continue to make, implied health benefit claims regarding filtered and low tar cigarettes when they either lacked evidence to substantiate the claims or knew that they were false. Internal industry research documents show that Defendants never had adequate support for their claims of reduced health risk from low tar cigarettes, but rather confirm Defendants' awareness by the late 1960s–early 1970s that low tar cigarettes were unlikely to provide any health benefit to smokers compared to full flavor cigarettes. Drs. Samet, Benowitz, and Burns testified that it was not until 2001 that the public health and scientific communities generally recognized what Defendants have long known internally: there is no meaningful reduction in disease risk in smoking low tar cigarettes as opposed to smoking regular cigarettes.

Defendants' longtime internal understanding stemmed from their knowledge that their low tar cigarettes, as designed, do not actually deliver to human smokers the low FTC test tar and nicotine yields reported by the FTC and exploited by Defendants in their product labeling and marketing. Defendants have long known that to obtain an amount of nicotine sufficient to satisfy their addiction, smokers of low tar cigarettes modify their smoking behavior, or "compensate," for the reduced yields by inhaling smoke more deeply, holding smoke in their lungs longer, covering cigarette ventilation holes with fingers or lips, and/or smoking more cigarettes. As a result of this nicotine-driven smoker behavior, smokers of light cigarettes concurrently boost their intake of tar, thus negating what Defendants have long promoted as a primary health-related benefit of light cigarettes: lower tar intake.

As Dr. Farone, Dr. Burns, Dr. Henningfield, and Dr. Wigand testified, Defendants have affirmatively exploited their understanding of nicotine-driven compensation by deliberately designing "low tar" cigarettes that facilitate a smoker's ability to compensate to ensure adequate delivery of nicotine to create and sustain addiction. Even as they did this, and despite having

evidence that low tar cigarettes provide no health benefits and may in fact deter people from quitting, Defendants have withheld and suppressed such evidence from public dissemination. Indeed, in the late 1980s Philip Morris even referred internally to ex-smokers and potential quitters as a "textbook marketing opportunity."

Extensive evidence shows that Defendants used terms such as "Light" and "Low Tar" intentionally to convey their false "health reassurance" message rather than just a "taste" message, because their research showed that people smoked low tar products despite, not because of, the taste. Accordingly, Defendants' marketing themes repeatedly tried to convince smokers that their brands could provide the main claimed benefit of light cigarettes – increased safety – without sacrificing "taste." Further, Defendants used both verbal and non-verbal communications to convey their health reassurance message, employing colors and imagery that their research indicated people associated with healthier products. And Defendants conducted and sponsored market research that showed, again and again, that their use of descriptors and other marketing approaches has worked – substantial percentages of smokers interpreted Defendants' brand descriptors as communicating messages of relative safety. Dr. Neil Weinstein presented expert testimony on this topic, testifying based on his own research and the relevant published scientific literature that a significant percentage of smokers believe that "low tar" cigarettes are safer than full tar cigarettes.

Defendants' campaign of deception has impacted Americans' decisions to smoke. As a result of Defendants' conduct, health concerned smokers have switched from regular cigarettes to those with lower reported tar yields rather than quitting smoking altogether. Smokers of "light" and "ultra light" cigarettes are less likely to quit smoking than are smokers of regular cigarettes. Additionally, as a result of Defendants' fraudulent marketing and deceptive design of "light" and

"ultra light" cigarettes, many smokers of these cigarettes consume more cigarettes than do smokers of regular cigarettes. Defendants' conduct relating to low tar cigarettes furthers the aims of the Enterprise and the scheme to defraud by providing a false sense of reassurance to smokers that weakens their resolve to quit smoking, and serves to draw ex-smokers back into the market. In short, Defendants' concerted campaign of deception regarding low tar cigarettes has been a calculated – and extremely successful – scheme to increase their profits at the expense of the health of the American public.

Defendants claim that they have "come clean" on compensation and "light" cigarettes in the last few years, because some Defendants have included a line in advertisements telling smokers that the amount of tar and nicotine they receive depends upon how they smoke the cigarette, and Defendants' Internet websites contain certain information about "light" cigarettes and brand descriptors. These tepid disclosures fail to meaningfully inform consumers of what Defendants themselves have long known, and exploited: that as a result of smokers' addiction to **nicotine**, and the compensatory smoking behaviors undertaken to satisfy the need for nicotine, smokers generally receive doses that far exceed the FTC ratings.

Youth Marketing

Cigarette smoking, particularly that begun by young people, continues to be the leading cause of preventable disease and premature mortality in the United States. Of children and adolescents who are regular smokers, one out of three will die of smoking-related disease. As part of the scheme to defraud, Defendants have intentionally marketed cigarettes to youth while falsely denying that they have done and continue to do so. Defendants' own documents in the trial record demonstrate that Defendants have long recognized that the continued profitability of the industry depends upon new smokers entering the "franchise" as current smokers die from

smoking-related diseases or quit. Defendants have similarly known that an overwhelming majority of regular smokers begin smoking before age eighteen and remain loyal to their initial brand choice of cigarettes.

In 1964, under public pressure for their marketing practices, Defendants adopted a voluntary advertising code, and publicly promised that under the advertising code they would not market to young people. Just as Defendants publicly promoted their joint support for allegedly "independent" smoking and health research to show that they were concerned about the welfare of smokers and to support their (false) claim that they were not selling a product they knew to be harmful, so Defendants touted the voluntary advertising code to reassure the public – also falsely – that they were not corporate exploiters preying on America's youth for profit.

After establishing the voluntary advertising code as a collective umbrella to defuse public concern about their marketing activities, Defendants continued unabated their efforts to capture as much of the youth market as possible, effectively ignoring the code's provisions and eliminating its enforcement mechanisms entirely within a few years of the code's adoption.

And just as Defendants enlisted the Tobacco Institute to be their lead public voice denying that cigarettes were harmful and proclaiming their commitment to "independent" research, they enlisted the Tobacco Institute to tell the public that they did not market to youth, that their marketing was only aimed at adult smokers, and that their marketing had no impact on youth smoking. Individual Defendants made these public statements as well. These public statements were false and misleading. Dr. Robert Dolan, a marketing expert and Dean of the University of Michigan Business School, testified after reviewing Defendants' internal marketing plans and documents that, contrary to Defendants' public statements, the Defendant Cigarette Companies' marketing practices were intended to impact the number of people who began

smoking (as well as to decrease the likelihood that people would quit smoking and to increase consumption).

The Court received evidence from many sources that established that Defendants have long known that the majority of smokers begin smoking as youth and develop brand loyalty as youths. The evidence further proved that cigarette marketing particularly attracts young people, and that persons who begin smoking when they are teenagers are very likely to become addicted and remain lifetime smokers. For example:

- A March 31, 1981 report conducted by the Philip Morris Research Center entitled "Young Smokers Prevalence, Trends, Implications, and Related Demographic Trends" stated that "Today's teenager is tomorrow's potential regular customer, and the overwhelming majority of smokers first begin to smoke while still in their teens . . . it is during the teenage years that the initial brand choice is made."

- A September 22, 1989 report prepared for Philip Morris by its main advertising agency, Leo Burnett U.S.A., described Philip Morris's marketing's target audience as a "moving target in transition from adolescence to young adulthood."

- An August 30, 1978 Lorillard memorandum stated: "The success of NEWPORT has been fantastic during the past few years. . . . [T]he base of our business is the high school student. Newport in the 1970s is turning into the Marlboro of the 1960s and 1970s."

- A July 9, 1984 report circulated to the heads of B&W's Marketing and Research Development departments stated "[o]ur future business depends on the size of [the] starter population."

- In a November 26, 1974 memorandum entitled "R.J. Reynolds Tobacco Company Domestic Operating Goals, R.J. Reynolds stated its "[p]rimary goal in 1975 and ensuing years is to reestablish R.J. Reynolds's share of growth in the domestic cigarette industry," by targeting the "14-24 age group" who, "[a]s they mature, will account for key share of cigarette volume for next 25 years. Winston has 14% of this franchise, while Marlboro has 33%. - SALEM has 9%--Kool has 17%." The memorandum indicated that R.J. Reynolds "will direct advertising appeal to this young adult group without alienating the brand's current franchise."

- A September 27, 1982 memorandum written by Diane Burrows, R.J.

> Reynolds Market Research Department, and circulated to L.W. Hall, Jr. Vice President of R.J. Reynolds Marketing Department, stated: "The loss of younger adult males and teenagers is more important to the long term, drying up the supply of new smokers to replace the old. This is not a fixed loss to the industry: its importance increases with time. In ten years, increased rate per day would have been expected to raise this group's consumption by more than 50%."

Defendants targeted young people with their marketing efforts and allocated substantial resources researching the habits and preferences of the youth market to inform that marketing. For instance, a 1976 Brown & Williamson document containing information drawn from a study of smokers stated that "[t]he 16-25 age group has consistently accounted for the highest level of starters." In 1980, the R.J. Reynolds Marketing Development Department issued a series of internal reports entitled "Teenage Smokers (14-17) and New Adult Smokers and Quitters" which surveyed the smoking habits of fourteen to seventeen year olds.

Knowing that advertising and promotion stimulated the demand for cigarettes, the Cigarette Company Defendants used their knowledge of young people's vulnerabilities gained in this research in order to create marketing campaigns (including advertising and promotion) that would and did appeal to youth, in order to foster youth smoking initiation and ensure that young smokers would choose their brands. As presented in the extensive testimony of United States' experts Dr. Anthony Biglan, an expert in adolescent psychology at the Oregon Research Institute and a preeminent prevention science expert, and Dr. Dean Krugman, a mass communication and marketing communications expert from the University of Georgia, and through the cross-examination of Defendants' witnesses, including Lorillard marketing executive Victor Lindsley and former B&W CEO Susan Ivey, Defendants designed marketing campaigns and promotional activities that appeal to the psychological needs of adolescents. These campaigns have intentionally exploited adolescents' vulnerability to imagery utilizing themes that are, to this day,

the same as they have been for decades: masculinity, independence, attractiveness, adventurousness, glamour, athleticism, social inclusion, sexual attractiveness, thinness, popularity, rebelliousness, and being "cool." Dr. Paul Slovic, one of the world's leading experts on risk perception and decision making, explained that young people's decision-making is driven by emotion rather than reason, and that Defendants' communications downplayed the perceived health risks associated with smoking; and Dr. Slovic and Dr. Neil Weinstein, another leading researcher in the field of risk perception, testified that people – and smokers in particular – underestimate the adverse health effects they are likely to personally face from smoking. The testimony of Defendants' expert on this topic, Kip Viscusi, was less credible than that of Drs. Slovic and Weinstein because Viscusi's opinions rested on the results of three questions asked in four surveys, three of which were funded by the tobacco industry and conducted for use in litigation, and the fourth of which was a small survey conducted by Viscusi after he began his long term consulting affiliation with Defendants and their lawyers.

At trial, the United States called Dr. Frank Chaloupka, a health economist who is a preeminent expert on the relationship between cigarette price and smoking initiation and continuation. Dr. Chaloupka offered well supported testimony, not disputed by any of Defendants' own expert witnesses, that teenage smoking behavior is two to three times more sensitive to price than smoking among adults and that Defendants know that smoking behavior among teenagers is particularly price sensitive. Dr. Chaloupka further explained that teenage smoking behavior is specifically sensitive to changes in the price of Marlboro, Newport and Camel, that Defendants understand the impact of changes in cigarette prices of these brands on youth smoking, and that Defendants use their knowledge in developing and implementing their price-related marketing strategies. Drs. Chaloupka, Dolan, Krugman, and Biglan testified that

Cigarette Company Defendants continue to advertise in youth-oriented publications; employ imagery and messages that they know are appealing to teenagers; increasingly concentrate their marketing in places where they know youths will frequent such as convenience stores; engage in strategic pricing to attract youths; increase their marketing at point-of-sale locations with promotions, self-service displays, and other materials; sponsor sporting and entertainment events, many of which are televised or otherwise broadcast and draw large youth audiences; and engage in a host of other activities which are designed to attract youth to begin and continue smoking. Defendants continue to spend more than 12 billion dollars a year on cigarette brand marketing. As Dr. Krugman concluded, "the tobacco companies' cigarette advertising and promotion expenditures, historically and currently, remain high on an absolute basis and relative to other industries."

Notwithstanding the magnitude of Defendants' efforts to appeal to the youth market, Defendants even throughout this trial publicly deny their efforts to appeal to the youth market. The Court also saw extensive evidence that Defendants continue to falsely claim that their cigarette marketing does not affect youth smoking initiation and continuation. Yet, independent scientific studies published in reputable scientific journals and in official government reports, have confirmed that Defendants' marketing contributes to the primary demand for and continuing use of cigarettes. Defendants' internal documents in the trial record indicate that their understanding of marketing's impact underlay and has informed Defendants's marketing strategies. Over the past ten years, there have been a number of comprehensive reviews of the scientific evidence concerning the effects of cigarette marketing, including advertising and promotion, on smoking decisions by young people. As the Court heard from Dr. Eriksen, a foremost expert in public health, the weight of all available evidence, including survey data,

scientific studies and experiments, behavioral studies, and econometric studies, supports the conclusion that cigarette marketing is a causal factor that substantially contributes to the decision of young people to begin smoking and the decision to continue smoking.

Concealment and Suppression of Information

From at least 1954 to the present, Defendants engaged in parallel efforts to destroy and conceal documents and information in furtherance of the Enterprise's goals of (1) preventing the public from learning the truth about smoking's adverse impact on health; (2) preventing the public from learning the truth about the addictiveness of nicotine; (3) avoiding or, at a minimum, limiting liability for smoking and health related claims in litigation; and (4) avoiding statutory and regulatory limitations on the cigarette industry, including limitations on advertising. These activities occurred despite the promises of Defendants that (a) they did not conceal, suppress or destroy evidence, and that (b) they shared with the American people all pertinent information regarding the true health effects of smoking, including research findings related to smoking and health.

Indeed, even in this case the Court has found certain Defendants to have flouted their document preservation obligations. For example, this Court found Philip Morris to have engaged in spoliation of evidence, because high-level scientists and executives failed to preserve emails in violation of the Court's document preservation order and Philip Morris's own document retention requirements.

Indeed, as recently as 1996, Martin Broughton, Chief Executive of BAT Industries, the then ultimate parent company of BATCo and Brown & Williamson, made a statement to the *Wall Street Journal* denying that BAT Industries and its subsidiaries had concealed research linking smoking and disease. Broughton stated: "We haven't concealed, we do not conceal and

we will never conceal. We have no internal research which proves that smoking causes lung cancer or other diseases or, indeed, that smoking is addictive." However, at trial, the United States introduced testimonial and documentary evidence, such as through Dr. Wigand, establishing that BAT and its subsidiaries, including BATCo and (until very recently) B&W, have undertaken extensive, systematic efforts intended to conceal potentially damaging documents and information from disclosure or discovery by the public and litigation adversaries.

The Court also received additional evidence of Philip Morris's suppression-related conduct, ranging from directives to limit direct contact between Philip Morris and its overseas labs doing sensitive smoking and health research, to repeated steps to successfully prevent publication of research conducted by Drs. DeNoble and Mele in the early 1980s that confirmed intravenous self-administration of nicotine by rats, a hallmark of addiction.

There Is a Reasonable Likelihood of Ongoing and Future Violations

The evidence presented in the United States' Post-Trial Findings of Fact compels the conclusion that, absent relief, there is a reasonable likelihood that Defendants will continue to engage in conduct unlawful under RICO. Defendants' unlawful conduct has not occurred in isolated events, but rather has been part of a far-reaching, decades-long coordinated and intentional scheme to defraud. Philip Morris, Reynolds, Lorillard, Liggett, and BATCo continue to exist and to manufacture and market cigarettes. Contrary to Defendants' claims at trial, Defendants have not fundamentally changed in recent years; Philip Morris Companies, Philip Morris, Reynolds, and Lorillard continue to be led by people who have worked at the companies for an average of 24, 15-20, 24, and 22 years, respectively, and some of the senior leadership of these Defendants have been personally involved in Defendants' fraud.

There is no evidence in the record that any Defendant has affirmatively withdrawn from

the RICO Enterprise or conspiracy. Moreover, while there is less evidence proving explicit coordination among Defendants currently and in the recent past – because Defendants have made concerted efforts to limit written documentation of certain matters – there is still considerable evidence demonstrating that Defendants continue to approach certain smoking and health issues in ways that are fully consistent with past approaches that evidence established was done in coordinated fashion.

As but a few examples, Defendants generally claim that they are aligned with the public health community on the issue of addiction, but to this day not a single Joint Defendant publicly recognizes a critical component of that public health consensus on addiction: smoking is a **drug** addiction primarily caused by nicotine; and not a single Defendant publicly agrees that nicotine delivered by cigarettes is addictive. In the area of cigarette marketing, Defendants continue to market certain cigarettes with brand descriptors like "light" and "low tar/low nicotine." Defendants know that a substantial percentage of smokers believe that "light" cigarettes are less harmful, because Defendants have spent decades fostering and encouraged that belief, even though Defendants themselves have long been aware that such cigarettes are not likely to be any less hazardous than their full tar counterparts.

Even on the issue of causation, no Defendant admitted directly that smoking causes disease until the punitive damage phase of the Engle case in 2000, well after this case was underway. On the stand in this case, Andrew Schindler, Reynolds's former CEO and current Chairman of its new parent Reynolds American, would not admit directly that smoking causes disease. Reynolds's current website continues to hedge on the same point, stating that smoking can only cause disease in some individuals "in combination with other factors."

In the area of ETS, even during the course of this litigation, Defendants have continued to

refuse to agree with the overwhelming medical and scientific consensus that secondhand smoke causes disease and other adverse health effects, and have continued to support research designed to undermine that conclusion.

And Defendants continue to market their cigarettes in ways they know and intend to appeal to adolescents and teenagers.

Remedies Sought by the United States Will Prevent and Restrain Future Unlawful Conduct by Defendants

In short, Defendants' scheme to defraud permeated and influenced all facets of Defendants' conduct – research, product development, advertising, marketing, legal, public relations, and communications – in a manner that has resulted in extraordinary profits for the past half-century, but has had devastating consequences for the public's health.

As the United States' Post-Tiral Findings of Fact demonstrate, the United States is entitled to the equitable relief sought under RICO. The United States has produced substantial evidence that the Defendants' scheme to defraud had damaging and wide-ranging implications, including influence on initiation and continued smoking for people of all ages. All of Defendants' sales of cigarettes to all consumers from 1954 to 2001 were inextricably intertwined with this massive scheme to defraud the public.

The equitable relief sought by the United States is necessary and appropriate to prevent and restrain Defendants from continuing to engage in conduct unlawful under RICO.[3] The evidence – particularly the testimony and documents introduced through Surgeon General Carmona, Dr. Jonathan Gruber, Dr. Timothy Wyant, Dr. Max Bazerman, Dr. Michael Eriksen,

[3] On July 18, 2005, the United States filed a petition for certiorari with the United States Supreme Court, seeking review and reversal of the D.C. Circuit's February 2005 decision on the availability of disgorgement under RICO's civil provisions, 18 U.S.C. § 1964.

Dr. Michael Fiore, Dr. Cheryl Healton, and Matthew Myers – supports the imposition of the following interdependent, integrated set of remedies as described more specifically in the body of the document: a comprehensive, well-promoted smoking cessation program funded but not controlled or administered by Defendants; a counter-marketing campaign funded but not controlled or administered by Defendants; a results-oriented Youth Smoking Reduction Remedy that establishes target youth smoking rates for Defendants to reach will therefore restrain Defendants from marketing in ways that appeal to youth; the requirement that Defendants issue corrective communications on smoking and health issues in the same fora they have made fraudulent public statements on such issues, with the content of such communications to be ordered or approved by the Court; disclosure of documents, disaggregated marketing data, and health and safety risks; independent review and oversight of Defendants' business practices through the use of Court-appointed monitors; prohibiting distortions and misrepresentations about smoking and health issues; restrictions on the use of brand descriptors; and restrictions on Defendants's ability to use youth-appealing techniques and imagery in marketing.

I

DEFENDANTS ESTABLISHED AN ENTERPRISE

A. Introduction

1. The United States has established by a preponderance of the evidence the existence of an "enterprise" as defined in 18 U.S.C. § 1961(4) and as alleged in the First Amended Complaint.

2. The members of the enterprise are Defendants – Philip Morris USA Inc. ("Philip Morris"), R.J. Reynolds Tobacco Company ("Reynolds" or "RJR"), Brown & Williamson Tobacco Corporation ("Brown & Williamson" or "B&W"), Lorillard Tobacco Company, Inc. ("Lorillard"), Liggett Group, Inc. ("Liggett"), American Tobacco Company ("American"), Altria Group, Inc. f/k/a Philip Morris Companies Inc. ("Philip Morris Companies"), British American Tobacco (Investments) Ltd. ("BATCo"), Council for Tobacco Research - U.S.A., Inc. ("CTR"), The Tobacco Institute, Inc. ("Tobacco Institute") – and their agents, employees, successors, and assigns along with other entities and individuals (the "Enterprise").

3. At all relevant times each Defendant has been a legal entity distinct from each other Defendant and from the Enterprise, which consists of a group of business entities, including Defendants, and individuals associated in fact. It is clear that the group of entities and individuals that constitutes the Enterprise is broader than each corporate Defendant that is a member of the Enterprise.

4. The Enterprise, including its leaders, members, and associates, constituted an association-in-fact enterprise, that is, a group of individuals and entities associated in fact. The Enterprise constituted an ongoing organization whose members functioned as a continuing unit for more than fifty years for a common purpose of achieving the objectives of the Enterprise.

These objectives included defrauding the public of money and enhancing the Defendants' profits by preserving and expanding the market for cigarettes through a variety of means and avoiding adverse liability verdicts in litigation in the face of the growing body of scientific and medical evidence about the health effects and addictiveness of smoking.

5. At all relevant times, the Enterprise has existed separate and apart from Defendants' racketeering acts and their RICO conspiracy to commit such acts. The Enterprise has an ascertainable structure and purpose beyond the scope and commission of Defendants' predicate racketeering acts. The Enterprise has a consensual decision making structure that, among other things, is used to coordinate strategy, manipulate scientific data, suppress the truth about the consequences of smoking, and otherwise further the goals of the Enterprise and Defendants' scheme to defraud. See US FF § III, infra.

6. This Enterprise was engaged in, and its activities affected, interstate and foreign commerce. See US FF § II, infra.

7. The Enterprise developed and executed a scheme to defraud the public in the following manner, among other means: (1) to conceal the adverse health effects caused by smoking cigarettes and exposure to cigarette smoke, by maintaining that there was an "open question" as to whether smoking cigarettes causes disease and other adverse effects, despite the fact that Defendants knew otherwise, and by ensuring that their research, development, and marketing of cigarettes (including potentially less hazardous products) remained consistent with these core public relations positions; (2) to deceive consumers into starting and continuing to smoke cigarettes by undertaking an obligation to take actions, including funding independent research, in order to determine if smoking cigarettes causes cancer or other diseases, while pre-selecting researchers and directing funds to irrelevant research and research that supported

Defendants' positions on smoking and health issues; (3) to deceive consumers into becoming or staying addicted to cigarettes by maintaining that nicotine is not addictive, despite the fact that Defendants knew that nicotine is addictive; (4) to deceive consumers into becoming or staying addicted to cigarettes by manipulating nicotine levels in cigarettes, the design of cigarettes, and the delivery of nicotine to smokers, while at the same time denying that they engaged in such manipulation; and (5) to deceive consumers, including youth, by claiming that they did not market to youth, while engaging in marketing with the intent of addicting youth into becoming lifetime smokers; (6) to deceive consumers through deceptive marketing to exploit smokers' desire for less hazardous and "low tar" cigarettes; and (7) to conceal and suppress information and/or to destroy records which may have been detrimental to the interests of the members of the Enterprise, including information which could be discoverable in smoking and health liability cases against Defendants or in congressional and other governmental proceedings and information that could constitute, or lead to, evidence of the link between smoking cigarettes and adverse health consequences and addictiveness. See US FF § III, infra.

8. The evidence overwhelmingly proves that, at all relevant times, each Defendant has been associated with the Enterprise.

9. At all relevant times, each Defendant has conducted and participated, directly and indirectly, in the conduct of the affairs of the Enterprise through a pattern of racketeering activity.

10. At all relevant times, each Defendant participated in the operation and management of the Enterprise.

11. Each Defendant engaged in a pattern of racketeering in the conduct of the affairs of the Enterprise and committed and/or aided and abetted the racketeering acts as alleged in the Amended Complaint, in furtherance of conducting the affairs of the Enterprise. The racketeering

acts committed and/or aided and abetted by each Defendant constitute a pattern. See US FF § IV, infra.

12. The racketeering acts committed and/or aided and abetted by each Defendant are "related" in that they: (a) have the same or similar purposes, results, participants, victims and methods of commission; (b) have furthered the objectives of the Enterprise, especially one of the Enterprise's primary objectives to maximize members' profits through a scheme to defraud the public; (c) benefitted the interests of the Enterprise; and (d) the Defendants' control of, and participation with others in, the Enterprise facilitated their commission of racketeering acts.

13. The racketeering acts committed and/or aided and abetted by each Defendant establish the requisite "continuity" because: (a) the Defendants committed the racketeering acts over a substantial period of time; (b) the predicate acts themselves involve a distinct threat of long-term racketeering activity, by including a specific threat of repetition extending indefinitely into the future; (c) the racketeering acts are a regular way of conducting the Defendants' ongoing businesses; (d) the Defendants' cigarette company businesses are ongoing and they continue to be in a position to continue their unlawful fraudulent activity; and (e) the totality of the evidence establishes that the Defendants and others acting in concert with them have participated in extensive fraudulent activity for more than fifty years, and have committed literally hundreds of acts of mail and wire fraud in addition to the 145 racketeering acts specifically alleged.

14. The racketeering acts committed and/or aided and abetted by each Defendant have a nexus, or meaningful connection, to the Enterprise.

15. Each Defendant knowingly conspired to conduct and participate, directly and indirectly, in the affairs of the Enterprise through a pattern of racketeering activity, as that term is defined by 18 U.S.C. §§ 1961(1) and (5).

16. Each Defendant knew the general nature of the conspiracy and that the conspiracy extends beyond each Defendant's individual role in the conspiracy. In that respect, each Defendant has known about, and has participated in, the Enterprise, and has well known that the primary objective of the Enterprise is to preserve and enhance Defendants' profits by, among other means, devising and executing a scheme to defraud the public, and to avoid adverse liability verdicts in the face of the growing body of scientific and medical evidence about the adverse health effects and addictiveness of smoking cigarettes. See US FF § III, infra.

17. Each Defendant agreed to violate RICO in that each Defendant agreed to conduct the affairs of the Enterprise through the pattern of racketeering activity set forth in the Amended Complaint, in the United States' Response to Interrogatory 35, and in US FF §§ I, III, IV, infra. Each Defendant, over a period of years, committed and/or aided and abetted several racketeering acts in furtherance of the affairs of the Enterprise. From such evidence the Court may, and does, infer an agreement to violate RICO.

18. Each Defendant agreed to violate RICO in that each Defendant agreed to facilitate the commission of a substantive RICO violation with the knowledge that other Defendants were also conspiring to participate in the same Enterprise through racketeering activity.

19. Each Defendant agreed that a conspirator would commit at least two acts of racketeering activity in the conduct of the affairs of the Enterprise.

20. Each Defendant directed and coordinated various activities in furtherance of the affairs of the Enterprise and RICO conspiracy through correspondence and other communications between and among Defendants and Defendants' participation meetings, committees, and other organizations. See US FF §§ I and III, infra.

21. In furtherance of the objectives of the Enterprise and the RICO conspiracy, the

Defendants: (a) developed and executed a scheme to defraud the public that was designed to preserve and enhance the market for cigarettes through a variety of means; (b) caused the public dissemination of numerous false, deceptive, and misleading statements; and (c) endeavored to conceal or suppress information and documents and/or to destroy records which may have been detrimental to the interests of the members of the Enterprise, including information which could be discoverable in smoking and health liability cases or in other proceedings that could constitute, or lead to, evidence of the link between smoking cigarettes ad adverse health consequences and addictiveness of smoking. See US FF § III, infra.

22. The Defendants have engaged in an extensive pattern of intentional, unlawful, fraudulent activity more than fifty years.

23. There is a reasonable likelihood of Defendants' committing future unlawful activity because: (a) Defendants' unlawful violations have been part of an extensive pattern extending more than fifty years, and have not been isolated; (b) Defendants' violations have been flagrant and deliberate, and not merely technical in nature; and (c) Defendants remain in the business of selling and marketing cigarettes and hence they will have countless opportunities and temptations to violate the law in the future.

24. The United States is entitled to equitable relief without any need to establish any Defendant's continuing unlawful conduct.

25. In any event, Defendants have continued to engage in misconduct in furtherance of the objectives of the Enterprise and RICO conspiracy and Defendants' scheme to defraud the public, as set forth below, which further supports that there is a reasonable likelihood that Defendants will engage in unlawful conduct in the future.

B. Tobacco Industry Research Committee/Council for Tobacco Research

(1) The Link Between Smoking and Lung Cancer Was Scientifically Established By the Early 1950s

26. By late 1953, researchers had published at least five epidemiologic investigations, as well as other research studying carcinogenic components in tobacco smoke and its impacts. See, e.g., VXA2510109-0116 (US 63605) (A); VXA2510106-0108 (US 63606) (A); TIMN0145510-5519 (US 62855) (A); VXA2510127-0142 (US 63603) (A); HK0755117-5131 (US 58868). These researchers had recognized the link between smoking and lung cancer. Brandt WD, 46:21-47:3. See US FF § III.A., infra (for discussion of research in first half of the 20th century).

27. The importance of such findings had attracted considerable interest among physicians, scientists, public health officials, and, of course, the public. Newspapers and magazines widely reviewed these investigations, heightening both public concern about the cigarette and industry concern about its future. The public reporting of these new findings in national magazines such as *Time* and *Reader's Digest*, as well as declines in sales and stock prices, forced tobacco executives to assess strategies for responding to growing medical and public concerns about smoking. Brandt WD, 48:1-18; VXA2511185-1186 (US 63548) (A); VXA2511184 (US 63549) (A).

28. The scientific studies identifying the causal connection between smoking and lung cancer - and the reporting of the studies in the public media - shook the industry. In this respect, the actions of tobacco company executives reflected an understanding that these new findings were substantially different from the health concerns raised about their product in the past and constituted an unprecedented critical threat to the industry. Brandt WD, 48:19-49:22.

(2) The Enterprise Begins

29. The Enterprise came into being not later than December 1953 when, to respond to the growing body of evidence that smoking caused lung cancer, Defendants and their agents developed and implemented a unified strategy that sought to reassure the public that there was no evidence that smoking causes disease.

30. In December 1953, Paul M. Hahn, President of Defendant American, sent telegrams to the presidents of the seven other major tobacco companies and one tobacco growers organization, inviting them to meet and develop an industry response to counter the negative publicity generated by the studies linking cigarette smoking and lung cancer. The telegrams were sent to: Edward A. Darr, President of Defendant Reynolds; Benjamin F. Few, President of Defendant Liggett; William J. Halley, President of Defendant Lorillard; Timothy V. Hartnett, President of Defendant B&W; O. Parker McComas, President of Defendant Philip Morris; Joseph F. Cullman, Jr., President of Benson & Hedges; J.B. Hutson, President of Tobacco Associates, Inc.; and J. Whitney Peterson, President of United States Tobacco Co. 508775416-5416 (JD-041939) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); CTRBYL000001-0014 (US 21138) (O); MNAT00609882-9886 (US 59809) (A).

31. Executives from every tobacco company listed above, with the exception of Liggett, met in New York City at the Plaza Hotel on December 14, 1953. The executives discussed (i) the negative publicity from the recent articles in the media, (ii) responding to the problem by jointly engaging a public relations counsel, and (iii) removing health themes from advertising. They also discussed Liggett's decision not to attend the meeting because "in the course of time the whole thing would blow over." The executives also authorized the five members of the committee who had their offices in New York to engage the services of Hill & Knowlton on behalf of the whole committee; to meet with John Hill at the Plaza Hotel the next

day, December 15th, to discuss the negative publicity problem; and to request that Hill & Knowlton, if it accepted the assignment, submit a recommendation to the full committee at a subsequent meeting. 680262226-2228 (US 88165) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); CTRBYL000001-0014 (US 21138) (O); Brandt WD, 50:21-51:23.

32. At the December 14, 1953 meeting, Paul Hahn of American and Timothy Hartnett of B&W told the other company presidents that "they had taken definite steps to remove the health themes from the advertising programs on Pall Mall and Viceroy. Darr [of Reynolds] made the point that he could not concur in sponsoring an industry paid advertising campaign (if this is the course recommended by the Public Relations Counsel) as long as the health theme continued to be featured by any one of the companies represented on the committee." J. Whitney Peterson of United States Tobacco and Hartnett "expressed their agreement with Mr. Darr's views in this matter." Hill & Knowlton wanted to develop some understanding with the Defendants that "none is going to seek a competitive advantage by inferring to its public that <u>its</u> product is less risky than others. No claims that special filters or toasting, or expert selection of tobacco, or extra length in the butt, of anything else, makes a given brand less likely to cause you-know-what. No 'Play-Safe-with-Luckies'." TLT0900422-0430 at 0423 (US 88169) (A); TLT0901564-1572 at 1565 (US 88194) (A); TLT0901541-1545 at 1543 (US 87225) (A); 2048375960-5964 (US 85819) (A); 680262226-2228 (US 88165) (A); TLT0901532-1540 at 1539-1540 (US 87224) (A); JH000493-0501 at 0500-0501 (US 21179) (O).

33. At the December 15, 1953 meeting, the participants were Paul Hahn of American, O. Parker McComas of Philip Morris, Joseph Cullman, Jr. of Benson & Hedges, J. Whitney Peterson of United States Tobacco, and representatives from Hill & Knowlton, including John Hill and Bert Goss. Hill & Knowlton was told that the industry viewed the "problem [posed by

the scientific studies] as being extremely serious and worthy of drastic action." JH000502-0506 at 0504 (US 20191) (A); TLT0901541-1545 at 1543 (US 87225) (A). According to a Hill & Knowlton memo dated December 22, 1953, the public relations firm was asked to "develop suggestions for dealing with the public relations problem confronting the industry as a result of widely publicized assertions by a few medical research men regarding the link between cigarette smoking and lung cancer." TLT0901552-1552 (US 88192) (A).

34. In an internal planning memoranda, Hill & Knowlton assessed their tobacco clients' problems in the following manner:

> There is only one problem -- confidence, and how to establish it; public assurance, and how to create it -- in a perhaps long interim when scientific doubts must remain. And, most important, how to free millions of Americans from the guilty fear that is going to arise deep in their biological depths -- regardless of any pooh-poohing logic -- every time they light a cigarette. No resort to mere logic ever cured panic yet, whether on Madison Avenue, Main Street, or in a psychologist's office. And no mere recitation of arguments pro, or ignoring of arguments con, or careful balancing of the two together, is going to deal with such fear now. That, gentlemen, is the nature of the unexampled challenge to this office.

JH000493-0501 (US 21408) (A), (US 21179) (O); TLT0901532-1540 at 1534 (US 87224) (A); Brandt WD, 53:16-54:10.

35. Ten days later, on December 24, 1953, Hill & Knowlton submitted a proposal regarding the tobacco industry's public relations campaign, recommending that the companies form a joint industry research committee that would sponsor independent scientific research on the health effects of smoking and announce the formation of the research committee nationwide as news and in advertisements. 01138856-8864 (JE-20036) (O); TLT0900422-0430 (US 88169) (A); TLT0901564-1572 (US 88194) (A); see also TLT0901546-1549 (US 88191) (A); TLT0901552 (US 88192) (A).

36. In its proposal, Hill & Knowlton expressed its concern about the "health" claims being made in the Defendants' advertising: "[I]t is impossible to overlook the fact that some of the industry's advertising has come in for serious public criticism because of emphasis on health aspects of smoking . . . it must be recognized that some of the advertising may have created a degree of skepticism in the public mind which at the start at least could affect the believability of any public relations effort." In fact, one of the questions posed by Hill & Knowlton to the Defendants was "whether the companies considere[d] that their own advertising and competitive practices have been a principal factor in creating a health problem? The companies voluntarily admitted this to be the case even before the question was asked. They have informally talked over the problem and will try to do something about it." TLT0900422-0430 at 0423 (US 88169) (A); TLT0901564-1572 at 1565 (US 88194) (A); TLT0901541-1545 at 1543 (US 87225) (A); 2048375960-5964 (US 85819) (A); 680262226-2228 (US 88165) (A).

37. Four days later, on December 28, 1953, another meeting was held at the Plaza Hotel and was attended by Paul Hahn of American; Edward Darr of Reynolds; Herbert A. Kent, Chairman of Lorillard; Timothy Hartnett of B&W; O. Parker McComas of Philip Morris; Joseph Cullman of Benson & Hedges; J.B. Hutson, President of Tobacco Associates, Inc.; J. Whitney Peterson of United States Tobacco; and three people from the public relations firm of Hill & Knowlton, John Hill, Bert Goss, and Richard Darrow. The attendees agreed on Tobacco Industry Research Committee ("TIRC") as the official name of the research committee; chose Paul Hahn as temporary chairman of the committee; agreed that the search should begin immediately for a qualified director who, together with the companies' research directors, would recommend members for the research advisory board; and reviewed and accepted the Hill & Knowlton proposal regarding the tobacco industry's public relations campaign. TLT0901411-1414 (US

88188) (A); 01138856-8864 (JE-20036) (O).

38. Although Defendant Liggett did subsequently participate in Enterprise activities, Liggett did not participate in the December meetings because, at the time, the company believed that "the proper procedure is to ignore the whole controversy." JH000502-0506 at 0502 (US 20191) (A); TLT0901541-1545 at 1541 (US 87225) (A).

39. Following Hill & Knowlton's advice, the formation and purpose of TIRC was announced on January 4, 1954, in a full-page advertisement called "A Frank Statement to Cigarette Smokers" published in 448 newspapers throughout the United States. McAllister PD, United States v. Philip Morris, 5/23/02, 112:14-114:13; McAllister WD, 9:10-22; 11309817-9817 (US 20277) (A); 86017454-7454 (US 21418) (A); USX6390001-0400 at 0004 (US 89555) (O) (CTR Response to Request for Admission No. 88); TLT0900465-0465 (US 88171) (A); see also TLT0900478-0480 (US 88440) (A); TLT0900481-0483 (US 88441) (A).

40. The Frank Statement was subscribed to by the following domestic cigarette and tobacco product manufacturers, organizations of leaf tobacco growers, and tobacco warehouse associations that made up TIRC: Defendant American by Paul Hahn, President; Defendant B&W by Timothy Hartnett, President; Defendant Lorillard by Herbert Kent, Chairman; Defendant Philip Morris by O. Parker McComas, President; Defendant Reynolds by Edward A. Darr, President; Benson & Hedges by Joseph Cullman, Jr., President; Bright Belt Warehouse Association by F.S. Royster, President; Burley Auction Warehouse Association by Albert Clay, President; Burley Tobacco Growers Cooperative Association by John Jones, President; Larus & Brother Company, Inc. by W.T. Reed, Jr., President; Maryland Tobacco Growers Association by Samuel Linton, General Manager; Stephano Brothers, Inc. by C.S. Stephano, Director of Research; Tobacco Associates, Inc. by J.B. Hutson, President; and United States Tobacco by J.

Whitney Peterson, President. 11309817-9817 (US 20277) (A); 86017454-7454 (US 21418) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); CTRBYL000001-0014 (US 21138) (O).

41. The Frank Statement set forth the industry's "open question" position that it would maintain for more than forty years - that cigarette smoking was not a proven cause of lung cancer; that cigarettes were not injurious to health; and that more research on smoking and health issues was needed. In the Frank Statement, the participating companies accepted "an interest in people's health as a basic responsibility, paramount to every other consideration in our business" and pledged "aid and assistance to the research effort into all phases of tobacco use and health." The companies promised that they would fulfill the obligations they had undertaken in the Frank Statement by funding independent research through TIRC, free from any industry influence. 11309817-9817 (US 20277) (A); 86017454-7454 (US 21418) (A).

42. The "Frank Statement" in its entirety stated as follows:

> RECENT REPORTS on experiments with mice have given wide publicity to a theory that cigarette smoking is in some way linked with lung cancer in human beings.
>
> Although conducted by doctors of professional standing, these experiments are not regarded as conclusive in the field of cancer research. However, we do not believe that any serious medical research, even though its results are inconclusive should be disregarded or lightly dismissed.
>
> At the same time, we feel it is in the public interest to call attention to the fact that eminent doctors and research scientists have publicly questioned the claimed significance of these experiments.
>
> Distinguished authorities point out:
>
> 1. That medical research of recent years indicates many possible causes of lung cancer.
>
> 2. That there is no agreement among the authorities regarding what the cause is.

3. That there is no proof that cigarette smoking is one of the causes.

4. That statistics purporting to link cigarette smoking with the disease could apply with equal force to any one of many other aspects of modern life. Indeed the validity of the statistics themselves is questioned by numerous scientists.

We accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business.

We believe the products we make are not injurious to health.

We always have and always will cooperate closely with those whose task it is to safeguard the public health.

For more than 300 years tobacco has given solace, relaxation, and enjoyment to mankind. At one time or another during these years critics have held it responsible for practically every disease of the human body. One by one these charges have been abandoned for lack of evidence.

Regardless of the record of the past, the fact that cigarette smoking today should even be suspected as a cause of disease is a matter of deep concern to us.

Many people have asked us what are we going to do to meet the public's concern aroused by the recent reports. Here is the answer:

1. We are pledging aid and assistance to the research effort into all phases of tobacco use and health. This joint financial aid will of course be in addition to what is already being contributed by individual companies.

2. For this purpose we are establishing a joint industry group consisting initially of the undersigned. This group will be known as TOBACCO INDUSTRY RESEARCH COMMITTEE.

3. In charge of the research activities of the Committee will be a scientist of unimpeachable integrity and national repute. In addition there will be an Advisory Board of scientists disinterested in the cigarette industry. A group of distinguished men from medicine, science, and education will be invited to serve on this

> Board. These scientists will advise the Committee on its research activities.
>
> This statement is being issued because we believe the people are entitled to know where we stand on this matter and what we intend to do about it.

11309817-9817 (US 20277) (A); 86017454-7454 (US 21418) (A); TLT0901611-1611 (US 88196) (A); Brandt WD, 55:8-21.

43. The issuance of the "Frank Statement to Cigarette Smokers," as an act of public relations, was an effective preemptive strategy. By promising the public that the industry was absolutely committed to their good health, the Frank Statement allayed the public's concerns about smoking and health, reassured smokers, and provided them with an effective rationale for continuing to smoke. Brandt WD, 54:20-55:7; JH000493-0501 (US 21179) (O), (US 21408) (A); TLT0901532-1540 at 1534 (US 87224) (A).

44. In TIRC/CTR, the Defendants had established a sophisticated public relations apparatus – based on the cover of conducting research – to deny the harms of smoking and reassure the public. Once that essential strategy was organized and implemented in 1953-54, Defendants' approach was unwavering. Brandt WD, 61:23-62:7.

45. Stanley Barnes, Assistant Attorney General, United States Department of Justice, "read with interest the statement of the Tobacco Industry Research Committee which appeared in the newspapers on January 4, 1954, regarding the Committee's pledge of aid and assistance to the research effort into all phases use and health" and sent a letter to TIRC on January 21, 1954, requesting "as many details on the Committee's plans as you may care to disclose at this time." 508775382-5382 (JD-090191) (A). In response, TIRC Chairman Paul Hahn sent a letter to Barnes dated January 26, 1954, enclosing a statement of the origin, purpose, and proposed functions of TIRC. The purposes and objectives of TIRC as recorded in the Statement

Concerning the Origin and Purpose of TIRC were "to aid and assist research into tobacco use and health, and particularly into the alleged relationship between the use of tobacco and lung cancer, and to make available to the public factual information on this subject." 70103754-3761 (JD-000294) (A); MTD0030448-0455 (US 21218) (O); 70103755-3761 (JD-043064) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); TIMN0116378-6384 (US 21277) (O); TLT0901026-1035 (US 88181) (A); McAllister WD, 28:14-29:1 (confirming dual purpose); Zahn PD, Cipollone v. Liggett, 12/16/86, 51:24-52:6, 53:9-12 (confirming dual purpose); USX6390001-0400 at 0005-0007 (US 89555) (O) (CTR Response to Request for Admission No. 89, 91).

46. The statement of origin and purpose was signed in the name of TIRC by Chairman Paul Hahn, was ratified and adopted by TIRC, and attached as Exhibit A to the Bylaws of the Tobacco Industry Research Committee. CW00787817-7842 (US 21420) (A); CTRBYL000001-0014 (US 21138) (O); 70103754-3761 (JD-000294) (A); MTD0030448-0455 (US 21218) (O); 70103755-3761 (JD-043064) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); TIMN0116378-6384 (US 21277) (O); TLT0901026-1035 (US 88181) (A).

47. The TIRC bylaws (subscribed and adopted by the signatory members effective January 1, 1954) stated that the "purposes and objectives of the Committee are to aid and assist research into tobacco use and health, and particularly into the alleged relationship between the use of tobacco and lung cancer and to make available to the public factual information on this subject." All of the bylaws could be altered and repealed by a majority vote of TIRC's corporate members, except "Article I. Purposes and Objectives" that could only be altered with the unanimous consent of all the corporate members. CW00787817-7842 at 7817, 7822 (US 21420) (A); CTRBYL000001-0014 at 0001, 0006 (US 21138) (O).

48. The statement of origin and purpose stated that TIRC had engaged the public relations firm of Hill & Knowlton to assist TIRC in effectuating its purpose. CW00787817-7842 (US 21420) (A); CTRBYL000001-0014 (US 21138) (O); 70103754-3761 (JD-000294) (A); MTD0030448-0455 (US 21218) (O); 70103755-3761 (JD-043064) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); TIMN0116378-6384 (US 21277) (O); TLT0901026-1035 (US 88181) (A); TLT0900723-0728 (US 88179) (A); see also USX6390001-0400 at 0012 (US 89555) (O) (CTR Response to Request for Admission No. 113).

49. The TIRC bylaws stated that each corporate member of the TIRC "shall from time to time appoint an individual to serve as the personal member of the Committee representing such corporate member" and that a majority of the personal members of TIRC would select such officers, agents, and employees as they deemed necessary, including a Chairman to serve for a term of one year and until his successor is elected and qualified. CW00787817-7842 (US 21420) (A); CTRBYL000001-0014 (US 21138) (O).

50. The first officers selected by TIRC members were: Paul Hahn of American as temporary Chairman; J. Whitney Peterson of United States Tobacco as Vice Chairman; Joseph Cullman of Benson & Hedges as Treasurer; and Wilson Thomas ("W.T.") Hoyt of Hill & Knowlton as Secretary. CW00787817-7842 (US 21420) (A); CTRBYL000001-0014 (US 21138) (O); 70103754-3761 (JD-000294) (A); MTD0030448-0455 (US 21218) (O); 70103755-3761 (JD-043064) (A); HT0072119-2125 (US 21175) (O), (US 54357) (O); TIMN0116378-6384 (US 21277) (O); TLT0901026-1035 (US 88181) (A).

51. TIRC bylaws described the method of funding TIRC as follows: "Each of the cigarette manufacturing corporate members has pledged to the Committee for payment before or during 1954 an amount equal to 1/4 of a cent for each one thousand of tax-paid cigarettes

produced by such company in 1953 as estimated by Harry M. Wootten and published under the date of January 15, 1954, and has pledged to the Committee for payment during 1954 an additional amount equal to one-half of the amount originally pledged." CW00787817-7842 at 7819 (US 21420) (A); CTRBYL000001-0014 at 0003 (US 21138) (O).

52. At their January 29, 1964 meeting, the TIRC Executive Committee agreed to change the name of the organization to the Council for Tobacco Research-U.S.A. ("CTR"). 93218985-8986 (US 21116) (A). The organization bylaws were amended February 1, 1964, to reflect the name change. Although the name changed, the purposes, objectives, and functions of the organization did not. According to the amended bylaws, the purposes and objectives of CTR remained the same, i.e., "to aid and assist research into tobacco use and health, and particularly into the alleged relationship between the use of tobacco and lung cancer and to make available to the public factual information on this subject." 682631364-1368 (US 21024) (O); CW00787817-7842 at 7831-7835 (US 21420) (A); see also USX6390001-0400 at 0002 (CTR Response to Request for Admission No. 82). Timothy Hartnett announced the organization name change in a March 1964 press release. 508775085-5088 (US 20815) (O); HK1865014-5017 (US 77847) (O).

53. Robert Heimann, Chairman and Chief Executive Officer of American, commented upon the TIRC's name change in a December 6, 1977 letter to Addison Yeaman, CTR's Chairman and President and formerly the General Counsel of B&W: "[W]e decided some years ago to rename T.I.R.C. 'The Council for Tobacco Research' because 'Tobacco Industry Research Committee' sounded too much like industry-directed, as distinct from independent, research." 2022200158-0160 at 0160 (US 87532) (O).

54. In 1971, CTR changed from an unincorporated association to a corporation pursuant to the laws of the State of New York. CTR's Certificate of Incorporation was filed with

the Department of State of the State of New York on January 8, 1971. The bylaws of the newly-formed corporation were adopted at the first meeting of CTR's Board of Directors on January 13, 1971. CTRMIN-BD000001-0303 at 0002 (JD-093208) (A); CTRINC000001-0019 (JD-090053) (A); McAllister WD, 10:7-14.

55. Following incorporation, CTR was divided into two classes of members, Class A and Class B. Class A members were: (i) designated by the Board of Directors; (ii) domestic persons who sold cigarettes in the United States; and (iii) manufacturers of their own brand of cigarettes. Class A members included American Tobacco, B&W, Lorillard, Philip Morris, Reynolds, and United States Tobacco. Class B members were: (i) designated by the Board of Directors; and (ii) a person, corporation, association, or partnership not eligible for Class A membership but involved in the production, manufacturing, and distribution of cigarettes. Class B members included Bright Belt Warehouse Association, Burley Auction Warehouse Association, Burley Tobacco Growers, Imperial Tobacco, Tobacco Associates, and United States Tobacco. CTRBYL000031-0049 (JD-090055) (A); CTRMIN-BD000001-0303 at 0003 (JD-093208) (A); 512678857-8863 (US 30046) (O).

56. In 1963, Clarence Cook Little and W.T. Hoyt invited Liggett to join TIRC in order to secure complete industry cooperation in dealing with the 1963 Surgeon General's Advisory Committee. Liggett declined the invitation but, in its response, assured its cooperation: "[T]he aims of all of us are the same and the path that we [Liggett] have followed has been similar to that of the Committee in may respects." RC6007182-7183 (LI-142) (A).

57. Liggett became a member of CTR in 1964, resigned in 1968, but continued to participate in CTR activities for decades. In its January 1968 resignation letter, Liggett's President stated "we will continue to participate in defraying the cost of [CTR] Special Projects

sponsored by the Council after evaluation of each Project on an individual basis." CTR-TIRC MIN000238-0244 at 0241 (US 33023) (O). Liggett made contributions to CTR's Special Projects fund from 1966 through 1975 and to CTR's Literature Retrieval Division from 1971 through 1983. DXA0630917-1033 at 1024-1025 (US 75927) (A) (CTR Response to First Set of Interrogatories, Schedule C). Liggett was also asked to attend scientific meetings at CTR. 044227839-7842 (US 20066) (O); LWDOJ9055586-5587 (US 26007) (Confidential) (O).

58. Representatives of Liggett attended CTR meetings at which CTR Class A members, CTR Class B members, CTR officers, CTR public relations counsel, tobacco industry attorneys, and other representatives of cigarette manufacturers and the Tobacco Institute were present. CTRMIN-MOM000001-0015 (US 21145) (O); CTRMIN-MOM000053-0069 (US 32617) (O).

59. Although Defendant BATCo was not a member of TIRC or CTR, communication and contact between high level smoking and health research scientists at BATCo and scientists at TIRC/CTR was frequent and direct. BATCo scientists, including David G. Felton, Lionel C.F. Blackman, and R.E. Thornton, visited TIRC/CTR several times over the years. TINY0003106-3116 (US 21369) (A); 105408490-8499 (US 21135) (A), (US 76169) (A); 517002090-2091 (US 66527) (O).

60. In 1958, three British scientists, D.G.I. (David) Felton of BATCo, W.W. Reid of BATCo-Australia, and H.R. (Herbert) Bentley of Imperial Tobacco, visited the United States for four weeks and met with members of TIRC's Scientific Advisory Board, as well as with representatives of Defendants TIRC/CTR, American, Liggett, and Philip Morris. TINY0003106-3116 (US 21369) (A); 105408490-8499 (US 21135) (A), (US 76169) (A); Brandt WD, 94:8-95:3.

61. In October 1979, David Felton of BATCo went on a month-long "fact-finding mission to a number of laboratories engaged on research relating to smoking and health" in the United States. Felton was accompanied by two lawyers for most of his visits, either Patrick Sirridge of Shook, Hardy & Bacon or Timothy Finnegan of Jacob & Medinger. Near the end of the trip, Felton met with CTR executives and employees, including Addison Yeaman, CTR President; William Gardner, CTR Scientific Director; W.T. Hoyt, CTR Executive Vice President; Robert Hockett, CTR Research Director; Vincent Lisanti, CTR Associate Research Director; and David Stone and Donald Ford, members of CTR's scientific staff. Discussions included CTR contract research, nitrosamines, smoking and stress, and nicotine research. During his visit, Felton also met with Tobacco Institute representatives Horace Kornegay, President, and Marvin Kastenbaum, Director of Statistics. 109879229-9295 (US 34923) (O); 109879296-9308 (US 86063) (O).

62. Defendants met frequently to discuss issues facing the Enterprise. Beginning in 1954 and until 1970, representatives of member companies met regularly with TIRC/CTR staff. After CTR's incorporation, in 1971and until 1999, the Enterprise met annually at CTR's meetings of members. At these meetings, representatives of the Enterprise discussed activities of CTR which furthered their goals such as Special Projects, the Literature Retrieval Division, contract research, public relations, the TIRC/CTR Scientific Advisory Board, and scientific conferences. CTR-TIRC-MIN000001-0252 (JD-093292) (A); CTR-TIRC-MIN000033-0052 (US 33006) (A); CTR-TIRC-MIN000174-0186 (US 33016) (O); CTR-TIRC-MIN000224-0231 (US 33021) (O); CTR-TIRC-MIN00023-0244 (US 33023) (O); CTR-TIRC-MIN000245-0255 (US 33024) (O); 1002608337-8339 (US 85989) (O); MM0010053-0056 (US 85990) (O); CTRMIN-MOM000001-000015 (US 21145) (O); CTRMIN-MOM000016-0034 (US 21170)

(O); CTRMIN-MOM000035-0052 (US 32616) (O); CTRMIN-MOM000053-0069 (US 32617) (O); CTRMIN-MOM000070-0087 (US 32618) (O); CTRMIN-MOM000088-0089 (US 32619) (O); CTRMIN-MOM000090-0104 (US 32620) (O); CTRMIN-MOM000105-0117 (US 32621) (O); CTRMIN-MOM000129-0142 (US 32623) (O); CTRMIN-MOM000143-0154 (US 32624) (O); CTRMIN-MOM000155-0167 (US 32625) (O); CTRMIN-MOM000168-0181 (US 32626) (A); CTRMIN-MOM000182-0195 (US 32627) (O); CTRMIN-MOM000210-0221 (US 32629) (A); CTRMIN-MOM000222-0233 (US 32630) (A); CTRMIN-MOM000234-0244 (US 32631) (A); CTRMIN-MOM000245-0255 (US 32632) (A); CTRMIN-MOM000256-0268 (US 32633) (A); CTRMIN-MOM000269-0280 (US 32634) (A); CTRMIN-MOM000281-0294 (US 32635) (A); CTRMIN-MOM000295-0306 (US 32636) (A); CTRMIN-MOM000307-0318 (US 32637) (A); CTRMIN-MOM000319-0331 (US 32638) (A); CTRMIN-MOM000332-0334 (Ex. 32639) (A); 70000261–0274 (US 31078) (O); 70005388-5408 (US 31104) (O), (US 31105) (O); CW00800809-0811 (US 31368) (O); TLT0901390-1393 (US 88186) (A); TLT0901400-1410 (US 88187) (A); JH000395-0400 (US 21178) (O); TLT0901411-1414 (US 88188) (A).

63. Members of the Enterprise also convened regularly between 1971 and 1998 at CTR's Board of Directors meetings. CTR's Board of Directors was made up of representatives from the member companies. At these meetings the CTR Board of Directors discussed and passed resolutions regarding issues such as CTR's budget, the status of grants and contract research, the election of officers, payment of dues, and amendments to the bylaws. In addition to Board members, attendees at the meetings included other corporate offices and executives from the tobacco companies, Defendants legal counsel and public relations counsel, and representatives from the Tobacco Institute. CTRMIN-BD000017-0020 (US 32572) (O); CTRMIN-BD000021-0025 (US 32573) (O); CTRMIN-BD000026-0029 (US 32574) (O);

CTRMIN-BD000030-0034 (US 32575) (O); CTRMIN-BD000035-0038 (US 32576)(A); CTRMIN-BD000039-0044 (US 32577) (O); CTRMIN-BD000045-0049 (US 32578) (O); CTRMIN-BD000050-0054 (US 32579) (O); CTRMIN-BD000055-0059 (US 32580) (O); CTRMIN-BD000060-0109 (US 32581) (O); CTRMIN-BD000110-0115 (US 32582) (O); CTRMIN-BD000116-0121 (US 32583) (O); CTRMIN-BD000122-0125 (US 32584) (O); CTRMIN-BD000126-0129 (US 32585) (O); CTRMIN-BD000135-0135 (US 32586) (A); CTRMIN-BD000136-0140 (US 32587) (A); CTRMIN-BD000141-0144 (US 32588) (O); CTRMIN-BD000145-0146 (US 32589) (O); CTRMIN-BD000147-0152 (US 32590) (A); CTRMIN-BD000153-0157 (US 32591) (O); CTRMIN-BD000158-0162 (US 32592) (A); CTRMIN-BD000163-0165 (US 32593) (O); CTRMIN-BD000172-0178 (US 32595) (O); CTRMIN-BD000179-0182 (US 32596) (O); CTRMIN-BD000187-0191 (US 32597) (A); CTRMIN-BD000192-0194 (US 32598) (O); CTRMIN-BD000200-0229 (US 32600) (A); CTRMIN-BD000230-0235 (US 32601) (A); CTRMIN-BD000236-0237 (US 32602) (A); CTRMIN-BD000238-0245 (US 32603) (A); CTRMIN-BD000246-0247 (US 32604) (A); CTRMIN-BD000248-0251 (US 32605) (A); CTRMIN-BD000252-0255 (US 32606) (A); CTRMIN-BD000256-0260 (US 32607) (A); CTRMIN-BD000261-0262 (US 32608) (A); CTRMIN-BD000263-0267 (US 32609) (A); CTRMIN-BD000268-0270 (US 32610) (A); CTRMIN-BD000271-0275 (US 32611) (A); CTRMIN-BD000276-0277 (US 32612) (A); CTRMIN-BD000278-0283 (US 32613) (A); CTRMIN-BD000284-0285 (US 32614) (A); CTRMIN-BD000286-0291 (US 32615) (A); 70000636–0638 (JE-31084) (A); 70000275-0279 (US 31080) (O); 70001297-1298 (US 31095) (O); 70005382-5387 (JE-31103) (A); 70005409-5416 (JE-31106) (O); CTRMIN-BD000001-000303 (JD-093208) (A); ARU1130828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 5, at 28-33); Kornegay PD, Cipollone

v. Liggett, 8/17/84, 195:21-196:7.

64. While Philip Morris Companies was not a Class A member of CTR, Philip Morris Companies executives attended and participated in meetings of the CTR Board of Directors from 1985 to 1992. These executives included Thomas Ahrensfeld, Senior Vice President and General Counsel; Murray Bring, Senior Vice President and General Counsel; Hugh Cullman, Vice Chairman of the Board; Alexander Holtzman, Vice President and Associate General Counsel; John Murphy, President and CEO; and R. William Murray, President, CEO, and Vice Chairman of the Board. CTRMIN-BD000001-000303 at 0187, 0192, 0195, 0200, 0230, 0236, 0238, 0246, 0248, 0252, 0256, 0261, 0263, 0268 (JD-093208) (A).

65. Lorraine Pollice, CTR Corporate Secretary and Treasurer for over twenty years, testified that she attended CTR Board of Directors Meetings and CTR Annual Member Meetings, and personally prepared minutes of those meetings. Pollice WD, 6:14-7:22; 7:23-12:12. The minutes of meeting after meeting show participation by Altria representatives. See, e.g., CTRMIN-BD000187-0191 (US 32597) (A); CTRMIN-BD000200-0229 (US 32600) (A); CTRMIN-BD000230-0235 (US 32601) (A); CTRMIN-BD000236-0237 (US 32602) (A); CTRMIN-BD000238-0245 (US 32603) (A); CTRMIN-BD000246-0247 (US 32604) (A); CTRMIN-BD000248-0251 (US 32605) (A); CTRMIN-BD000252-0255 (US 32606) (A); CTRMIN-BD000256-0260 (US 32607) (A); CTRMIN-BD000261-0262 (US 32608) (A); CTRMIN-BD000263-0267 (US 32609) (A); CTRMIN-BD000268-0270 (US 32610) (A); CTRMIN-MOM000222-0233 (US 32630) (A); CTRMIN-MOM000234-0244 (US 32631) (A); CTRMIN-MOM000245-0255 (US 32632) (A); CTRMIN-MOM000256-0268 (US 32633) (A); CTRMIN-MOM000269-0280 (US 32634) (A); CTRMIN-MOM000281-0294 (US 32635) (A); CTRMIN-MOM000295-0306 (US 32636) (A); CTRMIN-MOM000307-0318 (US 32637) (A).

However, on the stand, Pollice suddenly expressed confusion about the precise corporate affiliation of particular participants, and her testimony on that score is simply not credible. Pollice TT, 1004/04, 01528:19-01529:1. The testimony is directly contrary to the documents themselves, documents which were never corrected at the time by Pollice or by former CTR Presidents or outside counsel for CTR who reviewed and finalized the minutes. Pollice WD, 6:1-25; Pollice TT, 10/04/04, 01526:22-01527:14.

66. From 1954 through October 31, 1999, payments to CTR's General Fund from Defendants totaled $473,369,512.22: $31,928,239.26 from American; $67,666,080.25 from B&W; $40,747,457.89 from Lorillard; $189,506,678.86 from Philip Morris; $141,890,169.04 from Reynolds; and $721,868.85 from Liggett. DXA0630917-1033 at 1017-1023 (US 75927) (A) (CTR Response to First Set of Interrogatories, Schedule C); USX6390001-0400 at 0008 (US 89555) (O) (CTR Response to Request for Admission No. 94).

67. From 1966 through October 31, 1990, payments to CTR's Special Projects fund (discussed at US FF § I.D(2), infra) totaled $18,270,623.65, which included: $29,665.00 from American; $2,571,345.40 from B&W; $144,254.75 from Liggett; $1,638,490.68 from Lorillard; $5,837,923.49 from Philip Morris; and $6,029,255.33 from Reynolds. DXA0630917-1033 at 1024 (US 75927) (A) (CTR Response to First Set of Interrogatories, Schedule C).

68. From 1971 through April 15, 1983, payments to CTR's Literature Retrieval Division (discussed at US FF § I.F., infra) totaled $16,870,480.00, which included: $2,214,135.00 from American; $2,681,358.00 from B&W; $606,043.50 from Liggett; $811,840.50 from Lorillard; $4,813,415.50 from Philip Morris; and $5,743,687.50 from Reynolds. DXA0630917-1033 at 1025 (US 75927) (A) (CTR Response to First Set of Interrogatories, Schedule C).

(3) Defendants' Selection and Approval of TIRC Scientific Advisory Board Members and the Scientific Director

69. The first formal meeting of TIRC was held on January 18, 1954. At this first formal meeting, a budget of $1,200,000 was approved; an agreement between TIRC and Hill & Knowlton was approved; the research program, calling for a Scientific Director and a Scientific Advisory Board ("SAB") was approved; a Law Committee was appointed; and the research directors of TIRC member companies were designated as the Industry Technical Committee ("ITC") (discussed further at US FF § I.E(2), infra). CTR-TIRC-MIN000001-000252 at 0001-0004, 0018-0032 (JD-093292) (A); ARU1130828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 12, at 57-63); TLT0901400-1410 (US 88187) (A); JH000395-0400 (US 21178) (O).

70. The Law Committee was composed of Chairman George Whiteside of Chadbourne, Parke, Whiteside, Wolf & Brophy; John Vance Hewitt of Conboy, Hewitt, O'Brien & Boardman; Leighton Coleman of Davis, Polk, Wardwell, Sunderland & Kiendl; F.R. Wadlinger of Foulk, Porter & Wadlinger; and Freeman Daniels of Perkins, Daniels & Perkins. This committee drafted the TIRC bylaws. CTR-TIRC-MIN000001-000252 at 0001, 0006, 0021 (JD-093292) (A); CTRMN039046-9106 at 9069 (JD-092825) (A).

71. On January 7, 1954, the ITC held an informal meeting at which they discussed qualifications for a Scientific Research Director for TIRC and their efforts to find and retain a suitable scientist. The research directors were H.R. Hanmer of American; Irwin W. Tucker of B&W; H.B. Parmele of Lorillard; Robert N. DuPuis of Philip Morris; Grant Clarke of Reynolds; Hugh Cullman of Benson & Hedges; Clinton Baber of Larus & Brother; C.S. Stephano of Stephano Brothers; and Ward B. Bennett of United States Tobacco. CTRMN039046-9106 at 9070, 9076 (JD-092825) (A); TLT0901400-1410 (US 88187) (A); CTRMIN-ITC000009-0011

(JD-095519) (A); JH000395-0400 (US 21178) (O).

72. At the January 7, 1954 meeting, the ITC members agreed that the TIRC Research Director should be a medical doctor, recognized in cancer research, and with experience in chemistry. The ITC nominated persons for the position of TIRC Research Director, and a subcommittee of the ITC, headed by Grant Clarke, Research Director for Reynolds, was appointed to process and screen the list of nominees. TLT0901400-1410 at 1404 (US 88187) (A); JH000395-0400 at 0399 (US 21178) (O).

73. The task of selecting a Scientific Director prior to getting a Scientific Advisory Board proved difficult. TLT0902041-2064 at 2043 (US 88360) (A), (US 88364) (A). At the March 15, 1954 meeting of TIRC, Chairman Paul Hahn of American, outlined the situation and problems encountered in obtaining a Scientific Research Director, and suggested, as an alternative to obtaining the Research Director first, the appointment of SAB members who could then assist in obtaining a Research Director. The ITC was directed to work up a suggested list of names for the SAB with the assistance of Hill & Knowlton. The TIRC appointed a subcommittee to select scientists to be invited to become members of SAB. CTR-TIRC-MIN000001-000252 at 0005-0006 (JD-093292) (A); TLT0903093-3094 (US 88363) (A); USX6390001-0400 at 0011-0012 (US 89555) (O) (CTR Response to Request for Admission No. 111); ARU1130828-0904 at 0884-0890 (US 86773) (A) (CTR Response to Interrogatory No. 12).

74. The ITC, public relations counsel Hill & Knowlton, and the Law Committee were actively involved in searching for, interviewing, and selecting the scientists appointed to the first SAB. TLT0902041-2064 at 2043 (US 88360) (A), (US 88364) (A); TLT0903093-3094 (US 88363) (A). The ITC screened the candidates being considered for membership on the SAB.

681879254-9715 at 9649 (US 21020) (A).

75. Letters were sent to nine scientists inviting them to become members of the SAB, and acceptances were obtained from seven; the two who did not accept were scientists connected with the National Cancer Institute. CTR-TIRC-MIN000001-0252 at 0021 (JD-093292) (A); CTRMN039046-9106 at 9051-9052 (JD-092825) (A); 508775311-5311 (JD-093893) (A); ARU1130828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 12, at 57-63).

76. The first meeting of the SAB was held on April 26, 1954. The SAB members chose Clarence Cook Little as their Chairman. At the second meeting of the SAB, Little was selected as Scientific Director on a part-time basis with an assistant who would serve on a full-time basis. In November 1954, Robert Hockett filled the assistant post as Associate Scientific Director. Little served as SAB Chairman from 1954 to 1957 and as TIRC/CTR Scientific Director from 1954 to 1971. Little PD, Lartigue v. Reynolds, 10/5/60, 2713:20-21, 2715:4-12, 2721:9-11; Little PT, Zagurski v. American, 6/7/67, 652:21-653:2, 676:6-18. Following Little, the Scientific Directors were William Gardner (1973-1981), Sheldon Sommers (1981-1987), James Glenn (1988-1990), and Harmon McAllister (1991-1999). CTR-TIRC-MIN000001-0252 at 0022 (JD-093292) (A); TLT0902041-2064 (US 88360) (A), (US 88364) (A); TLT0903105-3108 at 3105 (US 88366) (A); ARU1130828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 12, at 57-63); CTRMN004928-4929 (US 85995) (A); 11310050-0053 (JD-090066) (A).

77. In a November 27, 1963 memorandum, Clarence Cook Little described the Enterprise's strategy in selecting the SAB members. Little wrote:

> In the selection of a Scientific Advisory Board and in the acceptance of the nomination by that Board of a Scientific Director, it was clearly shown that the attitude of the TIRC was to pick scientists interested broadly in the origin and nature of disease

> implicated and in the evaluation of smoking as a possible factor, not as a proven one.

70003601-3602 at 2601 (US 85993) (A) (emphasis in original).

78. Clarence Cook Little's personal commitments and assumptions about cancer causality made him an ideal proponent of the industry's goal of maintaining a "controversy" rather than scientifically resolving the questions regarding smoking and health. Brandt WD, 86:10-18. Little explained at the press conference announcing his appointment that: "I am an ultraconservative about cause and effect relationships." CW01054843-4879 at 4877 (US 20278) (A). Little had no compunction, however, about offering unsubstantiated claims about the health benefits of cigarette use at that same press conference: "It is very well-known, for example, that tobacco has relaxed a great many people. It is a very good therapy for a great many nervous people." CW01054843-4879 at 4845 (US 20278) (A).

79. Little repeatedly centered attention on the so-called "constitutional hypothesis"; other environmental risks; and the need for more research into the basic etiology of the diseases associated with smoking. Brandt WD, 86:19-22; McAllister WD, 123:18-22; Little PT, Zagurski v. American, 6/7/67,661:9-663:9, 665:7-666:20. He believed that "the causation of lung cancer was not known," that it was a complicated and unsolved problem with many factors involved, such as nutrition, heredity, the mental type of the individual, present or former or existing infection, air pollution, and radiation. Little PD, Lartigue v. Reynolds, 10/5/60, 2729:1-2730:15, 2735:11-2736:2; CTRMN005534-5541 (US 21156) (A); (US 21224) (A); (US 21233) (A); (US 21834) (A) . He argued that "no positive evidence has been advanced by anybody who believes in the **tobacco guilt theory** that has made me change my mind." Id., 2782:10-16 (emphasis added). Under Little's leadership, the SAB funded studies on vitamins, influenza, twins, and viruses, but not on carcinogenic agents in tobacco smoke because "we believe that no such agents

have been found which are carcinogenic to men," id. at 2755:6-18; "We don't believe they are there and a will-of-the-wisp hunt for something that hasn't yet been show is a waste of money," id. at 2761:14-22; "There are no carcinogenic agents in tobacco tar that have been proven to cause cancer in man . . . And I say again that to transfer from the skin of a mouse to the lung of a man is not science." Id. at 2762:23-2763:13.

80. The SAB met regularly from 1954 until at least 1997 to review, approve, and renew grant applications and contracts. In addition to SAB members, the ITC Chairman, TIRC/CTR staff members, public relations counsel for TIRC/CTR, and (at times) Defendants' attorneys and scientific guests attended the SAB meetings. Zahn PD, Cipollone v. Liggett, 12/16/1986, 106:3-107:1; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 78:3-79:5, 80:2-21; Zahn PD, Richardson v. Philip Morris, 12/1/1998, 96:10-16; CTRMIN-SAB000001-1061, 70011735-1757 (JD-090960) (A); CTRMIN-SAB000001-1061 (US 21146) (O); CTRMIN-SAB000070-0074 (US 80382) (A); CTRMIN-SAB000320-0325 (US 80429) (A); CTRMIN-SAB000326-0330 (US 80430) (A); CTRMIN-SAB000337-0341 (US 80432) (A); CTRMIN-SAB000342-0350 (US 80433) (A); CTRMN004320-4323 (US 21148) (O); CTRMN004539-4544 (US 21151) (O); CTRMIN048368-8369 (US 85996) (O); ZN7912-7921 (US 64789) (O); SM0120005-0009 (US 65442) (A); 955011516-1520 (US 32362) (O); TLT0903247-3251 (US 87521) (O); TLT0903189-3193 (US 87522) (O); TLT0903145-3148 (US 87523) (O); TLT0903132-3135 (US 87524) (O); TLT0903116-3117 (US 87525) (O); TLT0903181-3185 (US 87526) (O); TLT0903177-3180 (US 87527) (O); TLT0903166-3169 (US 87528) (O); TLT0903208-3211 (US 88367) (A); TLT0903202-3207 (US 88368) (O); TLT0903197-3201 (US 88369) (O).

81. Many meetings of the SAB had no written record. According to a confidential

report on the December 9, 1981 meeting of the SAB, the following policy regarding meetings was reaffirmed: "to conduct informal 'in house' conferences on specific subjects 'off the record' held without minutes or publication, but not to sponsor open meetings with a resultant publication." This policy was in effect at least ten years prior to the 1981 meeting and continued into the late 1990s. CTRMIN-SAB 000611-0612 (US 80480) (O); Lisanti PD, Richardson v. Philip Morris, 12/8/98, 112:16-21, 114:1-116:18.

82. Contrary to Defendants' assertions that the members of the SAB were disinterested parties who received no monetary compensation from the tobacco companies or from TIRC/CTR, members of the SAB awarded sixteen (out of forty-three) of their fellows on the SAB - over $5 million in grants-in-aid funding between 1954 and 1991. Sommers PD, Cipollone v. Liggett, 10/2/86, 130:4-131:1, 132:16-19; McAllister PD, United States v. Philip Morris, 5/23/02, 250:15-253:11; Zahn PD, Cipollone v. Liggett, 12/18/1986, 388:3-7; Lisanti PD, Engle v. Reynolds, 8/13/97, 111:23-112:3; McAllister WD, 76:16-18.

83. Defendants, through the CTR's Board of Directors, exercised control over the CTR research grant program throughout its existence by approving the amount of funding for the grant program and, after the first few years, by selecting the CTR Scientific Directors and their staff. Zahn PD, Richardson v. Philip Morris, 12/16/98, 459:13-460:9; McAllister PD, United States v. Philip Morris, 5/23/02, 56:5-57:18; USX6390001-0400 at 0012 (US 89555) (O) (CTR Response to Request for Admission No. 112); CTRMN003816-3835 (US 21147) (O). In fact, Helmut Wakeham of Philip Morris complained to David Felton, a BATCo scientist, that finding a Scientific Director to succeed Little after he resigned "was in the hands of the lawyers committee" and the Tobacco Institute without consultation with CTR or company scientists. 10315968-5971 (US 26378) (A), (US 26379) (O), (US 63573) (O).

(4) TIRC/CTR and Research

84. TIRC focused its energies and resources in two areas - public relations and scientific research. First, it served as a sophisticated public relations unit for Defendants, especially in relation to growing public concern about the risks of smoking, by repeatedly attacking scientific studies that demonstrated the harms of cigarette smoke and insisting on the notion of an "open question" regarding cigarette smoking and health. Second, it developed a scientific research program that focused on basic processes of disease and that was distant from, if not completely irrelevant to, evaluating the risks and harms associated with smoking – the very subject that the industry had pledged to pursue through TIRC. Zahn PD, Richardson v. Philip Morris, 12/16/98, 318:16-319:1, 319:3, 325:3-12, 325:20-328:6, 336:15-337:11, 561:21-562:7; Brandt WD, 57:13-23; 82:21-83:8, 127:17-19; Sommers PD, Cipollone v. Liggett, 10/2/86, 73:12-16, 73:20-22, 74:2, 74:8-15.

85. TIRC deftly exploited scientific research for the purposes of public relations. From the outset, the dual functions of TIRC were intertwined, with the scientific program of TIRC always subservient to the goals of public relations. Id., 57:8-11. The dual functions of TIRC were integrally related; both were fully committed to the goals of denying, distorting, and discrediting the substantial scientific evidence of smoking's harms and of reassuring smokers and future smokers. Id., 58:1-4, 124:11-125:1.

86. Defendants' denials kept away many excellent researchers. In an October 1969 memorandum to Ross R. Millhiser of Philip Morris, Helmut Wakeham, Vice President and Director of Research for Philip Morris, expressed concern that "the efforts of the tobacco industry through CTR and the American Medical Association have failed to involve the best investigators. At the beginning of our support of smoking and health research, this failure may

have been connected with our consistent denial of the statistics and our continued assertion that there is nothing to the cigarette causation hypothesis." 1001609594-9595 (US 21437) (O), (US 76162) (O).

87. A year later, Wakeham again discussed CTR's strategy of frequent and public denials, in a December 1970 memorandum to Joseph Cullman, Chairman of Philip Morris and Chairman of the Executive Committee of the Tobacco Institute: "It has been stated that CTR is a program to find out the 'truth about smoking and health.' What is truth to one is false to another. CTR and the Industry have publicly and frequently denied what others find as 'truth.' Let's face it. We are interested in evidence which we believe denies the allegation that cigarette smoking causes cancer." 1000255938-5940 (US 20085) (O).

88. Defendants, through TIRC/CTR and its public relations strategy, were especially effective in identifying and supporting skeptics of the link between smoking and disease. Skeptics were invited to join the Scientific Advisory Board of the TIRC; they and their home institutions were provided with research grants from the TIRC. Their views were effectively solicited and broadcast widely by TIRC and the Tobacco Institute. Brandt WD, 80:12-18.

89. TIRC/CTR funded research through a variety of mechanisms: grants, contracts, CTR Special Staff Services, and CTR Special Projects. ARU1130828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 10, at 43-57). See US FF § I.D(2), infra (for detailed discussion of CTR Special Projects).

90. Virtually none of the research funded by TIRC/CTR centered on immediate questions relating to carcinogenesis and tobacco that could resolve the question of the harms brought about by cigarette smoking. Although some TIRC/CTR-funded researchers explored alternative hypotheses, TIRC/CTR did not typically pursue direct research on cigarettes and

disease. Rather than addressing the constituents in tobacco smoke and their demonstrated effect on the human body, TIRC/CTR directed the predominance of its resources to alternative theories of the origins of cancer centering on genetic factors and environmental risks. At the same time, TIRC/CTR used truisms such as the "need for more research" in order to deflect attention away from what was known. The major thrust of TIRC/CTR was to emphasize that human cancers were complex processes, difficult to study and difficult to understand. Brandt WD, 82:10-12, 85:12-86:3, 120:20-121:11. Most research funded by the SAB was irrelevant to the immediate questions associated with tobacco smoking and health, but it did "create the appearance of [Defendants] devoting substantial resources to the problem without the risk of funding further 'contrary evidence.'" Harris WD, 104:23-105:7.

91. Two of CTR's Scientific Directors, Harmon McAllister and Sheldon Sommers, testified that the basic research funded by CTR was not immediately relevant to smoking and health. McAllister confirmed that the types of research grants funded were "basic medical research on the etiology of diseases that have been epidemiologically linked to smoking. That's our global [sic] - that's the way we operate. Those are the sorts of applications we entertain." McAllister PD, Broin v. Philip Morris, 12/6/93, 46:2-16. Sommers stated that a CTR grant application's relevance to cigarette smoking and health was not the primary factor the SAB used in rating grant applications, but that "[s]cientific merit was of equal or of greater importance than relevance." Sommers PD, Cipollone v. Liggett, 10/2/86, 134:10-22, 135:4-6. Sommers was an SAB member from 1967 to 1989, SAB Chairman from 1970 to 1980, CTR Research Director from 1969 to 1972, and CTR Scientific Director from 1981 to 1987. Sommers PD, Galbraith v. Reynolds, 9/4/85, 10:12-25, 22:7-12, 23:22-24:16; Sommers PD, Rogers v. Reynolds, 12/17/85, 9:11-12, 13:14-18, 14:15-22; Sommers PD, Arch v. American, 7/14/97, 10:21-24, 11:9-24, 13:9-

13, 16:14-21, 95:14-22; Sommers PD, Arch v. American, 7/15/97, 164:18-22.

92. During a four-week visit to the United States in 1958, three British scientists met with representatives of TIRC and TIRC's SAB, as well as representatives of American, Liggett, and Philip Morris. The British scientists reported that "Liggett & Meyers stayed out of TIRC originally because they doubted the sincerity of TIRC's motives and believed that the organization was too unwieldy to work efficiently. They remain convinced that their misgivings were justified. In their opinion TIRC has done little if anything constructive, the constantly reiterated 'not proven' statements in the face of mounting contrary evidence has thoroughly discredited TIRC, and the **SAB of TIRC is supporting almost without exception projects which are not related directly to smoking and lung cancer**." TINY0003106-3116 (US 21369) (A); 105408490-8499 at 8495 (US 21135) (A) (emphasis added), (US 76169) (A); Brandt WD, 94:8-95:17.

93. After another visit to the United States in the fall of 1964, two British scientists wrote in their report: "As we know, CTR supports only fundamental research of little relevance to present day problems." 1003119099-9135 (US 20152) (A).

94. The Defendants understood that TIRC/CTR was funding research concerning cancer as a general issue, rather than the relationship of smoking to cancer. Brandt WD, 121:6-122:14. In January 1968, Addison Yeaman, B&W Vice President and General Counsel, wrote, "Review of SAB's current grants indicates that a very sizable number of them are for projects in what might be called 'basic research' without specific orientation to the problem of the relationship of the use of tobacco to human health." 00552837-2839 at 2837 (US 22968) (A).

95. In addition, Defendants appreciated the delays associated with the basic research approach. Janet Brown, outside counsel for American, explained CTR's strategy of undertaking

only basic research funding, as opposed to funding questions directly related to tobacco and health to Cy Hetsko, Vice President and General Counsel for American, and Addison Yeaman, Vice President and General Counsel for B&W, at a January 1968 meeting. The rationale was that basic research kept alive the Enterprise's open question argument on causation. Yeaman summarized Brown's position as:

> First, we maintain the position that the existing evidence of a relationship between the use of tobacco and health is inadequate to justify research more closely related to tobacco, and
> Secondly, that the study of the disease keeps constantly alive the argument that, until basic knowledge of the disease itself is further advanced, it is scientifically inappropriate to devote the major effort to tobacco.

68-262155-2157 (US 63527) (A).

96. Geoffrey F. Todd, Executive Director of the Tobacco Research Council, an organization in the United Kingdom equivalent to CTR (discussed further at US FF § I.H(2), infra) made several visits to the United States, during which time he met with Defendants' representatives, attorneys, and scientists. After his 1973 trip, Todd wrote: "It was difficult to avoid the sad conclusion that C.T.R. has become a backwater of little significance in the world of smoking and health." 100226995-7033 (US 21134) (O).

97. Throughout the existence of TIRC/CTR, representatives of the member companies and their attorneys were influential in the activities and research undertaken by TIRC/CTR. Beginning in November 1971, CTR staff met semiannually with representatives of the member companies, usually the research directors and general counsel. The all-day meetings were designed to keep members of the Enterprise aware of the status of research funded by Defendants through TIRC/CTR. CTRMIN-MOM000016-0034 at 0018, 0022 (US 21170) (O).

98. The Enterprise, through TIRC/CTR, sought out certain researchers and/or areas of

research and solicited grant applications. Clarence Cook Little admitted that, seeing a line of work that showed promise, TIRC/CTR approached researchers and asked them, "Are any of you willing to try this if we provide your institution with money and you with help?" Little PD, Lartigue v. Reynolds, 10/5-6/60, 2721:21-2722:9, 2800:12-25; Lisanti PD, Small v. Lorillard, 3/31/98, 478:11-480:25.

99. Sheldon Sommers, CTR Scientific Director, testified that CTR frequently initiated research. When asked if CTR suggested particular research for which it would make available grants, Sommers responded, "Yes. I go out all the time looking for opportunities and new ideas and investigators in various fields of biomedicine." Sommers PD, Rogers v. R.J. Reynolds, 12/17/85, 50:19-52:15, 52:22-53:2, 53:7-18; Sommers PD, Cipollone v. Liggett, 10/3/86, 181:15-23, 182:12-183:10; Sommers PD, Small v. R.J. Reynolds, 10/8/97, 176:18-177:11; 85760397-0397 (US 85998) (O).

100. One of the reasons that Paul Kotin decided to resign from the SAB was that he was disturbed by "the going out and requesting the submission of grants, of applications for grants. And I felt this circumvented the original foundation for the SAB, at least for my membership in the SAB." Kotin PD, Falise v. American , 7/6/00, 67:10-69:24. Kotin had served on the TIRC SAB from 1954 to 1965. Kotin PD, Falise v. American , 7/6/00, 9:9-15. Another reason for Kotin's resignation was reported by visitors from the United Kingdom's Tobacco Research Council in October 1964: "The recent [CTR] Annual Report by Dr. Little was severely criticised by the U.S. Surgeon General at a Washington press conference. Dr. Kotin was also highly critical of it and talks privately of resigning from the S.A.B. if another report of the same nature is going to be published next year." 512678484-8499 (US 51653) (O); 1003119099-9135 (US 20152) (A), (US 35649*) (O); 105407261-7329 (JE-34739) (A); see also Kotin PD, Falise v.

American , 7/6/00, 72:19-73:14; Kotin PD, Falise v. American , 7/7/00 190:2-192:17, 197:13-198:2.

101. Similarly, John Craighead, who was an SAB member for approximately one year, was also disturbed by the nature of the CTR research program. Craighead resigned from the SAB in part because he felt that the research did not address the fundamental issues related to tobacco and because of the involvement of CTR Chairman Addison Yeaman into the direction of the CTR research program. Craighead PD, Butler v. Philip Morris, 11/13/96, 47:8-17, 84:13-86:3, 87:10-21, 88:6-10, 93:8-17, 107:19-25; Sommers PD, Small v. R.J. Reynolds, 10/7/97, 10:24-11:12, 12:2-13:19.

102. Sheldon Sommers acknowledged the influence and control wielded by CTR Chairmen and Presidents over the TIRC/CTR research program. All TIRC/CTR Presidents were from tobacco companies, Sommers PT, Cipollone v. Liggett, 4/19/88, 8736:7-12; and, until 1991, each and every TIRC/CTR Chairman was a retired tobacco company executive. McAllister WD, 18:15-16. In a September 1981, Sommers wrote that "new Chairman Hobbs [from RJR] is more interested in basic research so relevance to smoking and health no longer crucial." 85760397 (US 85998) (O); Sommers PD, Cipollone v. Liggett, 10/2/86, 136:8-14. Sommers also testified that, after Addison Yeaman (from B&W) became CTR President and CEO, CTR began initiating more contracts because Yeaman believed that "the program was too diffuse and should be 'targeted'." Sommers PD, Cipollone v. Liggett, 10/3/86, 297:16-298:2.

103. Following CTR's January 1975 annual meeting, the CTR staff was given more control over the grant and contract application process. According to the meeting minutes: "The Chairman stated that in the continued effort to bring maximum information to the Scientific Advisory Board preliminary investigation is being made by the Council's staff. . . . . Following

this, the proposals are then submitted for study by a subcommittee of the Board [SAB]. . . ." CTRMIN-MOM000070-0087 at 0071 (US 32618) (O).

(5) TIRC/CTR and Public Relations

104. In December 1953, Timothy Hartnett, President of B&W, had summarized the crisis of the industry in the following terms:

> But cancer research, while certainly getting our support, can be only half an answer. . . . **The other side of the coin is public relations . . . [which] is basically a selling tool and the most astute selling may well be needed to get the industry out of this hole.** . . . It isn't exaggeration that no public relations expert has ever been handed so real and yet so delicate a multi-million dollar problem. . . . Finally, one of the roughest hurdles which must be anticipated is how to handle significantly negative research results, if, as, and when they develop.

1005039779-9783 (US 20190) (A) (emphasis added); Brandt WD, 55:22-56:11.

105. From the outset, the dual functions of TIRC – public relations and scientific research – were intertwined. Ernest Pepples, in an internal B&W letter dated April 4, 1978, acknowledged:

> Originally, CTR was organized as a public relations effort. The industry told the world CTR would look at the diseases which were being associated with smoking. There was even a suggestion by our political spokesmen that if a harmful element turned up the industry would try to root it out.

680212421-2423 at 2422 (US 54024) (A); 682338651-8653 (US 22899) (O).

106. One name initially proposed for TIRC/CTR, the "Tobacco Industry Committee for Public Information," reflected its public relations purpose. However, John Hill of the public relations firm Hill & Knowlton expressed skepticism that a public relations strategy that simply argued that the harms of cigarette smoking were "unproven" would succeed. Such a campaign might appear self-interested in the face of the serious health concerns being raised. Brandt WD,

54:11-19. As a result, Hill suggested that the industry should sponsor new research and use "[t]he word 'research' . . . in the name of the Committee to establish the fact that the group will carry on or sponsor fundamental scientific research and will not be solely an information agency." TLT0900422-0430 at 0424 (US 88169) (A); TLT0901541-1545 at 1542 (US 87225) (A); TLT0901546-1549 (US 88191) (A).

107. A white paper titled "A Scientific Perspective on the Cigarette Controversy" was one of the first public relations projects undertaken by Hill & Knowlton on behalf of its new client, TIRC. TLT0901688-1707 (US 88386) (A). Hill & Knowlton/TIRC undertook the project because Defendants felt it necessary and urgent "to present to leaders of public opinion the fact that there was no unanimity among scientists regarding the charges against cigarettes." TLT0902041-2064 at 2054 (US 88360) (A), (US 88364) (A). The twenty-page booklet consisted of published quotations from some three dozen scientists and researchers who denied that there was any proof that linked smoking and lung cancer or who questioned the validity of statistical methods and the conclusions drawn from recent laboratory experiments with mice. TLT0901688-1707 (US 88386) (A); TLT0902041-2064 at 2054 (US 88360) (A), (US 88364) (A); CTRMN004924-4927 (US 21152) (A).

108. "A Scientific Perspective on the Cigarette Controversy" was released April 14, 1954, with 205,000 copies being printed. CTRMN004924-4927 (US 21152) (A). The booklet was sent to 176,800 doctors, as well as to deans of medical and dental colleges. TLT0902954-2955 (US 88388) (A). The booklet with a press release went to a press distribution of 15,000, including: editors of daily and weekly newspapers, consumer magazines, veterans magazines, and medical and dental journals; news syndicate managers; business editors; editorial and science writers; radio and television commentators; news columnists; and Members of Congress. Id.;

CTR-TIRC-MIN000001-0252 at 0006, 0007, 0010 (JD-093292) (A); TLT0900159-0161 (US 87720) (O).

109. In the June 1954 "Public Relations Report and Recommendations for Tobacco Industry Research Committee," Hill & Knowlton boasted about the success of its public relations efforts for TIRC: "Committee headquarters is steadily gaining recognition as a source of authoritative information on the subject of tobacco and health. The result is that news and magazine writers, columnists and commentators are turning to the Committee and its public relations counsel for more and more information." TLT0901558-1563 at 1559 (US 88394) (A); 514806129-6131 (US 20860) (O).

110. Timothy Hartnett became the full-time chairman of TIRC on July 1, 1954, the day after his retirement as President of B&W, and continued to advance the Defendants' "open question" position in that role. In the press release generated by Hill & Knowlton announcing his appointment, Hartnett repeated the two commitments that TIRC had made in its Statement of Purpose and in its bylaws, i.e., (1) to carry "comprehensive and objective scientific and statistical research to establish the facts," and (2) "report them to the public." After stating that the "tobacco industry is determined to find the answers to the public's questions about smoking and health," Hartnett continued:

> It is an obligation of the Tobacco Industry Research Committee at this time to remind the public of [some] essential points: (1) There is no conclusive scientific proof of a link between smoking and cancer; (2) Medical research points to many possible causes of cancer; . . . (5) The millions of people who derive pleasure and satisfaction from smoking can be reassured that every scientific means will be used to get all the facts as soon as possible.

Brandt WD, 56:12-23; TLT0901831-1832 (US 88398) (A), (US 88043) (A).

111. Wilson Hoyt, who was initially a Hill & Knowlton employee and who had no

scientific background whatsoever, held positions as TIRC/CTR Executive Secretary, Executive Director, Executive Vice President, and President in his three decades with TIRC/CTR. Brandt WD, 58:23-59:2. In his 1955 administrative reports as TIRC Executive Secretary and Hill & Knowlton executive, Hoyt affirmed the relationship of public relations and research in TIRC's program. In his April 1955 report, he wrote, "Essentially, the major purposes of the TIRC are Research and Public Relations. Our job is to maintain a balance between the two, and to continue to build soundly so that at all times Research and Public Relations complement each other. In that way we intend to assume the mantle of leadership and, ultimately, to create a condition where the public will look to the TIRC for answers rather than to others." CTR-TIRC-MIN000033-0052 (US 33006) (A); Brandt WD, 83:9-23. In his January 1955 report, he wrote, "Within this framework we have furthered and coordinated the two major purposes for which the Committee was organized namely, the public relations phase and the research program." CTR-TIRC-MIN000001-0252 at 0018-0032 (JD-093292) (A); CTRMN003816-3835 at 3826 (US 21147) (O).

112. Despite Defendants' assertion that TIRC/CTR was solely an organization that funded independent research for the purpose of finding answers to smoking and health question, it served principally as an effect public relations tool and information conduit. In a July 1963 memorandum, Addison Yeaman, General Counsel for B&W, wrote: "The TIRC cannot, in my opinion, provide the vehicle for such research. It was conceived as a public relations gesture and (however undefiled the Scientific Advisory Board and its grants may be) it has functioned as a public relations operation." 689033412-3416 (US 22034) (A); Brandt WD, 116:17-117:22; VXA2510190-0194 (US 63599) (A); 2046754905-4909 (US 20477) (O); Duffin PD, Cipollone v. Liggett, 1/23/86, 118: 14-17.

113. A document detailing discussions held among CTR executives between November 10 and 15, 1971, noted the likelihood that CTR would continue public relations activities:

> [T]here was confidence that CTR would not be primarily a public relations tool, tacitly admitting that this was what it had been previously. On the other hand, there was equal confidence in future CTR research would be steered clear of any embarrassing connection with smoking as a cause of disease. The second objective seems more likely to be achieved than the first.

100249579-9627 at 9589 (US 34628) (O).

114. TIRC's research program never escaped its public relations origins. As Alexander Spears, Lorillard's Director of Research, explained in 1974:

> Historically, the joint industry funded smoking and health research programs have not been selected against specific scientific goals, but rather for various purposes such as public relations, political relations, position for litigation, etc. Thus, it seems obvious that reviews of such programs for scientific relevance and merit in the smoking and health field are not likely to produce high ratings. In general, these programs have provided some buffer to the public and political attack of the industry, as well as background for litigious strategy.

01421596-1600 (US 20049) (A); 83910516-0520 (US 55955) (A); Brandt WD, 123:14-124:1.

115. In a 1975 speech to CTR members, Addison Yeaman gave his observations on the Council, among them he noted, "It is my sober judgement that CTR, as it now operates is the greatest public relations asset you have in the problem of tobacco and health." 11303014-3020 at 3017 (US 86005) (A) (emphasis in original). See US FF § I.B(6) and I.C(3), infra (for more discussion of public relations activities).

(6) TIRC/CTR Publications and Public Statements

(a) TIRC/CTR Newsletters

116. From October 1957 to at least 1968, first TIRC and then the Tobacco Institute

published a newsletter variously named *Tobacco and Health*, *Research Reports on Tobacco and Health*, and *Reports on Tobacco and Health Research*. The newsletter was published two or three times a year; contained articles that disputed the relationship between smoking and disease; criticized research supporting such a relationship; and emphasized that differing opinions existed regarding tobacco use and health. Brandt WD, 84:10-85:9; TIMN0000713-0714 (US 21264) (O); TIKU000006665-6668 (US 86007) (O); TIMN0000719-0722 (US 86011) (O); TIMN0000723-0726 (US 86012) (O); TIMN0000727-0728 (US 86013) (O); TIMN0000733-0734 (US 86014*) (O); TIMN0000736-0738 (US 86015*) (O); TIMN0000739-0744 (US 86016) (O); TIMN0000745-0747 (US 86017) (O); TIMN0000748-0750 (US 86045) (O); TIMN0000751-0756 (US 86018) (A); TIMN0000757-0762 (US 86019) (O); TIMN0000763-0774 (US 86020) (O); TIMN0000775-0780 (US 86021) (O); TIMN0000781-0784 (US 86022) (O); TIMN0000785-0788 (US 86023) (O); TIMN0000789-0792 (US 86024) (O); TIMN0000793-0796 (US 86025) (O); TIMN0000797-0800 (US 86026) (O); TIMN0000801-0804 (US 86027) (O); TIMN0000805-0808 (US 86028) (O); TIMN0000809-0812 (US 86029) (O); TIMN0123324-3327 (US 21282) (O); TIMN0130693-0696 (US 62844) (O); TIMN0130707-0710 (US 62845) (O); TIMN0130728-0731 (US 62847) (O); TIMN0130802-0803 (US 62849) (O); TIMN0130816-0817 (US 62851) (O); TIMN0000713-0714 (US 21264) (O); TIMN0123276-3279 (US 77059) (O); TIMN0123304-3307 (US 77060) (O); TIMN0130687-0690 (US 77068) (O); TIMN0130742-0745 (US 77069) (O); TIMN0130749-0752 (US 77070) (O); TIMN0130778-0781 (US 77071) (O); TITX0006679-6682 (US 77111) (O); 502367882-7887 (US 49132) (O); TIMN0123314-3317

(US 21345) (O); TITX0006691-6694 (US 86044) (O); TIMN0000748-0750 (US 86045) (O); TIMN0130810-0811 (US 62850) (O); TIMN0130735-0738 (US 62848) (O); TIKU000006559-6562 (US 86048) (O); TIKU000006545-6548 (US 86050) (O); TIMN0130756-0761 (US 86051) (O); TIMN0130714-0717 (US 62 846) (O); TIKU000006538-6541 (US 86052) (O); 511018410-8413 (US 22459) (A); MNAT00515648-5651 (US 72185) (A).

117. Initially, TIRC was to publish the *Tobacco and Health* newsletter. This provoked a strong reaction from members of the Scientific Advisory Board who received advance copies of the first issue. In a letter to SAB Chairman Clarence Little, SAB member McKeen Cattell classified the new publication as "obviously propaganda material" and expressed serious concern about the effect it would have on the SAB's program. 701235030-5030 (US 31474) (A). Julius Comroe, another SAB member, advised that the SAB and TIRC should not be identified with the *Tobacco and Health* publication. 70123533-3533 (JD-093608) (A); 70123536-3536 (JD-093610) (A).

118. In response to these concerns, the Tobacco Information Committee, a subcommittee of TIRC, was formed in late 1957, from what was previously known as the TIRC Public Relations Committee. The committee was comprised of public relations employees from the companies and public relations counsel representing the companies, and one of its principal functions was to publish the *Tobacco and Health* newsletter. The first two issues of the *Tobacco and Health* newsletter were issued under the name of the Tobacco Information Committee and financed from the TIRC budget. 70123534-3534 (JD-093609) (A); CTR-TIRC-MIN000001-0252 at 0125-0127 (JD-093292) (A); CTRMN039046-9106 at 9056 (JD-092825) (A).

119. In 1958, after the first two issues were published, the Tobacco Institute (discussed further at US FF § I.C., infra) assumed responsibility for publishing the *Tobacco and Health* newsletter on behalf of Defendants. Even when published by the Tobacco Institute, there was close coordination with TIRC, and most editorial material derived from TIRC annual reports, the TIRC library, and other materials available through TIRC. CTR-TIRC-MIN000001-0252 at 0154, 0162 (JD-093292) (A). One issue of the *Tobacco and Health* newsletter, "reaching all doctors and dentists in the country," was devoted to a review of the 1958 TIRC Report of the Scientific Director, and, as a result, "requests into the hundreds have been received asking for complete copies of the [report]." CTR-TIRC-MIN000001-0252 at 0162 (JD-093292) (A).

120. A 1968 *Tobacco and Health Research* procedural memorandum from Hill & Knowlton to William Kloepfer, Tobacco Institute Vice President, stated: "Most papers used in TH&R come from the Council for Tobacco Research Library through advance distribution of Ken Austin of CTR." In addition, the Tobacco Institute sent three sets of tentative layout, headlines, and copy for each issue to CTR's Wilson Hoyt requesting that he ask Drs. Little and Hockett for their comments and suggestions. T13890-3893 (US 21614) (A). Moreover, Leonard Zahn, who worked for TIRC/CTR's public relations counsel Hill & Knowlton, was in charge of preparing and compiling the issues of *Tobacco and Health*. Zahn PD, Cipollone v. Liggett, 12/18/1986, 344:9-22.

121. The *Tobacco and Health* newsletter was a public relations vehicle used to influence health professionals. Its primary purpose was to present directly to the medical and scientific communities research material related to tobacco and health – material that frequently did not deal with tobacco but suggested other causes of cancer, such as viruses, air pollution, and previous chest ailments. Its secondary purpose was to attract the attention of the lay press to

studies that challenged the validity of research linking cancer to cigarette use. A news release with each issue attracted press attention; one or both of the major wire services usually carried stories. In order to combat the effects of the *Tobacco and Health* newsletter, four non-governmental health agencies began issuing a *Medical Bulletin on Tobacco* in 1962. TIMN0081443-1457 at 1443-1444 (US 21307) (O); Brandt WD, 84:10-85:9.

122. In 1962, circulation of the newsletter reached 520,000, with about 315,000 copies going to doctors, dentists, and medical schools, and the rest going to writers and editors, public opinion leaders, all members of Congress, brokerage houses, tobacco groups, farm and supplier groups, industry groups, and member companies. Publication of research results helped make news and was coordinated with other publicity efforts. TIMN0070640-0656 at 0643 (US 21299) (O); TIMN0070657-0674 at 0661 (US 22983) (O); CTRMN015416-5435 at 5416-5417, 5421 (US 79889) (O); CTRMN015485-5502 at 5489 (US 79893) (O); CTRMN015412-5415 at 5415 (US 79888) (O).

123. In a procedural memorandum, Hill & Knowlton delineated specific criteria for selecting reports to be included in *Tobacco and Health*. The memorandum stated that research did not have to always deal specifically with tobacco; for example, research which suggested that other factors may cause diseases associated with smoking should be included; "[t]he most important type of story is that which casts doubt on the cause and effect theory of disease and smoking." Brandt WD, 119:7-21; TIMN00721488-1491 (US 63575) (A), (US 21302) (A), (US 21614) (A); CTRPUBLICSTMT001270-1281 (US 32646) (O).

124. The *Tobacco and Health* newsletters often contained public statements reaffirming promises the Defendants had made about TIRC: "[TIRC's] purpose is solely to obtain new information and to advance human knowledge in every possible phase of the tobacco and

health relationship." 511018410-8413 (US 22459) (A).

(b) TIRC/CTR Annual Reports

125. TIRC/CTR published and issued Annual Reports from 1956 through 1997. McAllister WD, 20:10-11. Copies of the TIRC/CTR Annual Reports were sent to libraries, colleges and universities, deans of medical schools, science and medical editors and writers for the popular press, CTR grant recipients, and members of professional medical societies. McAllister WD, 20:14-24; Glenn PD, Sontag v. U.S. Tobacco, 10/16/96, 34:4-23; Sommers PD, Rogers v. R.J. Reynolds, 12/17/1985, 18:8-19.

126. The TIRC/CTR Annual Reports routinely included, in varying formats: abstracts of articles published by researchers funded by TIRC/CTR grants; brief statements regarding organization and policy; lists of SAB members and their affiliations; lists of current and former grantees; lists of ongoing and completed projects; and research summaries, commentaries, rationales, and observations. Zahn PD, Cipollone v. Liggett, 12/16/1986, 79:4-13, 81:1-9; CTRAR000001-0013 (JD-090000) (A); CTRAR000015-0040 (JD-090001) (A); CTRAR000041-0073 (JD-090002) (A); CTRAR000074-0109 (JD-090003) (A); CTRAR000110-0147 (JD-090004) (A); CTRAR000148-0185 (JD-090005) (A); CTRAR000186-0216 (JD-090006) (A); CTRAR000217-0253 (JD-090007) (A); CTRAR000254-0293 (JD-090008) (A); CTRAR000294-0334 (JD-090009) (A); CTRAR000335- 0376 (JD-090010) (A); CTRAR000377-0433 (JD-090011) (A); CTRAR000434-0477 (JD-090012) (A); CTRAR000478-0526 (JD-090013) (A); CTRAR000527-0580 (JD-090014) (A); CTRAR000581- 0629 (JD-090015) (A); CTRAR000630-0675 (JD-090016) (A); CTRAR000676-0717 (JD-090017) (A); CTRAR000719-0763 (JD-090018) (A); CTRAR000764-0807 (JD-090019) (A);

CTRAR000808-0861 (JD-090020) (A); CTRAR000862-0916 (JD-090021) (A); CTRAR000917-0974 (JD-090022) (A); CTRAR000975-1036 (JD-090023) (A); CTRAR001037-1097 (JD-090024) (A); CTRAR001098-1172 (JD-090025) (A); CTRAR001173-1246 (JD-090026) (A); CTRAR001247-1355 (JD-090027) (A); CTRAR001356-1451 (JD-090028) (A); CTRAR001452-1547 (JD-090029) (A); CTRAR001548-1649 (JD-090030) (A); CTRAR001650-1767 (JD-090031) (A); CTRAR001768-1880 (JD-090032) (A); CTRAR001881-2003 (JD-090033) (A); CTRAR002004-2149 (JD-090034) (A); CTRAR002150-2287 (JD-090035) (A); CTRAR002288-2465 (JD-090036) (A); CTRAR002466-2619 (JD-090037) (A); CTRAR002620-2784 (JD-090038) (A); 70000302-0618 (JD-090039) (A); 85865669-5692 (US 22954) (A); 85865742-5804 (US 21082) (A); 85865805-5873 (US 21083) (A); 85865874-5946 (US 21084) (A); 01141473-1541 (US 20039) (A); 85866020-6080 (US 21085) (A); 1002315412-5483 (US 20125) (A); 1002315484-5561 (US 20126) (A); 1002315562-5640 (US 20010) (A); 1002315641-5722 (US 20011) (A); 1002315723-5834 (US 20127) (A); 501773418-3466 (US 20686) (A); 1002315835-5920 (US 21800) (A); 85865693-5741 (US 22237) (O); 1005082487-2584 (US 20202) (O); 1005082585-2690 (US 20203) (O); 1005082691-2788 (US 20012) (O); 2028556086-6177 (US 20428) (O); 1002316312-6397 (US 20128) (O); 1002316398-6485 (US 20129) (O); 1002316486-6571 (US 20130) (O); 1002316572-6677 (US 20131) (O); 1002316678-6780 (US 20132) (O).

127. From 1956 until 1993, TIRC/CTR public relations counsel Leonard Zahn was in charge of preparing and compiling the Annual Reports, making distribution recommendations, and drafting the Introduction section for some of them. Zahn PD, Cipollone v. Liggett, 12/18/1986, 368:23-369:4, 369:10-370:14, 371:5-9, 371:11-372:8, 379:16-381:24, 382:17-21;

Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 41:22-45:12, 48:2-7, 49:6-17, 49:22-51:1, 51:14-21, 52:8-23; CTRMN015594-015613 (US 79903) (O). In a December 1972 memo attached to his proposed outline for the next report, Zahn acknowledged that "[t]he research section of the CTR [Annual] Report is based on published articles by grantees and, unfortunately, not much directly related to tobacco appeared in the last 18 months." CTRMN015614-015616 (US 79904) (O).

128. The commentary in the Annual Reports uniformly challenged the hypothesis that smoking was linked to lung cancer and emphasized that data regarding smoking and health were controversial, contradictory, and inconclusive. For example:

- 1957 Report of the Scientific Director ("sound medical and experimental knowledge of tobacco use is relatively limited, at times contradictory, and often conjectural rather than factual. . . . There is not known today any simple or quick way to answer the question of whether any one factor has a role in causing human lung cancer . . . no one has established that cigarette smoke, or any one of its known constituents, is cancer causing to man. . . . Members of the [TIRC SAB] Board take the general position that definitive conclusions or predictions of individual risks are unwarranted by the present imperfect state of knowledge in the complex field of lung cancer causation," and describing cancer as "this so-called constitutional disease");

- 1958 Report of the Scientific Director ("a problem may well be obscured, and its solution delayed, by the soothing acceptance of an oversimplified and immature [tobacco theory] hypothesis. . . . The proponents of the tobacco theory have generated increasingly intensive and extensive propaganda. . . . As a result, a non-scientific atmosphere, conducive to prematurity, unbalance, and inadequacy of public judgement, has pervaded the whole field. . . . The prohibition concept discounts or ignores all considerations of smoking benefits in terms of pleasure, relaxation, relief of tension or other functions.");

- 1961 Report of the Scientific Director ("[T]hose who most actively promote this [smoking-lung cancer] hypothesis have consistently ignored or, at best, have minimized the fact that numerous directly relevant experiments either have failed to support the hypothesis or have provided only weak or uncertain data.");

- 1963-64 Report of the Scientific Director ("After 10 years the fact remains that knowledge is insufficient either to provide adequate proof of any hypothesis or to define the basic mechanisms of health and disease with which we are

concerned.");

- 1964-65 Report of the Scientific Director ("[E]vidence to support the thesis that cigarettes exercise a direct carcinogenic effect on man has not been forthcoming.");

- 1978 Report of the Council for Tobacco Research-U.S.A., Inc. ("[T]he complex etiology of these constitutional diseases [cancer, heart disease, chronic pulmonary ailments] remains unraveled. These diseases have been associated statistically with smoking, but such associations are not proof of cause and effect.").

CTRAR000015-0040 (JD-090001) (A); 501773418-3466 (US 20686) (A); Brandt WD, 86:19-87:20; 85865693-5741 (US 22237) (O); CTRAR000041-0073 (JD-090002) (A); 85865742-5804 (US 21082) (A); CTRAR000148-0185 (JD-090005) (A); 01141473-1541 (US 20039) (A); CTRAR000217-0253 (JD-090007) (A); 1002315412-5483 (US 20125) (A); CTRAR000254-0293 (JD-090008) (A); 1002315484-5561 (US 20126) (A); CTRAR000808-0861 (JD-090020) (A); 1002316572-6677 (US 20131) (O).

129. For more than two decades, the commentaries in the Annual Reports also discounted the conclusions reached by the public health community and the Surgeon General linking smoking and disease and presented a view parroting the "open question" position of the tobacco industry. 515709297-9340 (US 20866) (O). One firm that evaluated the content of the Annual Reports for the industry wrote: "The aim of [Little's] summations, much too apparently, seems to be to protect smoking." MNAT00515749-5762 at 5752 (US 63570) (A); Brandt WD, 122:15-123:13; Lisanti PD, Small v. Lorillard, 3/31/98, 454:5-14.

130. A June 20, 1984 memorandum from Wendell Stone, attorney at Shook, Hardy & Bacon, during the Cipollone litigation, acknowledged the bias of CTR/TIRC's annual reports. Stone commented that the reports, especially the early ones, "contained lengthy commentary . . . which read much like industry position papers." Stone also concluded:

The TIRC/CTR commentary on research did not always seem to

> conform fully to the positions taken or implied in the abstract. For example, with respect to the Leuchtenberger inhalation research, the abstracts in the annual reports tend to give the impression that these researchers did in fact have a good animal model of lung cancer production by smoke inhalation. However, commentary on this research in the front material to the reports tended to argue away the relevance of the results.

515709297-515709340 (US 20866) (O).

(c) TIRC/CTR Press Releases and Other Public Statements

131. TIRC/CTR, with the assistance of public relations counsel Hill & Knowlton, and later Leonard Zahn, was quite effective in making certain that the Defendants' position of "no proof" and the need for "more research" reached the national media, and thus the public. Typically news accounts of new medical findings would be accompanied by a press release or statement from TIRC/CTR insisting that "nothing new" had been found and the studies were "merely" statistical. Brandt WD, 78:18-79:2, 119:22-120:15. Moreover, TIRC/CTR was effective in mobilizing a relatively small group of skeptics and amplifying their views as if they were equal in number and significance to the scientific consensus about the harms of smoking (discussed in detail at US FF §§ III.A., infra). Brandt WD, 79:6-8, 90:20-92:5; see, e.g., 500518759-8761 (US 20636) (A) (1958 year-end Hill & Knowlton/TIRC press release in which TIRC Chairman Timothy Hartnett asserts that "scientists of high professional standing have produced additional evidence and opinions that challenge the validity of broad charges against tobacco use"); 503283464-3467 (US 22981) (A) (TIRC's Clarence Cook Little's November 1959 response to Surgeon General Burney' statement that begins, "Today, more than ever before, scientific evidence is accumulating that conflicts with or fails to support the tobacco-smoking theories of lung cancer."); 500518873-8875 (US 63601) (A) (1960 Hill & Knowlton/TIRC press release quoting Little and titled "New Evidence Shows Complexities of Lung Cancer, Scientist

[Little] Says"); 00552685-2690 (US 47724) (O) (1970 Leonard Zahn/CTR press release quoting Little that begins, "A considerable number of studies by independent scientists raise questions as to whether smoking has actually been shown to be a health hazard"), 60028206-8210 (US 53301) (O); 670307882-7891 (US 21867) (A), 670307882-7883 (US 63574 (A) (1969 CTR press release quoting Little that begins, "The scientist [Little] who has been associated with more research in tobacco and health than any other person declared today that 'there is no demonstrated causal relationship between smoking and any disease. The gaps in knowledge are so great'[.]"); CTRPUBLICSTMT001241-1545 at 1265 (JD-043276) (A) (1970 Leonard Zahn/CTR press release quoting Little on genetic and environmental factor theories); 500518873-8875 (US 20635) (A); 500015901-5905 (US 47778) (A).

132. The Enterprise directed public attention to TIRC/CTR's research and based public statements and press releases upon it in order to have the public believe that the tobacco industry was objectively researching the relationship between smoking and disease and to perpetuate the Defendants' open controversy position. TIRC/CTR news releases selectively used TIRC/CTR-funded research results to challenge the charges of health risks from smoking.

133. The relationship between TIRC/CTR and Hill & Knowlton remained close for many years. Because TIRC had no headquarters and no staff upon its formation, Hill & Knowlton provided a working staff and temporary office space and assigned one of its experienced executives, Wilson Hoyt, to serve as Executive Secretary for the TIRC. In early 1956, the TIRC Executive Committee approved the relocation of TIRC's offices to the building where Hill & Knowlton's offices were located. At their January 29, 1964 meeting, the TIRC Executive Committee agreed to immediately transfer seven Hill & Knowlton employees, including Hoyt, to TIRC. TLT0902041-2064 (US 88364) (A); 93218985-8986 (US 21116) (A);

TLT0900114-0115 (US 88402) (A); CTRMN003816-3835 at 3825 (US 21147) (O).

134. Even after the Tobacco Institute (discussed further at US FF § I.C., infra) was created in 1958, TIRC/CTR continued its public relations activities with the assistance of public relations counsel Hill & Knowlton, and later Leonard Zahn. 93218985-8986 (US 21116) (A); 70057072-7073 (US 21983) (O); 512678484-8499 (US 51653) (O).

135. Hill & Knowlton provided public relations services for TIRC/CTR from 1954 until 1964 and for the Tobacco Institute from 1958 until 1968, and also provided consulting services to the Tobacco Institute in 1979 and again in 1987 through 1991. USX6390001-0400 at 0012 (US 89555) (O) (CTR Response to Request for Admission No. 113). See also William Adams PD, United States v. Philip Morris, 6/19/02, 495:5-17. Leonard Zahn was an integral part of TIRC/CTR's public relations program - first as an employee of Hill & Knowlton assigned to the TIRC account, and later, on his own, as primary public relations counsel for CTR. Leonard Zahn was hired by Hill & Knowlton in 1955 to work on the TIRC account. In 1969, Zahn resigned from Hill & Knowlton; formed his own company, Leonard Zahn & Associates; and was appointed CTR's public relations counsel. Zahn PD, Cipollone v. Liggett, 12/16/86, 9:19-21, 10:4-8, 43:17-20, 44:12-20, 45:15-18, 46:5-7, 16-17; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 48:15-22, 58:8-17, 59:9-17; Zahn PD, Richardson v. Philip Morris, 12/1/98, 16:9-17:8, 21:21-22:6, 25:13-26:16; Zahn PD, Richardson v. Philip Morris, 12/16/98, 308:7-14. Zahn & Associates served as CTR public relations counsel through 1993 and was paid $127,053 by CTR that last year. CTRMIN-BD 000001-0303 at 0277, 0283 (JD-093208) (A). During his decades with TIRC/CTR, Zahn attended and reported on scientific conferences, attended SAB meetings, organized press conferences, served as liaison between CTR and the Tobacco Institute, prepared articles, and drafted press releases and public statements as well as the annual reports for CTR.

Zahn PD, Richardson v. Philip Morris, 12/16/98, 308:7-14; McAllister WD, 188:20-189:5; Kornegay PD, Cipollone v. Liggett, 12/5/84, 529:4-530:10; 70124410-4414 (US 31512) (O); CTR98CONG00070-0070 (US 25897) (O); CTRMN015360-5360 (US 79868) (O); CTRMN015361-5361 (US 79869) (O); CTRMN015362-5365 (US 79870) (O); CTRMN015370-5371 (US 79873) (O); CTRMN015380-5381 (U. S. Ex. 79877) (O); CTRMNZN475-477 (US 21160) (O).

C. Tobacco Institute

(1) Formation of the Tobacco Institute

136. By mid-1956, TIRC's dual functions, public relations and research, had caused growing disquiet and resentment on several fronts. Some SAB members had always wanted a more distinct separation between the SAB and TIRC. As early as October 1954, the SAB "recognized the need for a more affirmative informational approach by the TIRC, and expressed the feeling that it would be in order for the Committee [TIRC] to take more positive action on its own through Mr. Hartnett as chairman without, at the same time, drawing the Advisory Board or the research program into such utterances." CTRMN004227-4232 at 4230 (US 86073) (A).

137. Concern and dissent had grown about TIRC making partisan arguments on behalf of the industry while at the same time sponsoring research that the industry wanted to be perceived as objective. Brandt WD, 90:4-9; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 98:25-99:16; BWX0011174-1187 at 1176 (US 21773) (O). In February 1958, a member of the SAB, who had been unable to attend the February SAB meeting, had written a letter which was read at the meeting. The SAB member objected to public statements which had been made by Clarence Cook Little, contending that when Little spoke as Scientific Director of the TIRC, the inference was that Little was also speaking for the SAB. CTRMN039046-9106 at 9055 (JD-

092825) (A). The dissenting SAB member indicated that, unless a more distinct divorce could be established between the SAB and TIRC, he felt he could not continue to serve on the SAB. He was joined in this by two other SAB members. CTR-TIRC-MIN000001-0252 at 0142 (JD-093292) (A); 681879254-9715 at 9391 (US 21020) (A). According to SAB member Paul Kotin, members of the TIRC SAB made quite clear "the inadvisability and downright unacceptability" of the SAB or its members being quoted in TIRC press releases and public statements concerning the smoking and health controversy. Kotin PD, Falise v. American Tobacco, 10/31/00, 348:25-352:14.

138. On the other hand, some members of the Enterprise wanted an organization that would take a much more aggressive public relations stance to counter arguments linking smoking and disease and to oppose proposed labeling legislation facing the industry. BBAT030581-0582 (US 22058) (O); MNAT00724279-4280 (US 22996) (O); TLT0900385-0389 (US 88209) (A).

139. In order to protect the public relations capital invested in TIRC, Defendants created a separate non-profit corporation, the Tobacco Institute, for more aggressive public relations and political lobbying. 93481139-1140 (US 21117) (A). With regulatory initiatives on the horizon, especially proposals to label cigarettes as hazardous, John Hill had advised the creation of a trade association that would not have the limitations associated with TIRC. Brandt WD, 88:20-90:3.

140. The creation of a separate organization was "hit upon as a way of keeping Little inviolate and untainted in his ivory tower while giving a new group a little more freedom of action in the public relations field . . . [T]he legal people were especially interested in this argument because they thought of Dr. Little as a potential witness and were not anxious to have him making public statements which could compromise his usefulness to them in court." Brandt

WD, 90:4-19; BWX0011174-1187 at 1176 (US 21773) (O).

141. In January 1958, twelve manufacturers of cigarettes, smoking and chewing tobacco, and snuff jointly announced the formation of the Tobacco Institute. The companies forming the Tobacco Institute included Defendants American, B&W, Liggett, Lorillard, Philip Morris, and Reynolds. 93481139-1140 (US 21117) (A).

142. The Tobacco Institute was incorporated in New York State, TIMN0010606-0609 (US 21291) (A), TIMN0011255-1260 (US 22250) (O), and the Tobacco Institute bylaws were adopted at the meeting of the incorporators and members held on January 29, 1958. TIMN0005705-5712 at 5706 (US 21290) (A); 1005136918-6933 (US 20223) (O).

143. The Tobacco Institute had a Board of Directors "composed in a fashion similar to that of the Council for Tobacco Research" and an Executive Committee consisting of the chief executive officers of the major tobacco companies, but was "run by a committee of [] lawyers, one from each of the major member tobacco companies." 044227839-7844 (US 20066) (O).

144. The Tobacco Institute Board of Directors held its first meeting on January 30, 1958. Former Congressman James Richards of South Carolina was elected President and Executive Director; Joseph F. Cullman, III, President of Philip Morris, was elected Treasurer; and Chandler Kibbe, Vice President of Philip Morris, was elected Assistant Treasurer. Among those elected to membership at this meeting were American, Liggett, Lorillard, Philip Morris, and Reynolds. An Executive Committee was set up, and appointed as members were Cullman; Benjamin Few, President of Liggett; Bowman Gray, Chairman of Reynolds; Lewis Gruber, President and Chairman of Lorillard; and J. Whitney Peterson, President of United States Tobacco. TIMN0005705-5712 at 5705, 5707-5711 (US 21290) (A).

145. At that first meeting of the Board of Directors, Hill & Knowlton was appointed

Tobacco Institute public relations counsel, and Covington & Burling was appointed Tobacco Institute legal counsel. Id.; USX6390001-0400 at 0012 (US 89555) (O) (CTR Response to Request for Admission No. 113). In addition to Covington & Burling, the Tobacco Institute also had a relationship with Shook, Hardy & Bacon. A May 1982 letter from William Shinn, Shook, Hardy & Bacon, to Robert Sachs, Counsel for B&W, and Arthur Stevens, General Counsel for Lorillard, described this relationship. Shinn divided the law firm's activities into four categories: Tobacco Institute Clearance Procedures, Tobacco Institute Committees, Science and Research, and General. Clearance procedures were defined as a number of standard operating procedures in examining Tobacco Institute materials with potential smoking and health overtones. Tobacco Institute Committee work involved attending Committee of Counsel, Communications Committee, and Executive Committee meetings. See US FF § I.C(4), infra (for detailed discussion of Tobacco Institute Committees). Science and Research work primarily concerned the development of special projects and industry witnesses. General work was a catchall category with activities ranging from literature review, for the purposes of isolating possible expert witnesses, to appearances at the Tobacco Institute's College of Tobacco Knowledge (discussed in detail at US FF § I.C(5), infra). 521043046-3050 (US 20891) (O); 2015035387-5391 (US 36651) (A).

146. Members of the Enterprise convened regularly between 1958 and 1998 at these Tobacco Institute's Board of Directors meetings. At these meetings, representatives from the Enterprise discussed and passed resolutions regarding the Tobacco Institute's budget, programs and projects of the various divisions, election of officers, payment of dues, and amendments to the bylaws. TIMN0005705-5712 (US 21290) (A); LG2000457-0461 (US 21876) (O); 2025856215-6225 (US 23769) (O); TIMN0006140-6146 (US 62658) (O); TIMN0006405-6411

(US 62663) (O); TIMN0012917-2923 (US 62779) (O); TIOK0004462-4466 (US 63020) (O); TIMN0017710-7711 (US 87550) (O); TIMN0012893-2900 (US 88241) (O); TIMN0006140-6146 (US 88243) (O); TIMN0012951-2955 (US 88244) (O); TIMN0012974-2980 (US 88245) (O); TIMN0012995-3000 (US 88246) (O); TIMN0013001-3010 (US 88247) (O); TIMN0006405-6411 (US 88248) (O); TIMN0013203-3213 (US 88249) (O); TIMN0014400-4410 (US 88250) (O); TIMN0012963-2973 (US 88321) (O); Stevens WD, 3:21-4:2, 4:14-23, 8:4-14, 17:14-19; see also Kornegay PD, Small v. Lorillard, 11/18/97, 36:11-19.

147. Although the membership fluctuated during the existence of the Tobacco Institute, all Defendants (except BATCo, CTR, and the Tobacco Institute itself) created, agreed to fund, and/or did jointly fund the Tobacco Institute over the years. TIFL0020285-0311 at 0297-0305 (JD-080429) (O). From 1958 through 1999, payments to the Tobacco Institute from Defendants amounted to more than $618,432,000, including: $161,505,876 from Philip Morris; $1,848,530 from Liggett; $110,298,387 from Reynolds; $29,195,668 from Lorillard; $15,933,769 from B&W; and $19,146,216 from American. ARG0333104-3192 at 3175-3176 (US 75555) (A); ARU5856402-6406 at 6403-6406 (US 75925) (A); USX6400001-0527 at 0134-0135, 0223-0225, 0344-0346 (US 89561) (O) (Defendants' Responses to Interrogatory No. 25).

148. Lorillard was not a member of the Tobacco Institute from 1968 to 1971. TIFL0020285-0311 at 0299-0305 (JD-080429) (O). However, even when Lorillard was not a member of the Tobacco Institute, it continued to "receive the releases and other information issued by the Institute," attended meetings of the lawyers of all the major companies at the Institute's offices, and was "kept apprised of the Institute's activities." 044227839-7844 (US 20066) (O).

149. Executives of Defendant Philip Morris Companies attended and participated in

meetings of the Tobacco Institute Board of Directors and the Executive Committee of the Board of Directors. These executives included Thomas Ahrensfeld, Senior Vice President and General Counsel; David Greenberg, Vice President; Kathleen Linehan, Vice President Government Affairs; Howard Liebengood, Vice President; and Steve Parrish, Senior Vice President. 2025856215-6225 (US 23769) (O); 2021266946-6951 (US 26055) (O); 87718289-8294 (US 32068) (A); 980166160-6167 (US 32464) (O); 521500132-0136 (US 52769) (O); TI16760371-0372 (US 62461) (A); TIMN0014390-4393 (US 62782) (A); TIMN0014955-4960 (US 62784) (A); 2025856068-6073 (US 86509) (O); 2023723951-3955 (US 86510) (O); TIMN0017710-7711 (US 87550) (O); TIMN0013651-3655 (US 88302) (O); TIMN0013656-3659 (US 88303) (O); TIMN0014418-4425 (US 88304) (O); TIMN0017720-7722 (US 88305) (O); TIMN0017725-7729 (US 88306) (O); TIMN0017731-7736 (US 88307) (O); TIMN0018436-8439 (US 88308) (A); TIMN0018451-8455 (US 88309) (A); TIMN0018462-8466 (US 88310) (A); TIMN0018590-8593 (US 88311) (A); TIMN0019234-9239 (US 88312) (A); TIMN0013203-3213 (US 88249) (O); TIMN0014400-4410 (US 88250) (O); TIMN0010629-0629 (US 88252) (A).

150. The Tobacco Institute's amended bylaws created two classes of membership. Class A members were the cigarette manufacturers (those members who as of the date of any election of directors would be subject to additional dues assessment per Article III, Section 1 of the bylaws). Class A members would be entitled to elect twice the number of directors as there were Class A members. Members not subject to such assessment would be entitled to elect the same number of directors as there were Class B members. In addition, the members determined that the chief executive of each member company would be designated to serve on the Tobacco Institute Executive Committee. LG20000457-0461 (US 86081) (O), (US 21876) (O);

TIMN451429-1435 (US 87551) (O); 2021266019-6028 at 6019 (US 26736) (A).

151. The primary functions of the Tobacco Institute included: advancing – through press releases, advertisements, publications, and other public statements – the Enterprise's primary position that there were scientific and medical doubts concerning the relationship between smoking and disease; disputing statements from health organizations about smoking and disease, and later about second hand smoke and disease; selectively using the results of TIRC/CTR research projects and other industry-sponsored research projects to question the charges against smoking, to emphasize the complexities of those diseases with which smoking has been statistically associated, and to reassure the public that the industry was actively investigating the issues; denying that cigarette smoking was addictive; minimizing the difficulties of quitting smoking; and denying that the industry marketed to youth. USX6390001-0400 (US 89555) (O) (TI Response to Request for Admission Nos. 154, 159, 162).

152. In an April 1968 memorandum to Earle Clements, President of the Tobacco Institute, William Kloepfer, Vice President of the Tobacco Institute, expressed concern that the industry's strategy of constant and consistent denial of smoking's harm was untenable. He wrote: "Our basic position in the cigarette controversy is subject to the charge, and maybe subject to a finding, that we are making false and misleading statements to promote the sale of cigarettes." VXA2511046-1048 (US 63576) (A); Brandt WD, 117:23-119:6; 1005112459-2461 (US 20213) (O).

153. A 1966 document titled "The 'Mission' of the President of the Tobacco Institute" explained that, to meet the Enterprise's objectives, "the full resources of the Institute must be directed toward a consistent and positive program to gain public exposure to research results and scientific opinions that question the charges against smoking and that point up the complexities

of those diseases with which smoking has been statistically associated." 502645038S-5038Z (US 23053) (O).

154. In a January 1968 memorandum to Earle Clements, President of the Tobacco Institute, William Kloepfer, Tobacco Institute Vice President for Public Affairs, set forth the public relations policy for the Tobacco Institute: "to attempt to increase substantially public awareness of the cigarette controversy; putting it another way, to make a greater portion of the public aware that widespread indictment of cigarettes as a cause of poor health does not amount to conviction." CTRMN015575-5593 (US 79902) (O).

155. According to Horace Kornegay, President of the Tobacco Institute, the public relations purpose of the Tobacco Institute was "to have a full, free and frank discussion by the public of the smoking and health controversy . . . [whereby] an informed public will come to a proper conclusion." Kornegay PD, Nickloff v. Liggett, 4/16/73, 38-40; TITL0002850-2851 (US 63024 (O).

156. In 1958, when the Tobacco Institute was created, Hill & Knowlton secured the account to handle its public relations. Brandt WD, 52:8-9. Two of the Hill & Knowlton employees assigned to work the new Tobacco Institute account were Leonard Zahn and Carl Thompson, who were also working the TIRC account. Zahn PD, Cipollone v. Liggett, 12/16/86, 85:16-86:20. One of four public relations objectives in Hill & Knowlton's March 1958 Recommendations to the Tobacco Institute was: "To create a better public understanding of facts regarding tobacco use and health, and of the contribution the industry is making to efforts of science to find the answers to health questions." CTRMN015402-5408 at 5402-5403 (US 79886) (O).

(2) Cooperation Between the Tobacco Institute and TIRC/CTR

157. The creation of the Tobacco Institute did not result in the end of TIRC/CTR's public relations activities. It marked the beginning of a joint public relations effort, between CTR, the Tobacco Institute, and their shared Defendant-members in which the scientific and information functions of TIRC/CTR were used by the Tobacco Institute in its public relations activities. In fact, the division of labor between TIRC/CTR and the Tobacco Institute was never precise. Brandt WD, 89:23-90:3.

158. Hill & Knowlton immediately prepared an exhibit for the cigarette company executives reflecting (i) activities carried out by TIRC and (ii) additional proposed activities that might be carried out by the Tobacco Institute. John Hill reminded the executives that, "The problem to be decided, of course, is what activities the industry want to pursue and how they are to be divided between TIRC and the Tobacco Institute." TLT0920037 (US 88253) (A); CTRMN015402-5408 (US 79886) (O).

159. During the SAB's February 14-15, 1958 meeting, SAB Chairman Little asked TIRC Chairman Timothy Hartnett about the newly-formed Tobacco Institute, its purposes, and its relationship, if any, to TIRC. Hartnett explained that the Tobacco Institute was a separate entity and that its formation did not change or alter in any respect TIRC, its objectives, or its functions. He told the SAB members that it had become apparent, during the 1957 Congressional hearings before the Blatnik Committee which had addressed the disclosure of tar and nicotine yields in advertising, that the tobacco industry needed to have one spokesman, rather than someone from each tobacco company, represent it at various times and places. CTRMIN-SAB000001-1061 at 0114 (JD-090960) (A); 681879254-9715 at 9391 (US 21020) (A); see also Chilcote PD, Minnesota v. Philip Morris, 9/18/97, 27:5-28:6, 30:16-20.

160. At the February 1958 SAB meeting, TIRC Chairman Hartnett also told the

members that Hill & Knowlton was acting as public relations counsel for both TIRC and the Tobacco Institute and "pointed out the desirability of this from both organizations' standpoint." CTRMIN-SAB000001-1061, 70011735-1757 at 0114 (JD-090960) (A); see also Zahn PD, Cipollone v. Liggett, 12/16/86, 85:16-86:20.

161. After reporting at the July 1958 meeting of the Tobacco Institute Executive Committee that the respective functions to be performed by the Tobacco Institute and TIRC had been discussed at length, Chairman Bowman Gray of Reynolds announced "a tentative decision to let the matter of the respective functions of the two organizations (the Tobacco Institute and the TIRC) be decided on a case by case basis under the guidance of public relations counsel" Hill & Knowlton. 04209323-9326 at 9323 (US 47370) (O); 681879254-9715 at 9391-9392 (US 21020) (A).

162. Defendants expected the Tobacco Institute and TIRC/CTR to act in coordination when taking a position on specific news stories involving tobacco and health. In a February 1958 letter to John Hill of Hill & Knowlton, Paul Hahn, President of American, wrote, "In the present state of evidence, the position of the Institute should be compatible with that of TIRC and SAB." TLT0900385-0389 at 0387 (US 88209) (A).

163. Hill & Knowlton understood that "[c]omment from TIRC for the press remains an effective way to meet anti-tobacco publicity efforts and emphasizes the multiple factors that should be considered. This, of course, is complemented with a continuing program of supplying information to give editors and writers a balanced perspective on questions of tobacco and health." HT0145148-5150 (US 21177) (A).

164. On behalf of TIRC and the Tobacco Institute, Hill & Knowlton worked aggressively to influence the media and ensure that the position and interests of the industry

regarding smoking and health were well represented to journalists, broadcast reporters and magazine writers. Hill & Knowlton staff carefully documented their interventions, and their many successes. Brandt WD, 59:4-7, 131:18-132:1.

165. For example, Hill & Knowlton, having anticipated the appearance of an article by United States Surgeon General Leroy E. Burney in the November 1959 *Journal of the American Medical Association*, VXA2150046-0054 (US 63608) (A), learned of its contents in advance of publication and provided the press with statements from both TIRC and Tobacco Institute representatives attacking the Surgeon General's assessment of the scientific evidence linking cigarettes to lung cancer. Brandt WD, 92:17-94:7; TIOK0000477-0477 (US 22720) (A) (Tobacco Institute President James Richards); 503283464-3467 (US 22981) (A) (TIRC Scientific Director Clarence Cook Little); HT0145148-5150 (US 21177) (A); TIMN0110091-0091 (US 21319) (A).

166. TIRC Chairman Timothy Hartnett reported to TIRC members in 1960 that: "The staff of TIRC is constantly in touch with Hill & Knowlton, and consults on every phase of activity relating to health matters. For example, it provides speakers for platforms, helps analyze both scientific papers and charges against smoking which appear in the public press, and consults on statements which are issued to inform the public." CTR-TIRC-MIN000174-0186 at 0184 (US 33016) (O); CTR-TIRC-MIN000001-000252 at 0184 (JD-093292) (A); 681879254-9715 at 9393 (US 21020) (A).

167. In addition to Hill & Knowlton's public relations efforts for the industry, the Tobacco Institute worked in tandem with TIRC/CTR to carry out the fraudulent purposes of the Enterprise. The Tobacco Institute served as the mouthpiece for the industry, and TIRC/CTR served as a source of scientific data for the Tobacco Institute. TIMN0070657-0674 (US 22983)

(O); TIMN0070640-0656 (US 21299) (O).

168. In the 1970s, Defendants discussed the need for even closer cooperation between CTR and the Tobacco Institute. William Kloepfer and Fred Panzer, Tobacco Institute Vice Presidents, proposed specific guidelines to assist CTR Chairman Henry Ramm select a new Scientific Director for CTR. TIMN0004138-4141 (US 87588) (O). The Tobacco Institute Executive Committee directed Tobacco Institute President Horace Kornegay to meet with Henry Ramm to discuss "closer cooperation between the Institute and the Council for Tobacco Research." Kornegay reported, at the April 2, 1973 meeting of the Tobacco Institute membership and Board of Directors, that "CTR did desire closer cooperation with the Institute and that the scientific personnel of the Institute would be invited to attend the May 15, 1973 CTR meeting in New York." LG2000457-0461 at 0459 (US 21876) (O).

169. After four months as CTR President, Addison Yeaman chairing his first meeting of the CTR membership on December 10, 1975, called for even closer cooperation between CTR and the Tobacco Institute. Speaking to the members for the first time as president, Yeaman told the members that "all the resources [of CTR], all the knowledge [of CTR], all the help that CTR can give, should be available to the lawyers, to the Tobacco Institute, and to any other of the troops in the field," and that CTR should be independent but "independent within the policies set down by the membership." 11303014-3020 (US 86005) (A); 682631405-1421 (US 21025) (O).

170. Defendants wanted close cooperation between CTR and the Tobacco Institute. Guidelines from the mid-1970s discussing a review of the industry's independent scientific research effort were just one of many statements emphasizing the importance of effective communication between the Tobacco Institute and CTR. 2015057145-7150 (US 86384) (O); CTRMM015322-5327 (US 79854) (O).

171. In its press releases, advertisements, brochures, and other materials, the Tobacco Institute publicized TIRC/CTR funded research and the aggregate amount of the funds to influence the public's perception of the tobacco industry and its alleged concern about cigarette smoking and health. Duffin PD, Cipollone v. Liggett, 1/23/86, 108:15-20; see, e.g., 502644592-4616 at 4615-4616 (US 20703) (A); 2015046793-6839 at 6828 (US 25526) (A).

172. A 1970 Tobacco Institute ad run in the *Washington Post* discussed CTR grants totaling over $17 million under the heading "After millions of dollars and over 20 years of research: The question about smoking and health is still a question." TIMN0081352 (US 21305) (A); 500004807-4809 (US 20608) (O). A 1975 Tobacco Institute press release promoting its booklet "The Cigarette Controversy" (an outline of doubts about the health risks of smoking) noted the industry's commitment of "$50 million to help support researchers who are seeking the truth." TIMN0120638-0639 (US 21698) (O). In 1981, 1982, and 1984, Tobacco Institute brochures providing publicity for CTR funding of research were titled respectively "Tobacco Industry Research on Smoking and Health: A $104 Million Commitment," 2046754709-4719 (US 20474) (O); "Tobacco Industry Research on Smoking and Health: A $111 Million Commitment," 670500617-0620 (US 20968) (O); and "Tobacco Industry Research on Smoking and Health: A $120 Million Commitment," 2045377870-7876 (US 20460) (O).

173. One Tobacco Institute advertisement that ran in major newspapers and magazines throughout the country consisted of a photocopy of a February 1969 CTR press release, 779023398-3400 (US 36484) (A), quoting CTR's Scientific Director, Clarence Cook Little, with a headline declaring "How Much is Known about Smoking and Health." TIMN0000560-0561 (US 21874) (A) (ad in *Broadcasting*); 1005132848-2849 (US 20222) (A) (ad in *New York Times*); TIMN0081695-1696 (US 21308) (A) (ad in February through April 1969 magazines and

newspapers). The General Counsel of Philip Morris, Reynolds, B&W, Lorillard, and Liggett were asked to, and did, approve the running of the advertisement. 1005153098-3099 (US 20227) (A); TIMN0081698-1698 (US 21309) (O).

174. In a November 1962 interview on a Mutual Broadcasting System radio show discussing "Cigarette Smoking and Lung Cancer," Tobacco Institute President George Allen explained that the Tobacco Institute supported smoking and health research "through a sister organization, the Tobacco [Industry] Research Committee, which has done more investigation in the eight years since it was established than any other private scientific organization or medical organization in the specific subject of lung cancer . . . over 100 individual grants . . . over five million dollars." When asked about statistical studies which seemed to implicated smoking and disease, Allen replied with the Defendants' position that "[t]hese statistical studies add up to the need for further intensive scientific work on the subject . . . nobody knows what causes cancer . . . this is a matter that remains to be found by thorough and energetic scientific investigation." 500052010-2018 at 2010-2011 (US 63600) (A); Brandt WD at 114:7-115:7.

175. As noted before, the Tobacco Institute sent preview copies of each issue of the Tobacco Institute's *Tobacco & Health* newsletter to TIRC/CTR for review and comment by Hoyt, Little, and Hockett before publication. TIMN0071488-1491 at 1490 (US 21614) (A).

176. Leonard Zahn, TIRC/CTR's public relations counsel, maintained close ties with the Tobacco Institute and served as a liaison between the two organizations. He kept in close touch with William Kloepfer, Tobacco Institute Public Relations Division, "advising [Kloepfer] in advance about meeting and other situations that might create a problem," such as an article or meeting "dealing with an adverse report on smokers." Zahn PD, Cipollone v. Liggett, 12/18/86, 408:5-409:19. Zahn sent carbon copies of his CTR reports to the Tobacco Institute; spoke at

sessions of the Tobacco Institute College of Tobacco Knowledge; and was a member of the Tobacco Institute Communications Committee. Duffin PD, Cipollone v. Liggett, 1/23/86, 87:12-88:2; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 145:14-146:11, 149:25-150:10; TI04962331-2334 (US 86167) (O); TI04962389-2389 (US 62201) (O); TI04962390-2398 (US 62202) (O); TIFL0068387-8387 (US 77028) (O); Zahn PD, Cipollone v. Liggett, 12/16/86, 129:13-15, 18, 21-23, 130:1-3, 12-19, 130:22-131:2, 188:24-189:6; Zahn PD, Cipollone v. Liggett, 12/17/86, 274:2-8, 275:5-21; Zahn PD, Richardson v. Philip Morris, 12/1/98, 52:9-55:3, 275:17-276:6; Zahn PD, Richardson v. Philip Morris, 12/16/98, 308:7-14; Zahn PD, Richardson v. Philip Morris, 1/13/99, 837:6-21.

177. According to a 1969 letter, Robert Hockett was asked to review Tobacco Institute publications, such as "The Cigarette Controversy" and "Eight Questions and Answers," and make observations. HK0108004 (US 21171) (O).

178. Members of CTR's supposedly independent SAB, like Arthur Furst and Sheldon Sommers, appeared at Tobacco Institute press conferences to discredit mainstream scientific research. In an April 1970 briefing and update "on industry public relations in the field of smoking and health," Jim Bowling of Philip Morris reported to Robert Heimann, President of American, about Tobacco Institute plans to hold a press conference on April 30, 1970, to discredit the Auerbach-Hammond beagle study (discussed further at US FF § III.A(3), infra). The spokesmen for the industry were to be CTR's Arthur Furst and Sheldon Sommers who would "take a stand against the ACS [American Cancer Society] propaganda approach to 'science.'" 966000976-0977 (US 86084) (O).

179. The Tobacco Institute invited Sheldon Sommers to testify before Congress on behalf of the industry. Sommers PD, Galbraith v. Reynolds, 9/4/85, 58:25-59:10. Leonard Zahn

edited the testimony that Sommers gave before Congress into a magazine article for *American Druggist*. Zahn PD, Cipollone v. Liggett, 12/17/1986, 223:12-224:11, 224:16-224:16, 225:7-225:12; Sommers PD, Cipollone v. Liggett, 10/3/86, 276:11-18; Sommers PT, Cipollone v. Liggett, 4/20/88, 8890:18-8890:25. The article titled "Smoking and Health: Many Unanswered Questions" was published in the September 1970 issue of *American Druggist*. The editor's noted identified author Sheldon Sommers as Chairman of the SAB. ZN16062-6065 (US 21161) (O); CTRMN015361 (US 79869) (O); CTRMN015362-5365 (US 79870) (O); CTRMN015384-5387 (US 79879) (O); CTRMN015389 (US 79881) (O).

180. In 1974, William Kloepfer, Tobacco Institute Vice President for Public Affairs, conducted filmed interviews with several CTR-affiliated persons on issues related to smoking and health. The opinions of the CTR-affiliated persons were unanimously supportive of the Enterprise's positions on smoking and health issues. Sheldon Sommers, CTR's Associate Scientific Director, stated that "there is no sound evidence that smoking is harmful to the health of the nonsmoker." Domingo Aviado, CTR Special Project funding recipient, stated that "on the basis of existing scientific evidence, tobacco smoke, I think, constitutes no health hazard to normal nonsmokers in public places." Robert Hockett, CTR's Scientific Director, stated that "it just seems to me that there is no justification for any general laws with respect to the protecting of nonsmokers from smoke." TITX0001450-1455 (US 77110) (O).

181. In its press releases and other publications, the Tobacco Institute incorporated statements and conclusions from supposedly independent researchers or research results without identifying the scientists as recipients of CTR Special Project funding and/or Lawyers Special Accounts funding (discussed further at US FF § I.D(2) & (3), infra). TIMN0120737-0738 (US 87601) (O) (1982 press release challenging cigarette package warning, quoting Sterling);

TI12431636-1650 (US 62384) (O) (1984 review of medical/scientific testimony presented to Congress titled "The Cigarette Controversy: Why More Research Is Needed," quoting Aviado, Bick, Bing, Blau, Eysenck, Fisher, Furst, Hickey, Rao, Salvaggio, Seltzer, Sterling); MNAT00224317-4354 (US 21223) (A) (1978 brochure titled "The Smoking Controversy: A Perspective," quoting Seltzer, Feinstein, Aviado, Sterling, Huber); TNWL0019638-9640 (US 21703) (O) (1983 press release opposing cigarette package warnings, quoting Blau, Fisher, Eysenck, and CTR's Scientific Director Sommers), TIMN0138444-8446 (US 85362) (O), TIMN0120772-0773 (US 85363) (O), (US 87625) (O); TIMN0125189-5189 (US 77065) (A) (1988 press release disputing Surgeon General Koop's statement that cigarette smoking was addictive and quoting Blau).

(3) Tobacco Institute Press Releases, Public Statements, Advertisements, Brochures, and Other Publications

182. During its existence, the Tobacco Institute was the leading joint public voice of the Defendants. Chilcote PD, Minnesota v. Philip Morris Inc., 9/18/97, 27:5-28:6, 30:16-20; Merryman PD, Richardson v. Philip Morris Inc., 56:17-57:5; 60:1-15. To further the Enterprise's goals, the Tobacco Institute created, issued, and disseminated press releases, public statements, advertisements, brochures, pamphlets, and other written materials on behalf of Defendants (1) denying that there was any link between smoking and disease; that nicotine was addictive; that cigarette companies marketed to youth; and that environmental tobacco smoke ("ETS") posed a health risk; and (2) discrediting scientists and public health officials (discussed further at US FF § III, infra). Dawson TT, 1/12/05, 9927:11-9928:18; Dawson WD, 34:5-7, 36:8-13, 37:4-9, 64:20-23, 65:1-7, 71:12-16, 80:17-23, 81:1-7, 81:13-16, 84:18-19; 87:6-11, 89:1-5, 89:14-19; Chilcote PD, Broin, 11/19/93, 25:8-26:17, 27:15-28:15; Merryman PD, Broin, 11/18/93, 27:18-22; USX6390001-0400 (US 89555) (O) (TI Response to Request for Admission Nos. 154, 159);

TIMN0081352-1352 (US 21305) (A), (US 63572) (A); TIMN0081695-1696 (US 21308) (A); TIMN0053170-3176 (US 65600) (O); TIMN333361-3363 (US 78730) (O); MNAT00276115-6117 (US 87665) (A); TIMN0120725-0726 (US 87596) (O); TIMN0120727-0728 (US 87597) (O); TIOK0034156-4181 (US 63019) (O); TIMN0120729-0730 (US 65625) (O); TIMN0120731-0732 (US 87598) (O); TIMN0120733-0734 (US 87599) (O); TIMN0120735-0736 (US 87600) (O); TIMN0120737-0738 (US 87601) (O); TIMN0120742-0742 (US 87603) (O); TIMN0120743-0743 (US 87604) (O); TIMN0120745-0745 (US 87606) (O); TIMN012046-0746 (US 87607) (O); TIMN0120747-0747 (US 87608) (O); TIMN0120748-0748 (US 87609) (O); TIMN0120750-0750 (US 87610) (O); TIMN0120751-0751 (US 87611) (O); TIMN0120752-0752 (US 87612) (O); TIMN0120753-0753 (US 87613) (O); TIMN0120754-0754 (US 87614) (O); TIMN0120755-0755 (US 87615) (O); TIMN0120756-0757 (US 87616) (O); TIMN0120758-0759 (US 87617) (O); TIMN0120760-0760 (US 87618) (O); TIMN0120763-0764 (US 87621) (O); TIMN0120768-0769 (US 87623) (O); TIMN0120770-0771 (US 87624) (O); TIMN0120772-0773 (US 87625) (O); TIMN0131860-1861 (US 21744) (O); TIMN0081712-1713 (US 87629) (O); TIMN0081714-1714 (US 87630) (O); TIMN0000471-0495 (US 87631) (O); TIMN0133954-3960 (US 62653) (O); TIMN0133707-3711 (US 87634) (O); TIMN0076952-6961 (US 87635) (O); TIMN0122571-2573 (US 87637) (O); TIMN0122574-2576 (US 87638) (O); TIMN0122577-2578 (US 87639) (O); TIMN0120706-0708 (US 87640) (O); TIMN0131847-1847 (US 87641) (O); TIMN0120619-0619 (US 87642) (O); TIMN0120618-0618 (US 87643) (O); TIMN0109576-9576 (US 87644) (O); TIMN0004099-4099 (US 87646) (O); MNAT00275488-5498 (US 87667) (O); TIMN0120792-0793 (US 87668) (O); (US 21239) (A); 2025422955-2958 (US 89306) (A); TI 1016-1258 (US 89307) (A); TI1016-1261 (US 89308) (A); TI 1016-1297-1298 (US 89309) (A);

507789709-9710 (US 89310) (A); TIDN 0012098-2099 (US 89311) (A); TIDN 0005825-5826 (US 89312) (A); 506649098-9099 (89313) (A); 507610852-0853 (US 89314) (A); TIMN334986-4988 (US 89315) (A); 507793570-3571 (US 89316) (A); 877161722-1723 (US 89317) (A); TIMN354292-4294 (US 89318) (A); (no bates) (US 89319) (A); (no bates) (US 89320) (A); (no bates) (US 89289) (A); (no bates) (US 89290) (A); (no bates) (US 89291) (A); (no bates) (US 89292) (A); (no bates) (US 89293) (A); (no bates) (US 89294) (A); (no bates) (US 89295) (A); (no bates) (US 89296) (A); (no bates) (US 89298) (A); (no bates) (US 89299) (A); (no bates) (US 89300) (A); (no bates) (US 89301) (A); (no bates) (US 89302) (A); (no bates) (US 89321) (A); (no bates) (US 21286) (A); (no bates) (US 21363) (A); (no bates) (US 87735) (A); (no bates) (US 85150) (A); TI0720452-0464 (US 87155*) (A).

183. The Tobacco Institute intended the public to rely on the public statements the organization made on behalf of its tobacco manufacturer members. Dawson TT, 1/12/05, 9930:2-18; Merryman PD, Minnesota v. Philip Morris, 7/15/97, 36:11-24, 38:15-17; 70:24-71:4. The Tobacco Institute's public spokespersons appeared on various television shows broadcasted on all major networks in all fifty U.S. states. Merryman PT, Minnesota v. Philip Morris, 2/6/98, 2717:22-2718:21; USX6390001-0400 (US 89555) (O) (TI Response to Request for Admission No. 162). When pressed for a straight-forward response at trial, Brennan Dawson, Vice President of Public Relations for TI, testified that she, on behalf of her employer, the Tobacco Institute, intended the public to rely on the public statements she made on television, regardless of whether the statements she made were in response to questions posed by the media or were spontaneous statements she volunteered to the media. Walker Merryman, another long-time Tobacco Institute spokesperson, similarly testified that the Tobacco Institute intended the public to believe its public statements. Dawson TT, 1/12/05, 10110:1-6; Merryman PD, Minnesota v.

Philip Morris, 7/15/97, 113:5-8, 113:15-114:11, 114:15-16, 125:11-19, 153:9-19, 155:6-11, 186:2-25, 189:14-20, 193:22-194:1, 202:19-23; 2025422955-2958 (US 89306) (A); TI 1016-1258 (US 89307) (A); TI1016-1261 (US 89308) (A); TI 1016-1297-1298 (US 89309) (A); 507789709-9710 (US 89310) (A); TIDN 0012098-2099 (US 89311) (A); TIDN 0005825-5826 (US 89312) (A); 506649098-9099 (89313) (A); 507610852-0853 (US 89314) (A); TIMN334986-4988 (US 89315) (A); 507793570-3571 (US 89316) (A); 877161722-1723 (US 89317) (A); TIMN354292-4294 (US 89318) (A); 502823717-3718 (US 50255) (O); TIMN347391-7398 (US 65675) (O); (no bates) (US 89319) (A); (no bates) (US 89320) (A); (no bates) (US 89289) (A); (no bates) (US 89290) (A); (no bates) (US 89291) (A); (no bates) (US 89292) (A); (no bates) (US 89293) (A); (no bates) (US 89294) (A); (no bates) (US 89295) (A); (no bates) (US 89296) (A); (no bates) (US 89298) (A); (no bates) (US 89299) (A); (no bates) (US 89300) (A); (no bates) (US 89301) (A); (no bates) (US 89302) (A); (no bates) (US 89321) (A); (no bates) (US 21286) (A); (no bates) (US 21363) (A); (no bates) (US 87735) (A); (no bates) (US (US 85150) (A); TI0720452-0464 (US 87155*) (A).

184. The function of the Public Relations Division of the Tobacco Institute was "to represent our member companies with the press, general public, anyone who had a question about tobacco, specifically the smoking and health issue, but also economics, history. We represented all the companies, so that no one of them had to answer questions from a press person or stock analyst." Duffin PD, Munn v. Philip Morris, 1/7/87, 93:21-94:5; Chilcote PD, Minnesota v. Philip Morris, 9/18/97, 27:5-28:6, 30:16-30:20. In other words, according to Tobacco Institute Vice President Brennan Dawson, the objectives of the Public Relations Division were "to make public statements and to provide the tobacco industry's point of view, not just one company's, but an industry-wide point of view on matters relating to tobacco." Dawson

WD, 34:4-7; 34:13-15.

185. A May 1, 1972 memorandum from Fred Panzer, a public relations specialist with the Tobacco Institute, to Tobacco Institute President Horace Kornegay began by describing past industry action:

> For nearly twenty years, this industry has employed a single strategy to defend itself . . . it has always been a holding strategy, consisting of creating doubt about the health charge without actually denying it, advocating the public's right to smoke without actually urging them to take up the practice . . . encouraging objective scientific research as the only way to resolve the question of health hazard.

Panzer went on to discuss a proposed public relations campaign – The Roper Proposal – designed to persuade the public that "cigarette smoking may not be the health hazard that the anti-smoking people say it is because other alternatives are at least as probable" (emphasis omitted). The proposed campaign would suggest two such possible alternatives: (1) the constitutional hypothesis, i.e., smokers differ importantly from nonsmokers in terms of heredity, constitutional makeup, lifestyle, and stress; and (2) the multi-factorial hypothesis, i.e., other factors such as air pollution, viruses, food additives, and occupational hazards contribute to diseases for which smoking is considered a cause. TIMN0077551-7554 at 7551-7553 (US 63585) (A); 87657703-7706 (US 21098) (A), (US 79218) (A); Brandt TT, 125:2-127:10; Panzer PD, Small v. Lorillard, 10/22/97, 206:16-207:20; Panzer PD, Iron Workers v. Philip Morris, 12/18/98, 18:22-21:12; USX6390001-0400 (US 89555) (O) (TI Response to Request for Admission Nos. 242, 243).

186. In order to issue public statements regarding smoking and health, the Tobacco Institute contracted numerous scientists to conduct research on related issues. Such consultants included Salvatore DiNardi, Gio Gori, Larry Holcomb, Alan Katzentein, Peter Lee, Maurice

LeVois, Mark Reasor, Sorell Schwartz, Murray Senkus, David Weeks, Lawrence Wexler, Philip Witorsch, and Ray Witorsch. WAX001 1075-1127 at 1084 (US 64758) (A) (TI Response to Interrogatory No. 8).

187. However, the tobacco company members of the Tobacco Institute did not share any internal company research that was contrary to any of the public statements made by the Tobacco Institute. Dawson TT, 1/12/05, 9958:1-11; Dawson WD, 53:9-12, 54:8-12; 55:10-14, 80: 11-16; Merryman PT, Minnesota v. Philip Morris, 2/9/98, 2920:19-2921:11, 2926:20-23, 2927:1-11, 2969:16-22; 2978:22-2980:2; 2984:14-2985:19; 3007:5-2008:10; Merryman PT, Minnesota v. Philip Morris 2/6/98, 2704:21-2705:5; Merryman PD, Minnesota v. Philip Morris, 7/16/97, 456:10-15.

188. And, when asked about public scientific support for the public statements she was making on behalf of the Tobacco Institute, Brennan Dawson could not name a single public health organization that asserted, as did the Tobacco Institute, that it had not been proven that smoking caused disease during the time she was a spokesperson on behalf of the Tobacco Institute. Dawson WD, 76:8-11. Nor could Ms. Dawson name a single medical doctor, not associated with the tobacco industry, who took the position that it was not proven that smoking caused disease. Dawson WD, 76:12-15. Similarly, Walker Merryman, also a Tobacco Institute spokesperson for over twenty years, could not name a single medical doctor not affiliated with the tobacco industry who publicly took the position that there was some medical doubt as to whether smoking caused disease. Merryman PD, Broin, 28:6-29:2.

189. During the twenty-one years that Anne Duffin, and the twenty-two years that Walker Merryman, worked for the Tobacco Institute's Public Affairs Division, they prepared many of the Tobacco Institute publications that disputed that there was any link between smoking

and disease; that nicotine was addictive; that cigarette companies marketed to youth; and that ETS posed a health risk. Titles of such publications include, but are not limited to: Cigarette Smoking and Heart Disease; Cigarette Smoking and Cancer: A Scientific Perspective: Smoking and Health, The Continuing Controversy 1964-1979; On Tobacco: 21 Questions and Answers; The Cigarette Controversy, Eight Questions and Answers; About Tobacco Smoking: Smoking and Women; and Vital Statistics - How Accurate Are They? Duffin PD, Munn v. Philip Morris, 1/7/87, 64:22-65:6, 95:11-97:1, 100:10-102:8, 102:14-103:1, 113:8-21, 114:1-15, 20-24, 121:1-122:24, 123:3-15, 126:3-127:19, 133:21-135:12, 136:15-19, 139:5-140:3, 141:2-10; Duffin PD, Cipollone v. Liggett, 1/23/86, 63:10-64:16; Merryman PD, Minnesota v. Philip Morris, 7/16/97, 317:13-22; 519838352-8517 (US 87707) (O); 519838518-8621 (US 87708) (O); 519838622-8674 (US 87709) (O); TI01071639 (US 62099) (O); 2501112047-2098 (US 20561) (O); 2025431644-1748 (US 20417) (O); TIMN0121541-1558 (US 65632) (O); TIMN0055304-5330 (US 62816) (A); TIOK0027221-7226 (US 77109) (O); 1005152849-2896 (US 20226) (O); TIMN300233-0257 (US 65670) (O); TIMN0121622-1646 (US 65626) (O).

190. One brochure published by the Tobacco Institute and drafted by Anne Duffin in the late 1970s was titled "Fact or Fancy." TIMN0133740-3798 (US 21280) (A); 03731785-1838 (US 21466) (O) (1978 draft). "Fact or Fancy" posed and answered hypothetical questions about women and the smoking and health controversy. Duffin PD, Cipollone v. Liggett, 1/23/86, 121:13-123:5; Duffin PD, Munn v. Philip Morris, 1/7/87, 174:11-19. Among the many perverse assertions in the brochure was the statement that, although the babies of women who smoke while they are pregnant tend to weigh less than the babies of mothers who do not smoke, "almost all the research on the subject has shown that the low-weight babies of women who smoke in pregnancy are healthier than the low-weight infants of women who have not smoked."

80554946-5010 at 4953, 4956 (US 31965) (O) (emphasis in original). Duffin sent copies of the brochure "Fact or Fancy" with cover letters to "Broadcasters," 04326898-6898 (US 21467) (O); to "Writers on Women's or Health Subjects," 04326897-6897 (US 21468) (O); to "Editors," 04326900-6900 (US 21469) (O); and to "Officers of Women's Associations & Organizations," 04326901-6901 (US 21470) (O).

191. Over the years, the Tobacco Institute attempted to discredit many of the Surgeon General's Reports through its public statements, press conferences and other publications. Merryman PD, Kueper v. R.J. Reynolds, 6/26/92, 19:12-21:2; Kornegay PD, Cipollone v. Liggett, 12/6/94, 683:4-687:6; Duffin PD, Munn, 1/7/87, 100:10-102:8, 102:14-103:1, 111:10-112:9, 117:6-25; TIMN0125189 (US 67277) (O); TLT0390022-0024 (US 76770) (O). A "personal and confidential" Lorillard memorandum dated January 8, 1979 from Curtis H. Judge to J. Robert Ave and Arthur J. Stevens related a January 5, 1979 conversation that Judge had with Alexander Spears of Lorillard and another conversation with Bill Kloepfer of the Tobacco Institute:

> Dr. Spears surmises that this carbon monoxide information may be the new 'bombshell' part of the Surgeon General's report and the part of the report which is new and likely to attract the media. At 4:30 on Friday afternoon I talked with Bill Kloepfer at the Tobacco Institute and he had just learned of this information a few hours ago (about the same time we did) on what he described as an 'intercept.' He agrees with our conclusions as to how it will be used in the Surgeon General's report and the Institute will work on counteracting it. I promised that we would get the information to him should we receive it before he does.

85158126-8127 at 8126-8127 (US 56009) (A).

192. The Enterprise's concern over the 1983 Surgeon General's Report pervaded the Tobacco Institute's documents for months before the report was ever published. On October 12, 1982, William Kloepfer, detailed those plans to "meet" the 1983 Surgeon General's Report.

Before the Surgeon General's Report was even made public, "Sam Chilcote . . . asked that [the Tobacco Institute] take certain steps to blunt the impact of the 1983 Surgeon General's report on the ground that, as in the past, it will lack objectivity. We expect the subject to be smoking and heart diseases." Specifically, the plans directed the Scientific Division "to prepare a relatively brief logical paper covering selected areas of inadequate knowledge and contradictions in the case for smoking as a cause of or risk factor in heart diseases." The true nature of the clearance process was also detailed in the memorandum: "Shook, Hardy will provide clearance of the paper and of its final format which will be developed by the Public Relations Division. At the same time the PR staff and PR counsel will prepare a list of media people who may be expected to cover the Surgeon General's Report." Even more explicitly, the following directive was issued by Kloepfer: "When the Surgeon General's Report is issued, the PR staff will stick to the TI position rather than commenting directly on the report." TI03961860-1861 (US 62156) (O).

193. A document dated October 18, 1982, titled "Memorandum for the Record - Subject: Planning TI's Response or Planning to Meet the 1983 Surgeon General's Report" detailed the entire chronology of this Tobacco Institute effort. As early as July 1, 1982, "the Scientific Affairs Division was in the process of devising strategies to counter the 1983 Surgeon General's Report." TI0396-1863-1866 at 1863 (US 62157) (O).

194. At the December 9, 1982 Tobacco Institute Board of Directors meeting, Samuel D. Chilcote, Jr., discussed the Tobacco Institute's approach to the upcoming 1983 Surgeon General's Report. The Tobacco Institute's plans included personally passing out summaries of its document on "Smoking and Cardiovascular Disease" to several dozen reporters; having George Schafer, Tobacco Institute Medical Director, on hand to answer the reporters' questions and lend credibility; holding its "own press conference challenging the contention that smoking causes

cardiovascular disease" a day or so before the Surgeon General's press conference, with Shook, Hardy & Bacon providing assistance; and attempting to "encourage a non-tobacco state congressman to launch an investigation into MRFIT [Multiple Risk Factor Intervention Trials] shortly before the Surgeon General's conference," alleging that is was a waste of $115 million tax payers' dollars, "thereby putting the Surgeon General on the defensive." TIMN0017276-7303 (US 86118) (O).

195. A January 11, 1983 memorandum detailing the monthly overview of the Tobacco Institute's Scientific Affairs Division listed as its first "key" item the "[p]reparation and refinement of Institute's response to the 1983 Surgeon General's forthcoming report on heart disease." TI03962431-2432 at 2431 (US 62160) (O).

196. Similarly, the Tobacco Institute was very active in planning a response for the Enterprise regarding the release of the 1987 Surgeon General's Report which discussed the addictive nature of smoking. Dawson WD, 21:21-22:7. Suggested strategies for the Tobacco Institute response and the public's potential reaction were carefully considered. TIMN34639-9639 (US 62752) (A); TIMN349632-9633 (US 62751) (O). Tobacco Institute President Samuel Chilcote authored informational memoranda about the Surgeon General's Reports for distribution to the Tobacco Institute Executive Committee. See, e.g., TINY 0009385-9387 (US 58830) (A) (1992 Surgeon General's Report). Brennan Dawson, Vice President of Public Relations for the Tobacco Institute, also made a presentation at a 1988 Tobacco Institute Communications Committee meeting, about her plans to distribute editorials favorable to the industry about the 1987 Surgeon General's Reports to editorial writers. Dawson also invited additional distribution suggestions from Communications Committee members. Dawson WD, 21:21-22:7. See US FF § I.C(4)(c), infra (for detailed discussion of the Tobacco Institute Communications Committee).

197. In anticipation of the 1989 Surgeon General's Report, the Tobacco Institute launched its "Enough is Enough" campaign which included "national advertising efforts in 19 newspapers, a new public opinion poll, a comprehensive tobacco issues brief, and a video with smokers and nonsmokers expressing their opinion on the anti-smoking effort." TI09911581-1615 at 1601 (US 62252) (A); 507635309-5348 (US 66484) (A); Dawson WD, 66:14-69:22. The Tobacco Institute launched a major media campaign, distributing materials and information to some 2,500 reporters, conducting private briefing for the Washington, D.C. press corps, and distributing both television and radio satellite press releases, all with the aim of publicly discrediting the forthcoming Surgeon General Report. Id.; TI0991 1581-1615 at 1601 (US 62252) (A). Tobacco Institute documents indicate that the Tobacco Institute opined its efforts were worthwhile as its "Enough is Enough" campaign was the basis for the first question the Surgeon General received at his press conferences releasing the 1989 Surgeon General's Report. TI0991 1581-1615 at 1601 (US 62252) (A); Dawson WD, 66:14-69:22.

198. Attorneys representing Defendants closely collaborated with members of the Enterprise in their efforts to mislead and defraud the public. Attorneys meticulously edited and rewrote drafts of Tobacco Institute advertisements, articles, and public statements. Lawyers additionally recommended ideas for articles and provided materials to the Tobacco Institute for consideration. 1005134430-4432 (US 36107) (O); 508089329-9329 (US 86089) (O).

199. In a July 6, 1977 memorandum to William Kloepfer of the Tobacco Institute, attorney Donald Hoel of Shook, Hardy & Bacon significantly changed the draft of an article titled "Why the Case Against Smoking is Not Closed" and recommended a "major rewriting effort." Hoel also expressed dissatisfaction that attorneys had not previously had the chance to review the article. He wrote that "it would be beneficial and time-saving if the content of such material as

the proposed article could be first 'cleared' with the appropriate persons at the Tobacco Institute before an 'approved' draft is sent here for legal clearance." Hoel went on to recommend that the lawyers be given advance notice of such articles so they could "make suggestions and provide materials for consideration." TIMN262629-2629 (US 62734) (O).

200. The Tobacco Institute also worked with its public relations counsel and its member companies to anonymously disseminate deceptive and misleading public statements, such as the *True* magazine article, to promote the sale of cigarettes. CTR MN 015575-15593 (US 79902) (O); Zahn PD, Cipollone v. Liggett, 12/18/86, 349:1-4, 20-23, 351:4-14, 357:22-25, 361:3-8, 17-22. Joseph Fields, a public relations agent for B&W, arranged for Stanley Frank to write a smoking and health article, and, in January 1968, Frank's article entitled "To Smoke or Not to Smoke - That Is Still The Question" appeared in *True* magazine. In the article, Frank stated that he had reviewed the evidence and found it contradictory and inconclusive; he concluded that the hazards of cigarette smoking were not so real as the public had been led to believe. TIMN462375-2380 (US 21660) (O). Frank did not disclose that he had been paid $500 by the Defendants for his time and expenses in writing the article and had been guaranteed another $1250 in the event that it was not published; that tobacco industry representatives including Ed Jacob of Jacob & Medinger, attorneys for TIRC, had reviewed the article prior to publication; or that he worked for Hill & Knowlton. 690012994-2993 (US 54322) (O); Zahn PD, Cipollone, 12/18/86, 349:1-4, 20-23, 351:4-14, 357:22-25, 361:3-8, 17-22.

201. Furthermore, one of the Tobacco Institute's public relations agencies, The Tiderock Corp., had arranged to run a one-half-page advertisement promoting the *True* article entitled "Are Cigarettes Really Harmful to Your Health?" The advertisement ran in the top seventy-two markets in the United States at an estimated cost of $69,000 paid for by Defendants

Philip Morris, Reynolds, B&W, American, and Lorillard. Not until this information was revealed in a series of investigations by the *Wall Street Journal*, *Consumer Reports*, and Senator Warren Magnuson did the public become aware of the deception. Zahn PD, Cipollone, 12/18/86, 349:1-4, 20-23, 351:4-14, 357:22-25, 361:3-8, 17-22; TIMN462375-2380 (US 21660) (O); TIMN0123336-3336 (US 21628) (O).

202. In addition to its press releases and publications, the Tobacco Institute regularly published various newsletters to further publicize its fraudulent messages on behalf of the Enterprise. TIMN339121-9128 at 9121 (US 86127) (O); TINY 0009385-9387 (US 62964) (O); 947089976-9979 (US 32332) (A); TI16300337-0345 (JE-062448) (A). In May 1976, the Tobacco Institute published its first issue of its most widely distributed newsletter, *The Tobacco Observer*. The public purpose of the newsletter, as stated in the first issue, was to "enable 'thousands' whose livelihoods are associated with tobacco 'to be well informed about the problems facing tobacco.'" *The Tobacco Observer* was published bi-monthly from 1976 until December 1988, under the supervision of the Tobacco Institute's Special Projects. 690018786-8786 (US 86119) (O); TIOK0015372-5378 at 5373 (US 86126) (O); TIMN366674-6895 at 6864 (US 86120) (A).

203. The Tobacco Institute circulated *The Tobacco Observer* free of charge to company employees, broadcasters, newspapers, and individuals. At the early stages of publication, the Tobacco Institute requested and received lists of names and addresses of potential subscribers from the tobacco companies. In 1978, the Tobacco Institute calculated circulation to have reached 80,000 and by 1988 circulation had almost doubled to 145,000. Most subscriptions, however, were unsolicited. According to a June 1, 1987 memorandum from Anne Duffin to Peter Sparber, "TTO [*The Tobacco Observer*] subscribers, some dating back 11 years, have never

been asked if they want copies. Most were added to the subscription list by Institute staff through personal contact or tobacco group rosters[.]" 670059500-9506 at 9503 (US 86121) (O); 690019767-9767 (US 86122) (O); 680549177-9182 at 9179 (US 86123) (O); TIOK0015372-5378 at 5372 (US 86126) (O).

204. Articles in *The Tobacco Observer* perpetuated the Enterprise's denials of causation and harm from smoking. Headlines announced, "Smoke not harmful to average non-smoker" (October 1978). In the May 1976 issue, one headline read "No Simple Answers; Research Disputes UPI;" this article followed another that stated, "no cause and effect relationship between cigarette smoking and pulmonary emphysema has been established." In a June 1, 1987 memorandum, Anne Duffin wrote candidly about *The Tobacco Observer*, "Historically TTO [*The Tobacco Observer*] has related good news only, presenting the bad only in its most optimistic context . . . TTO's purpose was to inform, to cast favorable light upon tobacco's many controversies." 03048388-8399 at 8388 (US 86124) (O); TIMN0127465-7475 at 7467 (US 86125) (O); TIOK0015372-5378 at 5373 (US 86126) (O).

(4) Tobacco Institute Committees

205. The Tobacco Institute was run by a variety of committees, comprised of representatives and agents from Defendants Philip Morris, Lorillard, Liggett, Reynolds, and B&W, and employees from Defendant Tobacco Institute. The most influential and powerful Tobacco Institute committees were the Tobacco Institute Committee of Counsel, the Tobacco Institute Executive Committee, and the Tobacco Institute Communications Committee.

(a) Committee of Counsel and Outside Counsel

206. The Tobacco Institute Committee of Counsel was comprised of the general counsels of the sponsoring companies of the Tobacco Institute – Philip Morris, Reynolds,

Lorillard, Liggett, and B&W – as well as counsel for American. 85686131-6131 (US 87589) (A) (Lorillard); 1005147807-7807 (US 36119) (A) (Philip Morris); 03654362-4362 (US 29296) (A) (Reynolds); 517004087-4090 (US 20874) (A) (B&W); LG2014927-4931 (US 86090) (A) (Liggett); 681725305-5307 (US 21019) (O) (American); Stevens WD, 2:18-22, 5:1-11, 5:12-23; Juchatz TT, 11/18/04, 06545:11-06546:2; Kornegay PD, Small v. Lorillard, 11/18/97, 34:11-18. Representatives from Philip Morris Companies also were members of the Committee of Counsel, and some Committee of Counsel meetings were held at Philip Morris Companies headquarters in New York. Northrip WD, 8:14-8:5; 2023033745-3745 (US 87590) (A); 2023033795-3795 (US 87591) (A). Members of the Committee of Counsel also included attorneys from the outside law firms of Covington & Burling, Jacob Medinger & Finnegan, and Shook, Hardy & Bacon. WAX0011075-1127 at 1088-1093 (US 64758) (A) (TI Response to Interrogatory No. 13); Donald Hoel PD, United States v. Philip Morris, 6/27/02, 71:17-22; 521043046-3050 (US 20891) (O); 680038350-8352 (US 20980) (A); Stevens WD, 5:1-11; Stevens TT, 01278:10-01280:1.

207. The purpose of the Committee of Counsel meetings was to discuss legal issues related to the tobacco industry and to provide legal advice on any matter that member companies would bring before it. Northrip WD, 8:11-13.

208. The importance of the Committee of Counsel was described in an October 1964 trip report written by visitors from Britain's Tobacco Research Council:

> The leadership in the U.S. smoking and health situation therefore lies with the powerful Policy Committee of senior lawyers advising the industry, and their policy, very understandably, in effect, is "don't take any chances." It is a situation that does not encourage constructive or bold approaches to smoking and health problems, and it also means that the Policy Committee of lawyers exercise close control over all aspects of the problems.

1003119099-9135 (US 20152) (A).

209. The primary function of the Committee of Counsel within the Enterprise was described in a document prepared by Ernest Pepples, General Counsel for B&W: "[T]he primary function of this Committee of Counsel has been to circle the wagons, to coordinate not only the defense of active cases, but also to coordinate the advice which the General Counsels give to ongoing operations of their companies pertaining to products liability risks." 517004087-4090 (US 20874) (A).

210. The Committee of Counsel met frequently over the years and the agenda of the Committee of Counsel meetings covered a wide range of topics that were of concern to the Defendants. Typical items discussed included various smoking and health related issues including addiction, industry witness development (especially in the area of ETS), Special Projects, Special Accounts, CTR's Literature Retrieval Division, review of the Tobacco Institute's ads, institutional research, and smoking and health litigation generally. Stevens WD, 6:10-12, 6:13-21; Northrip WD, 8:11-13; 680239427-9429 (US 30835) (A); 03654134-4134 (US 29291) (A); 85686132-6132 (US 87592) (A); 85686235-6236 (US 87593) (A); 85685497-5497 (US 32030) (A); 03654220-4220 (US 29293) (A); 03654179-4180 (US 87594) (A); 503762768-2768 (US 86093) (A); 03654341-4342 (US 29295) (A); 03654327-4328 (US 29294) (A); 85685745-5745 (US 86094) (A); 503689705-9705 (US 86095) (A); 85682380-2381 (US 32023) (A); 1005085870-5870 (US 35994) (A); LG2005471-5473 (US 88096) (A); 03654160-4160 (US 86097) (A); 03746187-6190 (US 86098) (A); LG2008241-8242 (US 21206) (A); 03638986-8987 (US 86815) (A); 03746184-6185 (US 20600) (A); 2024671248-1255 (US 21584) (A); 1005121522-1526 (US 23046) (A); LDOJ2607427-7434 (US 86099) (A); BWX0004268-4274 (US 36225) (A); 03601453-1453 (US 86102) (A); 01333625-3625 (US 26468) (A); 03654139-

4147 (US 86103) (A); XBW0011405-1416 (US 86104) (A); BWX0004264-4267 (US 36224) (A); 680542504-2505 (US 86105) (A); TIFL0407411-7411 (US 22044) (A); TIFL0407410-7410 (US 22041) (A); 681000290-0293 (US 21015) (A).

211. Even upon Liggett's decision to cease participation in the Tobacco Institute as a Class A member, it confirmed its commitment to the Tobacco Institute's goals by participating in the Committee of Counsel. In a September 21, 1993 letter from Liggett's in-house counsel Josiah Murray to the Tobacco Institute's President and Counsel, Liggett sought to reduce its payments to the Tobacco Institute, but at the same time sought Tobacco Institute approval for Liggett to continue participating in the Tobacco Institute's Committee of Counsel, and for Liggett to have continued access to Tobacco Institute information and data, including reports and memoranda from Covington & Burling to the Committee of Counsel. In seeking these materials, Murray assured the letter's recipients that Liggett would continue to conform its conduct in accordance with the Enterprise's strategies, writing:

> It is not the intent of Liggett to conduct its business in a manner adverse to the interest of the industry as a whole with respect to those legal and political issues as to which, by applicable law, the several competitor companies have a right to act in concert and in collaboration one with another, and attaining this objective is enhanced, of course by [Liggett] being adequately informed.

LWDOJ00023390-00023392 (US 25910) (A).

212. The role of outside counsel, including Shook, Hardy & Bacon, Jacob, Medinger & Finnegan and Covington & Burling, was to assist the Committee of Counsel. 03638986-8987 (US 86815) (A); Rupp WD, 38:21-39:19; Northrip WD, 6:12-16; 6:22-6-1:25; Dawson WD, 15:15-21.

213. Covington & Burling was counsel for the Tobacco Institute and also described as counsel for the "industry." 682150942-0942 (US 86491) (A); Rupp WD, 38:21-39:19. An

attorney from Covington & Burling attended every meeting of the Committee of Counsel and Covington & Burling attorneys first reviewed agenda proposals for the Committee of Counsel meetings before they were sent to member companies. Blixt PD, United States v. Philip Morris, 10/31/02, 159:20-161:13, 169:13-170:1. Covington & Burling also cleared press releases issued by the Tobacco Institute. Merryman PD, Minnesota v. Philip Morris, 7/16/97, 414:21-415:2, 416:10-22.

214. Shook, Hardy & Bacon was counsel for Defendants Philip Morris, Philip Morris Companies, Lorillard, Reynolds, and B&W, and benefitted from a close association with Defendant the Tobacco Institute. 521043046-3050 (US 20891) (O); TIMN0245637-5638 (US 62723) (O); 2015007199-7207 (US 20311) (A); Northrip TT, 9/30/04, 01334:19-01335:5; Kornegay PD, Cipollone v. Liggett, 8/17/84, 177:23-178:3, 179:5-21, 185:20-186:3. In fact, Robert Northrip, following his attendance of a Committee of Counsel Meeting, would normally bill either three or four tobacco companies (including Phillip Morris, Lorillard, B&W and possibly Reynolds) for his time. Northrip TT, 9/30/04, 01346:12- 22; Northrip WD, 5:17-5-1:11.

215. During an April 1968 meeting between members of the Committee of Counsel and CTR's Scientific Director Clarence Cook, Little advocated that "closer liaison [sic] should be established and more frequent meetings held between the industry (represented by General Counsel) and both the SAB and CTR staff." BWX0003853-3866 at 3854 (36213) (O).

216. In a May 18, 1982 memorandum addressed to Robert Sachs, Assistant General Counsel for B&W, and Arthur Stevens, Senior Vice President and General Counsel for Lorillard, and copied to Thomas Ahrensfeld, Senior Vice President and General Counsel for Philip Morris; Alexander Holtzman, Assistant General Counsel for Philip Morris; Ernest Pepples, General

Counsel for B&W; and Samuel Witt, General Counsel for Reynolds, William Shinn of Shook, Hardy & Bacon described Shook, Hardy & Bacon's activities related to the Tobacco Institute. Shook, Hardy & Bacon examined "most material emanating from the Tobacco Institute which has potential smoking and health overtones." This review involved a great deal of give and take and sometimes Shook, Hardy & Bacon "prepar[ed] the final version" of the product. Shook, Hardy & Bacon also assisted the Tobacco Institute in setting strategy, preparing witnesses on smoking and health issues, briefings, reviewing press releases, advertisements, and other public statements, and orchestrating follow-up activities. Shinn remarked: "While we are asked occasionally to do something that we believe T.I. should do itself, we have always reserved the right to decline unless directed by the Committee of Counsel." 521043046-3050 (US 20891) (O).

217. Shook, Hardy & Bacon's role was further explained in a June 28, 1988 memorandum from Donald Hoel of Shook, Hardy & Bacon to Todd Sollis, Associate General Counsel for Philip Morris Management Corporation. Hoel explained that "[b]ecause SHB represents several of those [cigarette] manufacturers and enjoys a close association with the TI, the firm is able to move freely among industry members, facilitating cooperation and open communication. In this way, SHB helps eliminate potential difficulties within the tobacco industry that could reduce PM's ability to address effectively smoking and health issues and impair its defense of lawsuits." 2015007199-7207 (US 20311) (A); Northrip TT, 9/30/04, 01334:19-01335:5.

218. Jacob, Medinger & Finnegan was counsel for Reynolds, B&W, and CTR. Edwin Jacob attended and gave presentations at Committee of Counsel meetings; he was also involved in the administration of CTR Special Projects (discussed further at US FF § I.D(2), infra).

680038350-8352 (US 20980) (A); 1005121522-1526 (US 23046) (A).

(b) Tobacco Institute Executive Committee

219. The Tobacco Institute Executive Committee had the "final voice on TI matters" and Tobacco Institute statements; included two representatives of each of the cigarette manufacturer member companies of the Tobacco Institute; and had a rotating chairmanship. Chilcote PD, Richardson v. Philip Morris, 9/21/98, 92:21-97:2; Kornegay PD, Small v. Lorillard, 11/18/97, 25:13-29:1. The Executive Committee also set Tobacco Institute policy and determined resource allocation within the organization. Dawson WD, 10:13-11:2.

220. The Tobacco Institute Executive Committee met frequently to keep abreast of issues of common concern within the Enterprise. In addition to having final approval authority on all Tobacco Institute matters, the Executive Committee often discussed issues of joint industry research on smoking and health, research funded through CTR, and funding of Tobacco Institute advertising. Dawson WD, 11:3-6; Northrip WD, 8:11-13; Chilcote PD, Broin, 11/19/93, 34:5-35:5; 03677101-7103 (US 29313) (A); TIMN0013425-3428 (US 88258) (O); TIMN0013471-3476 (US 88259) (O); TIMN0013429-3431 (US 88261) (O); TIMN0013432-3435 (US 88262) (O); TIMN0013460-3464 (US 88264) (O); TIMN0013471-3476 (US 88265) (O); TIMN0013508-3513 (US 88266) (O); TIMN0013514-3517 (US 88267) (O); TIMN0013518-3251 (US 88268) (O); TIMN0013526-13530 (US 88269) (O); TIMN0013554-3557 (US 88270) (O); TIMN13450-3454 (US 88276) (O); TIMN0013441-3445 (US 88289) (O); TIMN0013455-3456 (US 88291) (O); TIMN0013477-3484 (US 88293) (O); TIMN0013485-3489 (US 88294) (O); TIMN0013490-3495 (US 88295) (O); TIMN0013496-3499 (US 88296) (O); TIMN0013500-3507 (US 88297) (O); TIMN0013550-3553 (US 88298) (O); TIMN0013558-3563 (US 88299) (O); TIMN0013583-3589 (US 88300) (O); TIMN0013628-3632 (US 88301)

(O); TIMN0013651-3655 (US 88302) (O); TIMN0013656-3659 (US 88303) (O); TIMN0014418-4425 (US 88304) (O); TIMN0017720-7722 (US 88305) (O); TIMN0017725-7729 (US 88306) (O); TIMN0017731-7736 (US 88307) (O); TIMN0018436-8439 (US 88308) (A); TIMN0018451-8455 (US 88309) (A); TIMN0018462-8466 (US 88310) (A); TIMN0018590-8593 (US 88311) (A); TIMN0019234-9239 (US 88312) (A); LG0237151-7159 at 7154 (US 21194) (A).

221. For example, the Tobacco Institute Executive Committee met on January 12, 1964, to discuss the implications of the 1964 Surgeon General's Report on Smoking and Health. The Executive Committee agreed that it was "considered to be of prime importance that the industry maintain a united front and that if one or more companies were to conduct themselves as a matter of self interest, particularly in advertising, obvious vulnerability would be the result." LG2008203-8210 (US 22682) (A).

222. A 1974 Tobacco Institute report entitled "Defending Tobacco" stated that the Tobacco Institute Board of Governors' adoption, in January 1971, of the Guidelines for Authority and Responsibility of the Tobacco Institute, had greatly improved the Tobacco Institute's overall efficiency. The report established authority and responsibility of the Tobacco Institute's staff and committees, placing more authority in its President, and requiring more frequent meetings of the Executive Committee to create and review Tobacco Institute policies, programs and objectives within the Enterprise. The Guidelines eliminated much undue delay occasioned in the past in obtaining approval and authority from the Tobacco Institute Executive Committee or its Board members for Tobacco Institute action and improved the overall efficiency of the Enterprise. TIMN217628-7639 (US 21263) (O).

(c) Tobacco Institute Communications Committee

223. The Tobacco Institute Communications Committee reviewed and approved Tobacco Institute advertisements, media plans, and public relations campaigns carried out by the Tobacco Institute on behalf of the Enterprise. Chilcote PD, Richardson v. Philip Morris, 9/21/98, 263:5-14.

224. Each Tobacco Institute member company designated its public relations people to attend meetings of the Communication Committee and to inform their respective companies about the activities of the Committee. Dawson WD, 17:9-23; Dawson TT, 1/12/05, 9899:20-9900:10; Duffin PD, Barnes v. American Tobacco, 10/6/97, 118:4-119:3, 119:7-121:2. Membership of the Communications Committee consisted of representatives of Reynolds, B&W, Phillip Morris, Lorillard, Liggett, and American, as well as outside lawyers from Shook, Hardy & Bacon and Covington & Burling, Tobacco Institute public relations staff and CTR public relations counsel Leonard Zahn. Dawson TT, 1/12/05, 9899:20-9900:10; Zahn PD, Richardson v. Philip Morris, 12/1/98, 52:9-55:3; Zahn PD, Cipollone, 12/17/86, 274:2-8; 275:5-21; 794003131-3132 (US 86107) (O); TIMN0081843-1864 (US 86108) (O); 03678709-8711 (US 88313) (O); 680241704-1705 (US 54034) (O); ZN21992-1995 (US 21375) (O); 690014846-4848 (US 86111) (O); TIMN0124674-4674 (US 88323) (O); TIMN0124717-4718 (US 86113) (O); 680570007-0008 (US 86114) (A); 87716615-6618 (US 86117) (A); TI16470337-0338 (US 62449) (O); TI09911543-1580 (US 62251) (A); TI09911581-1615 (US 62252) (A); TI09911885-1920 (US 62255) (A); TI09912151-2191 (US (62256) (A); TIMN345630-5665 (US 77092) (A); TIMN345741-5777 (US 77093) (A).

225. Members of the Communication Committee considered CTR a public relations benefit for the Enterprise. According to minutes from the September 17, 1971 Communication Committee meeting, William Kloepfer, Vice President of the Tobacco Institute, briefed the

committee on the status of industry-financed research, including research funded by CTR. Kloepfer called this research, "the best basis for affirmative public relations." Leonard Zahn, public relations counsel to CTR from 1955 until 1993, was even a member of the Tobacco Institute Communications Committee and attended committee meetings at the behest of Kloepfer of the Tobacco Institute. TIMN0003978-3980 (US 87595) (O); Zahn PD, Cipollone, 12/16/86, 129:13-15, 18, 21-23; 130:1-3, 12-19, 130:22-131:2; Zahn PD, Richardson, 12/1/98, 52:9-55:3; Zahn PD, Cipollone, 12/17/86, 274:2-8, 275:5-21.

226. A 1974 Tobacco Institute report entitled "Defending Tobacco" stated that, prior to 1967, much of the communications between member companies was through the Tobacco Institute Committee of Counsel, or by informational memoranda. In 1969, one change that greatly facilitated the internal information flow within the Enterprise was the creation of the Communications Committee, which was made up of representatives of each major company and of the Tobacco Institute's legal counsel and who met frequently to advise on the Tobacco Institute's public relations strategy. TIMN217628-7639 (US 21263) (O).

227. Through these Tobacco Institute committees, the Defendants, through their executives, employees, agents, and attorneys, controlled the Tobacco Institute and set its policy, including approving and authorizing the misleading and fraudulent statements about material matters made by Tobacco Institute. Over time, this structure changed somewhat, but Defendants always maintained control over the Tobacco Institute's activities. Thus, the Tobacco Institute's many committees carried out the objectives of the Enterprise.

(5) Tobacco Institute College of Tobacco Knowledge

228. Coordination of information and careful instruction on how information should be presented to the public was a central theme of the Enterprise. Following the party line so as not

to leave any member vulnerable to attack in litigation or to subject the industry to further regulation was considered vital. One extremely useful method employed by the Enterprise to ensure that industry representatives understood and were able to publicly transmit consistent statements regarding smoking and health and other issues of common concern to the Defendants was the operation of training seminars through the Tobacco Institute's College of Tobacco Knowledge, which began in 1975 and lasted over a decade. Dawson WD, 26:7-21, 27:2-6, 28:6-8; Dawson TT, 1/12/05, 9920:19-21; 2025864882-4895 (US 86140) (O).

229. Consistent with the goal of achieving a unified public message for the industry, Walker Merryman, self-proclaimed "Dean of the College of Knowledge" and also Vice President of Public Relations for the Tobacco Institute, testified that during presentations he gave at the College, he would "roam the room with a microphone and ask people questions [about what they had heard and learned over the two days] and see how they answered them." Merryman PD, Florida v. American, 7/25/97, 151:12-152:18; Merryman PD, Richardson v. Philip Morris, 4/9/98, 87:15-88:7; TI16740590-0593 (US 86148) (A). For example, he might ask a student if he believed that there was a relationship between smoking and disease, and suggest that the better response was that "there is a statistical relationship between smoking and disease" rather than that "smoking causes disease." Merryman PD, Florida v. American, 7/25/97, 153:16-156:10.

230. The purpose of the Tobacco Institute College of Knowledge was to "improve working relations with all major segments of the tobacco industry." Dawson WD, 28:6-8. For example, Dawson participated in a mock segment of "The Phil Donahue Show" entitled "Should Smoking Be Restricted in the Workplace?" during the 1988 College of Knowledge, playing the role of Tobacco Institute spokesperson while James Savarese played Donahue and they acted out

a reaction to a Surgeon General's Report on the subject of ETS on behalf of the tobacco industry. As demonstrated by the skit, the intended purpose of the College was to rehearse a unified public view on smoking and health issues. Dawson WD, 29:6-30:1.

231. The College of Tobacco Knowledge consisted of a general briefing on the major issues facing the tobacco industry and was a "seminar that gave attendees an overview of a number of issues that the tobacco industry faces or faced at the time." Merryman PD, Florida v. American, 7/25/97, 147:16-148:2; Chilcote PD, Richardson v. Philip Morris, 9/21/98, 259:8-261:10; Duffin PD, Munn, 1/7/87, 187:3-190:25. The Tobacco Institute not only funded and operated the College of Tobacco Knowledge, it also developed the College's curriculum. Dawson WD, 26:16-21; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 147:14-18. The Tobacco Institute staff "taught the sessions of the Tobacco College of Knowledge." Chilcote PD, Richardson v. Philip Morris, 9/21/98, 261:11-15; Duffin PD, Munn, 1/7/87, 187:3-190:25.

232. Representatives of all of the Defendants, including BATCo and Philip Morris Companies, Inc., as well as representatives of several international organizations (including TAC, INFOTAB, and ICOSI) attended the College that existed for over a decade, beginning in 1970 and lasting through 1988. 1000019640-9647 (US 86149*) (O); 1000019649-9651 (US 86150) (O); 2501290388-0396 (US 86156) (A); TI16740660-0663 (US 72403) (O); 503908538-8538 (US 29737) (O); TI16740660-0663 (US 72403) (O); 503908538-8538 (US 29737) (O); TI04962210-2211 (US 67250) (O); TI16740652-0659 (US 86168) (O); TI16740741-0749 (US 86169) (O); TI04962337-2341 (US 86170) (O); (US 65473) (O); TIFL0071151-1151 (US 86176) (O); TIFL0071174-1174 (US 86142) (O); TIFL0071152-1154 (US 86177) (O); TIFL0071200-1202 (US 86178) (O); TIFL0072275-2277 (US 86180) (O); TI16740614-0616 (US 86181) (O); TI11961414-1414 (US 86182) (O); TIFL0072290-2303 (US 86183) (A);

87645518-5522 (US 86184) (A); TIFL0068394-8402 (US 86185) (A); TI11961377-1377 (US 86186) (O); TIFL0071027 (US 77029) (O); Merryman PD, Florida v. American Tobacco, 7/25/97, 148:9-13.

233. Students who attended the College sessions were "people from the tobacco industry;" people whose responsibilities included public affairs, public relations, government relations; "[p]eople from all facets of the industry from seed bed to sales counter;" and industry lobbyists. Merryman PD, Florida v. American, 7/25/97, 148:17-149:8; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 145:2-13.

234. After Tobacco Institute executives Merryman, Kloepfer, and Chilcote approved the curriculum, the Tobacco Institute mailed announcements to its Communications Committee, INFOTAB, its senior staff, and other interested parties. TIFL0071011-1012 (US 86141) (O); TIFL0071174-1174 (US 86142) (O). In preparing for a College session, the Tobacco Institute would make its "senior vice presidents aware of the fact that one of these seminars was scheduled. And if they had new employees that they wanted to have invited or if they thought there was a contract lobbyist who might benefit, they could invite that individual. We also would let our member companies know that another seminar was scheduled, and if they had people in mind whom they thought would benefit from such a seminar, they could be invited." Merryman PD, Florida v. American, 7/25/97, 149:9-150:3; 85701033-1033 (US 86143) (O), 85701041-1042 (US 86144) (O); TIFL0069155-9155 (US 86145) (O); TIFL0069161-9161 (US 86146) (O).

235. A number of speakers generally spoke on a "half dozen or more different issues." Merryman PD, Florida v. American, 7/25/97, 157:24-158:2. Speakers at the College sessions included Tobacco Institute employees whose specialities might be communications; public relations; and federal and state regulation; lawyers for the industry; medical consultants; state

senators or representatives; economists; and statisticians. Merryman PD, Florida v. American, 7/25/97, 158:5-159:5; John Rupp WD, 39:20-40:3.

236. The Enterprise wanted to achieve consistent public statements concerning various smoking and health related subject areas through its control of the curriculum of the College. For example, the issue the health hazards of smoking and of causation generally and how, according to the Industry, causation had not yet been proven was a topic frequently discussed. Merryman PD, Florida v. American, 7/25/97, 159:13-160:4; 1000019640-9647 (US 86149*) (O); TIFL0068950-8955 (US 86163) (O).

237. The curriculum of the College also included the topic of industry sponsored research and the function of CTR generally. For example, presentations by Leonard Zahn, CTR public relations counsel, would describe the activities of CTR and its research program "so that all the mid and perhaps slightly above mid-level employees from the various companies would have an idea, more exact knowledge, of what the Council was and how it worked." Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 145:14-146:11, 149:25-150:10; TI04962331-2334 (US 86167) (O); TI04962389-2389 (US 62201) (O); TI04962390-2398 (US 62202) (O); TIFL0068387-8387 (US 77028) (O). In addition, Zahn distributed, or made available, to the participants CTR materials including the Annual Report. Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 148:8-20.

238. Similarly, Addison Yeaman, CTR Chairman and President, spoke on the topic of sponsoring science, described in the syllabus as follows: "For 25 years, tobacco manufacturers, growers and warehouse operators have funded independent scientific research into tobacco use and health. How it is done and what is being learned." 1000019640-9647 (US 86149*) (O).

239. In addition to discussing the function of CTR, the College provided another

opportunity for the Tobacco Institute and CTR to coordinate Enterprise activities. In a letter dated October 27, 1981, William Hobbs, CTR Chairman, wrote that CTR representatives "Tom Hoyt and Bob Gertenbach will attend T.I.'s College of Tobacco Knowledge November 16 and 17" providing an opportunity for the Tobacco Institute's Horace Kornegay to brief the CTR President and Executive Vice President on "T.I.'s advertising and research plans" because "it might be beneficial to CTR management." 503908538-8538 (US 29737) (O).

240. Also frequently discussed at the College was the topic of secondhand smoke or ETS and how the true health effects of smoke on nonsmokers had not yet been determined. 1000019640-9647 (US 86149*) (O); TIFL0068913-8926 (US 86159) (A); TIFL0068913-8926 (US 86159) (A); TIFL0068939-8939 (US 86161) (O). Industry ETS consultants like Nancy Balter, John Graham and "Gray" Robertson also spoke about public smoking restrictions. TIFL0071152-1154 (US 86177) (O); TIFL0071200-1202 (US 86178) (O).

241. In addition, the College curriculum also included an "international perspective" on smoking and health related issues. For example, Mary Covington, Secretary General of INFOTAB spoke at the November 1981 College about international perspectives related to ETS, explaining that the College "seminars offer an opportunity to learn a lot about smoking issues and industry programs in a very short time...Without a concerted effort by the tobacco industry [initiatives to eliminate smoking in public places] will make gradual headway in changing attitudes towards smoking as a socially acceptable custom." 2501029891-9901 (US 20557) (O).

242. Finally, the topic of Public Relations was woven into each of the subject areas discussed above, as achieving a consistent public message was the Enterprise's goal of the College of Knowledge. For example, at both 1983 sessions of the College, William Kloepfer of the Tobacco Institute spoke to the students on public relations issues. In addressing the issue of

the "effectiveness and unity" of the tobacco industry, Kloepfer contended that because "**what affects one affects all**," the Tobacco Institute used many strategies "**to keep us together, to keep us all aware**" (emphasis added). According to Kloepfer, the Tobacco Institute Public Relations Division was primarily responsible for four strategies: the Tobacco Institute *Tobacco Observer* newspaper reaching 150,000 readers six times a year; advertising in tobacco trade publications; appearing as speakers before trade and industry groups; and the Tobacco Institute College of Tobacco Knowledge that has helped "educate" and "orient hundreds of key family members . . . **a united industry is our most potent public relations and legislative tool**" (emphasis added). TI04962436-2454 (US 86172) (O); TIFL0526112-6125 (US 62625) (O).

243. In addressing the issue of public smoking restrictions, Kloepfer maintained that "through our spokesmen, our literature, and our advertising, we broadcast two messages: (1) ambient smoke has not been proven dangerous to non-smokers, and (2) smoking restrictions cause unnecessary expense, inconvenience, and discrimination." TI04962436-2454 (US 86172) (O); TIFL0526112-6125 (US 62625) (O). In addressing "our oldest, most frustrating issue," Kloepfer noted, "We call it the primary issue. It is the smoking and health controversy. We think of it as controversy . . . a subject far from decided . . . and through our spokesmen and literature we make that point." TI04962436-2454 (US 86172) (O); TIFL0526112-6125 (US 62625) (O).

244. Finally, all indications from past College attendees were that the Enterprise, via the Tobacco College of Knowledge, was achieving its goal of uniting the industry and promoting a common public response to issues related to smoking and health. For example, Arthur Stevens, General Counsel for Lorillard, sent comments from the Lorillard attendees at one session to the Tobacco Institute. 03022004-2008 (US 86157) (A); 85676573-6577 (US 86158) (A). One

employee wrote, "The information presented gave me a better view of the defensive position in which our industry finds itself." 03022004-2008 (US 86157) (A); 85676573-6577 (US 86158) (A). Similarly, in feedback after the September 1980 session regarding whether or not the College of Tobacco Knowledge was worthwhile, one Lorillard attendee wrote: "Definitely - The opportunity to meet with the pros, who fight in the trenches, was an experience which expanded my knowledge and commitment to **our mutual goals**." 85700954-0955 (US 86162) (O) (emphasis added). Further commentary by Lorillard attendees on the Seventh College included: "[A]fter the program was completed, I definitely have a better understanding of the **industries [sic] position** in certain areas . . . past attendees should be updated whenever the **industries [sic] stand** on a position changes or new information is available, especially in the overall smoking and health controversy." 85180845-0846 (US 86164) (O); 85700895-0895 (US 86166) (O).

245. In addition to the formal training received by Defendants' employees on the industry position in smoking and health matters at the Tobacco Institute's College of Tobacco Knowledge, industry lawyers also personally instructed tobacco company employees on the industry's smoking and health positions. For example, Jeffrey Wigand, former Vice President of Research and Development of B&W, shortly after starting to work for B&W, was sent to the law offices of Shook, Hardy & Bacon in Kansas City, Missouri, for an orientation. Shook, Hardy & Bacon attorneys William Shinn, Robert Northrip (who testified in this case) and Charles Wall (who later went to work for Philip Morris) instructed Wigand on the tobacco industry position on causation and addiction. Scott Appleton, a B&W toxicologist and witness in this case, also attended a session at Shook, Hardy & Bacon. Wigand WD, 29:26-30:10.

(6) Tobacco Institute Testing Laboratory

246. In June 1966, the Federal Trade Commission ("FTC") announced that it was

establishing a laboratory to measure by machine the tar and nicotine content of cigarette smoke. That same year, the tobacco industry decided to establish its own laboratory, the Tobacco Institute Testing Laboratory ("TITL"), which would be a separate division of the Tobacco Institute. The TITL was established so that Defendants could conduct tests to determine the accuracy and reliability of the FTC laboratory's tests. The TITL was also used by Defendants for different testing purposes, and it was acknowledged that TITL was a "Mechanism for Mutual Cooperation" within the Tobacco Institute. 500500320-0323 (US 20633) (O); TITL0003363-3374 (US 21931) (O); TIMN267142-7143 (US 21353) (O); TIMN267120-7121 (US 21351) (A); TITL0003108-3111 (US 21597) (O); 01246525-6537 (US 34516) (O).

247. Defendants clearly used TITL for their own commercial purposes. For example, the industry collectively used TITL in its testing of the chemical Chemosol in the late 1960s and early 1970s. 500500320-0323 (US 20633) (O); TIMN267142-7143 (US 21353) (O); TIMN267120-7121 (US 21351) (A).

248. Representatives from Defendants American, B&W, Liggett, Lorillard, Philip Morris, and Reynolds, offered to engage in a testing project with American Chemosol in 1967. ATX110006462-6464 (US 87221) (O). It was acknowledged that this offer represented industry cooperation on the issue. For example, at the February 14-16, 1968 meeting of the company research directors, there was a discussion about the need for a cooperative effort with respect to controlling the composition of smoke and the need for "an industry-wide consideration of some of the additives and filtering devices . . . as in the case of Chemosol." 500500320-0323 (US 20633) (O).

249. Defendants agreed that Hazleton Laboratories in the United Kingdom would conduct the testing based upon a protocol developed by the research directors of each of the nine

participants, and that the companies would be billed by the Tobacco Institute. At a September 10, 1969 meeting of the ITC held at the offices of CTR, the ITC agreed, based upon questions from industry counsel, that "the group preferred to keep the test to just 85 mm. cigarettes **to protect against the possibility of one or more lengths appearing to be a 'safer design**." 100186855-6859 at 6859 (US 20119) (O) (emphasis added).

D. Defendants' Joint Research Activity

(1) Witness Development

250. Defendants Philip Morris, Reynolds, Lorillard, Liggett, B&W, American, CTR, and the Tobacco Institute orchestrated a variety of joint research projects that they dubbed Special Projects. These projects took numerous forms, including CTR Special Projects, Lawyers Special Projects (projects paid through Lawyers Special Accounts), and special projects conducted through the Tobacco Institute. These projects were almost all exclusively funded by these Defendants and the main purpose of the lawyer-directed and orchestrated research was the procurement and development of witnesses favorable to Defendants for testimony before Congress, other regulatory bodies, for use in litigation, and for support of industry public statements.

251. TIRC/CTR through its "Special Projects" allocated funding on a non-peer reviewed basis for research projects associated with litigation and witness preparation. Brandt WD, 127:20-22. Clearly, "Special Projects" were not designed to address smoking and health issues in a way that would be helpful to the public. For example, an undated Lorillard document lists as one of the recommendations for industry research support: "Be prepared to increase industry funding of special projects to resolve scientific problems and develop witnesses." 80419203-9203 (US 21062) (O).

252. Special Projects were overseen by the main members of the Committee of Counsel, the General Counsels of Defendants – Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American. Stevens WD, 6:13-21; 2045752106-2110 at 2107 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A); 01124376-4421 (US 26394) (A); 01124445-4445 (US 26400) (A).

253. The Committee of Counsel received frequent updates on Special Projects. 1005061626-1626 (US 35960) (A); 1005061615-1615 (US 35958) (A); 1005061616-6125 (US 35959) (O); 1005061626-1626 (US 35960) (A); 680305856-5858 (US 30887) (A); 2501190758-0759 (US 20562) (O).

254. Special Projects were often managed by an Ad Hoc Committee. The Ad Hoc Committee was a group consisting of in-house counsel, litigating lawyers, and other agents such as public relations and research representatives of Defendants tasked to do long range policy planning with respect to research and witness development. 2045752106-2110 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A).

255. The focus on witness development is clearly illustrated in a letter dated October 28, 1966, where attorney Francis Decker advised David Hardy of Shook, Hardy & Bacon on the status of certain Ad Hoc matters. He stated, "Dr. Pratt is presently only available on a limited basis. However, we intend to try to develop him as a possible witness. . . . Dr. Soloff made the remark about the finding that the non-smoker and ex-smoker have the same incidence of heart disease. Nonetheless, I think he could be an excellent witness. To begin with, I think he might he persuaded that the validity of the above statement is questionable." 1005105988-5990 (US 36020) (O).

256. In January 1967, the Ad Hoc Committee was comprised of: (1) Janet C. Brown,

Chadbourne & Parke, counsel to American and CTR; (2) Kevin L. Carroll, White & Case, counsel to B&W; (3) Donald J. Cohen, Webster, Sheffield, Fleischmann, Hitchcock & Chrystie, counsel to Liggett; (4) Edward J. Cooke, Jr., Davis, Polk & Wardell, counsel to Reynolds; (5) Francis Decker, Webster, Sheffield, Fleischmann, Hitchcock & Chrystie, counsel to Liggett; (6) Alexander Holtzman, Conboy, Hewitt, O'Brien & Boardman, counsel to Philip Morris; (7) Edwin J. Jacob, Jacob, Medinger & Finnegan, counsel to CTR, B&W, and Reynolds; and (8) William W. Shinn, Shook, Hardy, Ottman, Mitchell & Bacon, counsel to Philip Morris, Lorillard, B&W, and Reynolds. 2015059690-9697 (US 20309) (O).

257. At times, members of the Ad Hoc Committee and the Committee of Counsel held joint meetings to keep Defendants informed as to the status of joint research matters related to the Enterprise. BWX0000007-0007 (US 59828) (A).

258. On December 17, 1965, at a meeting of the "Committee of Six [i.e., the Committee of Counsel]," representatives of at least CTR, B&W, and Reynolds, and outside counsel met to discuss CTR and Ad Hoc special projects in relation to the need for industry witness development. 95522182-2185 (US 56821) (A); RC6033491-3496 (US 86225) (O); 01124441-4444 (US 20034) (O).

259. A follow-up letter dated January 4, 1966, attorney John Russell of Perkins, Daniels & McCormack informed J.E. Bennett, President of Lorillard: "As you are aware, the lawyers have, together with the staff of Council for Tobacco Research, been reviewing our industry's research program with a view toward developing some sort of a master plan." Russell advised that there were three categories of research: "A. Adversary needs (Congress, litigation, etc.); B. Defensive needs; and C. Basic research." He further advised that some projects would be paid through Lawyers' Special Accounts and some out of CTR. 01124445-4445 (US 26400)

(A).

260. An April 12, 1966 Reynolds document describing the mission of the Tobacco Institute discussed Defendants' goals including witness development in upcoming health litigation. The document stated that the authorization and purpose of CTR Special Projects and Ad Hoc Committee lawyer projects was to assure efficient handling of medical evidence and to provide the industry with witnesses for health litigation. 502645038.S-5038.Z (US 23053) (O).

261. David Hardy, partner at Shook, Hardy & Bacon, played a major involvement in Defendants' witness development plans to perpetuate the Enterprise's "open question" position. Hardy worked to round up possible witnesses for future litigation throughout the 1960s. For example, in a January 12, 1967 letter to the Ad Hoc Committee, David Hardy requested evaluations of potential industry witnesses. In the same letter, Hardy asked Ad Hoc Committee members to analyze the value of various CTR and Ad Hoc projects in an effort to get practical use out of them in time for expected Congressional hearings. 2015059690-9697 (US 20309) (O).

262. A February 8, 1967 letter to Hardy from Donald Cohen and Francis Decker, attorneys with Webster, Sheffield, Fleischmann, Hitchcock & Chrystie, responded to Hardy's request for comments and evaluations of potential industry witnesses. It addressed many areas of possible testimony in great detail and provided names of doctors and scientists, many of whom were CTR Special Projects recipients and funded by various Defendants in later years. Cohen and Decker stated that Defendants' witnesses "should describe the unexplained paradoxes in the cigarette smoke theory of disease causation. [They] should present the idea that the statistics are as consistent, if not more so, with the constitutional theory as with the cigarette smoking theory." Cohen and Decker also recommended that doctors and scientists who had received CTR grants-in-aid and CTR Special Project funding be used as potential witnesses. 1005154422-4435 at

4425 (US 20228) (O).

263. William Shinn of Shook, Hardy & Bacon also drafted a letter in response to Hardy's request, which was copied to members of the Ad Hoc Committee, regarding potential witnesses for Defendants in upcoming congressional hearings. 1005154472-4479 (US 20229) (O); 2015059690-9697 (US 20309) (O).

264. Similarly, on March 31, 1967, Robert Hockett, on behalf of CTR, sent a memorandum to Hardy describing Adolphe D. Jonas, a psychiatrist who had worked on the psychology of smoking. In this memorandum, Hockett mentioned Jonas as a potential industry witness. 2015034120-4121 (US 20319) (O).

265. Scientists' work was often funded by CTR Special Projects solely because of a scientist's willingness to act as a witness in litigation or before congressional hearings on behalf of the Enterprise. For example, on October 3, 1968, in an attempt to funnel names to Hardy as potential witnesses before awarding scientists industry funding, Alexander Holtzman of Philip Morris wrote a letter proposing CTR Special Project funding for Richard Hickey. Hickey's application to CTR had previously been turned down, but Holtzman stated that "Dr. Hickey is willing to prepare a statement for Congress provided that he is put in a position to complete the analysis of data which he has in-hand and he would, in my opinion, make an excellent witness." 1005084784-4786 at 4784 (US 22988) (O).

266. Similarly, a November 17, 1978 Philip Morris memorandum noted that "CTR has supplied spokesmen for the industry at Congressional hearings. The monies spent at CTR provides a base for introduction of witnesses." 2045752106-2110 at 2107 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A).

267. An industry document that described the minutes of a General Counsel meeting at

the offices of Philip Morris on January 4, 1978, at which representatives from B&W, Liggett, Reynolds, the Tobacco Institute, and Philip Morris were present, demonstrated the development of Special Account No. 4 (a specific type of Lawyers Special Projects) to address Defendants' need for witnesses. The Enterprise used Special Account No. 4, discussed further below, to fund researchers and scientists and to pay fees to consultants who could offer expert knowledge to Defendants and act as witnesses on their behalf. Recipients of such funding were sought out by Defendants' attorneys based on how helpful they would be in future litigation and congressional hearings. Funds were allocated accordingly. Discussions and details of the lawyers' special projects were to be kept confidential. In this document, attendees of this meeting were advised to not discuss the details of Special Account No. 4 in writing, and instead questions on the matter would require a phone call. No response to a letter within a given date was assumed to mean that "the matter [was] agreeable." BWX0004364-4375 (US 36228) (A); 03658901-8901 (US 20061) (A); LG2024193-4196 at 4196 (US 21212) (O).

268. In a February 9, 1978 letter to Thomas F. Ahrensfeld, General Counsel for Philip Morris; Max H. Crohn, Jr., General Counsel for Reynolds; Joseph Greer, General Counsel for Liggett; Arnold Henson, an attorney with Chadbourne & Parke; Ernest Pepples, General Counsel for B&W; and Arthur J. Stevens, General Counsel for Lorillard, William Shinn of Shook, Hardy & Bacon wrote of the "need for special areas of research with due regard for the politics of science, the importance of developing witnesses and the need for a responsive mechanism to meet unfounded claims made about tobacco." In this document, Shinn recommended approval for Hans Eysenck funding through Special Account No. 4 and the Franklin Institute request through a CTR Special Project. Once again, recipients of this letter were reminded to not retain notes on matters of witness development. 503655086-5088 at 5087 (US 20720) (A);

503655086-5088 (US 75190) (A).

269. By at least the late 1970s, the Tobacco Institute and its agents became coordinators in Defendants' efforts to develop a group of witnesses for future litigations and hearings. An August 30, 1978 letter from Ernest Pepples of B&W to Richard Maddox of BATCo discussed the request of Horace Kornegay, President of the Tobacco Institute, that the Committee of Counsel be involved in selecting and providing scientific witnesses and documentary testimony for use in hearings before Congress and elsewhere. During its years as an active trade association, the Tobacco Institute prepared or provided over 100 witnesses for testimony before Congress, courts or state legislatures. 681725305-5307 (US 21019) (O); USX6390001-0400 at 0335 (US 89555) (O) (TI Response to Request for Admission No. 161).

270. A March 11, 1980 document drafted by Max Crohn of Reynolds acknowledged that longtime CTR Special Project and Special Account No. 4 recipient Theodor Sterling was "one of our industry's most valuable outside assets." In addition to numerous publications and studies, Crohn noted that "[Sterling] has continued to be one of the primary scientists available for consultation with Shook Hardy & Bacon in Kansas City." 503645463-5463 (US 29696) (A).

271. A 1983 letter from Ernest Pepples of B&W to Jim Bowling of Philip Morris and Alexander Spears of Lorillard attached "a paper proposing recommendations which we might make to the [Tobacco Institute] Executive Committee." 80419202-9202 (US 21061) (O). The attached paper titled "Industry Research Support – Recommendations" listed the following among its considerations for upcoming scientific funding:

> Be prepared to increase scientific funding of special projects to resolve scientific problems and develop witnesses. . . .
> Maintain company cooperation – philosophies about research may differ at times, but goals should be the same. . . .
> Improve cooperation between industry mechanisms such as CTR and TI.

80419203-9203 (US 21062) (O).

272. In a February 2, 1984 memorandum written by Arthur Stevens, General Counsel for Lorillard, to Alexander Holtzman, General Counsel for Philip Morris; Ernest Pepples, General Counsel for B&W; Josiah Murray, General Counsel for Liggett; and Samuel Witt, General Counsel for Reynolds, Stevens discussed the intent of the Ad Hoc Committee to "propose a witness development plan" to assist the litigious and regulatory efforts of the member companies. 85687269-7270 at 7269 (US 21081) (A).

273. An April 7, 1986 letter from Patrick Sirridge, Shook, Hardy & Bacon, to Alexander Holtzman, General Counsel for Philip Morris; Wayne W. Juchatz, General Counsel for Reynolds; Josiah J. Murray, III, General Counsel for Liggett; Ernest Pepples, General Counsel for B&W; Paul A. Randour, General Counsel for American; and Arthur J. Stevens, General Counsel for Lorillard, informed the CTR Board members that Shook, Hardy & Bacon would take over both the administration of Special Account No 4 from Jacob, Medinger & Finnegan and the submission of research proposals for CTR Special Projects. According to this letter, Shook, Hardy & Bacon anticipated higher funding requests for "certain witness development expenses incurred by national litigation counsel." 507877173-7174 at 7173 (US 20800) (A).

274. An April 28, 1992 Wachtell Lipton memorandum from attorney David Murphy to attorneys Herbert Wachtell, Paul Vizcarrondo, Jr., and John Savarese described an issue that had come up at Lorillard. Arthur Stevens and William Allinder of Lorillard wanted to know if Lorillard could "participate in funding through a Shook, Hardy special account the work of a Georgetown pathologist, Bennett Jensen." Murphy reported that he had been advised that Jensen had received CTR Special Project funding in 1988, and now faced problems at Georgetown

because of his ties to the tobacco industry. Shook, Hardy & Bacon proposed to "'give him' $40,000 – not for specific research . . . or with an eye to publication but solely in order to maintain a good relationship with him and secure his continued help in making contact with other scientists." Murphy also reported that "Allinder admits that Shook, Hardy wants to give Jensen money to keep him happy and that there is no immediate value to his research." Jensen, however, was a potential witness in the Haines litigation and his contacts "could lead to legislative witnesses." 87715635-5636 (US 21101) (A). Indeed, Robert Northrip, attorney with Shook, Hardy & Bacon, acknowledged that one of the benefits of Special Projects was preserving the good will of former witnesses. Northrip WD, 10:6-11:2; Northrip TT, 9/30/04, 01366:7-01367:25; ATX9275490271-0280 at 0273 (US 36231) (A).

(2) CTR Special Projects

(a) Nature of CTR Special Projects

275. CTR Special Projects were a separate category of research projects funded by CTR. Unlike the grant-in-aid category of research, CTR Special Projects were not vetted by the CTR Scientific Advisory Board ("SAB"); instead the process was led by the General Counsels of Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American, as well as attorneys at outside law firms including Jacob, Medinger & Finnegan, and Shook, Hardy & Bacon. The work was commissioned for possible use in litigation. Stevens WD, 13:22-16:16, 17:20-18:8; Juchatz TT, 11/22/04, 06736:17-06748:17, 06754:8-06782:3; (US 87024) (A); McAllister WD, 159:12-14, 161:23-162:25; McAllister TT, 3/21/05, 16171:22-16175:13; Sommers PD, Arch v. American, 7/14/97, 49:7-9; see also Rupp WD, 38:1-8; Northrip TT, 9/30/04, 01369:25-01374:16, 01374:17-01375:3; Lisanti PD, Engle v. Reynolds, 8/13/97, 86:8-21; USX6390001-0400 (US 89555) (O) (CTR Response to Requests for Admission No. 131, 135).

276. Although Liggett withdrew from the CTR in 1968, it continued to participate in CTR Special Projects. Stevens, WD, 17:14-19. Indeed, in its January 8, 1968 resignation letter, Liggett's President stated "we will continue to participate in defraying the cost of [CTR] Special Projects sponsored by the Council after evaluation of each Project on an individual basis." CTR-TIRC MIN000238-0244 at 0241 (US 33023) (O).

277. Like CTR grants-in-aid, CTR Special Projects involved research into epidemiology, laboratory work, and animal experimentation. However, they were regarded by at least one prior Scientific Director of CTR as "soft science," which would not appeal to the CTR SAB. Sommers PD, Arch v. American Tobacco, 7/14/97, 49:7-24; 7/15/97, 215:22-24, 216:2-6.

278. The lawyers who coordinated, requested and monitored CTR Special Projects were not scientists and did not have scientific backgrounds. The lawyers needed to circumvent the CTR SAB method of funding because the SAB evaluated its project-funding requests in part for scientific legitimacy, while the lawyers had litigation and liability objectives foremost in mind for CTR Special Projects. Donald Hoel PD, United States v. Philip Morris, 6/27/02, 58:20-59:19.

279. Indeed, starting in the mid-1960s, Shook, Hardy & Bacon developed smoking and health literature retrieval system within the firm to help the lawyers identify scientists friendly to the tobacco industry's liability positions so that these scientists could receive CTR funding through the CTR Special Projects program. Donald Hoel PD, United States v. Philip Morris, 6/27/02, 61:10-62:7, 62:11, 63:11-20.

280. An April 14, 1967 memorandum from Addison Yeaman, Vice President and General Counsel of B&W, addressed to Frederick Haas, General Counsel for Liggett; Cyril Hetsko, General Counsel for American; Henry Ramm, General Counsel for Reynolds; Paul

Smith, Associate General Counsel for Philip Morris; and Earle Clements, President of the Tobacco Institute, confirmed that many of CTR's research activities were not independent and did not investigate the link between smoking and disease as publicly claimed by the industry: "We have deliberately isolated the SAB from those areas of research which they might consider were of a controversial or adversary nature and I see no reason why that isolation cannot and should not be maintained to the fullest preservation of the scientific integrity and dignity of the SAB, but with the release of funds from the SAB portion of CTR's budget to both research directly related to tobacco and the so-called Special Projects." 670307892-7894 (US 20967) (O).

281. A February 24, 1969 Lorillard memorandum also described the origin of CTR Special Projects: "For a number of years, certain representatives of the industry have felt that the work of the Council [for Tobacco Research] has not been as pertinent to our problems as it might be. . . . In an effort to meet this objection, in 1965 the Council embarked on a program of guided research. . . . In order to finance this phase of their activity, a special projects budget was developed." 044227839-7844 (US 20066) (O).

282. Because of the lawyer involvement and the lack of review by the SAB, CTR Special Projects were not, as had been promised in the Frank Statement, independent research. Janet Brown, in a letter to David Hardy dated June 13, 1974, addressed the issue of CTR's "independence" and the problem with CTR's Special Projects:

> Where the industry is itself the arbiter of the amount and nature of research to be done, however, argument that the research is self-serving – that is, is too little, too late, does not bear reasonable relation to the nature and scope of the problems nor to the industry's market position, sales, profits, advertising expenditures – gain in force and acceptance. Moreover, the industry may have little, if any leeway to disassociate itself from any results of such research with which it does not agree.

03659023-9025 at 9025 (US 87177) (A).

283. A November 17, 1978 memorandum written by Robert Seligman, Vice President of Research and Development of Philip Morris, described a November 15, 1978 meeting attended by Ernest Pepples, General Counsel for B&W; Charles Tucker, General Counsel for Reynolds; Timothy Finnegan, attorney with Jacob, Medinger & Finnegan; William Shinn, attorney with Shook, Hardy & Bacon; Arnold Henson, General Counsel for American; Janet Brown, attorney with Chadbourne & Parke described as retained counsel for CTR; Ivor Wallace Hughes, Vice President of B&W; Alexander Spears, Vice President of Lorillard; James Bowling, Senior Vice President of Philip Morris; Robert Seligman, Vice President of Philip Morris Research and Development; and Thomas Osdene, Director of Research for Philip Morris. At the meeting, Shinn described the history of CTR and CTR Special Projects. Seligman also reported that it was Shinn's feeling that "'[CTR] special projects' are the best way that monies are spent. On these projects, CTR has acted as a 'front'." 2045752106-2110 at 2107 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A).

284. An April 18, 1980 memorandum to file by Arthur Stevens stated: "I concluded that this work [CTR Special Project recipients Kuper and Janis] is potentially useful from a litigation point of view." 01336290-6290 (US 88436) (A).

285. A September 18 1981 letter from Francis Decker, an attorney with Webster & Sheffield, to Joseph Greer, Vice President and General Counsel for Liggett, enclosed his notes from a September 10, 1981 meeting of the Committee of Counsel. Decker's notes described a discussion between Arthur Stevens, General Counsel for Lorillard, and Edwin Jacob, CTR attorney with Jacob, Medinger & Finnegan, noting the differences between CTR Special Projects and Lawyers Special Projects:

> Stevens: "I need to know what the historical reasons were for the difference between the criteria for lawyers' special projects and

> CTR special projects."
> . . .
> Jacob: "When we started the CTR Special Projects, the idea was that the scientific director of CTR would review a project. If he liked it, it was a CTR Special Project. If he did not like it, then it became a lawyers' special project."
> Stevens: "He took offense re scientific embarrassment to us, but not to CTR."
> Jacob: "With Spielberger, we were afraid of discovery for FTC and with Aviado, we wanted to protect it under the lawyers. We did not want it out in the open."

LG2000741-0750 at 0745-0746 (US 36269) (A).

286. A 1984 document prepared by Lee Stanford of Shook, Hardy & Bacon to David Hardy of Shook, Hardy & Bacon, concerning the briefing of Alex Spears of Lorillard for a deposition, discussed CTR Special Projects. The document acknowledged that "[t]hese are initiated and developed through outside counsel (SHB and J&M)." 92456261-6268 (US 21658) (O), (US 75420) (A).

287. A document prepared in or about 1992 titled "Funding Sources of Tobacco Industry Research" noted that CTR Special Projects were "-Research directed at industry problem -Witness development objective -Approved by general counsel -Funded through CTR." 01334642-4655 (US 34528) (O).

288. An April 28, 1992 Wachtell Lipton memorandum from attorney David Murphy to attorneys Herbert Wachtell, Paul Vizcarrondo, Jr., and John Savarese opined about the nature of CTR Special Projects:

> In my overcautious view, the Jensen issue raises a larger question – whether "CTR Special Projects" funds (and after such activities were moved out of CTR, joint industry funds administered through Shook, Hardy) were used to purchase favorable judicial or legislative testimony, thereby perpetrating a fraud on the public. Admittedly, this notion of fraud was unknown to the common law, but if we assume the other side of the looking glass . . . perhaps it is cause for concern.

87715635-5636 (US 21101) (A).

(b) Lawyers' Involvement with CTR Special Projects

289. Attorneys at Jacob, Medinger & Finnegan and Shook, Hardy & Bacon kept the Committee of Counsel apprised of the status of CTR Special Projects and also made recommendations to Defendants' General Counsel and to each other as to whether projects should be conducted through CTR Special Projects. TIMN261386-1387 (US 21288) (A); 1005048374-8374 (US 35939) (A). See also Lisanti PD, Arch v. American Tobacco, 6/10/97, 80:9-81:19, 82:10-19.

290. For example, on May 19, 1967, William Shinn of Shook, Hardy & Bacon, sent a letter to Alexander Holtzman, Philip Morris General Counsel, regarding CTR Special Projects, outlining a proposal to support and publicize research advancing the theory of smoking as beneficial to health as a stress reducer, even for "coronary prone" persons; representing that stress (rather than nicotine addiction) explains why smoking clinics fail; and proposing to publicize the "image of smoking as 'right' for many people . . . as a scientifically approved 'diversion' to avoid disease causing stress." 1005083882-3882 (US 20204) (O).

291. On February 5, 1974, Shinn sent a letter to the following General Counsel: Thomas Ahrensfeld of Philip Morris; DeBaun Bryant of B&W; Frederick Haas of Liggett; Cyril Hetsko of American; Henry Roemer of Reynolds; and Arthur Stevens of Lorillard, stating that "Dave Hardy and I strongly recommend approval of the $50,000 grant for Dr. Carl D. Seltzer's work as a CTR special project" at Harvard University, citing his valuable work underway and published works relating to smoking and health, which were helpful to the industry. 1005108380-8381 at 8381 (US 20209) (A).

292. On June 3, 1986, Patrick Sirridge of Shook, Hardy & Bacon sent a letter to the

following General Counsel: Alexander Holtzman of Philip Morris; Wayne Juchatz of Reynolds; Josiah Murray of Liggett; Ernest Pepples of B&W; Paul Randour of American; and Arthur Stevens of Lorillard, recommending approval for additional funding of Henry Rothschild through CTR Special Projects. 507878840-8840 (US 20802) (A).

293. Such industry attorney recommendations continued from the 1960s through the 1990s. LG2000429 -0430 (US 34067) (A); 1005083560-3561 (US 35991) (A); LG2002513-2514 (US 34076) (A); 1005070386-0387 (US 35981) (A); 1005108380-8381 (US 20209) (A); MNATPRIV00012777-2778 (US 86233) (O); 503655086-5088 (US 20720) (A); 03638976-8979 (US 20060) (A); 03638976-8979 (US 46483) (A); 01335398-5398 (US 26488) (A); 507731976-1976 (US 86273) (A); 521032586-2588 (US 85746) (A); 01335965-5966 (US 26516) (A); 01335571-5571 (US 26498) (A); 03754226-4227 (US 29343) (A); 01338391-8392 (US 26567) (A); 01337575-7576 (US 26552) (A); 1005125797-5798 (US 36097) (O); 505741621-1622 (US 86245) (O); BWX0003772-3773 (US 36199) (O); 503645740-5741 (US 29699) (O); 504339396-9397 (US 29751) (O); BWX0002772-2773 (US 36171) (O); 521030035-0036 (US 30458) (O); 1005125390-5391 (US 36091) (O); BWX0002884-2885 (US 36182) (O); 1005125300-5301 (US 36089) (O); 03747448-7449 (US 29327) (A); ATX9277370208-0209 (US 36233) (O); 503645752-5753 (US 29700) (O); 1005064666-4667 (US 35973) (A); LG2002762-2763 (US 34086) (A); BWX0004202-4202 (US 36222) (O); 507731371-1371 (US 86250) (O); 1005064678-4679 (US 35975) (A); 521032115-2116 (US 30470) (O); 503645128-5129 (US 86251) (O); 1005064711-4712 (US 35977) (A); BWX0003460-3461 (US 36192) (O); 1005064646-4647 (US 35972) (A); 503566273-6274 (US 86253) (O); 521031847-1848 (US 30466) (O); 1005064594-4595 (US 35969) (A); BWX0002886-2887 (US 36183) (O); 503655382-5383 (US 86254) (O); 503655216-5217 (US 86255) (O); BWX0002866-2867 (US

36180) (O); 1005064627-4628 (US 35971) (A); BWX0002893-2894 (US 36185) (O); 503653937-3938 (US 86256) (O); 507731344-1344 (US 29862) (O); 521029712-9713 (US 30451) (O); 1005064547-4548 (US 35967) (A); 503645684-5685 (US 86257) (O); BWX0002888-2889 (US 36184) (O); 521030984-0985 (US 86259) (O); 507734475-4476 (US 86261) (O); 507732105-2106 (US 86262) (O); 507734379-4380 (US 29905) (O); 507731548-1549 (US 86266) (O); 507734458-4458 (US 86267) (O); 507731658-1659 (US 86269) (O); 507731764-1765 (US 86270) (O); 507731469-1470 (US 86271) (A); 507731758-1758 (US 29896) (A); 507731648-1648 (US 29888) (O); 507731575-1576 (US 86275) (A); 507731487-1487 (US 86276) (A); 507731973-1973 (US 86278) (A); 507875993-5993 (US 22692) (A); ATX300010994-0995 (US 22694) (A); 521031106-1107 (US 22696) (A); 01336194-6195 (US 22697) (A); 01338089-8089 (US 22701) (A); LG2000678-0679 (US 22703) (A); 1005064682-4683 (US 35976) (A); 03751975-1976 (US 29340) (A); 03747528-7528 (US 29328) (A); 01336110-6113 (US 26519) (A); 1005064561-4561 (US 35968) (A); 01335579-5579 (US 26499) (A); 2015029385-9385 (US 36639) (O); 01336499-6500 (US 26535) (O); 507877111-7112 (US 88438) (O); 86003017-3018 (US 56084) (A); 01335472-5472 (US 26493) (A); 01338515-8517 (US 26570) (A); 01334899-4899 (US 26474) (A); 01331881-1881 (US 26467) (A); 503655440-5441 (US 29711) (O); 01336191-6192 (US 26522) (A); TLT0270555-0555 (US 85619) (A); 03751370-1372 (US 29331) (A); 01335959-5959 (US 26514) (A); 01335967-5968 (US 26517) (A); 521032312-2314 (US 30472) (O); 1000781727-1727 (US 35321) (A); 1005125129-5130 (US 36084) (O).

294. In-house counsel also made recommendations for CTR Special Projects. On October 3, 1968, Alexander Holtzman of Philip Morris sent a letter to David Hardy of Shook, Hardy & Bacon proposing that Richard Hickey, who had previously applied for funding through

CTR but was denied, receive Special Project funding. On October 21, 1968, Hardy endorsed that recommendation by sending a letter to Frederick Haas of Liggett; Cyril Hetsko of American; Henry Ramm, General Counsel for Reynolds; Paul Smith, General Counsel for Philip Morris; and Addison Yeaman, General Counsel for B&W, by also recommending approval for Hickey as a CTR Special Project. 1005084784-4786 (US 22988) (O); 1005084799-4800 (US 20206) (O).

295. In 1981, Arthur Stevens of Lorillard engaged in extensive correspondence with Patrick Sirridge of Shook, Hardy & Bacon regarding the possibility of establishing an industry relationship with Henry Shotwell. 01349577-9577 (US 86281) (A); 01349576-9576 (US 86282) (A); 01349575-9575 (US 86283) (A); 01349574-9574 (US 86284) (A); 01349557-9557 (US 86285) (A).

296. Similarly, on November 28, 1983, Arthur Stevens, Senior Vice President and General Counsel of Lorillard, sent a letter to Patrick Sirridge of Shook, Hardy & Bacon, inquiring: "Is Binstock someone who might be appropriate for a special project?" 03746232-6232 (US 29322) (A).

297. CTR personnel also recommended that certain projects be funded as CTR Special Projects. For example, on December 24, 1969, Arthur Furst, CTR consultant, sent a letter to David Hardy recommending Special Project funding for Hans J. Eysenck to test the hypothesis of a relationship between the emotional make-up of people and cancer by conducting a pilot study of carcinogenesis in rats bred for differences characteristics. 1005070515-0515 (US 20201) (O).

298. By letter dated May 28, 1970, William Shinn of Shook, Hardy & Bacon advised Holtzman that he now had approval from Philip Morris, Reynolds, and Liggett "with respect to the Hickey Special Project" and that he intended "to call the other General Counsel, if I have not heard from them by then, early next week." 2015031514-1514 (US 20316) (A).

299. According to CTR's Harmon McAllister, after lawyers had initiated a Special Project proposal, "a description of the proposed project and its cost [were] presented to CTR . . . for appraisal by the Scientific Director." McAllister WD, 161:4-18; CTRSP-FILES026162 (JD-090143) (A). Individuals who presented the proposed project description and cost to the CTR Scientific Director included company attorneys, attorneys from Shook, Hardy & Bacon, and attorneys from Jacob & Medinger. McAllister TT, 3/21/05, 16171:22-16172:22. The CTR Scientific Director would then review the Special Project proposal and either approve or reject it. McAllister TT, 3/21/05, 16178:16-24; McAllister WD, 19-25 (discussing "Procedure for Special Projects); CTRSP-FILES012009 (JD-093897) (A). Sheldon Sommers reviewed and approved dozens of Special Project proposals during his tenure as CTR Scientific Director. See, e.g., 01335398-5398 (US 26488) (A); 521032586-2588 (US 85746) (A); 507731976-1976 (US 86273) (A); 804122847-2848 (US 26525) (A); 282002535-2536 (US 28076) (O); 507731658-1659 (US 86269) (O); 521028862-8863 (US 52693*) (A); 804122847-2848 (US 23586) (O); BWX0003460-3461 (US 36192) (O); BWX0003808-3809 (US 36204) (O); see also 503565787-5787 (US 29683) (O); CTR98CONG00067 (US 32516) (O); LWODJ9055269-5270 (US 26015) (O).

300. If approved by the CTR Scientific Director, the proposal was presented to the General Counsels of Defendants Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American who would decide whether to fund it. McAllister WD, 162:8-18; McAllister TT, 3/21/05, 16179:7-16182:2. See also Lisanti PD, Arch v. American Tobacco, 6/10/97, 86:17-87:2. Sometimes, general counsel would advise CTR directly if a project was approved for CTR Special Project funding. For example, on July 22, 1970, Henry Ramm, Senior Vice President and General Counsel of Reynolds, advised Robert Hockett, Associate Scientific Director of CTR,

regarding the "proposed Conference to be held in the West Indies in January 1972, counsel representing Philip Morris, B&W, American Brands, Liggett & Myers and Lorillard which companies together with Reynolds participate in Special Projects have advised that if the Scientific Advisory Board does not approve this project the same can be treated as an approved Special Project." CTRSP-FILES009810-9810 (US 21696) (O); BWX0010831-0840 (US 36244) (O).

301. The proposed conference was approved as a CTR Special Project in October 1970; was held on St. Martin Island on January 12-15, 1972; and was called the Conference on the Motivational Mechanisms of Cigarette Smoking. Among the attendees were A.K. Armitage from Britain's Tobacco Research Council; Robert Hockett, CTR Associate Scientific Director; Henry Ramm, CTR Chairman and President; Gilbert Huebner, Tobacco Institute Medical Director; Marvin Kastenbaum, Tobacco Institute Director of Statistics; and several of the Defendants' research directors, including William Bates of Liggett, I.W. Hughes of B&W, Murray Senkus of Reynolds, Alexander Spears of Lorillard, and Helmut Wakeham of Philip Morris; and several CTR Special Project funding recipients, including Hans Eysenck, Richard Hickey, Hans Selye, and Carl Seltzer. 503654881-4885 (US 88413)(A); 105394371-4388 (US 88414) (O); See US FF § III.E., infra (for additional discussion of the Conference and the subsequent publication of proceedings).

302. In general, however, Defendants' General Counsels would advise attorneys at Jacob, Medinger & Finnegan or Shook, Hardy & Bacon whether or not their companies would agree to fund the recommended CTR Special Projects. The following are but a few examples: American: TLT0960501-0501 (US 87682) (O); ATX300000157-0157 (US 21130) (O). B&W: 521031038-1038 (US 20889) (O); 521028861-8861 (US 52692*) (O); 2050987576-7576 (US

27065) (O); 521031875-1875 (US 30467) (O); 521031322-1325 (US 30463) (O); 521031846-1846 (US 30465) (O); 521029712-9713 (US 30451) (O). Lorillard: 01243259-3259 (US 20041) (A); 01240219-0219 (US 26444) (A); 01334994-4994 (US 26475) (A); 01338114-8114 (US 26565) (A); 01336286-6286 (US 26527) (A); 01338207-8207 (US 26566) (A); 01335922-5922 (US 20045) (A); 80412203-2203 (US 21060) (A); 85171343-1344 (US 22042) (A); 80412199-2199 (US 21059) (A); 91821884-1884 (US 57129) (A); 1240455-0455 (US 26447) (A); 01240436-0436 (US 26445)(A); 01336587-6587 (US 26543) (O); 01336855-6855 (US 26545) (O); 01336555-6555 (US 26541) (O); 00499935-9935 (US 29415) (O); 01335470-5471 (US 26492) (A); 01335522-5522 (US 26495) (A); 01335570-5570 (US 26497) (A); 01335958-5958 (US 26513) (A); 01338086-8086 (US 26564) (O); 01338514-8514 (US 26569) (A); 01336289-6289 (US 26528) (A); 01337806-7806 (US 26556) (A); 01336501-6503 (US 26536) (O); 01336504-6505 (US 26537) (O); 01336190-6190 (US 26521) (A); 01338062-8062 (US 26563) (O); 01337090-7090 (US 26549) (A); 01334735-4735 (US 26469) (A); 01336268-6268 (US 26524) (A); 01336271-6271 (US 26526) (A); 01336959-6959 (US 26546) (A); 01335008-5008 (US 26476) (O); 01335403-5403 (US 86292) (O); 01337994-7994 (US 26562) (A); 01337733-7733 (US 26553) (A); 01337962-7962 (US 26557) (A); 01337543-7543 (US 26551) (A); 01336249-6249 (US 26523) (A); 01336089-6089 (US 26518) (O); 01335396-5396 (US 26486) (A); 01336438-6438 (US 26531) (A); 80412203-2203 (US 21060) (A); 85171343-1344 (US 22042) (A); 80412199-2199 (US 21059) (A); 87598541-8541 (US 56250) (O). Reynolds: 507731453-1453 (US 29876) (A); 503655278-5278 (US 21683) (O); 507731762-1762 (US 20785) (A); 507731377-1377 (US 29865) (O); 507731370-1370 (US 29863) (O); 508371649-1649 (US 86295) (A); 03751438-1439) (US 29332) (A); 507731343-1343 (US 29861) (O); 503645683-5683 (US 29698) (A); 507737625-7625 (US 29912) A); 507731653-1653 (US

22769) (A); 507731427-1427 (US 29871) (A); 50731762-1762 (US 20785) (A); 507731504-1504 (US 51245) (A); 507877123-7123 (US 29923) (A); 507731975-1975 (US 29900) (A); 507731649-1649 (US 29889) (A); 507731757-1757 (US 29895) (A); 507732210-2210 (US 29901) (A); 507731486-1486 (US 29882) (A); 507731727-1727 (US 29893) (A); 507731568-1568 (US 29885) (O); 507731646-1646 (US 29887) (A); 507731972-1972 (US 29899)(A); 507731572-1572 (US 29886) (A). Liggett: 2015031514-1514 (US 20316)(A); LG2002533-2533 (US 21198) (O). Philip Morris: 1005053953-3953 (US 20198) (O); 1005053931-3931 (US 86298) (O). Philip Morris Companies: 2015047160-7160 (US 20326) (O); 2015006925-6925 (US 20310) (O); 2015006923-6923 (US 23047) (O).

303. Once the General Counsels had approved a CTR Special Project, attorneys from Jacob, Medinger & Finnegan or Shook, Hardy & Bacon would advise CTR that the CTR Special Project had been approved. CTR would assign each CTR Special Project a number and the CTR staff would administer and distribute the funds for the CTR Special Project to the recipient or his or her affiliated research institution from a separate bank account maintained solely by CTR to fund CTR Special Projects. For example, on June 27, 1968, Ed Jacob of Jacob, Medinger & Finnegan sent a letter to W.T. Hoyt, Executive Director of CTR, with respect to funding for A. Clifford Barger that had been approved for CTR Special Project funding, and requested: "[W]ould you please assign a CTR SP Number to the project and let me know what that number is." McAllister PD, United States v. Philip Morris, 5/24/02, 92:19-95:3, 136:2-136:7; Donald Hoel PD, United States v. Philip Morris, 6/27/02, 56:9-20, 57:13-18; 515772203-2211 (US 87024) (A); see also McAllister WD, 162:4-18.

304. CTR Special Projects were not part of CTR's general fund budget; CTR's members provided the funding for CTR Special Projects in separate transactions. Each company

– Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American – could decide whether or not to contribute to a particular project. The division of costs, however, were usually based upon the companies' respective market shares and the companies sent their share of a project's cost directly to CTR. CTR personnel often sent letters to the General Counsels of the six companies requesting payments for the CTR "Special Projects Fund." Donald Hoel PD, United States v. Philip Morris, 6/27/02, 66:10-67:10; McAllister WD, 161:14-16; 680305856-5858 (US 30887) (A); CTRSP-FILES026615-6615 (86302) (O); 81616878-6882 (31968) (O).

305. From 1966 to 1990, Defendants contributed the following amounts to CTR Special Projects: American - $2,049,354; B&W - $2,571,354; Lorillard - $1,638,490; Philip Morris - $5,837,923; and Reynolds - $6,029,255. From 1966 to 1975, Liggett contributed approximately $144,000. DXA0630917-1033 at 1024 (US 75927) (A) (CTR Response to First Set of Interrogatories, Schedule C).

306. Letters advising of the funding of a CTR Special Project were sent directly from CTR to the CTR Special Project recipient. CTRSP-FILES010602-0603 (US 32710) (O); CTRSP-FILES011331-1331 (US 32718) (O); CTRSP-FILES011338-1338 (US 32720) (O); CTRSP-FILES007790-7790 (US 32683) (O); McAllister WD, 162:14-15.

307. CTR Special Project recipients were instructed to use an acknowledgment line in publications resulting from CTR Special Project funding different from the acknowledgment line used in publications resulting from CTR grant recipient funding. The ever-so-slightly different acknowledgment line, however, did not disclose that the CTR Special Project research program was undertaken at the specific request of Defendants for predominantly litigation purposes and not vetted by the CTR SAB. McAllister PD, United States v. Philip Morris, 5/24/02, 145:23-149:18.

308. CTR did not include information about CTR Special Project research in its Annual Reports, which were widely distributed to medical editors at newspapers, medical editors for television programs, deans of colleges and universities in the United States, libraries at colleges and universities, college and university grant offices, the CTR board of directors, members of the CTR Scientific Advisory Board, CTR grantees, CTR Class A and B members, and the Tobacco Institute, and contained information about current and terminated grants-in-aid, grantees and their institutions. CTR also did not include information about CTR Special Projects in press releases. McAllister WD, 164:17-24; McAllister TT, 3/21/05,16167:18-16168:12, 16182:3-11; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 55:1-9, 177:14-17.

309. CTR Special Project funding ended sometime around 1990. USX6390001-0400 at 0017 (US 89555) (O) (CTR Response to Request for Admission No. 137). Thereafter, Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American continued to jointly fund self-serving research projects on behalf of the Enterprise through Lawyers Special Accounts, discussed further below. For example, on March 2, 1990, Stevens sent a letter to Patrick Sirridge of Shook, Hardy & Bacon, enclosing a check for $46,461, which represented Lorillard's share of joint funding for Theodor Sterling. Stevens noted "that this is no longer a CTR project, but is now being funded directly by the Companies and administered as a Special Research Project through your firm." 87598486-8486 (US 21096) (A).

310. On March 7, 1990, Wayne Juchatz of Reynolds sent a letter to Sirridge enclosing Reynolds's portion for the continued funding of Sterling. On March 19, 1990, Paul Randour of American also sent a letter to Sirridge indicating approval of the joint funding of Sterling. On July 23, 1990, Ernest Pepples of B&W sent a letter to Sirridge enclosing a check for $65,579, which represented B&W's share of funding for Sterling. Pepples sent another contribution for

Sterling's work in 1991. 87598486-8486 (US 21096) (A); 507731678-1678 (US 29892) (A); ATX300004011-4011 (US 21131) (O); 521100040-0040 (US 20893) (O); 91765001-5001 (US 32125) (A).

311. On September 26, 1990, Patrick Sirridge of Shook, Hardy & Bacon sent a letter to Wayne Juchatz of Reynolds, Josiah Murray of Liggett, Ernest Pepples of B&W, Paul Randour of American, Arthur Stevens of Lorillard, and Charles Wall of Philip Morris concerning funding for Rodger Bick. Sirridge noted that "[f]or over 10 years, Dr. Rodger Bick's research on lung cancer has been supported under a CTR Special Project. Dr. Bick has requested that his support be renewed so that he can continue the work. We recommend that this project be approved in the amount of $40,404.32 and be funded directly by the companies." Philip Morris, Reynolds, B&W, Lorillard, and American all agreed to jointly fund the continued research. 86002659-2661 (US 32046) (A); 507731850-1851 (US 86308) (A); 680712948-2948 (US 30912) (A); 512678317-8317 (US 30044) (A); 2015002794-2794 (US 20307) (A); 507731849-1849 (US 76279) (A); 86002653-2653 (US 32045) (A); 87688005-8005 (US 32060) (A); 91768262-8262 (US 32126) (A).

312. In 1990, the companies continued to fund jointly the work of Alvan Feinstein that had previously been funded as a CTR Special Project on behalf of the Enterprise. ATX300004098-4098 (US 58613) (O); 507731403-1403 (US 29870) (A).

313. By letter dated February 26, 1991, Sirridge requested continued funding from Randour of American and Juchatz of Reynolds for Carl Seltzer, a long-time CTR Special Project recipient. Sirridge advised that B&W, Lorillard, and Philip Morris had already agreed to the continued funding. BWX0003847-3848 (US 36212) (A).

314. In March 1992, Bernard O'Neill of Shook, Hardy & Bacon sent a letter to Wayne

Juchatz of Reynolds, Ernest Pepples of B&W, Paul Randour of American, Arthur Stevens of Lorillard, and Charles Wall of Philip Morris, and copied Steven Parrish of Philip Morris, recommending another extension of joint industry funding of Theodor Sterling, a long-time CTR Special Projects grantee. 2015002947-2955 at 2947-2948 (US 20308)(A).

315. On May 18, 1992, Charles Wall, Vice President and Associate General Counsel of Philip Morris Companies, sent a letter to O'Neill of Shook, Hardy & Bacon enclosing a check representing Philip Morris Companies' contribution to Sterling's research efforts. 2023230770-0770 (US 20384) (A).

(c) Scientists Funded Through CTR Special Projects

316. Documents reflect that the following scientists were funded through the CTR Special Project program: William H. Alban; Austin; Domingo M. Aviado; Roberto Bachi; Claus B. Bahnson; William J. Bair; Clifford A. Barger; Bevilacqua; Cesare Biancifiori; Rodger L. Bick; Herman V. Boenig; Brian Bozelka; Lyman A. Brewer, III; Geoffrey L. Brinkman; Barbara B. Brown; Brunner; Victor B. Buhler; John Robert Carter; Jeffrey N. Clark; Richard C. Clelland; Irven DeVore; Salvatore R. DiNardi; William L. Dunn (Philip Morris); Kurt Enslein; Hans J. Eysenck; Alvan R. Feinstein; T.N. Finley; G.H. Friedell; H. Hugh Fudenberg; Arthur Furst (CTR); Arvin S. Glicksman; Victor Gould; John G. Gruhn; Michael R. Guerin; William H. Gutstein; Frederick Hecht; Norman W. Heimstra; Doris L. Herman; Katherine M. Herrold; Richard J. Hickey; Robert C. Hockett (CTR); Ebbe Curtis Hoff; Freddy Homburger; E. Lee Husting; Duncan Hutcheon; Joseph M. Janis; Alfred Bennett Jenson; William V. Judy; Marvin A. Kastenbaum (Tobacco Institute); Leo Katz; David M. Kissen; Jerome Kleinerman; Suzanne Knoebel; Lawrence L. Kuper; Hiram T. Langston; Mariano LaVia; Leonard A. Lee; Samuel B. Lehrer; Eleanor J. MacDonald; Thomas F. Mancuso; J.H. Manhold; Marcus M. Mason; Neal L.

McNiven; Aldo Misefari; Kenneth M. Moser; Harry Ness; S. O'Shea; Joseph M. Ogura; Ingram Olkin; Oser; Harold Perry; Charles D. Puglia; L.G.S. Rao; Herbert L. Ratcliffe; Vernon Riley; J.B. Roberts; Jay Roberts; Gray Robertson; Lisa Rosenblatt; Henry Rothschild; Linda Russek; Henry I. Russek; John Salvaggio; G.N. Schrauzer; Segi; Carl C. Seltzer; Hans Selye; Lucio Severi; James F. Smith; Louis A. Soloff; Darrel H. Spackman; Douglas H. Sprunt; R. Stankus; Frederick J. Stare; Russell Stedman; Theodor D. Sterling; David A. Sterling; Harold L. Stewart; Guiseppe Teti; Thomas; J.R. Trinidad; James A. Wakefield; John S. Waugh; John Vivian Wells; Carolyn K.Wells; Travis Winsor; George Wolf; Wough; and J. Yerushalmy. 92613920-4198 (US 32132) (O); 2048925665-5704 (US 38726) (O); 503654113-4113 (86310) (O); 503654114-4153 (86311) (O).

(3) Lawyers Special Accounts

317. In addition to CTR Special Projects, Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American also conducted special research projects on behalf of the Enterprise, often referred to as Lawyers Special Accounts, under the guidance of industry lawyers, including the Ad Hoc Committee. Stevens WD, 16:17-17:19, 18:19-19:4; 2045752106-2110 at 2107 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A).

318. Defendants would often fund the same scientist through both CTR Special Projects and through Lawyers Special Accounts. For example, on September 26, 1977, Edwin Jacob sent a letter to Shinn, which enclosed a proposal from L.G.S. Rao. Jacob noted that "it now appears that this research is not appropriate for consideration as a CTR Special Project. Nevertheless, the work is of obvious value. . . . Dr. Rao should be a most effective proponent of some of his views and, under appropriate circumstances, might well be able to provide useful information to a Congressional Committee or other body inquiring into certain aspects of

smoking and health. . . . For these, reasons, I would recommend that we fund Dr. Rao as a special project through Special Account No. 4." 503673274-3275 (US 29716) (O).

319. On September 4, 1986, Patrick Sirridge of Shook, Hardy & Bacon sent a letter to General Counsel Alexander Holtzman of Philip Morris, Wayne Juchatz of Reynolds, Josiah Murray of Liggett, Ernest Pepples of B&W, Paul Randour of Reynolds, and Arthur Stevens of Lorillard, recommending that Richard Hickey receive continued funding: "Because Dr. Hickey no longer has an official university position, we believe it is an appropriate time for his CTR Special Project support to end. However . . . Dr. Hickey [should be paid] for one year, $12,000. The consultancy would be paid from Shook Hardy & Bacon Special Account." 507875961-5962 at 5961 (US 20796) (A).

320. Another example is the multiple source funding for Hans Eysenck, professor at the University of London. Eysenck received CTR Special Project funding after initially applying – and being turned down – for a CTR SAB grant in 1969. Eysenck continued to receive CTR Special Project funding for a number of projects through 1986. Eysenck also received CTR SAB grant funding from 1973 through 1976. And Jacob also recommended to Thomas Ahrensfeld of Philip Morris, Max Crohn of Reynolds, Joseph Greer of Liggett, Arnold Henson of American, Ernest Pepples of B&W, and Arthur Stevens of Lorillard that Eysenck receive funding through Special Account No. 4 in 1978 and 1979. CTRSP-FILES008806-8806 (US 21168) (O); CTRSP-FILES008804-8804 (US 21167) (O); CTRSP-FILES 08799-8799 (US 21165) (O); HK1698002-8002 (US 21473) (O); 507731385-1385 (US 20784) (A); 03747024-7205 (US 21538) (A); 507731387-1388 (US 29868) (A).

321. Lawyers Special Accounts were primarily handled through Special Account No. 3, Special Account No. 4, Special Account No. 5, and separate institutional grants, discussed

below.

(a) Special Account No. 3

322. Special Account No. 3 was not used to fund research, but to coordinate smoking and health databases for use by the members of the Enterprise, especially litigating counsel. Contributors to Special Account No. 3 included: American, B&W, Liggett, Lorillard, Philip Morris, and Reynolds. 682150942-0942 (US 86491) (A); Stevens WD, 20:3-7.

(b) Special Account No. 4

323. From 1969 through at least 1989, American, Philip Morris, Reynolds, B&W, Liggett, and Lorillard contributed to Special Account No. 4, which was used on behalf of the Enterprise for lawyers' special project funding, consultancy fees, and witness expenses. Stevens WD, 16:17-17:19, 18:9-19:4; 80680301-0303 (US 21066) (A); 80680283-0285 (US 21065) (A); 2015028333-8336 (US 20314) (A); 1005122219-2222 (US 20214) (A); 1005122237-2240 (US 20215) (A); 1005122246-2249 (US 20216) (A); 1005122257-2260 (US 20217) (A); 1005122262-2265 (US 20218) (A); 1005122267-2271 (US 20219) (A); 03638929-8931 (US 20059) (A); 2015042056-2059 (US 21862) (A); 2015042069-2072 (US 22949) (A); 507875857-5859 (US 20795) (O); 507876993-6994 (US 20799) (O); 507875832-5834 (US 20794) (O); 507876986-6987 (US 20798) (O); 507875698-5700 (US 22953) (A); ATX140000938-0939 (US 21122) (A).

324. A May 18, 1971 document prepared by Arthur Stevens of Lorillard noted the nature of "Special Account No. 4, which is used for Congressional and regulatory matters." 80680229-0229 (US 31967) (A).

325. A September 19, 1973 document prepared by DeBaun Bryant of B&W stated that Special Account No. 4 "is used to maintain expenses incurred for certain research work such as

that done by Arthur D. Little on multivariate analysis; work performed by witnesses in preparation for Congressional or federal agencies hearings. The following companies contribute equal amounts to this account: American Brands, B&W, Liggett & Myers, P. Lorillard, Philip Morris, Reynolds." 682150942-0942 (US 86491) (A).

326. A December 9, 1977 document prepared by Max Crohn, Assistant General Counsel for Reynolds, further described Special Account No. 4: "Special Account No. 4 has been used to pay expenses and fees connected with expert consultancies and statement preparation." 03638986-8987 (US 86815) (A).

327. A document titled "Special Account No. 4 - funding of Crohn Subcommittee Expenses and General Review" indicated that during a "General Counsel meeting" on January 4, 1978, it was agreed that "Special Account No. 4 could be used for paying fees and expenses of expert witnesses willing to prepare statements or consult." 03658901-8901 (US 20061) (A).

328. A January 27, 1978 memorandum to the file prepared by Arthur Stevens of Lorillard noted that:

> At a Committee of Counsel meeting on January 4, 1978 the future handling of Special Account No. 4 was discussed. Each project to be funded out of Special Account No. 4 will be the subject of specific prior approval by the Committee of Counsel. However, blanket approval was given by the Committee of Counsel for expenditures out of the account not to exceed $10,000 per year, without the need for prior approval. L&M noted that it will participate in the funding of Special Account No. 4 during 1978 only to the extent that it did in 1977 (approximately $40 - $45,000?).

85675219-5219 (US 32009) (A).

329. A February 9, 1978 memorandum from Shinn of Shook, Hardy & Bacon to Thomas Ahrensfeld, General Counsel for Philip Morris; Max Crohn, Assistant General Counsel for Reynolds; Joseph Greer, Vice President and General Counsel for Liggett; Arnold Henson,

General Counsel for American; Ernest Pepples, Vice President and General Counsel for B&W; and Arthur Stevens, General Counsel for Lorillard, stated in part:

> Some of you have asked for additional information concerning funding through Special Account No. 4. This account is administered by Jacob & Medinger and Ed Jacob and I have reviewed the enclosed report. I also enclose a memorandum with regard to funding of projects and would appreciate your advice if you find this to be incorrect in any way. There is probably no need for you to retain those notes once you have satisfied yourself of the current situation.

503655086-5088 at 5086 (US 20720) (A); 503655086-5088 (US 75190) (A).

330. Another 1978 document described the present and future commitments of Special Account No. 4 funds and the procedure for the approval of emergency matters. The list of industry witnesses included: Aviado, Brown, Eysenck, Spielberger, Hine, Ridgon, Seltzer, Rao, Booker, E. Fisher, Valentin, Heimstra, Dunlap, Farris, F. Fisher, Hickey, Moser, Okun, Sterling, Weil, Jones, Bick, Soloff, Kuper, Harvard Medical School (Huber), Stanford Research Institute, Franklin Institute, and the Industry Research Liaison Committee. LG2024193-4196 at 4195 (US 21212) (O); 89694310-4312 (US 32089) (O); 89694319-4325 (US 32091) (O); 89694313-4318 (US 32090) (O).

331. In the 1980s, Defendants Philip Morris, Reynolds, B&W, American, Lorillard, and Liggett, through the law firm of Shook, Hardy & Bacon, contracted with Battelle Laboratories of Columbus, Ohio to conduct studies on tobacco smoke and nicotine in the environment. Special Account No. 4 was used to fund the project. 01348599-8599 (US 87689) (O); 01348503-8503 (US 86316) (O); 01348490-8490 (US 86317) (O); 01348473-8473 (US 86318) (O); 01348483-8488 (US 86319) (O); 01348489-8489 (US 86320) (O); 01348465-8465 (US 86321) (O); 01348315-8315 (US 26580) (O); 502667789-7790 (US 29584) (O); 503673514-3515 (US 29720) (O); 521028996-8997 (US 30443) (O); 01348441-8441 (US

34535) (A); 01348727-8727 (US 86322) (O); 521028981-8982 (US 30442) (O); 503673416-3417 (US 29719) (O); 2010045875-5876 (US 36519) (O); 01346204-6205 (US 34532) (A); 01346206-6208 (US 34533) (O).

332. A February 22, 1980 letter from Arthur Stevens, Senior Vice President-General Counsel of Lorillard, to Timothy Finnegan of Jacob & Medinger and copied to Thomas F. Ahrensfeld, Alexander Holtzman, Max H. Crohn, Joseph H. Greer, Arnold Henson, Ernest Pepples, William W. Shinn, Ed Jacob, and Janet C. Brown acknowledged the reasons for why Special Account No. 4 was used to fund scientists. Stevens stated:

> I am mindful of the continuing mandate with which your office, Shook, Hardy and others have been charged by your respective clients on behalf of the Industry: that is, to find witnesses and researchers – and, if necessary in order to determine the feasibility of developing a relationship with them, engage them as consultants, or as researchers on initially modest projects. . . . [T]his [is an] important aspect of the Industry's work, that is, to attempt to posture ourselves to defend product liability litigation and related attacks on our products.

BWX0004097-4099 (US 36218) (A); 85676690-6692 (US 32012) (A); 1005146510-6512 (US 36118) (A); 01110668-0670 (US 87679) (A); 01335053-5055 (US 26480) (A); 85676690-6692 (US 32012) (A).

333. As with CTR Special Projects, progress and status reports of Lawyers Special Accounts projects were sent to Committee of Counsel members. For example, on March 27, 1980, Edwin Jacob sent a letter to Thomas Ahrensfeld, Max Crohn, Joseph Greer, Arnold Henson, Ernest Pepples, and Art Stevens, enclosing research papers "in part supported by the consultation research funds you have provided to Professor Eysenck through Special Account #4." 521029758-9788 (US 30452) (A).

334. On March 28, 1980, Jacob sent a letter to Thomas Ahrensfeld, Max Crohn, Joseph

Greer, Arnold Henson, Ernest Pepples, and Art Stevens enclosing a progress report from Professor Spielberger, a recipient of Special Account No. 4 funding. 521032463-2496 (US 30476) (A); 500515939-5939 (US 29465) (A); 502822004-2004 (US 29586) (A); 01355540-5540 (US 26583) (A); BWX0002848-2848 (US 36175) (A).

335. On September 10, 1981, a report was prepared on "Meeting of Company Counsel and Ad Hoc Committee Members" which discussed special projects and the Literature Retrieval Division. In it, the following comments were attributed to Edwin Jacob: "These 'special projects' are litigation and hearing oriented," and "Difference between C.T.R. and Special Four (lawyers' projects). Director of C.T.R. reviews special projects – if project was problem for C.T.R., use Special Four. Also, if there are work product claims, need the lawyers' protection . . . done through Special Four because of possibility that C.T.R. would be subpoenaed." The comments, "Concerned that science has become diluted and secondary to lawyers' advocacy interests," were attributed to Stevens of Lorillard. Thomas Bezanson of Chadbourne & Parke also prepared a memorandum regarding the September 10, 1981 meeting. 2023918181-8185 at 8181(US 20397) (A); 2045752086-2093 (US 20466) (A); ATX9275490271-0280 (US 36231) (A).

336. A January 10, 1983 chart demonstrates that Defendants jointly funded through Special Account No. 4 both consultancies (listed were Domingo Aviado, Theodore Blau, Walter Booker, Marc Micossi, Ragner Rylander, Carl Seltzer, and Murray Senkus of Reynolds) and research projects (listed were Battelle Columbus Laboratories, Melvin First, Arthur Furst, Nancy Mello and Jack Mendelson, L.G.S. Rao, and Charles Spielberger). This chart was sent on January 11, 1983, by Patrick Sirridge of Shook, Hardy & Bacon to Joseph Greer, General Counsel for Liggett; Arnold Henson, General Counsel for American; Alexander Holtzman, General Counsel for Philip Morris; Ernest Pepples, General Counsel for B&W; Arthur Stevens,

General Counsel for Lorillard; and Samuel Witt, General Counsel for Reynolds. LG2002618-2626 (US 21200) (A); LG2002617-2617 (US 21199) (A); 1005061636-1636 (US 35962) (A); 1005061637-1645 (US 35963) (A).

337. Special Account No. 4 was first administered by Jacob & Medinger and then by Shook, Hardy & Bacon starting in 1986. Attorneys from both firms would periodically request contributions from Philip Morris, Reynolds, American, B&W, Lorillard, and Liggett. The companies were also sent accountant's reports regarding the activity in the account. 507877173-7174 (US 20800) (A); 507877176-7176 (US 29925) (A); 680302487-2487 (US 30885) (A); 86002376-2377 (US 32044) (A).

338. In 1986, Shook, Hardy & Bacon reminded Committee of Counsel members that "[y]ou will recall that Special Fund 4 also is used to cover certain witness development expenses incurred by national litigation counsel." 507877173-7174 at 7173 (US 20800) (A).

339. General Counsel from Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American and lawyers from Jacob, Medinger & Finnegan and Shook, Hardy & Bacon made recommendations with respect to the funding of Special Account No. 4 projects. For example, on February 9, 1978, William Shinn of Shook, Hardy & Bacon sent a letter to Thomas Ahrensfeld, General Counsel of Philip Morris; Max Crohn, General Counsel of Reynolds; Joseph Greer, General Counsel of Liggett; Arnold Henson, General Counsel of American; Ernest Pepples, General Counsel of B&W; and Arthur Stevens, General Counsel of Lorillard, recommending the approval of funding for Hans Eysenck through Special Account No. 4. 03638976-8979 (US 46483) (A).

340. On February 12, 1982, Pepples sent a letter to Patrick Sirridge of Shook, Hardy & Bacon, recommending the renewal of an annual grant to Arthur Furst be paid from Special

Account No. 4. 521029995-0008 (US 20887) (A).

341. Such industry attorney recommendations lasted from at least the 1960s through at least the 1980s. 01335056-5057 (US 26481) (A); 01347171-7172 (US 26579) (A); 01346134-6135 (US 26577) (A); 1005125796-5796 (US 36096) (A); 1005125153-5154 (US 36085) (A); 1005047922-7923 (US 35938) (A); 1005064674-4674 (US 35974) (A); 1005064613-4613 (US 35970) (A); 03751441-1442 (US 29333) (A); 80411597-1598 (US 31961) (A); 86002656-2656 (US 56082) (A); 86002593-2594 (US 56081) (A).

342. General Counsel from Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American advised Jacob & Medinger and/or Shook, Hardy & Bacon whether or not their companies would contribute to the Special Account No. 4 project as the following examples confirm. American: ATX30 0011154-1154 (US 21132) (O). B&W: 521029215-9222 (US 30445) (O); 521029280-9285 (US 30446) (O). Lorillard: 85674693-4693 (US 23013) (A); 01331861-1861 (US 26464) (A); 85678849-8849 (US 32022) (A); 86002657-2658 (US 56083) (A); 01335102-5102 (US 26483) (A); 01335447-5447 (US 26489) (A); 01346076-6076 (US 26574) (A); 01338970-8970 (US 26573) (A); 01335086-5086 (US 26482) (A). Reynolds: 502499420-9420 (US 21720) (O). Liggett: 507875702-5702 (US 21648) (A). Philip Morris: 2010047953-7953 (US 21483) (O); 503688635-8635 (US 86344) (A).

343. Documents reflect that, at a minimum, the following individuals and organizations received funding through Special Account No. 4 beginning in the 1960s and ending in the 1990s: Able-Lands, Inc.; Lauren Ackerman; ACVA Atlantic Inc.; George Albee; Aleph Foundation; Arthur D. Little, Inc.; Aspen Conference; Atmospheric Health Sciences; Domingo Aviado; James Ballenger; Alvan L Barach; Walter Barker; Broda O. Barnes; Battelle Columbus Laboratories; Battelle Memorial Institute; Walter Becker; Peter Berger; Rodger L.

Bick; Billings & Gussman, Inc.; Richard Bing; BioResearch Laboratories; Theodore Blau; Irvin Blose; Walter Booker; Evelyn J. Bowers; Thomas H. Brem; Lyman A. Brewer, III; Brigham Young University; Oliver Brooke; Richard Brotman; Barbara B. Brown; K. Alexander Brownlee; Katherine Bryant; Victor B. Buhler; Thomas Burford; J. Harold Burn; Marie Burnett; Maurice Campbell; Carney Enterprises, Inc.; Duane Carr; Rune Cederlof; Domenic V. Cicchetti; Martin Cline; Code Consultants Inc.; Cohen, Coleghety Foundation, Inc.; Colucci, & Associates, Inc.; Computerland; W. Clark Cooper; A. Cosentino; Daniel Cox; Gertrude Cox; CTR; Geza De Takato; Bertram D. Dimmens; Charles Dunlap; Henry W. Elliott; Engineered Energy Mgt. Inc.; Environmental Policy Institute; J. Earle Estes; Frederick J. Evans; William Evans; Expenses related to Congressional Hearings in Washington D.C.; Hans J. Eysenck; Eysenck Institute of Psychiatry; Jack M. Farris; Sherwin J. Feinhandler; Alvan R. Feinstein; Herman Feldman; Edward Fickes; T. Finley; Melvin First; Edwin Fisher; R. Fisher; Merritt W. Foster; Richard Freedman; Herbert Freudenberger; Fudenberg; Arthur Furst; Nicholas Gerber; Menard M. Gertler; Jean Gibbons; Carl Glasser; Donald Goodwin; B. Greenberg; Alan Griffen; F. Gyntelberg; Harvard Medical School; Hearings-Kennedy-Hart Bill; William Heavlin; Norman Heimstra; Joseph Herkson; Richard J. Hickey; Carlos Hilado; Charles H. Hine; Hine, Inc.; Harold C. Hodge; Gary Huber; Wilhelm C. Hueper; Darrell Huff; Duncan Hutcheon; Industry Research Liaison Committee; Information Intersciences, Inc.; International Consultancy; International Technology Corporation; International Information Institute, Inc.; J.B. Spalding Statistical Service; J.F. Smith Research Account; Jacob, Medinger & Finnegan; Joseph Janis; Roger Jenkins; Marvin Kastenbaum; Leo Katz; Kirschbaum; Kravetz Levine & Spotnitz; Lawrence L Kuper; Mariano La Via; H. Langston; William G. Leaman; Michael Lebowitz; Samuel B. Lehrer; William Lerner; Edward Raynar Levine; G.J. Lieberman; S.C. Littlechild;

Eleanor Macdonald; Thomas Mancuso; Nathan Mantel; R. McFarland; Meckler Engineering Group; Milton Meckler; Nancy Mello; Jack Mendelson; Michigan State University; Marc Micozzi; Irvin Miller; K. Moser; Albert Niden; Judith O'Fallon; John O'Lane; William Ober; J.H. Ogura; Ronald Okun; Ingram Olkin; Thomas Osdene (Philip Morris); Peat, Marwick Main & Co.; Thomas L. Petty; Pitney, Hardin & Kipp; Leslie Preger; Walter J. Priest; R. Proctor; Terrence P. Pshler; Public Smoking Research Group; R.W. Andersohn & Assoc.; L.G.S. Rao; Herbert L. Ratcliffe; Attilio Renzetti; Response Analysis Project; Response Analysis Consultation; R.H. Rigdon; Jay Roberts; Milton B. Rosenblatt; John Rosencrans; Walter Rosenkrantz; Ray H. Rosenman; Linda Russek; Henry Russek; Ragnar Rylander; George L. Saiger; D.E. Sailagyi; I. Richard Savage; Richard S. Schilling; Schirmer Engineering Corp.; S. Schor; G.N. Schrauzer; Charles Schultz; John Schwab; Carl L. Seltzer; Murray Senkus (Reynolds); Paul Shalmy; R. Shilling; Shook, Hardy & Bacon; Henry Shotwell; Allen Silberberg; N. Skolnik; JF Smith; Louis A. Soloff; Sheldon C. Sommers (CTR); JB Spalding; Charles Spielberg; Charles Spielberger; Lawrence Spielvogel; St. George Hospital & Medical School; Stanford Research Institution Project; Russell Stedman; Arthur Stein; Elia Sterling; Theodor Sterling; Thomas Szasz; The Foundation for Research in Bronchial Asthma and Related Diseases; The Futures Group; Paul Toannidis; Trenton, New Jersey Hearings; Chris P. Tsokos; University of South Florida; Helmut Valentin; Richard Wagner; Norman Wall; Wayne State University; Weinberg Consulting Group; Roger Wilson; Wisconsin Alumni Research Foundation; Jack Wiseman; George Wright; John P. Wyatt; J. Yerushalmy; and Irving Zeidman. 01347232-7243 (US 75293) (O); 03638929-8931 (US 20059) (A); 03746309-6316 at 6313 (US 85355) (O); 03746320-6331 at 6327 (US 75305) (A); 86002410-2413 (US 85716) (A); ATX140000938-0939 (US 21122) (A); 507875698-5700 (US 22953) (A); 507875832-5834 (US

20794) (O); 507875857-5859 (US 20795) (O); 507876993-6994 (US 20799) (O); 1005122219-2222 (US 20214) (A); 1005122237-2240 (US 20215) (A); 1005122262-2265 (US 20218) (A); 1005122267-2271 (US 20219) (A); 2015028333-8336 (US 20314) (A); 1005122246-2249 (US 20216) (A); 1005122257-2260 (US 20217) (A); 2010047954-7955 (US 86358) (O); 2015041994-1997 (US 36654) (A); 2015042056-2059 (US 21862) (A); 2015042069-2072 (US 22949) (O); 507876986-6987 (US 20798) (O); 80680283-0285 (US 21065) (A); 80680301-0303 (US 21066) (A); 86002393-2396 (US 86359) (A).

(c) Special Account No. 5

344. Another avenue for joint research activity undertaken by the Enterprise was the research supported through Lawyers Special Account No. 5. In a memorandum dated November 8, 1978 to Thomas Ahrensfeld of Philip Morris; Joseph Greer, Liggett; Arnold Henson, American; Ernest Pepples, B&W; Henry Roemer, Reynolds; and Arthur Stevens, Lorillard, and copied to Janet Brown of Chadbourne & Parke; DeBaun Bryant, B&W; Max Crohn, Reynolds; Alexander Holtzman, Philip Morris; Lester Pollack, Lorillard; and William Shinn of Shook, Hardy & Bacon, Edwin Jacob of Jacob & Medinger enclosed a two-year, $400,000 research proposal from Alfred M. Freedman and Richard Brotman. Jacob advised, "Janet Brown, Bill Shinn and I have discussed this proposal with [Brotman and Freedman]. We recommend its approval." The Brotman/Freedman project, related to defining risks and "unhealthy" behavior, was designated by counsel as Special Account No. 5. 521029470-9485 (US 30450) (A); 03639217-9217 (US 29290) (A); 682070027-0027 (US 36145) (A); 03746884-6884 (US 29324) (A).

345. The Brotman/Freedman project was also discussed at the June 1982 Committee of Counsel meeting. By memorandum dated July 15, 1982 addressed to Joseph Greer, Arnold

Henson, Alexander Holtzman, Ernest Pepples, Arthur Stevens, and Samuel Witt and copied to Janet Brown and William Shinn, Chester Wrobleski of Jacob, Medinger & Finnegan provided an updated proposal of the Brotman/Freedman project. LG2006022-6023 (US 34087) (A); 521029470-9485 (US 30450) (A); 511083098-3099 (US 86360) (A); 1005125293-5294 (US 36088) (A).

346. In July 1982, Arthur Stevens of Lorillard sent the updated Brotman/Freedman proposal to Lorillard scientist Alexander W. Spears for review. In his assessment, Spears opined that the Brotman/Freedman proposals were of "little potential value to this Industry," but acknowledged that there would be value "in the area of Brotman's and Freedman's value as witnesses in legislative proceedings." Lorillard participated in the joint funding of the first phase of the project, but did not participate in the second phase. Stevens WD, 16:17-17:3; 01335523-5523 (US 26496) (A); 01335522-5522 (US 26495) (A); 521029470-9485 (US 30450) (A); 01335521-5521 (US 26494) (A).

347. The Brotman/Freedman project was approved in 1982 by four of the Defendants: American, Reynolds, Philip Morris and B&W and ran through the mid-1980s. 521029470-9485 (US 30450) (A); 86002376-2377 (US 32044) (A).

(d) Institutional Grants

348. Lawyers Special Accounts were also used to pay for the institutional grants funded by Philip Morris, Reynolds, Lorillard, Liggett, B&W, and American. Defendants funded projects at Harvard University, University of California Los Angeles ("UCLA"), and Washington University. Stevens WD, 19:7-15.

349. Defendants used institutional grants to promote self-serving research. This was described in a November 17, 1978 memorandum prepared by Robert Seligman, Vice President of

R&D of Philip Morris. Seligman reported that at the meeting Shook, Hardy & Bacon attorney William Shinn had stated: "CTR began to lose their luster in the mid-60's and the tobacco industry looked around for more beneficial ways to spend their research dollars on smoking and health. It was at this time that special projects were instituted at Washington University, Harvard University, and UCLA. . . . [T]he industry received a major public relation 'plus' when monies were given to Harvard Medical School." 2045752106-2110 at 2107 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A).

350. The institutional grants given to Harvard, UCLA, and Washington University were also discussed at an August 8, 1974 meeting of the Industry's Research Support Planning Committee (also known as the Research Liaison Committee), which was attended by Cyril Hetsko, General Counsel for American; Curtis Judge, President of Lorillard; William Bates, Assistant Director of Research for Liggett; Clifford Goldsmith of Philip Morris; Henry Roemer, General Counsel for Reynolds; William Kloepfer, Senior Vice President of the Tobacco Institute; Horace Kornegay, President of the Tobacco Institute; William Gardner, CTR's Scientific Director; Leonard Zahn, CTR's public relations counsel; and David Hardy, attorney with Shook, Hardy & Bacon. The minutes stated: "The breadth of coverage of these grants exceeds the areas covered by the CTR-SAB in at least two instances. The duration of support and the flexibility of budgeting and of program are greater than with the CTR program. The staff of CTR has offered to exchange information with two of the institutional grants and has done so with one through several contacts." CTR98CONG01187-1189 at 1188-1189 (US 21137) (O).

351. Defendants' institutional grant at Washington University in St. Louis was to research the immunologic aspects of cancer. 2045752106-2110 at 2107 (US 20467) (A); 1003718428-8432 at 8429 (US 35902) (A); 01338888-8888 (US 26572) (A); 521033382-3383

(US 30478) (O); 521033485-3486 (US 30479) (O).

352. Defendants' institutional grant at Harvard University was under the direction of Gary Huber. Funding began in 1972, and the participating companies were Defendants American, B&W, Liggett, Lorillard, Philip Morris, Reynolds, along with Larus & Brother, Tobacco Associates, and United States Tobacco. Arnold Henson of American acknowledged that one of the main reasons for the Harvard project was "the PR value of the Harvard name." ZN25950-5956 (US 64794) (O); 955030735-0737 (US 86365) (O); BWX0004364-4375 (US 36228) (A); 968003136-3137 (US 25857) (A); 961016507-6508 (US 25854) (O); 1000207774-7775 (US 26078) (O); 2015057132-7132 (US 86366) (O); 980076941-6942 (US 86367) (A); BWX0004364-4375 (US 36228) (A); 1005053856-3856 (US 20197) (O); 86001059-1071 (US 86369) (O); 968003658-3666 (US 25860) (O); 961017594-7594 (US 86370) (O); 968003658-3666 at 3665 (US 25860) (O); 502026481-6487 (US 29549)(O); 2010048605-8606 (US 36525) (O); 100371866-8669 (US 35905) (O); 2010048831-8834 (US 36526) (O); 961017379-7379 (US 86371) (O); 680260639-0642 (US 30860) (O); 961000834-0834 (US 32366) (Confidential) (O); 01335777-5778 (US 26508) (O); 01335779-5779 (US 26509) (O); 01335794-5794 (US 86374) (O); 01335789-5789 (US 26510) (O); 01347161-7161 (US 86375) (O); 503646200-6200 (US 29701) (O); 01335767-5772 (US 26506) (O); 01335774-5774 (US 26507) (O); 01335761-5764 (US 26505) (O); 980078407-8411 (US 25865) (O). See US FF § III.A(1), infra (for discussion of the Harvard/Huber research).

353. Joint funding at UCLA began in 1974, and the participating companies were Defendants Philip Morris, Reynolds, and B&W, along with United States Tobacco and Tobacco Associates. ZN25950-5956 (US 64794) (O); TIMN217740-7743 (US 62720) (O); TIMN217738-7739 (US 62719) (O).

E. Committees

(1) Research Review Committee, Research Liaison Committee, and Industry Research Committee

354. In February 1974, a consensus had developed among Enterprise members that an industry committee should be established to review Defendants' support of medical research and to make recommendations as to the future course Defendants' support should take. In fact, at a CTR meeting, Lorillard, through its President Curtis Judge, only agreed to participate in an increased budget for CTR on the condition that there be a review of industry research. BWX0007549-7588 (US 86832) (A); ARU1130828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 23, at 72-75).

355. One set of suggested guidelines from the mid-1970s for an Industry Committee for the Review of Industry's Overall Independent Scientific Research Effort was: (1) to reconsider the CTR research program, both SAB grants and Special Projects; (2) to reconsider non-CTR research projects undertaken by one or more individual tobacco companies; and (3) to consider the establishment of a means of coordinating the research undertaken in (1) and (2). 2015040937-0938 (US 20322) (O); 2015040955-0955 (US 20323) (O); TIOK0032723-2724 (US 63004) (O); 2015057143-7144 (US 87693) (O); 03659038-9039 (US 29304) (A); 2015057135-7136 (US 86379) (O); 2015057134-7134 (US 86380) (O); 2010070308-0308 (US 86381) (O); 2015040955-0955 (US 20323) (O); 2015057145-7150 (US 86384) (O); CTRMM015322-5327 (US 79854) (O).

356. William Smith, Chairman of the Tobacco Institute's Executive Committee, wrote in April 1974, that agreement had been reached with each of the major manufacturers as to their representative on the "committee to study the research programs funded by our industry, both through CTR and independent projects." Smith reported that David Hardy of Shook, Hardy &

Bacon would chair the committee; Horace Kornegay and William Kloepfer would represent the Tobacco Institute; and William Gardner and Leonard Zahn would represent CTR. Smith stated that the members of the committee were charged with the responsibility for studying industry research programs and research projects funded outside of CTR, such as those at Harvard, Washington University, and UCLA, and reporting their recommendations to the chief executives of the six major cigarette companies - American, B&W, Liggett, Lorillard, Philip Morris, and Reynolds. Meetings of the Industry Research Committee were held beginning on May 7, 1974. After meeting several times in 1974, the committee recommended that a Research Liaison Committee be appointed to serve indefinitely to achieve "a coordinated and informed overview of all industry research." CTRMN015328-5329 (US 21600) (A); ZN22613-2614 (US 64796) (O); 03659035-9036 (US 29303) (A); LWODJ9055585-5585 (US 26006) (Confidential) (O); LWODJ9055586-5587 (US 26007) (Confidential) (O); LWODJ9055585-5585 (US 26006) (Confidential) (O); LWODJ9055586-5587 (US 26007) (Confidential) (O); BWX0007549-7588 (US 86832) (A); 03659013-9016 (US 29300) (A); LWODJ9055779-5781 (US 26008) (Confidential) (O); LWODJ9055531-5532 (US 26009) (Confidential) (O); 2015040862-0863 (US 36652) (O); ZN22408-2408 (US 86391) (O); CTR98CONG01187-1189 (US 21137) (O); 03540217-0225 (US 22294) (A); LWODJ9055501-5505 (US 25957) (Confidential) (O); 03659013-9016 (US 29300) (A).

357. The Research Liaison Committee was approved at a meeting of the Tobacco Institute on October 3, 1974, as a successor to the Research Review Committee which had been established in April 1974. The newly formed Research Liaison Committee existed through early 1978. The aims and functions of the Research Liaison Committee were to devise and implement fiscal and peer review for institutional grants, and to consider and make recommendations with

respect to proposals for institutional and other research projects in light of total industry and other research effort. Members of the Research Liaison Committee were encouraged to attend meetings with CTR in order to keep informed of CTR plans and projects. Stevens WD, 29:8-19; Zahn PD, Cipollone v. Liggett, 12/16/86, 138:2-139:24, 148:12-16; Zahn PD, Cipollone v. Liggett, 12/17/86, 208:20-209:1; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 106:11-22, 114:14-115:4; Zahn PD, Richardson v. Philip Morris, 12/16/98, 375:3-10; Kornegay PD, Cipollone v. Liggett, 8/17/94, 196:25-201:2, 208:10-212:18, 213:8-217:8; LWODJ9055332-5332 (US 25953) (Confidential) (O); BWX0007549-7588 (US 86832) (A); BWX0002609-2611 (US 36165) (O); ARU113 0828-0904 (US 86773) (A) (CTR Response to Interrogatory No. 23, at 72-75); 2015057125-7125 (US 86400) (O); 955002251-2251 (US 32354) (A); 01404441-4441 (US 86401) (A); 70124410-4414 (US 31512) (O); 1003719192-9192 (US 35906) (O); 503673145-3146 (US 86405) (A); 1003719175-9179 (US 86406) (O); PM010430-0437 (US 86408) (O); 1003712682-2688 (US 86409) (O); 1000255997-6001 (US 20086) (O).

358. At its January 1975 meeting, the Research Liaison Committee decided that the expenses of considering the feasibility of research projects and proposals would be funded through the CTR Special Project fund and funded by those companies agreeing to the research study. The Committee also decided that participating companies would pay for the auditing expenses for the institutional projects at Harvard, UCLA, and Washington University, and discussed problems created by Henry Meadows, attorney for Harvard Medical School, regarding funding obligations for the Harvard/Huber research project. BWX0002613-2614 (US 36166) (O); BWX0007549-7588 (US 86832) (A).

359. A report dated November 19, 1977, written by Janet Brown, attorney for American from Chadbourne & Parke, summarized the activity of the Research Liaison

Committee from its inception as the Research Review Committee in April 1974 through 1977. Brown advised that American might wish to maintain a representative on the Research Liaison Committee after the departure of American's representative on the committee, Cyril Hetsko. BWX0007549-7588 (US 20286) (A).

360. In 1978, the budget and direction of the CTR was again an area of concern for Defendants. Accordingly, Defendants proposed that a new committee be convened again "to take up the general question of what kind of research the industry should be into through CTR or elsewhere." A Lorillard document dated April 21, 1978, also articulated the need for a new committee: "We have again 'abdicated' the scientific research directional management of the Industry to the 'Lawyers' with virtually no involvement on the part of scientific or business management side of the business." Industry representatives held meetings and reported to the companies' General Counsel. The name of this new committee was the Industry Research Committee, which essentially performed the same functions as the prior Research Liaison Committee. 01346204-6205 (US 34532) (A) (emphasis in original); Stevens WD, 29:20-38:15; 95539849-9850 (US 56829) (A); TIOK0032721-2722 (US 63003) (A); 03537201-7201 (US 86411) (O); 680252124-2125 (US 30859) (O); 03638976-8979 (US 20060) (A); BWX0007531-7548 (US 36238) (O).

361. An internal B&W letter from Ernest Pepples, Vice President and General Counsel, to Joseph E. Edens, Charles I. McCarty, I.W. Hughes and DeBaun Bryant dated April 4, 1978, discussed the new committee. Pepples reported: "That Committee, as you know, has a number of disciplines and attitudes represented including research and development, public relations, legal and one EEO (Curt Judge). It is the proper place to take up the general question of what kind of research the industry should be into through CTR or elsewhere. It can also deal

with the issue of contract research versus grant research." 680212421-2423 (US 54024) (A); 682338651-8653 (US 22899) (O).

362. The Industry Research Committee held a meeting on November 6, 1978. In attendance were: Ernest Pepples, B&W; Charles Tucker, Reynolds; Arnold Henson, American; Janet Brown, attorney with Chadbourne & Park; James Bowling, Philip Morris; Edwin Jacob, attorney for CTR; and Donald Hoel, attorney with Shook, Hardy & Bacon. An even larger meeting was held on December 13, 1978, and meetings continued throughout 1979, 1980 and 1981 which were attended by Defendants' representatives and industry attorneys. With respect to the direction and role of CTR, "[i]t was agreed that the CTR role would be one of basic research into the disease areas that have been statistically associated with smoking. CTR would not, however, engage in research designed to test the effects of tobacco smoke or tobacco products in animal or human systems." Clearly, the coordination of oversight and the direction of industry research was a constant and consistent concern for members of the Enterprise for decades. Stevens WD, 29:20-36:9; 2075318262-8268 (US 43667) (A); 1000041870-1876 (US 35102) (O); 03677101-7103 (US 29313) (A); 03754196-4198 (US 29342) (A); 521032356-2357 (US 31474) (A); 01346193-6196 (US 20046) (A); 01346186-6186 (US 26578) (O); 01346656-6656 (US 86416) (O); 80419203-9203 (US 21062) (O).

(2) Industry Technical Committee

363. TIRC designated the research directors of its tobacco company members as the Industry Technical Committee ("ITC") in January 1954. The research directors on the first ITC included representatives from American, B&W, Lorillard, Philip Morris, and Reynolds. JH000395-0400 (US 21178) (O); TLT0901400-1410 (US 88187) (A); see also USX6390001-0400 at 0011 (US 89555) (O) (CTR Response to Request for Admission No. 109).

364. After the TIRC SAB was in place, the ITC provided technical information to the SAB concerning tobacco, its constituents, and other matters. The chairman of the ITC was invited to sit in on all SAB meetings in order to ensure coordination between the SAB and ITC. Members of the ITC attended SAB meetings and answered questions from the SAB. Zahn PD, Cipollone v. Liggett, 12/16/86, 107:2-11, 107:20-108:23, 113:6-8, 114:6-9; Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 77:4-18; CTRMIN-SAB000001-1061 at 0002 (US 21146) (O); CTRMIN-SAB000001-1061, 70011735-1757 (JD-090960) (A); CTRMIN-ITC000009-0011 (JD-95519) (A); ATX300000015-0017 (US 21129) (O); CTRMN039046-9106 (JD-092825) (A); 500500320-0323 (US 20633) (O); 955036231-6240 (US 32364) (O); 950148087-8088 (US 32347) (O); 507079688-9689 (US 29831) (A).

365. At a 1967 ITC meeting held at CTR, with representatives present from CTR, Chadbourne & Parke, Liggett, American, B&W, Reynolds, Lorillard and Philip Morris, Osdene of Philip Morris reported that "Dr. Hockett stated that CTR is moving into an era of active collaboration with the industry and they wish to make the technical committee more effective by including biologists. . . . Programs will be developed in which Hockett wishes to use the industry technical committee people to give advice which will go into the development of plans for submission to the SAB. C.C. Little would like to meet with this committee either before or after the SAB meeting. He feels that this would be an opportunity to build a creative future and that CTR would move with more speed." 682011463-1466 (US 86418) (O); 1001609316-9320 (US 86419) (O).

366. A subsequent 1967 meeting was called to "organize the Industry Technical Committee." Present again at the meeting were representatives from CTR, American, B&W, Reynolds, Lorillard, Philip Morris, and Chadbourne & Parke. "It was stated that the Scientific

Advisory Board and the C.T.R. staff [were] desirous of obtaining the regular and organized assistance of the industry technical group. Functions of the ITC [were]: 1. To bring its technical know-how to bear on problems in which it is desired. 2. To assist the staff. 3. Make suggestions. . . . While the makeup of the I.T.C. has usually consisted of the Research Directors of the various participating companies, it was recognized that any company could designate whomever it wished as I.T.C. member." ATX300008549-8551 (US 58614) (O).

367. In 1967, there was also some discussion about

LWDOJ8020110-0114 (US 34120) (Confidential) (O).

368. A meeting of the ITC was held on April 26, 1968, at the CTR office in New York and was called specifically by W.T. Hoyt of CTR on behalf of the CTR staff. Representatives from CTR, B&W, Lorillard, Philip Morris, Reynolds, and American attended the meeting. The meeting was called "to hear presentations by the CTR-staff of the contract research program being proposed by Mason Research Institute," which was to involve large-scale, long-term mouse inhalation experiments. 955033996-4012 (US 32363) (O). It was noted that "a) the contract status as proposed represents a significant change of 'tact'. b) the proposed program represents very considerable increase in costs and outlay. c) and therefore, this entire program may represent a significant 'departure from CTR plans and policy.'" 955033996-4012 (US 32363) (O).

369. In describing the background for the Mason contract, Arthur W. Burke of

American reported that the CTR staff had taken an interest in inhalation toxicology ten years prior:

> About this time the CTR-staff began to visit the various grantees to learn what was forthcoming from their studies, and on a visit to the Leuchtenbergers' laboratory learned that evidence was accumulating that adenocarcinomas of mouse lung were occurring with smoke inhalations. . . . 'Since foes of Industry might snatch-up such preliminary findings and misuse the information, the CTR-staff entertained a limited project at Mason Research Institute, the purpose of which would be to set-up and compare the operation of several animal exposure-smoking machines in one place and at one time, using the same mouse strain, etc. – in short to study the smoking machines per se. This work was initiated at Mason about one year ago.' In the course of these machine evaluations, Mason noted some deficiencies in some of these machines, and the 'CTR recognized that they were piddling in some dangerous areas.'

955033996-4012 (US 32363) (O) (emphasis in original).

370. At an October 25, 1968 ITC meeting, there was also a discussion of the relationship between the ITC and the CTR Scientific Advisory Board. "Hoyt voiced the opinion that the SAB is considering 'more targeted research with closer CTR staff monitoring which would be in a) academia by grants, and b) other places by contract - where necessary'." 955036231-6240 (US 32364) (O).

371. In a 1970 report, the Defendants' research directors – Helmut Wakeham of Philip Morris; Preston Leake of American; Alexander Spears of Lorillard; Murray Senkus of Reynolds; William W. Bates of Liggett; and I.W. Hughes of B&W – expressed their displeasure with CTR's research program, its focus on studies of diseases that were associated with smoking, its defensive posture, and its lack of guidance for future strategy of the tobacco industry in the area of smoking and health. The report offered opinions as to how CTR might become more effective as an instrument for the good of the tobacco industry. 1002636362-6365 (US 22998) (A).

372. In the 1960s, the ITC did assist the Tobacco Institute, and ITC members were

encouraged to attend meetings at the Tobacco Institute. An ITC meeting at the Tobacco Institute was called "to discuss the possible implications of a $50,000 grant from National Institutes of Health to the F.T.C. laboratory to develop a smoking machine capable of carbon monoxide analysis." Present at the meeting were representatives of Liggett, American, Reynolds, Lorillard, Philip Morris, B&W, Covington & Burling, and the Tobacco Institute. There was much concern over the possibility that the FTC intended to publish brand carbon monoxide levels. The attendees suggested that Defendants be ready to demand public hearings on methodology and be prepared to "counteract the increasingly irrational public image being drawn by anti-smoking forces" on carbon monoxide hazard. TIMN0134876-4877 (US 65574) (O); 950148089-8091 (US 32348) (O).

(3) Tobacco Working Group

373. Although representatives from Defendants Philip Morris, Reynolds, Lorillard, B&W, and Liggett were members of the Tobacco Working Group ("TWG"), a federally-appointed group within the National Cancer Institute ("NCI"), their participation was far from altruistic. Their participation allowed the Enterprise to keep abreast of what the United States Government was doing with respect to smoking and health issues and provided a mechanism by which Defendants could try to influence the United States Government's activities in the smoking and health arena. Thus, far from being a "partnership," Defendants' participation was vital to their continued individual and collective livelihood and the Enterprise. See US FF § III.A(3), infra (for a more detailed discussion of the TWG and Defendants' activities and involvement).

374. The TWG in various forms existed from 1968 through 1977, when it was dissolved – along with three other NCI advisory groups – as a cost cutting measure. Funding for TWG projects, however, continued until 1980. 680142974-2974 (US 22254) (O); 680142966-

2966 (US 30817) (O); 680142967-2967 (US 54018) (O); TLT1022905-2912 (US 86842) (O); TIMN0102540-2560 (US 86843) (O).

375. The TWG and its Defendant participants were not actually conducting the research or testing potentially less hazardous cigarette products. Rather, the TWG functioned solely as an advisory group to the NCI's Smoking and Health Program staff and its director who, for most of TWG's duration, was Gio B. Gori. 87754028-4373 (US 22259) (O).

376. Initial Defendant membership included Murray Senkus, Director of Research for Reynolds; Alexander Spears, Director of R&D for Lorillard; and Helmut Wakeham, Vice President of Corporate R & D for Philip Morris. Charles Kensler was also an initial member. Kensler, who worked for Arthur D. Little, Inc., had strong ties to and performed research for Liggett. By 1969, William Bates of Liggett attended TWG meetings, and, by 1974, Bates had accepted membership on the TWG. By 1971, I.W. Hughes of B&W had accepted membership on the TWG. HHA6060033-0036 (US 86422) (O); 501555964-5966 (US 22284) (O); LDOJ3002797-2803 (US 86423) (O); LG0267405-7405 (US 59094*) (O); 680231778-1778 (US 86424) (O); Stevens WD, 43:23-46:9.

377. An undated B&W document, discussing United States Department of Health, Education and Welfare activity in the 1960s, clearly articulated the reasons for Defendants' participation on the TWG:

> Of these four actions [taken by the United States Department of Health, Education and Welfare with respect to smoking and health issues], the first three [developing epidemiological evidence linking smoking and certain diseases; launching a program to alert the public about the dangers of smoking; and pushing for legislation which would reduce cigarette consumption] have been of such immediate concern that they have received most of the attention of the tobacco industry. **However, the later [initiating a research program designed to produce a "less hazardous cigarette"] is probably as important, or perhaps more**

> **important for the long-term future of the industry**. Although work in this area is in its initial stages, the direction of this work seems clearly indicated and should be evaluated.
> . . .
> One can logically expect that any reluctance on the part of industry to voluntarily produce commercial cigarettes on the basis of positive results from this program would result in legislation to force adoption. In all probability, little attention is likely to be given to the commercial acceptability of the [unreadable] from this program.
> . . .
> **Since industry has representatives on this committee, it should be possible to remain completely aware of all actions taken and to have at least some influence on these actions**. If one assumes complete and frank interchange of information arising from within this committee among all companies, the companies should then operate from a common base.
>
> HHS1330992-0998 (US 76082) (O) (emphasis added).

378. Similarly, a March 9, 1972 document drafted by Alexander W. Spears of Lorillard recognized: "If I were to withdraw [from the TWG], Lorillard would lose considerable insight into the workings of the National Cancer Institute program with respect to cigarettes. There is a very real possibility that this program is going to have a profound effect on the cigarette industry, and I believe that we should be aware of these effects as soon as they become clear. **We also have some significant influence on the course of the detailed activities and, therefore, some effect on ultimate results.**" 01240178-0178 (US 22282) (A) (emphasis added).

379. Defendants' conduct in connection with the TWG demonstrates the extraordinary extent to which Defendants coordinated their actions in the area of smoking and health, and in particular, coordinated their approach to the issue of less hazardous cigarette design, development, and marketing. Defendants' approach to the TWG and all Defendants' related activities were jointly formulated and closely monitored by committees of industry lawyers and executives to ensure that such "participation" in the TWG did not threaten – and indeed served –

Defendants' common purposes. Defendants' representatives to the TWG regularly reported to their counsel, who kept company executives, CTR, the Tobacco Institute, and one another abreast of TWG activities. 501556259-6263 (US 22283) (O); 501555964-5966 (US 22284) (O); 500502060-2063 (US 22286) (O); 501990370-0374 (US 22287) (O); 1005070117-0121 (US 22288) (O); 1005070122-0122 (US 22903) (O); 680142648-2648 (US 22374) (O); 2015040862-0863 (US 36652) (O); 680143084-3084 (US 22293) (O); 03540217-0225 (US 22294) (A); BWX0003934-3938 (US 86425) (O); 03753993-3994 (US 22295) (A); 03646227-6228 (US 22296) (A); LG0208389-8389 (US 59040) (O).

380. Information gathering was a critical aspect of Defendants' involvement with the TWG. Defendants' scientific representatives on the TWG reported directly to their respective company counsel and activities of the TWG were discussed at Committee of Counsel meetings. The Tobacco Institute and CTR were also kept informed of the activities of the TWG. 501556259-6263 (US 22283) (O); 501555964-5966 (US 22284), (O); 500502060-2063 (US 22286) (O); 501990370-0374 (US 22287) (O); 1005070117-0121 (US 22288) (O); 1005070122-0122 (US 22903) (A); 680143026-3027 (US 22902) (A); 680142648-2648 (US 22374) (O); 2015040862-0863 (US 36652) (O).

381. The Enterprise engaged in a concerted effort to prevent, curtail, and ultimately to neutralize the TWG's efforts to evaluate cigarettes' effects using an animal inhalation bioassay developed by researcher Oscar Auerbach. 1000298389-8392 (US 26082) (O); 1005086254-6254 (US 86426) (O); 1002906624-6625 (US 86427) (O); 1000298389-8392 (US 26082) (O); 1005086254-6254 (US 86426) (O); 1002906624-6625 (US 86427) (O); 500006051-6051 (US 86428) (O); CTRMN015382-5383 (US79878) (O). See also Kornegay PD, Cipollone v. Liggett, 12/6/94, 588:11-589:4, 590:2-8, 592:23-594:6, 598:20-604:7.

382. The Tobacco Institute carefully researched Auerbach and his past research projects and shared information gleaned with its member companies on behalf of the Enterprise. 2015047506-7506 (US 86431) (O); 508775596-5596 (US 86432) (O); 500006028-6028 (US 86433) (O); 1005086194-6194 (US 86434) (O); 1005086196-6196 (US 86435) (O); 1005086198-6198 (US 86436) (O); 03758481-8482 (US 86437) (O); 1005086201-6201 (US 86438) (O); 2024991017-1017 (US 86439) (O); TIMN221636-1636 (US 86440) (O).

383. Despite the findings of Defendants' scientists, which affirmed the significance of the Auerbach study, the Tobacco Institute publically questioned the results on behalf of the Enterprise. A 1970 Tobacco Institute press release stated, "We have good reason to question whether lung cancer experts in this review group were able to confirm any finding of lung cancer[.]" TIMN0109556-9560 (US 87698) (O); see also CTRMN015379-5379 (US 79876) (O).

384. Members of the Enterprise also decided to try to block the TWG from replicating Auerbach's research. Edwin Jacob, counsel to CTR and Reynolds, instructed Reynolds's scientists Murray Senkus and Alan Rodgman, as well as other Defendants' scientists, to prevent the TWG from performing dog inhalation studies such as those deemed necessary to develop new products. Jacob argued against such studies on the grounds that would be an admission by Defendants that existing cigarette products were harmful. Moreover, Jacob – an attorney, not a scientist – feared that these experiments might show proof of nicotine habituation. 515872408-2456 at 2424-2429 (US 22261) (A).

385. In his report to the Tobacco Institute Annual Meeting on January 28, 1971, William Kloepfer boasted that "[o]ur constant pressure on Hammond's and Auerbach's shaggy – or shabby – dog story has put that work as reported so far into a permanent file marked controversy – especially among scientists. It did more than that. It demonstrated our

counterattack capability as a team. During the rest of the year we missed no event worth talking about in which our comment wasn't issued – and printed and broadcast – the same day." TIMN0081403-1405 (US 77050) (O).

386. In addition to trying to shape the path of research undertaken by the TWG, Defendants' lawyers and executives determined that their scientist representatives on the TWG would not offer suggestions to the TWG about the experiments to conduct or projects to pursue in the search for a less hazardous cigarette. 1005056343-6343 at 6343 (US 22272*) (O).

387. Defendants also utilized the connections made with certain government scientists through the TWG and retained two members of the TWG, Gio Gori from NCI and T.C. Tso from USDA, as consultants. Gori has been a spokesperson and consultant for the industry since leaving the NCI in the 1980s and Philip Morris secured the services of Tso upon his retirement from USDA in 1983. Bloch PD, United States v. Philip Morris, 2/14/02, 1815:20-1819:20; Tso PD, United States v. Philip Morris, 6/5/02, 178:1-181:12, 182:19-183:2, 183:16-184:23; HHS1091046-1048 (US 88738) (O); 680900035-0045 (US 21013) (A); 1005082903-2903 (US 21529) (O); TIMN435245-5245 (US 22487) (O); 2050986280-6281 (US 27064) (O); 2023799642-9642 (US 87701) (O); 2000511301-1302 (US 87703) (O); 2000596045-6045 (US 87704) (O); 2001202319-2319 (US 87705) (O).

F. Coordinated Smoking and Health Literature Collection and Retrieval

388. A shared objective of the members of the Enterprise has been to avoid liability findings that could result both in large damage awards and in increased public recognition of the harmful effects of smoking. Defendants collectively gathered, organized, stored, and eventually automated medical and scientific literature related to smoking and health research for this common purpose.

389. According to a February 1969 Lorillard memorandum, Defendants' "Central File" was started in the late 1950s, was supported financially by all members of the industry and was supervised by the Ad Hoc Committee. It was eventually consolidated and put under the direct supervision of Defendants' attorney Edwin Jacob. The "Central File" was a collection of every document which could be found relating to the smoking and health controversy. Beginning in or about 1967, the major tobacco companies with the exception of Lorillard also joined together and established an "Information Center" for the collection, summarizing, and computerization of all information and documents concerning smoking and health. The purpose of the Information Center was to have information readily available to the industry for litigation and congressional hearings. 044227839-7844 (US 20066) (O); 044227839-7844 (US 20066) (O); 500289915-9918 (US 29454) (O); 01422304-2304 (US 20288) (O); 85649920-9920 (US 21080) (A); 80680229-0229 (US 31967) (A).

390. By 1964, indices of scientific literature were being compiled by Defendants and their agents for litigation purposes. Edwin Jacob, attorney for CTR, Reynolds, and B&W, employed a supervisor and three other employees to abstract and catalogue current medical and scientific literature by subject and author for litigation purposes. Henry Ramm, attorney for Reynolds, kept a similar but larger index, containing over 20,000 documents in eight volumes. In addition, Kenneth Austin and three other CTR staff members compiled indices of scientific literature for litigation purposes. Litigation indices were also kept by Janet Brown, attorney for American, and Alexander Holtzman, attorney for Philip Morris. Liggett also hired a person to gather literature and advocated using space at an outside law firm of one of the companies to do the task, so that future literature could be collected "under the wing" of counsel. 1003119099-9135 (US 20152) (A); LG2017032-7034 (US 34100) (O).

391. In a mid-1960s report, Lorillard stated, "Because of the continued attacks on the industry . . . it is in the best interests of Lorillard to join forces with all other members of the industry concerning the health controversy." Although each cigarette company handled its own litigation through various trial attorneys, "there is a high degree of cooperation between the companies through . . . the 'Ad Hoc Committee' which finds medical witnesses and prepares testimony. Lorillard's representative on this Committee is Mr. David Hardy. The Committee supervises the Central File which is a collection of every document which can be found relating to the smoking and health controversy. This cooperation must be continued. An adverse decision against any member of the industry would be disastrous to all." 80684691-4695 (US 21067) (A).

392. Defendants shared the expense of bibliographic services and analysis performed for the Central File. 85649920-9920 (US 21080) (A); 80680229-0229 (US 31967) (A).

393. In 1971, the services supported under the Central File and the services performed by the Information Center were transferred to CTR. At the first meeting of CTR's Board of Directors after CTR had incorporated in 1971, the Board gave approval to CTR to take over and operate, as a CTR Special Project, an information and retrieval system and to computerize medical literature, articles, and other published documents relating to tobacco and health, the expenses to be borne by the participating companies. At the first annual meeting of CTR members after incorporation, the members approved the name Information Systems for this special project. Information Systems became a division of CTR performing the function of analyzing, summarizing, indexing, and retrieving scientific and medical literature at the direction of Defendants' attorneys. Defendants relied on this division of CTR to review the medical literature relating to smoking and health even though they continued to monitor literature in-

house. CTRMIN-BD000001-0303 at 0007-0008 (JD-093208) (A); CTRMIN-MOM000001-0015 (US 21145) (O); Zahn PD, Massachusetts v. Philip Morris, 5/28/98, 143:8-23; Lisanti PD, Arch v. American Tobacco, 6/10/97, 101:10-102:15.

394. The Report of the Chairman to the Second Annual Meeting of CTR Members held on January 28, 1972, revealed that the name of the operation had been changed to Information Retrieval Division. The division was staffed by a group of twenty-six people and financed separately from the general budget; its name was eventually changed to the Literature Retrieval Division. CTRMIN-MOM000016-0034 (US 21170) (O); McAllister TT, 3/21/05, 16161:16-16162:6; Duffin PD, Munn, 1/7/87, 161:17-25, 164:23-167:10, 171:7-15; DXA0630917-1033 at 0964-0965 (US 75927) (A) (CTR Response to Interrogatory No. 26, at 48-49); WAX001 0698-0786 at 0771-0772 (US 75555) (A) (PM Response to Interrogatory No. 26, at 73-74); USX6400001-0527 at 0347-0350 (US 89561) (O) (B&W Response to Interrogatory No. 26); USX6400001-0527 at 0225-0227 (US 89561) (O) (Lorillard Response to Interrogatory No. 26); USX6400001-0527 at 0136-0138 (US 89561) (O) (Reynolds Response to Interrogatory No. 26).

395. CTR maintained a separate checking account called CTR Special Account No. 1 for the Literature Retrieval Division. CTR requested, received, and deposited monies from its sponsor companies for the Literature Retrieval Division. Pollice WD, 3:3-5:1.

396. In addition to the CTR Literature Retrieval Division, Defendants American, B&W, Liggett, Lorillard, Philip Morris, and Reynolds also continued to fund Special Account No. 3 through Edwin Jacob's firm. The account was designated as a "File for Litigation" and was "used to maintain an office where several doctors work on an analysis of medical literature." 682150942-0942 (US 86491) (A).

397. Yearly expenditures for the Literature Retrieval Division continued to be shared

by Defendants from 1970 until the Literature Retrieval Division ceased to exist in 1983. 70124547-4547, CTRLRD004193-4193 (US 31557) (A); 70124546-4546, CTRLRD004192-4192 (US 31556) (A); 70124548-4548, CTRLRD004233-4233 (US 31558) (A); 70124544-4544, CTRLRD004190-4190 (US 31554) (A); 70124545-4545, CTRLRD004191-4191 (US 31555) (A); 11275453-5453, CTRLRD004232-4232 (US 26402) (A).

398. During her tenure in the Public Affairs Division of the Tobacco Institute, Anne Duffin obtained source material from the Literature Retrieval Division to assist her in writing articles, pamphlets, handouts, and other publications. Examples include "Smoking and Health 1964-1979, The Continuing Controversy," "Cigarette Smoking and Cancer: A Scientific Perspective, 1982," and "Cigarette Smoking and Heart Disease, 1983." Duffin PD, Munn v. Philip Morris, 1/7/87, 161:17-162:3; 162:20-163:15; 164:23-168:5; 169:4-16; 171:7-15; 173:2-174:3; 174:11-19; 176:18-22; 519838352-8517 (US 87707) (O); 519838518-8621 (US 87708) (O); 519838622-8674 (US 87709) (O).

399. Alexander Spears' informal review report described the Literature Retrieval Division operation as "nearly complete coverage of the world medical literature on tobacco and health available at each user location with essentially state of art information search and retrieval capability." According to Spears, the Literature Retrieval Division system served relatively little purpose to Lorillard "except in the area of tobacco and health related to litigation and governmental regulatory proceedings;" therefore Spears supported the decision by Lorillard to fund the Literature Retrieval Division "since it seems an integral part of defending the industry and this company in the defined area." Lorillard eventually did fund the Literature Retrieval Division from 1980 through 1983. 01422327-2328 (US 20050) (A); Stevens WD, 42:19-43:22; DXA0630917-1033 at 1025 (US 75927) (A) (CTR Response to First Set of Interrogatories,

Schedule C).

400. In September 1981, the Ad Hoc Committee, including William Shinn and Robert Northrip from Shook, Hardy & Bacon, met and discussed a proposal to sever the Literature Retrieval Division from CTR and reorganize it, along with the Central File (sometimes referred to as the Tobacco Litigation File), as a corporation providing litigation support services to counsel defending smoking and health actions. In order to provide work product protection for the Literature Retrieval Division's microfilmed, computerized database and abstracts on smoking and health information, the proposal recommended that: 1) the Literature Retrieval Division be removed to the custody of defense counsel into a new business corporation to be formed called LS, Inc., the stock of which would be owned by the four law firms; 2) payments to LS, Inc. by the law firms would be on a per client market share basis for all functions; 3) the only users of the system would be the four law firms plus Covington & Burling, representing the Tobacco Institute; 4) the only use of the system would be for litigation, which would be defined to include administrative proceedings and legislative hearings, at which proceedings and hearings the law firms were representing their clients; and 5) Fred Giller, then-Director of CTR's Literature Retrieval Division, would be President and CEO of LS, Inc. Stevens WD, 42:19-43:22; DXA0630917-1033 at 0964-0965 (US 75927) (A) (CTR Response to Interrogatory No. 26); USX6400001-0527 at 0225-0227 (US 89561) (O) (Lorillard Response to Interrogatory No. 26); USX6400001-0527 at 0136-0138 (US 89561) (O) (Reynolds Response to Interrogatory No. 26); USX6400001-0527 at 0347-0350 (US 89561) (O) (B&W Response to Interrogatory No. 26); ATX9275490271-0280 (US 36231) (A); LG2000741-0750 (US 36269) (A); 515848825-8830 (US 21583) (O); 2015020054-0054 (US 36628) (A); 2015020046-0046 (US 36627) (A); 2015020038-0038 (US 36626) (A); 2015020032-0032 (US 36625) (A); 2015020021-0021 (US

36624) (A).

401. In March 1983, the Committee of Counsel approved the implementation and incorporation of LS, Inc. LG2000823-0832 (US 21544) (O); 2047663658-3695 (US 20481) (A); 2047663658-3695 (US 20481) (A).

G. Defendants' Organizations Focused on ETS Issues

402. From the 1970s forward, members of the Enterprise, specifically Philip Morris, Reynolds, Lorillard, B&W, BATCo, and the Tobacco Institute on behalf of its member companies, pooled their resources and coordinated their activities with respect to passive smoking, or environmental tobacco smoke ("ETS"), issues through a variety of committees and organizations (discussed in detail at US FF § III.A(2), infra). The aims of the various industry ETS organizations were to coordinate an industry position on passive smoking and to fund projects that would generate data supporting the industry's position that tobacco smoke was not a proven health risk to nonsmokers.

403. The first industry committee dedicated specifically to addressing ETS concerns was formed as early as 1975. The committee, chaired by Shook, Hardy & Bacon counsel Don Hoel, met under the direction of the Research Liaison Committee to address ETS-specific projects that, at the time, were funded via Special Account 4. 1003293761-3763 (US 86502) (O); 1003293752-3753 (US 20169) (O), (US 75204) (O); 500294698-4698 (US 24145) (O); 504126505-6507 (US 24216) (O); 03638976-8979 (US 46483) (A); 01337388-7388 (US 86504) (O). Regular members of this committee, sometimes referred to as the Public Smoking Committee or Advisory Group, included company scientists from Reynolds, Philip Morris, B&W, and Lorillard. 1000125386-5386 (US 86505) (O); 504339411-9412 (US 86506) (O).

404. Defendants reestablished this committee in 1984 under the name of the Tobacco

Institute ETS Advisory Committee, or TI-ETSAG. The ETSAG met almost monthly to propose, review, and manage scientific projects that the Committee of Counsel approved for funding. Regular members of the ETSAG also included company scientists from Reynolds, Philip Morris, B&W, and Lorillard, in addition to Tobacco Institute representatives, Don Hoel, and Covington & Burling attorney John Rupp. 2021004058-4064 (US 20339) (A). While neither Liggett nor American directly participated in ETSAG, both participated with the funding of approved projects. Id., 4058; see also William Adams PD, United States v. Philip Morris, 6/18/02, 226:15-235:20, 236:2-237:24, 255:24-256:18, 257:8-20, 262:13-263:5, 266:7-268:18, 284:1-24, 285:5-289:6.

405. The Center for Indoor Air Research ("CIAR") was formally established in 1988 to carry out industry-funded research related to passive smoking; the original charter members were Defendants Philip Morris, Reynolds, and Lorillard. 506300804-0814 at 0804 (US 20756) (A); 506647151-7156 at 7151 (US 20761) (A); 321141105-1144 at 1142 (US 20588) (A); TIMN0014390-4393 (US 62782) (A); 2071412978-3143 at 3082-3096 (US 23061*) (A); 506662315-2316 (US 75277) (O). See also William Adams PD, United States v. Philip Morris, 6/19/02, 302:4-15, 304:5-306:11. Although CIAR had a Scientific Advisory Board to review the merit of project proposals, only the CIAR Board of Directors had authority to approve a project for funding, and a large number of industry-favorable CIAR projects were approved directly by the CIAR Board of Directors with no SAB review at all. 517577761-7761 (US 20867) (A).

406. These committees and organizations furthered the unlawful goals of the Enterprise by: (1) coordinating and funding Defendants' efforts to generate evidence to support its position that there remained an "open controversy" as to the health implications of exposure to ETS; (2) leading the attack on United States efforts to act on evidence linking ETS to disease; and, (3)

and, in the case of CIAR, appearing to be an independent research funding organization when it was really a "front" organization for concealing industry participation in certain studies.

H. International Organizations, Committees, and Groups

407. Defendants believed that global coordination, action and reaction were critical to protecting and enhancing their positions in their respective countries and that their economic interests would best be served by pursuing a united front on smoking and health issues. To further the shared objectives of the Enterprise, the alleged conspiracy and the scheme to defraud, Defendants worked together over a period of time to form, control, use, and participate in overseas entities, including but not limited to, the Tobacco Manufacturers' Standing Committee ("TMSC"), which became the Tobacco Research Council ("TRC") and then the Tobacco Advisory Council ("TAC"); the International Committee on Smoking Issues ("ICOSI"), which became the International Tobacco Information Inc. ("INFOTAB") and then the International Tobacco Documentation Center ("TDC"); and Centre for Cooperation in Scientific Research Relative to Tobacco/Centre de Coopération pour les Recherches Scientifiques Relatives au Tabac ("CORESTA").

408. Defendants coordinated the Enterprise and conspiracy through multiple meetings around the globe. These meetings, held between the 1950s and at least 2000, were scheduled by correspondence and memoranda that were sent via facsimile and by mail. 536202391-2391 (US 86553) (A); 2025495788-5788 (US 22856) (A); 2025495795-5795 (US 26848) (A); 2065260331-0331 (US 86555) (O); 2024771391-1391 (US 86556) (O); 2025477955-7955 (US 26834) (O); 700533941-3941 (US 86558) (A); 503089421-9433 (US 86573) (A); 2078348038-8038 (US 86906) (O); 700533921-3921 (US 88565) (O); 300543355-3356 (US 88506) (A).

409. Defendants often transmitted agendas in advance of these meetings and

corresponded as to which of their industry representatives would and should attend those meetings. 2023244315-4315 (US 86585) (A); 2023244363-4363 (US 86586) (A); 2028454705-4705 (US 22852) (A); 2028360079-0079 (US 86587) (A); 2023897308-7308 (US 37062) (A); 2024210630-0631 (US 22868) (A); 2051810327-0327 (US 86588) (A); 2065260325-0325 (US 86589) (A); 700533917-3917 (US 86590) (O); 2065260328-0328 (US 66825) (O); 300543980-3980 (US 87574) (A); 300543954-3954 (US 87575) (A); 300543357-3358 (US 87576) (A); 300512229-2232 (US 88507) (A); 300543968-3968 (US 67755) (A); 300543811-3813 (US 88508) (A); 2025495656-5656 (US 88509) (A); 2078742951-2951 (US 27724) (A); 2078742952-2952 (US 27725) (A); 2078742954-2954 (US 27727) (A); 2078742955-2955 (US 27728) (A); 2502250184-0185 (US 45981) (A); 2047315966-5966 (US 88512) (O); 300543817-3817 (US 88513) (A); 2065260344-0344 (US 88514) (O); 2072424257-4257 (US 88516) (O); 2072424213-4214A (US 88517) (O); 2046546145-6145 (US 88524) (A); 2072417268-7269 (US 88528) (A); 321569333-9336 (US 88536) (A); see also Blackie WD, 101:13-104:21 (IEMC agenda), 127:3-140:3 (CECCM agenda).

410. Many of these meetings were summarized by meeting participants who recorded the nature of the discussions and identified the company representatives in attendance. 507973108-3109 (US 86598) (O); 536202400-2404 (US 86599) (A); 507974116-4116 (US 51286) (A); 2025493306A-3307 (US 86600) (A); 2023897315-7318 (US 86601) (A); 2051809368-9369 (US 86603) (A); 2028363540-3549 at 3541 (US 86604) (A); 2028372583-2596 at 2594 (US 22926) (A); 517002090-2091 (US 66527) (O); 300512244-2245 (US 67752) (A); 300543979-3979 (US 87578) (A); 300545676-5680 (US 87579) (A); 300545701-5704 (US 87581) (A); 300543440-3454 (US 87582) (A); 300544202-4208 (US 87583) (A); 2047315978-5978 (US 88636) (A); 2078742947-2948 (US 27721) (A);

2078742962-2963 (US 45192) (A); 2078742949-2949 (US 27722) (A); 300543360-3366 (US 88545) (A); 300543940-3942 (US 88546) (A); see also Blackie WD, 104:22-113:20 (IEMC summaries); 128:7-132:18 (CECCM summaries).

411. Defendants used international meetings to identify and coordinate the respective responsibilities of the many international organizations affiliated with the tobacco industry such as the International ETS Management Committee ("IEMC"), Confederation of European Community Cigarette Manufacturers Limited ("CECCM"), TAC, INFOTAB, and others. Scores of documents demonstrate the sophisticated planning and coordination, as well as the division of labor, between the industry's international organizations. Blackie WD, 101:13-104:21, 104:22-113:20.

412. For instance, W. David Rowland of Rothman's International summarized the"end product" of a July 25, 1995 IEMC meeting by stating: "[i]t doesn't look much but at least it was agreed to by all companies present. It was a difficult meeting, particularly initially when we were trying to 'converge' the IEMC responsibilities and CECCM responsibilities. . . . However, it was eventually resolved: **IEMC will develop the messages (globally), CECCM will deliver these messages (in Europe).**" 900006204-6204 (US 88482) (A) (emphasis added). Similarly, correspondence from Sharon Boyse (Blackie) to Matt Winokur, Philip Morris International Director of Corporate Affairs, Richard Marcotullio, RJR Vice President of Corporate Affairs, and others, concerning an upcoming April 28, 1992 IEMC meeting, noted that "in theory . . . CECCM no longer has any excuse for not accepting the IEMC version and that TAC also should be able to use it as a basis should it require." 300543968-3968 (US 67755) (A).

413. A myriad of Defendants' memoranda, agendas, and meeting minutes used to coordinate Defendants' meetings throughout the world, is summarized at United States Summary

Exhibit 17361 (A). As United States Summary Exhibit 17361 demonstrates, high-level decision-makers, including corporate officers, legal counsel, and experienced public relations and scientific personnel attended Defendants' international meetings. The following individuals appear frequently in United States Summary Exhibit 17361: Sharon Blackie; John Rupp, Covington & Burling attorney; Charles Green, RJR Principal Scientist; Helmut Reif, Principal Scientist at a Philip Morris subsidiary and member of CIAR Board of Directors; Richard Carchman, Philip Morris Director of Scientific Affairs; J. Kendrick Wells III, B&W General Counsel; and Christopher Proctor, BATCo Head of Scientific & Regulatory Affairs at Chadbourne & Parke in United States between 1989 and 1993. 401033458-3463 (US 85530) (A); 507973108-3109 (US 86598) (O); 507974116-4116 (US 51286) (A); 507782317-2318 (US 20788) (A); 2078742962-2963 (US 45192) (A); 2023053733-3733 (US 86513) (A); 2023897315-7318 (US 86601) (A); 2072424257-4257 (US 88516) (O); 2047315978-5978 (US 88636) (A); 202502102-2134 (US 20346) (A); 506617595-7596 (US 20760) (A); 507782317-2318 (US 20788) (A); 681000290-0293 (US 21015) (A); 2024270524-0527 (US 75083) (A); 505347172-7174 (US 20739) (A); 2024210630-0631 (US 22868) (A); 681000290-0293 (US 21015) (A); 321569333-9336 (US 88536) (A).

414. Blackie, who is often identified in documents by her former name, Boyse, served as BATCo's Senior Scientific Advisor between 1986 and 1991. During that time, Blackie was a member of various tobacco-related committees. She sat on one or two groups of the TAC, which was the manufacturer's association in the United Kingdom. She participated in one group that dealt with external research funding and admitted that she attended "a couple of odd meetings of the industry," that she would not necessarily "classify" as "committees." "There were a couple of groups that met more regularly; for example, we had an International ETS Group at one stage,

and we had an International Ingredients Group at one stage that looked at ingredients." She also participated with the IEMC, the CECCM, the ETS Consultancy Program, and an ETS Intercompany Task Force. Blackie WD, 2:11-12, 12:1-13.

415. Defendants used their many international meetings as opportunities to meet, coordinate and cooperate in identifying "threats" to the Enterprise and to develop responses to these perceived "threats" as they evolved over time. For example, Sharon Blackie, John Rupp, Matt Winokur, J. Kendrick Wells, Chadbourne & Parke attorney Thomas Bezanson, and Christopher Proctor met on several occasions to discuss the activity of the EPA and the IARC, including the status and timing of the impending EPA risk assessment and IARC study and Defendants' potential responses thereto. Similarly, Defendants used INFOTAB to prepare a response to the perceived threats to the tobacco industry posed by the World Health Organization. 2021595753-5910 at 5769, 5897, 5903 (US 85541) (O); 300543979-3979 (US 87578) (A); 300543954-3954 (US 87575) (A); 2065260328-0328 (US 66825) (O); 2072417681-7682 (US 89132) (A); Blackie WD, 94:6-95:5 (CECCM response to "threats" to public and workplace smoking); Blackie WD, 143:18-144:4 (IEMC, CECCM and TAC used to coordinate the industry's position with respect to anticipated and existing regulatory and public policy issues affecting the industry, including anticipate "threats" from the EPA).

416. Defendants closely tracked regulatory "threats" to the industry in the United States; For example, the minutes of an August 26, 1996 CECCM meeting in Amsterdam read: "[N]ational Developments. USA. President Clinton has taken the decision to put tobacco under FDA jurisdiction. This decision will be challenged by the cigarette manufacturers. Since this decision has reactivated the debate on children and smoking, the Chairman will raise the issues again at the next Board meeting." 800123779-3782 at 3781 (US 89137) (A).

417. ICOSI, one of the organizations that afforded Defendants an opportunity to meet regularly, explicitly recognized the international nature of the "threat" to Defendants' business. An April 1979 ICOSI document noted: "The problems and attacks proposing restrictions of smoking and normal commercial activities like advertising and publicity have become highly international. . . . No one industry in one country nor any one company can wage and win the battle against this sort of organised world-wide attack. . . . The whole Industry, companies and Trade Associations alike must unite with common targets and common approaches." 1003717317-7330 at 7318 (US 86518) (O) (emphasis in original).

418. Defendants' international cooperative conduct is directly tied to the United States because it involved meetings on United States soil; involved representatives of United States companies and organizations; was tailored to account for the impact of United States litigation overseas and the impact of overseas activity upon litigation in the United States; and constituted express cooperation and coordination with the United States tobacco industry. For instance, in 1973, the Tobacco Institute's Committee of Counsel discussed expanding the Tobacco Institute's central role in the Enterprise to offshore activities, including combating foreign anti-cigarette activity. The purpose of expanding the Tobacco Institute's role was to preserve Defendants' position on smoking and health abroad and prevent erosion of public industry positions that had been adopted and publicized in the United States by the actions of non-domestic companies.

> It is preferable for the domestic industry to act together to combat foreign activity than for individual companies to act. On the subject of smoking and health the domestic industry has acted in concert through the Institute in the past, as it is legally permitted to do and presumably intends to continue to do. Thus, the policy with respect to combating anti-cigarette activity abroad would be but an extension of the domestic policy.

502429369-9373 (US 29556) (O); TI16740660-0663 (US 72403) (O); 2501029891-9901 (US

20557) (O); TI04962210-2211 (US 67250) (O); see also 1002610069-0069 (US 86541) (O).

419. Additional examples of the nexus between Defendants' international organizations and the United States include a May 1997 International Counsel Meeting, held in New York, regarding "[i]mpact of US litigation resolution discussions on other countries," as well as British and Australian matters, 321569333-9336 (US 88536) (A); a September 1983 INFOTAB meeting, held in Washington, D.C., concerning "[h]ow to use a tobacco network-U.S. Hearings," 2501021486-1489 (US 25366) (O); a January 1993 CECCM meeting in Bonn, Germany, considering "E.P.A. report on risk assessment of ETS" and "[r]eview of the published literature on smoking and work performance prepared by Covington & Burling," 300543360-3366 (US 88545) (A); a February 1997 Meeting Concerning IARC Action, scheduled to "[r]eview status of study release . . . expectations re: timing, risk number, U.S. vs. European release" and "U.S.-based Scientific Assessment Team (on call in event of publication in U.S.-based journal)," 2072417268-7269 (US 88528) (A); a December 1978 memorandum asserting that the effectiveness of ICOSI required coordination with and input from the Tobacco Institute and Shook, Hardy & Bacon, 2501018326-8327 (US 21505) (O); and INFOTAB's 1991 retention of Lovell, White & Durrant to provide legal clearance for all documents related to smoking and health, and of Chadbourne & Parke to review the documents with an eye toward making sure that "due consideration is given to the legal position in the United States." 2023237649-7650 (US 87025) (O).

420. BATCo participated in many industry meetings related to ETS issues. US 18325, a demonstrative presented during the United States' closing argument, highlights a sampling of the many meetings that included direct contact with one or more representatives of BATCo. 300543979-3979 (US 87578) (A); 517002090-2091 (US 66527) (O); 300512229-2232 (US

88507) (A); 507974116-4116 (US 51286) (A); 300543968-3968 (US 67755) (A); 300545701-5704 (US 87581) (A); 2025495795-5795 (US 26848) (A); 503089421-9433 (US 86573) (A); 2051810327-0327 (US 86588) (A); 2065260328-0328 (US 66825) (O); 321569333-9336 (US 88536) (A).

(1) TMSC - Tobacco Manufacturers' Standing Committee

421. On February 12, 1954, the British Minister of Health made a statement before the House of Parliament regarding the report of a special committee appointed by the British Health Ministry that had found a strong presumption for a causal relationship between smoking and lung cancer. The British tobacco manufacturers in the United Kingdom approached the Minister of Health, and, on his advice, agreed to donate £250,000, to be spread over seven years, to the Medical Research Council for research into smoking and lung cancer. Brant WD, 76:1-12; 110070785-0842 at 0788 (US 20270) (A); 321310317-0342 (JD-031027) (O); (no bates) (JD-011382) (A).

422. In March 1954, John Hill of Hill & Knowlton, TIRC's public relations counsel, and Alan Campbell-Johnson, the London associate of Hill & Knowlton, met with D.M. Oppenheim, BATCo Chairman; Robert Sinclair, Imperial Tobacco Chairman; and E.P. Partridge, Imperial Tobacco Director and Secretary, to discuss the newly-formed TIRC and a possible relationship between TIRC and the tobacco manufacturers in the United Kingdom. Hill outlined proposed plans, policies, functions, and responsibilities for TIRC, the TIRC SAB, and the TIRC Research Director, and showed the group the proofs of the about-to-be published white paper (detailed discussion of Hill & Knowlton/TIRC white paper at US FF § I.B(3), supra). The British executives offered suggestions for changes to the white paper because "[q]uite naturally the British Tobacco group is vitally interested in what we do because the repercussions of what

happens in the United States will affect Great Britain and vice versa." Timothy Hartnett, President of B&W, and other members of the TIRC Board "had asked [Hill] to discuss with [the BATCo and Imperial Tobacco executives] the possibility of some form of liaison between the two groups" and to suggest "that this could be worked through Hill & Knowlton, Inc. and our London Associate Campbell-Johnson, or in any other way they might suggest. The reaction to the idea of liaison was most favourable." TLT0900159-0161 (US 87720) (O). The arrangement by which Campbell-Johnson would "act as liaison through which the British industry could clear information regarding developments which it desired to communicate to TIRC" was confirmed by Timothy Hartnett when he was in London later in the spring of 1954. TLT0902041-2064 at 2060 (US 88360) (O).

423. In June 1956, the Tobacco Manufacturers' Standing Committee ("TMSC") was formed by BATCo and other United Kingdom tobacco manufacturers, giving "formal status to the co-operation in research of the group of manufacturers who in 1954 made a donation of £250,000 to the Medical Research Council for investigation into the causes of lung cancer." Its stated purpose was "to assist research into questions concerned with the relationship between smoking and health, to keep in touch with scientists and others working on this subject in the United Kingdom and abroad, and to make information available to scientific workers and the public." Geoffrey F. Todd was appointed Director of TMSC. Alan Campbell-Johnson, Hill & Knowlton's London associate, was appointed public relations consultant to the TMSC. TSMC occupied a position in the United Kingdom analogous to the position of TIRC in the United States. 110070785-0842 at 0788-0789 (US 20270) (A); TLT0900822-0825 (87725) (O); (no bates) (JD-011382) (A); Read TT, 3/21/05, 16327:25-16328:14.

424. Shortly after the formation of TSMC, the Medical Research Council in England

issued a statement in June 1957, which was supplemented by a statement by the Minister of Health, condemning tobacco as a major cause of lung cancer and calling for a program by local health authorities and their education departments that would inform the general public of the risks of smoking. CTR-TIRC-MIN000001-0252 at 0130 (JD-093292) (A).

425. TMSC member companies in the United Kingdom and TIRC member companies in the United States coordinated their efforts to promote the open question on the relationship between smoking and disease and to deny causation. After Timothy Hartnett, TIRC Chairman, traveled to England to meet with TMSC members in June 1956, Campbell-Johnson wrote to John Hill that Hartnett's "presence at that particular moment should do much materially to help to get relations between TIRC and the new committee [TMSC] off to a good start." Campbell-Johnson ended the letter by counseling that:

> [C]lose thought is needed on the relationship between TIRC and TMSC and the public relations implications of this are clearly left to our discretion to consider. While it is fully appreciated that the operations are, in fact, and should appear to be entirely separate, there clearly will be occasions when pronouncements emanating from one or other side of the Atlantic, from our respective authorities, can be usefully promoted at both ends. There now exists a potential interest in TIRC dicta on this side of the Atlantic and perhaps in TMSC statements on your side.

TLT0900822-0825 (US 87725) (O).

426. Minutes of a November 15, 1960 TIRC meeting state, in part: "A close working relationship is maintained with the Tobacco Manufacturers' Standing Committee in England, which organization parallels the TIRC. Although methods of operation are considerably different, our cooperation, both in research and public relations, has proven very valuable." CTR-TIRC-MIN000001-0252 at 0183 (JD-093292) (A).

427. Representatives from the TMSC, which included BATCo representatives, came to

the United States in 1958 and met with representatives from TIRC, American, Liggett, and Philip Morris, among others. Clarence Cook Little, the first scientific director of the TIRC, was among the individuals interviewed. A memorandum, drafted by BAT representatives and titled "Report on Visit to U.S.A. and Canada, 17th April -12th May 1958," demonstrated that although "Defendant manufacturers continued to assert publicly that there was no proof that cigarette smoking caused any disease," these public positions clearly "did not accord with the private views of their own scientists." 105408490-8499 at 8492 (US 21135) (A); Harris WD, 99:15-100:9.

428. G.F. Todd, Director of TMSC, attended a number of TIRC SAB meetings in the 1960s. CTRMIN-SAB000001-1061 at 0187, 0190, 0206, 0207, 0230 (JD-090960) (A).

429. In 1963, TMSC decided to conduct and be directly involved in its own smoking and health research program. To reflect that fact, TMSC was renamed the Tobacco Research Council in January, but maintained the same purpose and mission as its predecessor. 321310317-0342 (JD-031027) (O); Read TT, 3/21/05, 16327:25-16328:14.

(2) TRC - Tobacco Research Council

430. When TMSC changed its name to the Tobacco Research Council ("TRC") in 1963, TRC continued to be funded by BATCo and other United Kingdom tobacco manufacturers. The TRC built the Harrogate Labs in England. BATCo sat on the board at the Harrogate Laboratories and was one of the entities that directed the research at Harrogate. Research was conducted at the TRC laboratories in Harrogate from 1962 through 1974, when Harrogate was sold, and included mouse skin painting, inhalation studies, other biological assays, and nicotine pharmacology. Harris TT, 10/18/04, 2752:11-14; Henningfield TT, 11/29/04, 7204:14-19; 321310317-0342 (JD-031027) (O); Read TT, 3/21/05, 16329:5-9.

431. An October 1964 TRC trip report confirmed that Sir Philip J. Rogers, TRC Chairman, and Geoffrey F. Todd, TRC Director, had visited the United States and met with representatives of Defendants RJR, American, B&W, Philip Morris, Liggett, Lorillard, CTR, and the Tobacco Institute, as well as Hill & Knowlton executives and attorney Edwin Jacob, in a series of meetings. The United States manufacturers' main criticism of TRC's bio-assay research at Harrogate was that the research was an "implied admission that cigarettes are harmful." B&W considered TRC's research policy "particularly prejudicial to them through their association with B.A.T." The TRC representatives agreed that Harrogate bio-assay research might be seen as an implied admission, but pointed out that "TRC constantly bore in mind the possible repercussions of its actions in U.S.A. and that T.R.C. research was based on the needs of the situation in the U.K., including a need from the legal point of view to give no grounds for an accusation of negligence against the manufacturers." At one of the meetings with Philip Morris, "[t]he informal agreement between TRC members not to make health claims was explained." 1003119099-9135 at 9106, 9108, 9115 (US 20152) (A); Read TT, 3/21/05, 16335:11-14.

432. Correspondence from Addison Yeaman, B&W General Counsel, to Anthony D. McCormick, BATCo's company secretary, in February 1966 sought to reiterate comments at a prior "meeting of General Counsel" and to arrange for "a closer liaison between Harrogate, Hamburg and our C.T.R." It noted that "the cigarette companies in the U.S. have given the prime responsibility in the health area to their lawyers" and suggested that the lawyers, who direct "day-by-day decision and policy directions . . . in the first instance" could facilitate this communication, in lieu of the "executive heads" of the respective tobacco companies. The letter noted that Ed Finch, as Chairman of the Executive Committee of the Tobacco Institute and President of B&W, could head the group and that Ed Jacob of Jacob & Medinger, counsel to

CTR, should be included as he "is on retainer from RJR as well as B&W." This letter further indicated that Yeaman was "troubled" that a prospective Harrogate research report might "concede a significant causal relation between the use of tobacco and cancer of the lung . . . . [W]e would hope to be afforded the opportunity of consulting with the people on your side concerning the way Harrogate's work is presented, admittedly with the hope of 'slanting' the report." 680204115-4117 (US 20990) (O); Read TT, 3/21/05, 16335:1-10, 16335:17-16336:5.

433. On February 14, 1967, A.W.H. Stewart-Moore, a member of the TRC Executive Committee, sent a letter to Virgil D. Heger, Executive Vice President of American Tobacco, notifying him that TRC would be sending a delegation of scientists to the United States in March to discuss nicotine with scientists designated by CTR. Despite the scientific nature of the meetings, Stewart-Moore indicated that the meetings would include "the lawyers from the major American tobacco manufacturers." 0060293378-3378 (US 85326) (O).

(3) TAC - Tobacco Advisory Council

434. The TRC was re-named the Tobacco Advisory Council ("TAC") on August 31, 1978. 109840381-0383 at 0383 (US 20261) (O); Read TT, 3/22/05, 16354:12-20, 16407:6-11.

435. Various members of the Enterprise participated in the TAC, including BATCo, RJR, and Philip Morris, John Rupp of Covington & Burling and Don Hoel of Shook, Hardy & Bacon. The United States has introduced evidence of TAC meetings that took place as recently as May 11, 1999. (no bates) US 17361 (A) (summary exhibit); 505347172-7174 (US 20739) (A); 508226799-6804 (US 75279) (A); 2025025510-5512 (US 37221) (O); Henningfield TT, 11/29/04, 7277:18-23; see also 300545676-5680 (US 87579) (A) (TAC representatives Swan and Bullock attended CECCM meetings)300543360-3366 (US 88545) (A); 800123779-3782 (US 89137) (A).

436. Meeting notes, dated October 3, 1983 and titled: "TAC Meeting,"/"Smoking and Health," written by BATCo counsel, Alex Marine, stated in part:

> [I]n BAT's view, the biggest single threat facing the industry, in both this country and elsewhere, is the issue of smoking and health. Because of this, we believe that the industry must be united in its universal stand on this issue and that no member company should seek to exploit the smoking and health issue for its own commercial advantage. . . . The industry is acutely aware of the possible impact on our business of the Product Liability laws around the world, and in particular those in the U.S.A. . . . I need not remind you that over the past 20 years, no less than 100 civil suits in the U.S.A. have been successfully defended by our Industry. **Continuous success has not been coincidental. On the contrary, it has very largely been achieved by a co-ordinated and consistently applied self-discipline on the subject of smoking and health within the Industry.**

301043570-3571 (US 93210) (A) (emphasis added); Read TT, 3/22/05, 16406:24-16408:24.

437. At a November 16-17, 1983 meeting, the TAC member company tobacco research directors agreed to modify a TAC publication, "Review of Research Activities," in response to "the eleventh hour intervention by BAT lawyers on many aspects of the galley proof of the publication [because of] the extreme sensitivity of many of the issues, and of the vital need to be safe rather than sorry." The participants agreed to replace summaries of the results of grantees' research – which the researchers had written – with "much shorter statements of results prepared by TAC and agreed by the grantees." 109840381-0383 at 0383 (US 20261) (O).

438. In 1983 and 1984, TAC research directors met to discuss "the industry response" to the Third Report of the Independent Scientific Committee on Smoking and Health ("ISC"). They decided not to inform the ISC that there was "little scientific opportunity to identify and then selectively eliminate any specific components [of 'other noxa' found in the vapor phase of smoke] that could be unequivocally linked with the alleged smoking associated diseases." This decision was made in part because "the Committee might press industry to undertake or fund

research on 'the quality of tar,' ie [sic] on the specific biological activity of tobacco types and commercial products" – a "possibilit[y not] welcome to the industry." Each TAC member company prepared and exchanged draft position papers on one of "the six main areas of 'other noxa' identified by the ISC. . . . We agreed that the draft position papers should not be revealed to the ISC but that individual Research Directors would be responsible for introducing any discussion that arose on a particular subject." 101003866-3870 at 3866-3867 (US 20232) (O).

439. TAC continued the British tobacco industry's relationship with public relations and research entities in the United States with respect to ETS issues. A February 24, 1986 RJR interoffice memorandum from Charles Green, RJR scientist, to his superior, Alan Rodgman, concerning the International ETS Working Committee stated: "A proposal has been made to Mr. Don Hoel, an attorney for Shook, Hardy & Bacon and chairman of the TI-ETS Working Committee, that more formal cooperation be established between the scientific committees concerned with ETS." The memorandum further pointed out that members of the TAC were "prepared to meet with representatives of the U.S. Tobacco Institute ETS Working Committee in London on April 8th. Mr. Hoel has requested that Dr. Tom Osdene of Philip Morris and I accompany him to this meeting. It is expected that this will be the first of two or three meetings per year where the various committees will exchange scientific information and coordinate proposed studies." Green requested permission from RJR to attend the meetings as "the value of our participation in these meetings should be obvious." Handwritten comments on the typed memorandum read: "Bob: Neither legal nor I have a problem with this. In fact, Mary Ward thinks it's a great idea. May we have your approval for Dr. Green to participate? -Alan 2/24/86; Approved! Bob 2/26/86." 508192982-2982 (US 86533) (A). In 1986, Mary Ward served as Assistant Counsel in RJR's R&D Department. Ward WD, 2:13-19.

440. According to the trial testimony of Mary Ward and an April 15, 1986 RJR memorandum from Charles Green to Alan Rodgman, a "joint meeting of the ETS advisory groups from West Germany, the United Kingdom, and the United States as well as the INFOTAB Board of Directors" was in fact held on April 8, 1986 at the TAC's London office to discuss "scientific and public relations problems related to environmental tobacco smoke." The meeting included representatives from Defendants Philip Morris, BATCo, RJR, and the Tobacco Institute, as well as "the entire Tobacco Advisory Research Committee," and the law firm of Shook, Hardy & Bacon. The attendees discussed various research projects which could be used to address proposed regulations with respect to ETS, including projects and programs sponsored by the Tobacco Institute and the "cooperative [United States] industry study to measure carbon monoxide, nicotine, and particulate matter in restaurants." 505347172-7174 at 7172-7173 (US 20739) (A); 2022932502-2506 (US 22828) (A); Ward WD, 70:21-71:16.

441. Representatives of TAC also met with the Tobacco Institute, Germany's Verband der Cigarettenindustrie ("Verband"), and Japan Tobacco International in Washington, D.C. on March 18-19, 1987, to address the need for increased cooperation among the participating countries and on an international level. The meeting was designed to be a show-and-tell, with specific emphasis on the current status of ETS scientific research, public affairs, and political nuances in each of the countries. The Verband functioned as the German Tobacco Institute. Philip Morris, BATCo, and other cigarette manufacturers are affiliated with the Verband. TI00682162-2163 (US 21240) (O); 2501458142-8148 (US 27951) (O); Parrish TT, 1/26/05, 11163:21-11164:4; Ogden TT, 3/16/05, 15831:19-22.

442. An April 6, 1987 RJR Interoffice Memorandum from Charles Green to Alan Rodgman, and copied to several individuals, including Mary Ward, discussed the joint meeting

held in Washington D.C. in March 1987. This April 1987 memorandum described the meeting discussions on "Industry-Sponsored Research on ETS," "Non-Industry Sponsored Research," "Current Public Affairs/Political Concerns," and "Future Research Needs" and stated:

> The first session of the second day included presentations by Trevor King, Gerhardt Scherer, Y. Shimitzu, Bill Kloepfer, and John Rupp. There were many similarities among all the presentations and **the need for close cooperation between scientist and public relations professionals was expressed repeatedly.** R.J. Reynolds was praised by several speakers as an example of an effective research and public relations relationship.

This memorandum further stated that:

> Dr. Spears stated that **the Industry** has only a short time (5 years) to solve the ETS problem. Vigorous denial is not a satisfactory defensive strategy. All agreed that the most significant ETS problem facing the Industry is the result of epidemiological studies which indicate a low risk related to ETS exposure. **More industry sponsored research** is needed to address this issue . . . . All of the attendees left this meeting with a better appreciation of the international ETS problem. **Concerted action is needed to improve the Industry's position.**

A proposed follow-up meeting "with the purpose of generating a world-wide ETS action plan" is further described. 508226799-6804 (US 75279) (A) (emphasis added); Ward WD, 71:17-72:6, 72:10-73:17.

443. Sharon Blackie, formerly of BATCo and B&W, acknowledged that she collaborated with representatives of other tobacco companies in fashioning consistent ETS public statements. Defendants who cooperated in this way included BAT, Philip Morris and RJR. Blackie WD, 17:3-14.

444. Defendants circulated revised versions of TAC publications. According to a March 10, 1987 internal memorandum, Philip Morris planned to distribute the TAC publication "Tobacco Smoke and the Non-Smoker" to industrial organizations on behalf of the Enterprise

once the document had met industry attorneys' approval. 2501009269-9269 (US 27917) (O).

445. According to a March 17, 1987 letter to Hans Verkerk of INFOTAB, William Kloepfer of the Tobacco Institute planned to "compare notes on the ETS issue" with his colleagues at TAC before attending a steering committee meeting in connection with the Sixth World Conference on Smoking and Health. TI12261173-1173 (US 62338) (O).

446. In a May 27, 1987 memorandum, Tobacco Institute Vice President William Kloepfer reported to Samuel Chilcote, Tobacco Institute President, about his meetings with TAC in London. According to Kloepfer's memorandum, he gave the TAC public relations committee an overview of Tobacco Institute issues and management. According to Kloepfer, TAC recognized ETS as its primary issue and wanted to adapt Tobacco Institute consultant Gray Robertson's video for TAC's use. TI05261937-1938 (US 62213) (O); TIDN0012090-2091 (US 77023) (O).

447. TAC and the Tobacco Institute continued to share information on how to confront the ETS issue publically. On August 23, 1989, Clive Turner, TAC Deputy Chief Executive, wrote to Sam Chilcote, Tobacco Institute President, requesting an ETS publication kit prepared by the Tobacco Institute. TI12240317-0317 (US 86537) (O).

448. In January 1994, TAC changed its name to the Tobacco Manufacturers Association ("TMA") because "the name TAC did not clearly reflect the change of focus in its role to that of a trade association for the UK companies." TMA members included Defendants BATCo and RJR. The United States introduced evidence of TMA meetings as recently as 2000, the date of the discovery deadline issued in United States v. Philip Morris. 321103764-3771 at 3764 (US 67807) (O); 321103761-3761 (US 28286) (O); 321310317-0342 (JD-031027) (O); (no bates) (US 17361) (A) (summary exhibit).

(4) ICOSI - International Committee on Smoking Issues

449. On December 3, 1976, Hugh Cullman, Executive Vice President of Philip Morris, memorialized a phone call from R.A. (Tony) Garrett, Chairman of Imperial Tobacco, during which Garrett explained that he had been exploring, with a number of major tobacco companies, including Defendants BATCo and RJR, as well as Rothmans International and Reemtsma (Germany), whether company heads might be prepared **"to meet discreetly to develop a defensive smoking and health strategy, to avoid our countries and/or companies being picked off one by one, with a resultant domino effect."** The initial objective of this group would be "to develop a smoking and health strategy which would include **a voluntary agreement** that no concessions beyond a certain point would be voluntarily made by the members [to their governments] and, if further concessions were required by respective governments, that these not be agreed to and that governments be forced to legislate." The proposed agenda for the meeting included **"Consideration of the international dimension to smoking and health**. This might include such matters as . . . how do developments in one country affect others." Defendants' effort was ultimately termed "Operation Berkshire" (discussed further at US FF § III.A(2)). 2025025347-5348 (US 75149) (O) (emphasis added); 2025025286-5286 (US 20407) (A); 2025025290-5291 (US 22980) (A); 2025025347-5348 (US 20410) (O).

450. On March 24, 1977, R.A. Garrett of Imperial Tobacco wrote to Alexander Holtzman, Associate General Counsel for Philip Morris, regarding "Operation Berkshire," an upcoming meeting between the executives of certain tobacco companies. Participants included representatives from Defendants BATCo, Philip Morris, and RJR, as well as Reemstma, Rothmans International, and Imperial Tobacco. The purpose of the meeting was to form a group

to develop a common international position on smoking and health issues. The group formed was called the International Committee on Smoking Issues ("ICOSI"). The resulting position paper was reviewed and edited by the law firm of Jacob & Medinger, which represented RJR, B&W, and CTR. 2025025288-5289 (US 20408) (O); 2025025313-5318 (US 23741) (O); 2025025341-5343 (US 20409) (A); 2025025347-5348 (US 20410) (O); 2025025347-5348 (US 75149) (O); 2025025369-5369 (US 20411) (O); 500269225-9228 (US 20622) (O); 2025024797-4803 (US 20406) (O); 2501020298-0308 (US 21903) (O); 2501024103-4107 (US 21909) (O); 2501024103-4107 (US 75181) (O); 2501024571-4575 (US 21904) (A); 502948580-8591 (US 21908) (O).

451. The purpose and objectives of ICOSI, as set forth in its charter, were:

> the establishment of a forum for exchange of views and information on international smoking issues (to include tobacco and health) by the coordination of data and information in economic, scientific, and technical areas. The general objectives are to broaden the knowledge of its members, of consumers, and of appropriate authorities. In large part accomplishment of these objectives will be sought by providing information to various national and other tobacco trade associations and by serving as a resource of expertise, data analysis and opinion on these subjects of interest to the industry and its publics. The dissemination of the generality of this information will be made in the form of bulletins, reports, articles, surveys, pamphlets, and other analogous means.

2025048998-9014 at 8999 (US 20412) (O); see also 503143820-4106 at 3909 (US 75974) (A) (one page only admitted with witness Sharon Blackie).

452. According to notes in BATCo's files from a March 1978 meeting in Australia, however, the objective of ICOSI was "defensive research aimed at throwing up a smoke screen and to throw doubts on smoking research findings which show smoke causes deceases [sic]." 321588692-8692 (US 28544) (O).

453. Attendees at the November 1981 Tobacco Institute College of Tobacco

Knowledge were told that the organization (first named ICOSI and later named INFOTAB) was founded to perform internationally the functions that the Tobacco Institute performed for the domestic industry in the United States: "From the outset, the members recognized that the social acceptability of smoking, including the public smoking issue was a subject on which attention should be focused (sic)." 2501029891-9901 at 9896 (US 20557) (O); see also TI04962210-2210 (US 67250) (O); Blackie TT, 10/26/04, 3846:18-22.

454. ICOSI's key officers included the chairmen and other principals of the member companies who attended the Operation Berkshire meeting: Patrick Sheehy, BATCo Chairman; Kit Stuart Lockhart, BATCo Deputy Chairman; William Hobbs, RJR Chairman; William Murray, President of Philip Morris Europe; Alexander Holtzman, Associate General Counsel for Philip Morris; and Andrew Whist, Director Corporate Affairs of Philip Morris (Australia) Ltd. 2025025341-5343 (US 20409) (A); 2025025369-5369 (US 20411) (O).

455. There were two governing groups of ICOSI. The Board of Governors was responsible for establishing policy, included one principal from each member company, and met at least annually. The Executive Committee was responsible for implementing the policies of ICOSI in those areas where decision-making powers had been delegated to the Committee by the Board of Governors. 2501020298-0308 (US 21903) (O).

456. Representatives of the participating Defendants attended ICOSI meetings of several working groups and task forces, including the Social Acceptability Working Group, which dealt with ETS issues, the Medical and Behavioral Research Group, the EEC Task Force, the Product Liability Task Force, and the Swiss Referendum Task Force. 2501020298-0308 (US 21903) (O); 321588692-8692 (US 28544) (O); 2025025295-5300 at 5295 (US 75146) (A).

457. ICOSI's inaugural meeting, held in June 1977, at Shockerwick House served as

the beginning of Operation Berkshire. United States' expert Jeffrey Harris identified Operation Berkshire as one of the most probative examples of Defendants' collusion. This meeting, which was called by BAT CEO Tony Garrett, was attended by representatives of the major United States tobacco manufacturing companies. The meeting participants jointly agreed to "hold the line on admissions concerning what they would admit to their individual governments concerning smoking and health, among other things." Harris TT, 10/14/04, 2576:10-24, 2577:11-18; see also 2025025295-5300 (US 75146) (A).

458. ICOSI representatives met six times between June 1977 and February 1979, to agree upon "the fundamentals of ICOSI's policy, form, organization, financing and work-programmes." 1003717317-7330 at 7319 (US 86518) (O).

459. ICOSI member companies agreed to act together via the Enterprise to respond to smoking and health risk challenges worldwide by promoting the "open question" controversy and the myth of independent research. On October 14, 1977, Dennis Durden, Vice President of RJR and then-Chairman of ICOSI's Working Party on the Social Acceptability of Smoking, forwarded a report to the members of ICOSI regarding the research and analysis activities that would be conducted by the working party. Members of the working party listed in the summary included representatives of Defendants RJR (Durden and James Hind, RJR Vice President of Planning), BATCo (Richard Haddon, Public Relations Manager), and Philip Morris (John T. Landry, Senior Vice President). 501472756-2794 at 2758, 2759, 2762 (US 66342) (O).

460. On April 21, 1978, P. Isenring distributed a letter to Alexander Holtzman, Philip Morris Vice President and General Counsel, and others about the ICOSI EEC Task Force on Consumerism. Isenring urged cooperation and coordination between Philip Morris and RJR concerning the involvement of the law firms of Jacob & Medinger and Shook, Hardy & Bacon,

both of which represented several Defendants. Specifically, Isenring discussed the fact that the ICOSI EEC Task Force on Consumerism had to prepare an industry response to the EEC Consumer Consultative Committee's anti-smoking paper "Tobacco and the Health of the Consumer" and suggested that ICOSI members and their respective law firms work together on a common approach to the response, given their exposure to the situation in Europe over the years. 2501025098-5099 (US 86515) (O); 2501025100-5100 (US 86516) (O); 2501025108-5108 (US 86517) (O).

461. ICOSI was registered as a non-profit association in Geneva, Switzerland, on December 1, 1978. The seven founding members of ICOSI were Defendants BATCo, Philip Morris, and RJR, as well as Gallahers, Imperial Tobacco, Reemstma, and Rothmans International. TIMN257288-7303 (US 21343) (O); 321588692-8692 (US 28544) (O); 1003717317-7330 at 7318 (US 86518) (O); 301079919-9998 (US 87411*) (O).

462. In advance of the June 1979 Fourth World Conference on Smoking and Health, ICOSI formed a Task Force to "monitor and combat on the spot the strong propaganda expected to be generated at this Conference" which is "sponsored by the World Health Organisation and the Swedish Health Authorities." In furtherance of this effort, the ICOSI Task Force met in Kansas City, Missouri on November 20-21, 1978, scheduled two task force meetings for early 1979, and another meeting just prior to the conference. Attendees of the Kansas City meeting included: Gwynn Hargrove of BATCo; Murray Senkus of RJR; William Kloepfer of Tobacco Institute; Leonard Zahn, public relations counsel for CTR; Tim Finnegan of CTR's lawyers Jacob & Medinger; Hugh Grice of TAC; and Donald Hoel of Shook, Hardy & Bacon. ICOSI engaged a Stockholm-based public relations agency to "monitor the Conference organizers' activities and to assess with press room activities at the Conference." Additionally, the Task Force was charged

with preparing a post-conference report covering several matters, including "contradictions," "Conference recommendations to governments," an evaluation of the possible impact of the Conference, and "industry positions as they relate to the Conference." 2501015475-5480 at 5475-5476 (US 27921) (A); 2501015328-5331 at 5328, 5329, 5331 (US 86519) (O); 1003717317-7330 at 7328 (US 86518) (O); Zahn PD, Richardson, 12/16/98, 309:12-17, 505:6-505:17, 506:6-14, 512:8-10, 517:2-518:10, 525:12-526:3, 537:1-538:18, 581:10-582:5; see also 680241699-1701 (US 30846) (O).

463. In March 1980, the Executive Committee of ICOSI was disbanded. Instead, the Board of Governors consisting of two named representatives of each member company were to meet at least twice a year. Each member company was to have one vote at the meetings of the Board of Governors. Chairmanship was held in rotation by each member company. William D. Hobbs, Chairman of RJR, was Chairman of the Board of Governors between 1979 and March 31, 1980. 2501020298-0308 (US 21903) (O).

(5) INFOTAB - International Tobacco Information Center

464. ICOSI was renamed the International Tobacco Information Center/Centre International d'Information Du Tabac ("INFOTAB") and registered in Geneva, Switzerland, on December 8, 1980. 504934906-4953 (US 20737) (O); Ward TT,11/3/04, 4950:10-12. INFOTAB's charter, filed with the Swiss Government on November 2, 1982, was substantially the same as ICOSI's charter. Cf. 2025048998-9014 at 8999 (US 20412) (O).

465. The six founding members of INFOTAB were Defendants BATCo, Philip Morris, and RJR, as well as Imperial Tobacco, Reemtsma, and Rothmans International. 504934906-4953 (US 20737) (O); Tully PD, United States v. Philip Morris, 6/13/02, 33:7-14.

466. Defendant BATCo belonged to INFOTAB from 1981 or 1982 to about May 1990.

Proctor PD, United States v. Philip Morris, 6/12/02, 16:8-18.

467. INFOTAB had three categories of membership: Founding Members, Associate Members, and Allied Members. Defendants Liggett and Lorillard were Associate Members, while Defendant Tobacco Institute was an Allied Member, as was Britain's TAC. 504934906-4953 (US 20737) (O). Lorillard later withdrew from participation in INFOTAB because if felt that its contribution and participation in the Tobacco Institute provided adequate support for INFOTAB. Stevens WD, 4:3-13; 85174260-4260 (US 56011) (A).

468. In the mid-1980s, Hugh Cullman of Philip Morris and Chairman of the INFOTAB Board of Governors, R.L.O. Ely of BATCo, Andrew Whist of Philip Morris, and Richard J Marcotullio of RJR were on the INFOTAB Board of Governors, which was later re-named the Board of Directors. 504934906-4953 at 4948 (US 20737) (O); 2025013308-3308 (US 21585) (O).

469. Tobacco Institute representatives, Peter Sparber and Bill Kloepfer (Senior Vice President, Public Relations), participated in an October 7-10, 1985 INFOTAB workshop in Copenhagen. Thereafter, INFOTAB's Secretary General wrote to Tobacco Institute President Samuel Chilcote to thank him for the Tobacco Institute's participation. According to the conference program, the workshop included discussions about "the Social Acceptance of Smoking," "The Health Controversy - Some Aspects Old and New," and "Ambient Tobacco Smoke, Defense - Medical, Defense - Political, and Relation with Indoor Pollution." According to the conference program, Hugh Cullman (then Vice Chairman, Philip Morris Companies and 1985/86 INFOTAB Chairman), John Tollison (then Institute Director of the Tobacco Institute of Australia Ltd.), and Hugh Grice (then Executive Director of the TAC) were also among the speakers, discussion group leaders and moderators scheduled to attend the workshop.

TI12263348-3361 (US 62369*) (O).

470. A November 30, 1989 INFOTAB document identified INFOTAB's "most important" roles, including: "'Think tank' for industry cooperation worldwide, in association with member companies," "Preparation of positions agreed by the industry," "Preparation of published materials and kit sets for use by NMA's and lead companies," and "Promulgation of strategies agreed by the industry." 300528729-8731 (US 46572) (O).

471. INFOTAB prepared various materials on smoking and health issues including research-related materials, public relations campaign materials, and argumentation papers. For example, in 1986, INFOTAB produced an Issues Binder which provided "members with reference materials and quotations in response to the major allegations in the smoking and health area. The binder [was] organized around nine issues – 'addiction', advertising and sponsorship, developing countries, the public smoking issue, legislation, smoking and health, social costs, taxation and warning labels." 504934906-4953 (US 20737) (O).

472. J. Kendrick Wells of B&W sent a memorandum to Ernest Pepples of B&W dated October 27, 1981, concerning his recent discussion with L.C.F. Blackman, Director of the Group Research and Development Center of BATCo in Southampton, England, about Blackman's slide presentation titled "Basic Approach to Government and Medical Authorities." Wells voiced his concern with Blackman that the initial document "admit[ted], despite a disclaimer, that cigarettes are harmful to health in proportion to delivery." Wells further noted that the document "runs against important argument the U.S. industry is making in response to the FTC Staff Report and may need to make in response to charges that cigarettes are addictive." Blackman agreed to change the document and send it to the other INFOTAB members. 680585063-5064 (US 21007) (A); 680585041-5042 (US 21006) (A).

473. BATCo relied on position papers developed for the industry by INFOTAB. An internal BATCo memorandum, distributed to all No. 1's and Public Relations Managers of Operating Companies, transmitted an updated INFOTAB paper on "Advertising Argumentation.," which provided arguments against advertising restrictions. The transmittal memo urged its recipients to "ensure that no mention is made of its source." 100439233-9233 (US 34655) (O).

474. BATCo and other Defendants used INFOTAB to monitor research that suggested smoking caused cancer. 2021594539-4540 (US 36773) (O).

475. A June 28, 1988 memorandum addressed to Todd Sollis, Assistant General Counsel of Philip Morris, from Donald Hoel, attorney with Shook, Hardy & Bacon, described Shook, Hardy & Bacon's role with respect to INFOTAB. Hoel stated:

> SHB, as counsel to PM and other international manufacturers, was instrumental in the founding of INFOTAB to help strengthen and coordinate the activities of the various national manufacturers associations. The firm remains active in the operation of INFOTAB. It monitors the meetings and clears the draft minutes of the INFOTAB Board of Directors and the Global Issues Working Party, as well as INFOTAB workshops. All materials prepared by INFOTAB on smoking and health issues, including briefing documents sent to national manufacturers associations and presentations by the INFOTAB staff, are cleared by SHB in order to protect the member association and member companies. SHB also approves all public relations campaigns, tactics and strategies which address smoking and health issues.

2015007199-7207 at 7204-7205 (US 20311) (A).

476. A 1989 INFOTAB document outlined how to attack the WHO [World Health Organization]. The tactics it suggested included the following: "Criticize budget management, Address health priorities, Expose resource blackmail, Highlight regional failures, Attack 'behaviourism', Counter on public issues, Discredit activists' credentials, Engage in statistical

warfare, Invest in press relations, Show impact of 'cuckoo' organisations." The document also suggested the industry should attack IOCU [the International Organization of Consumer Unions] with the following program goals: "Relieve NGO pressure on WHO, Expose activists' 'credentials', Counter 'behaviourist' regulation, correct anti-business slant." 2021595753-5910 at 5769, 5897, 5903 (US 85541) (O).

477. In 1990, INFOTAB also issued an INFOTAB publication titled "Children & Smoking – The Balanced View" that addressed various World Health Organization claims. It stated that tobacco is not addictive, and that there were inconsistent findings as to whether smoking causes low birth weight, birth defects, and delayed mental and physical development in infancy. 2070052572-2578 (US 87151) (A); 2501342105-2110 (US 20565) (A).

478. On January 19, 1990, Ron Loader, INFOTAB Director of Information Services, confirmed the first meeting of a worldwide industry working group at the offices of the Tobacco Institute in Washington, D.C. for the purpose of planning a Global Argumentation Project. The Global Argumentation Project was an effort to develop a standardized and comprehensive collection of argumentation papers on smoking and health issues, including ETS and youth marketing, which could be used by local management and NMAs for lobbying, public information campaigns, or as base documents for responding to public health advocates. Representatives from INFOTAB, the Tobacco Institute, Shook, Hardy & Bacon, and several European and United States cigarette manufacturers attended the meeting, including Kay Comer of BATCo, Cynthia von Maerestetten of Philip Morris, Jim Goold of RJR; Donald Hoel and Jim Newsome of Shook, Hardy & Bacon, and Charles Powers and Fred Panzer of the Tobacco Institute. It had been decided that for several reasons "it would be sensible to hold this first meeting in Washington" because "we need to involve the US TI at an early stage in order to take

advantage of their detailed information / argumentation / lobbying materials developed over years in practical situations and needing personal discussion;" "most members of the Working Group are already in, or need to be in, the States (i.e. 8 out of 11);" and "it provides the opportunity for INFOTAB coordinators to review other information sources (e.g. RJR) at first hand." TIMN362946-2949 (US 62874) (O); TIMN362950-2952 (US 62872) (O); TIMN362918-2922 (US 62919) (O).

479. INFOTAB also collaborated with the IEMC. 507782317-2318 (US 20788) (A).

(6) TDC - Tobacco Documentation Centre

480. On December 4, 1991, the Tobacco Documentation Centre ("TDC"), a successor entity to INFOTAB, was established. BATCo joined the TDC at its inception. Its charter stated:

> The Association has as its purpose the establishment of a forum for exchange of views and information on international tobacco issues by the coordination of data and information in economic, social, scientific and technical areas. The general objectives are to broaden the knowledge of its members. In large part accomplishment of these objectives will be sought by providing information to various national and other tobacco trade associations and by serving as a resource of expertise and data analysis on these subjects of interest to the industry.

301159092-9101 (JD-031017) (O); 301159136-9151 (JD-031018) (O); 700495549-5561 at 5550 (JD-031478) (O); Proctor PD, United States, 6/12/02, 16:8-18, 113:7-11; Tully PD; United States, 6/13/02, 38:9-24.

481. The Founding Members of the TDC and subscription levels for each were as follows: Philip Morris International, Inc., 20%; RJR Tobacco International, Inc., 20%; BATCo, 20%; Gallahers, 10%; Reemtsma, 10%; and Rothmans International, 20%. Subscription levels of membership categories were based on annual production. On the unanimous proposal from Charter members, the following persons were unanimously elected to the Board of Directors for

1992: D.J. Bacon of BATCo, L.E. Birks of Gallahers, Richard J. Marcotullio of RJR International, F.J. Moreno of Philip Morris, C.J. Walther of Reemtsma, and A.A. Woods of Rothmans International. 301159092-9101 (JD-031017) (O); 301159136-9151 (JD-031018) (O).

482. The TDC was formed "to act as a central information resource for the tobacco industry worldwide. [Predecessor] INFOTAB had an extensive information collection and database, which was considered valuable and worth maintaining." 502601564-1567 at 1565 (US 29570) (O).

483. The IEMC and CECCM scheduled meetings from time to time at TDC's offices. 700494467-4471 (US 89139) (A); 2024210630-0631 (US 22868) (A); 2028363540-3549 (US 86604) (A); 2078742951-2951 (US 27724) (A); 2078742947-2948 (US 27721) (A); 2078742962-2963 (US 45192) (A); 900006204-6204 (US 88482) (A); 2051809368-9369 (US 86603) (A).

484. On April 28, 1992, the International ETS Management Committee ("IEMC"), which was comprised of representatives from Defendants BATCo, Philip Morris, and RJR, prepared comments for distribution by the TDC regarding the draft EPA Risk Assessment on the health hazards of ETS. All NMAs were to use these comments in responding to inquiries regarding the draft Risk Assessment. The document was also provided to TDC member companies. 515622547-2547 (US 20865) (A).

485. TDC distributed the IEMC ETS position papers, dated May 6, 1992, to the NMAs and lead companies, stating that the documents had been cleared for use by Defendants BATCo, Philip Morris, and RJR. TI13040345-0424 (US 86522) (A).

486. On June 19, 1992, Matt Winokur, Director of Corporate Affairs at Philip Morris International, informed Geoffrey Bible, President of Philip Morris, and other Philip Morris

employees, that the EPA talking points prepared by Covington & Burling were "also being used by our international competitors and by National Manufacturers Association via the TDC. This coordinated approach to communications is highly desirable. It enables the entire global industry to espouse a common position immediately, an essential element in quickly responding to local government and media." 2021173016-3016 (US 20342) (O).

(7) CORESTA - Centre for Cooperation in Scientific Research Relative to Tobacco/Centre de Coopération

487. The Centre for Cooperation in Scientific Research Relative to Tobacco/Centre de Coopération pour les Recherches Scientifiques Relatives au Tabac ("CORESTA") was created following the resolutions approved by the First International Scientific Tobacco Congress held in Paris, France, on September 10, 1955. It was created "[i]n order to operate a permanent Secretariat for international co-operation in scientific studies relative to tobacco." Its registered offices are located in Paris, and every world-wide major tobacco company and tobacco industry organization is a member. Meetings have been held every two years and, as of 1992, CORESTA had approximately 190 members, including Defendants BATCo, Philip Morris, Lorillard, B&W, Liggett, and RJR. 401349241-9242 (US 47550) (O); 401349243-9248 at 9243 (US 21788) (O); 401349330-9333 (US 47575) (O); Stevens WD, 4:3-5.

488. A March 31, 1992 BATCo document described CORESTA's value to the tobacco industry: "It is perceived as being objective, technical and independent. It is this perception which makes CORESTA unique and very valuable. Unlike other organizations, e.g., CECCM[,] it is not regarded as a lobbying organisation of the tobacco industry." 401349243-9248 at 9243 (US 21788) (O) .

489. BATCo opined in 1992 that the structure of CORESTA was "very restricted" and that "there is no doubt that it needs restructuring to meet the future demands of the Industry."

401349243-9248 at 9243 (US 21788) (O).

490. In June 2001, representatives from Defendants Lorillard, Philip Morris, and RJR, along with other delegates from the industry, convened at CORESTA's ETS Sub Group meeting, where they discussed trends in ETS research. In November 2001, the CORESTA Sidestream Task Force, which included representatives from Defendants BATCo, RJR, and Philip Morris, among others, met to review research conducted on sidestream tar and nicotine. 525302822-2823 (US 86526) (O); 525302728-2729 (US 86527) (O); 525776902-6936 (US 86528) (O); 325260347-0362 at 0348 (US 29146) (O); 524596882-6890 at 6883 (US 66571) (O).

(8) Tobacco Institute Interaction with Overseas and International Groups

491. As discussed above, the Tobacco Institute worked closely with overseas and international tobacco organizations to present a unified front; to influence public opinion; to pressure government officials to adopt the public positions of the United States tobacco industry; to maintain the Defendants' open question position on the relationship between smoking and adverse health effects; to preserve and enhance Defendants' profits; and to avoid adverse liability verdicts in lawsuits brought around the world.

492. In a document dated October 1, 1973, and titled "International Activities of the Tobacco Institute, Inc.," J.C.B. Ehringhaus, Jr., Tobacco Institute General Counsel, advocated that the Tobacco Institute have an increased role internationally. Ehringhaus noted that "any success of the anti-smoking group in another country 'diminishes' us. I think we have to do something about it, to be aware and to participate in order to protect the interests of the American companies." He further suggested: "We would keep aware of what's going on around the world and be able to advise our industry people in one country of these happenings so that they may be guided in dealing with their own local situations." 2010030234-0235 (US 88447) (O).

493. The Tobacco Institute's role in international matters was then discussed at the October 4, 1973 meeting of the Tobacco Institute Executive Committee, and it was agreed that "the Committee of Counsel should continue consideration of this area." TIMN0013425-3428 at 3427 (US 88448) (A).

494. One way in which the Tobacco Institute coordinated worldwide industry positions was by publishing brochures, pamphlets, "backgrounders," industry position papers, and other materials on the Enterprise's stance on controversial smoking and health issues and making them available for overseas distribution, often through INFOTAB. USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Interrogatory Answer No. 15).

495. The Tobacco Institute developed a Tobacco Institute backgrounder titled "Tobacco in the Developing Nations" and announced its availability in a Tobacco Institute newsletter on January 14, 1980. Copies were to be forwarded to international public relations personnel of member companies, overseas NMAs and other trade associations, and international organizations such as INFOTAB and ICOSI. TIMN0241954-1971 (US 21545) (O); TI16740349-0366 (US 86538) (O).

496. On October 15, 1981, Donald Hoel of Shook, Hardy & Bacon, sent a letter to Horace Kornegay, President of the Tobacco Institute, transmitting a draft of a "Public Smoking Paper" for use by INFOTAB. TIMN0144678-4678 (US 23015) (O).

497. In anticipation of the 1983 Surgeon General's Report on heart disease, the Tobacco Institute issued a report "Cigarette smoking and heart disease." The report was distributed to Tobacco Institute member companies who were requested not to distribute it widely, but only to use it for internal purposes until the Surgeon General's report on heart disease was released when additional copies would be made available. INFOTAB distributed the report

as well, advising its members that the Tobacco Institute would acquaint news reporters with its views about smoking and heart disease before the 1983 Surgeon General's report. 2501023645-3645 (US 20556) (O).

498. In anticipation of the 1985 Surgeon General's Report on smoking and the workplace, the Tobacco Institute staff gathered prior publications on similar subjects by the prospective authors of the report chapters in order to forecast the conclusions of the report with some degree of accuracy and develop "shadow" papers among scientists who would dispute such conclusions. TIMN0061572-1572 (US 88450) (O). Thereafter, INFOTAB informed NMAs throughout the world, including Britain's TMA, of which BATCo was a member, that the Tobacco Institute had assembled material for use in framing answers to possible specific questions from the media regarding the 1985 Surgeon General Report. INFOTAB forwarded a copy of this material for use as a basic reference by Defendants and spokespersons from the NMAs. 2501444186-4187 (US 27948) (O).

499. The Tobacco Institute's William Kloepfer was given six draft briefing papers in June 1987 that were to be presented at the Sixth World Conference on Smoking and Health. The papers discussed ETS and Indoor Air Quality; the Science of ETS; ETS Legislation; Tobacco and Developing Countries; Smoking and Young People; and Smoking and Women. Kloepfer was asked to, and did, rewrite all papers except the one on Smoking and Women. TIMN0269920-9944 (US 86540) (O).

500. In a 1990 memorandum listing "Allies to Be Notified of Industry Youth Initiatives," the Tobacco Institute directed that, prior to public announcement of any new industry initiatives in the area of youth smoking, the Tobacco Institute staff would provide organizations within the tobacco family, groups, and allies of the new program with advance copies of press

and program materials and a cover letter to be signed by the Tobacco Institute President or other appropriate staff. Among the international organizations to be kept abreast of the Tobacco Institute's activities on behalf of the industry were INFOTAB and TMA. TIMS00026152-6153 (US 88451) (O).

501. A letter dated March 6, 1992, from William Kloepfer, Tobacco Institute Senior Vice President, to Ron Tully of INFOTAB, and others, provided information about the Surgeon General's Report titled "Smoking and Health in the Americas" which was released on March 12, 1992. The letter explained that the Tobacco Institute would comment on the Surgeon General's Report, if asked, to United States media and Latin America media; that the Pan American Health Organization would be issuing a country-by-country status report on tobacco prevention and control measures; and that Kloepfer would bring briefing session materials prepared by Don Hoel of Shook, Hardy & Bacon and others. 2500121043-1043 (US 20552) (O).

502. The Tobacco Institute furnished advice, assistance, and even financial support to international industry-related groups and organizations as these groups worked on projects, publications, videos, conferences, briefing papers, and lobbying materials. USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15).

503. In a January 17, 1983 form letter to its members, TAC informed each of its member companies, one of which was Defendant BATCo, that the Tobacco Institute had provided TAC with a copy of a Tobacco Institute videotape compilation showing their spokespersons team in action: "It shows extracts of the four members of the team being interviewed on television and speaking to live audiences. Two points are of particular interest. The first, the way in which they publicly face and handle health issues. The second that all the team are first and foremost media trained and therefore utterly familiar with, and relaxed in,

dealing with hostile interviews and audiences: their knowledge of tobacco matters, while vitally important, is a secondary consideration in the selection and training process." 2024919702-9702 (US 26821) (O).

504. The Tobacco Institute provided facilities at its offices for an INFOTAB Workshop for NMAs held on September 19-22, 1983. William Kloepfer, Tobacco Institute, Vice President, and Tony St. Aubyn, TAC Assistant Director, were among the presenters. TI13161263-1266 (US 88499) (O); 100294426-4429 (US 88500) (O); 2501021530-1532 (US 27924) (O); 2501021486-1489 (US 25366) (O); USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15).

505. During 1984, the Tobacco Institute provided $70,000 (half the cost) to INFOTAB for a monograph commissioned by INFOTAB, edited by Robert Tollison, Professor of Economics at Virginia's George Mason University, and titled "Smoking in Society." TIMN371669-1669 (US 65655) (O); USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15).

506. In November 1990, Samuel Chilcote, Tobacco Institute President, sent Martin Oldman of INFOTAB a list of "messages and sub-messages [that] could be helpful as a starting point for any global and/or NMA ETS campaign." TI12200663-0663 (US 62313) (O).

507. The Tobacco Institute provided guidance, advice, strategies, and tactics to overseas organizations and groups for setting up tobacco alliances outside the United States.

508. On November 16, 1981, Mary Covington, Secretary General of INFOTAB, speaking on an "International Perspective on Smoking Issues and Related Activities of the Tobacco Industry," acknowledged that INFOTAB had received outstanding help from the Tobacco Institute, "a valuable source of information and ideas." 2501029891-9901 (US 20557)

(O).

509. In a March 5, 1986 letter to Bryan Simpson, INFOTAB Secretary General, Arthur Stevens, Lorillard Senior Vice President and General Counsel, stated that:

> Lorillard will not be renewing its INFOTAB membership subscription for 1986. Please understand that our action in no way reflects any disagreement or dissatisfaction with either the mission or the achievements of INFOTAB, all of which are credible and significant. You and your colleagues are performing valuable services for the tobacco industry worldwide, and we applaud INFOTAB's accomplishments. Although we are not engaged in the international sale of tobacco products, we recognize that restrictions and punitive measures directed against tobacco outside the U.S. are sometimes precursors to impacts felt here. However, as active and significant contributors to the program of the U.S. Tobacco Institute, whose assistance is generously and frequently afforded to INFOTAB, we believe we are already supporting INFOTAB's efforts to a very significant degree.

91820409-0410 (US 57120) (A).

510. Simpson wrote back to Stevens on March 21, 1986, confirming Lorillard's withdrawal as a member of INFOTAB and acknowledging that "we are aware of your major contribution to TI, and the benefits that we receive indirectly." 85174260-4260 (US 56011) (A).

511. According to an October 2, 1981 BATCo document, the Tobacco Institute, commented on the importance of INFOTAB to Defendants and the Enterprise as follows, "INFOTAB has without any doubt at all made an immense change in the general atmosphere in the industry and this has led to an enormous increase in cooperation." This document further stated that the Institute had been

> looking for 15 years for an international umbrella to enable them to deal with other NMAs and to improve the strength of the industry as a whole; -the back-wash from events and attacks affecting the industry in smaller countries comes back powerfully to the USA; . . . INFOTAB helps the industry to unite in trying to combat the attacks; -for years it had been hoped that there would be some sort of organization of international trade associations, which never

happened.

321796064-6067 at 6067 (US 28685) (O).

512. In remarks on September 20, 1983, at an INFOTAB workshop in Washington, D.C. on "How to Set Up a Tobacco Alliance," the Assistant Director of Britain's TAC, stated that the tobacco industry in the United Kingdom initially turned to the Tobacco Institute for guidance on setting up a tobacco alliance in early summer 1982. "[T]hanks to the unstinting help they gave us, we were able to draw much of our conceptual thinking from their experience with the Tobacco Action Network . . . T.I.'s experience, and especially their warnings of some of the problems and pitfalls we had to avoid, was invaluable." 2501021530-1532 at 1530 (US 27924) (O); 2024919702-9702 (US 26821) (O).

513. Tobacco Institute representatives served on international teams, committees, and boards, along with industry representatives from outside the United States, in which strategies were developed for a coordinated approach to scientific research studies and public relations campaigns. USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15); TI12431630-1630 (US 62383) (O); TI13111755-1755 (US 62412) (O); TI13110904-0904 (US 62410) (O); TI12200663-0663 (US 62313) (O); TI12432168-2168 (US 62385) (O); William Adams PD, United States v. Philip Morris, 6/18/02, 17:16-20.

514. In order to coordinate the Defendants' positions for the Fifth World Conference on Smoking and Health organized by the World Health Organization ("WHO") and held in Winnipeg, Canada, Hans Verkerk of INFOTAB, invited William Kloepfer, Tobacco Institute Senior Vice President for Public Relations, to a meeting of "an industry 'steering team'" in Montreal on November 22, 1982. Other members of the industry steering team included Donald Hoel of Shook, Hardy & Bacon, Bob Ely of BATCo, and Gwynn Hargrove, a retired BATCo

executive who was still active in international public affairs. TIMN270254-0254 (US 72405) (O); TIMN270252-0252 (US 86542) (O); TIMN270250-0251 (US 86543) (O); TIMN270253-0253 (US 86545) (O).

515. The Tobacco Institute made countless presentations for INFOTAB and other international group workshops, seminars, symposia, and conferences outlining Defendants' strategies for attacking what Defendants deemed "anti-smoking" research and programs linking smoking and health and ETS and health. USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15).

516. For example, on March 29, 1984, William Kloepfer, Tobacco Institute Vice President, participated in a meeting of the Passive Smoking Project Group, an INFOTAB committee, in Lausanne, Switzerland. TI12431630-1630 (US 62383) (O); TI12432168-2168 (US 62385) (O); USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15).

517. On June 4, 1984, William Kloepfer attended the meeting of the INFOTAB ETS Committee in Brussels, Belgium. Scientists from Defendants Philip Morris and RJR also attended. TI13111755-1755 (US 62412) (O); USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15).

518. On October 10, 1985, Tobacco Institute President Samuel Chilcote spoke at an INFOTAB International Workshop on the credibility gap between the tobacco industry and the public. TIMN371764-1795 (US 77095) (O); TIMN350605-0605 (US 88498) (O).

519. On October 14-16, 1986, William Kloepfer spoke on Smoking in the Workplace, calling ambient smoke a political issue rather than a health issue, at an INFOTAB International Workshop in Brussels. R.L.O. Ely, head of BATCo Public Affairs, addressed WHO Initiatives.

Tom Osdene, Philip Morris Director of Research, Charles Green, RJR scientist, and Donald Hoel, lawyer at Shook, Hardy & Bacon, took part in a panel discussion on ETS. 2021594646-4648 (US 26059) (O); TIOK0029712-9712 (US 86546) (O); TIOK0029713-9723 (US 86547) (O); TIOK0029724-9734 (US 86548) (O); 86024168-4172 (US 21089) (A); TI12820001-0004 (US 62398) (O); TI12820005-0290 (US 62399) (O).

520. On October 18, 1988, Walker Merryman, Tobacco Institute Vice President, spoke at an INFOTAB Workshop in Malaga, Spain, on anti-smoking activists. TI12261398-1399 (US 62348) (O).

521. The Tobacco Institute arranged visits and briefing sessions for domestic and foreign industry representatives to discuss current and emerging issues that the Tobacco Institute believed threatened the industry. For example, after attending a luncheon in Washington, D.C., hosted by the Tobacco Institute's Horace Kornegay, members of Japan Tobacco, Inc. ("JTI") were invited to attend a Tobacco Institute ETS Advisory Group meeting in Washington, D.C. In his July 15, 1986 letter to JTI's S. Takeda, Donald Hoel, Chairman of the ETS Advisory Group, wrote, "One of the purposes and benefits from the proposed joint meeting would be to exchange detailed information as to current research projects . . . . The second day would include identification of research needs and perceived problems." TI00610156-0156 (US 86549) (O); TI00610153-0154 (US 62064) (O).

522. In 1990, Charles H. Powers, Tobacco Institute Senior Vice President, arranged a visit and briefing session between the Tobacco Institute and the Canadian Tobacco Manufacturers' Council on current emerging issues in the two countries, particularly those issues with characteristics indicating potential spill over effects from the United States to Canada and/or vice versa. TI12910068-0069 (US 86550) (O).

523. Tobacco industry representatives from around the world attended the Tobacco Institute's College of Tobacco Knowledge, a seminar put held to bring industry managers and other employees up to speed on smoking and health related issues (discussed in detail at US FF § I.C(5), supra). At the October 1982 session, seventeen of the forty-nine students were from foreign countries, e.g., Paraguay, Canada, United Kingdom, Australia, Brazil, Switzerland, Holland, Venezuela, and Guatemala. 04163285-3285 (US 74872) (O); 04235250-5251 (US 75000) (O); TI04962210-2211 (US 67250) (O); TI04962207-2207 (US 88501) (O).

524. Employees from INFOTAB were invited to, and did attend, sessions of the Tobacco Institute College of Tobacco Knowledge. TIFL0067876-7877 (US 88633) (O); TIFL0071174-1174 (US 86142) (O); TIFL0071332-1332 (US 88634) (O); TI11961377-1377 (US 86186) (O); TI16740660-0663 (US 72403) (O); USX6400001-0527 at 0506-0507 (US 89561) (O) (TI Response to Interrogatory No. 15). Five members of INFOTAB attended the November 1981 session of the College. 501029891-9901 (US 20557) (O).

I. Dissolution of CTR and the Tobacco Institute

525. Prior to CTR and the Tobacco Institute's voluntary dissolutions and contemporaneous with liability actions against them, the New York Attorney General sought the dissolution of CTR and the Tobacco Institute on several independent statutory grounds including that each entity had transacted its business in a persistently fraudulent or illegal manner with respect to smoking and health issues. ARU6170234-0259 (US 87584) (A); TI16980952-0969 (US 86608) (O).

526. In November 1998, most of the State Attorneys General entered into a settlement agreement, referred to as the Master Settlement Agreement ("MSA"), with Philip Morris, R.J. Reynolds, B&W, Lorillard, Liggett, and Commonwealth Brands, Inc., to resolve all pending

Medicaid recoupment litigation. The State Attorneys General for Florida, Mississippi, Minnesota, and Texas already had entered into settlements with tobacco defendants prior to November 1998. The MSA required that CTR and the Tobacco Institute cease all operations and dissolve. In addition, the tobacco products manufacturers signing the MSA were prohibited from reconstituting CTR or its function in any form. JDX4100001-0328 (JD-045158) (A).

(1) CTR

527. On May 8, 1998, in connection with Minnesota v. Philip Morris, B&W, Lorillard, Philip Morris, and R.J. Reynolds (the four Class A members of CTR) entered into a Settlement Agreement and Stipulation for Entry of a Consent Judgment with the State of Minnesota ("Minnesota Settlement Agreement"), in which, among other things, the companies agreed to dissolve CTR and agreed to the entry of a consent judgment ("Minnesota Consent Judgment"). Section VI of the Minnesota Consent Judgment, entered on May 19, 1998, provided that, within ninety days of May 8, 1998, CTR would cease all operations except as necessary to comply with existing grants or contracts and to continue its defense of other lawsuits and that CTR would be disbanded and dissolved within a reasonable time period thereafter. 2060571342-1361 at 1342 (US 86853) (A).

528. The members of CTR held a special meeting on October 19, 1998, at CTR's offices in New York City at which the Plan of Corporate Dissolution and Distribution of Assets of The Council for Tobacco Research-U.S.A., Inc. was submitted to the members for consideration and approved by a unanimous vote of the members present. The Class A members present were B&W, represented by Senior Vice President Ernest Pepples; Philip Morris, represented by Senior Vice President of Operations John Nelson; Lorillard, represented by Chairman and CEO Alexander Spears; and R.J. Reynolds, represented by President and CEO

Andrew Schindler. The Class B members present were Bright Belt Warehouse Association, Tobacco Association, Inc., Burley Auction Warehouse Association, Burley Tobacco Growers Cooperative Association, Inc., and United States Tobacco. 2060571342-1361 at 1359-1361 (US 86853) (A). The Plan of Corporate Dissolution allowed CTR to continue to defend itself and to protect its interest in litigation, and to assist in the defense of Defendants and CTR's other members in litigation, pursuant to joint defense agreements or arrangements. 2060571342-1361 at 1344, 1348-1349 (US 86853) (A).

529. CTR and the Attorney General of New York agreed to the terms of the dissolution, and the New York court entered an Order Approving CTR's Plan of Corporate Dissolution and Certificate of Dissolution on or about October 21, 1998. 70005153-5362 at 5153-5186 (JE-021048) (A).

530. In March 1998, James Glenn, CTR President, sent a memorandum to the members of the Scientific Advisory Board requesting that the members send him a letter indicating their willingness to serve as a consultant or as a participant in any future activities of CTR or any successor organization. Glenn received mixed results to his request. Some members, such as Carlo Croce, replied affirmatively expressing their willingness to continue CTR's activities. Others such as Judith Swain, declined any further relationship with CTR, stating, "because of the information that has come out of the tobacco litigation process, I do not feel that I can continue as a member of the Council of Tobacco Research . . . the information from previous years indicates that the Council may not have been totally independent of the tobacco industry." TLT0270372-0372 (US 76330) (O); TLT027 0370-0370 (US 76328) (O).

(2) Tobacco Institute

531. Pursuant to a plan of dissolution that was to be negotiated by the Attorney General

of the State of New York and the Original Participating Manufacturers, B&W, Lorillard, Philip Morris, and R.J. Reynolds, in accordance with Exhibit G of the MSA, the Tobacco Institute was to cease all operations and be dissolved in accordance with the laws of the State of New York and under the authority of the Attorney General of the State of New York, with the preservation of all applicable privileges held by any member company of the Tobacco Institute. (no bates) (JD-045158) (A).

532. The Tobacco Institute's Plan of Corporate Dissolution and Distribution of Assets was approved on August 7, 2000, by its Class A members: Ernest Pepples, Senior Vice President of B&W; Michael Szymanczyk, CEO of Philip Morris, Inc.; Alexander Spears, Chairman of Lorillard; and Charles Blixt, Executive Vice President and General Counsel of R.J. Reynolds. TI31113058-3165 (US 21261) (O). The Plan of Corporate Dissolution allowed the Tobacco Institute to continue to defend itself and to protect its interest in litigation, and to assist in the defense of its members in litigation, pursuant to joint defense agreements or arrangements. Id., 3060, 3065.

533. The Tobacco Institute's Dissolution Plan was adopted by the Tobacco Institute Board of Directors. The members of the Board of Directors at the time were Nicholas Brookes and Ernest Pepples for B&W, Ronald Milstein and Alexander Spears for Lorillard, Tommy Payne and Andrew Schindler for R.J. Reynolds, Michael Szymanczyk for Philip Morris, Inc., and Howard Liebengood for Philip Morris Companies. TI31113205-3207 (JD-053521) (O).

534. The Supreme Court of the New York County entered an Order Approving the Tobacco Institute's Plan of Corporate Dissolution and Certificate of Dissolution on or about September 1, 2000. TI31113204-3214 at 3208-3213 (JD-080768) (O).

J. Gentlemen's Agreement

535. Defendants also used less formal mechanisms to organize the affairs of the Enterprise. As a means to further the aims of the Enterprise, and contrary to their repeated promises to protect the public health by conducting unbiased research related to smoking and health, the Defendants adhered to a "gentlemen's agreement" -- so-called by Defendants themselves -- not to commission or perform in-house biological research on smoking and health. The two components of this gentlemen's agreement were: (1) any company discovering an innovation permitting the manufacture of an essentially "safe" cigarette would share the discovery with others in the industry; and (2) no domestic company would use intact animals for in-house biomedical research. 501543470-3517 at 3504 (US 21737) (A).

536. Although Defendants recognized that research and testing were essential to evaluating the health risk posed by their products, in-house scientists who urged their companies to develop safer products and compete on health grounds were often ignored or silenced.

537. Defendants' mutual commitment to share discovery of a "safe" cigarette with each other – the gentlemen's agreement – substantially reduced, by design, the financial incentive any cigarette company might otherwise have had to develop and market a safer product. See US FF § III.A(3), infra (for a detailed discussion of the Gentlemen's Agreement).

K. Suppression and Concealment of Documents and Information

538. From at least 1954 to the present, Defendants engaged in efforts to suppress and conceal documents and information in order to further the goals of the Enterprise: (1) preventing the public from learning the truth about the adverse health impacts of smoking and ETS and about the addictiveness of nicotine; (2) avoiding or, at a minimum, limiting liability for smoking and health related claims in litigation; and (3) avoiding statutory and regulatory limitations on the cigarette industry (detailed discussion at US FF § III.F., infra). These activities occurred despite

Defendants' promises that they did not conceal, suppress or destroy evidence, and that they shared all pertinent research findings with the American people.

539. Methods used by the Defendants to suppress and conceal documents and information, especially scientific research, included:

(a) establishing and implementing company policies for document destruction;

(b) destroying documents and evidence;

(c) limiting the number of copies of memoranda in contemplation of eventual document destruction or concealment;

(d) shipping and secreting documents outside the United States and/or at foreign affiliates;

(e) establishing company policies of avoidance and delay of production of documents;

(f) using their lawyers to assert improper claims of attorney-client privilege and work product protection for non-privileged documents through various means, including routing documents through lawyers, maintaining scientific materials in lawyer's files, and indiscriminately marking documents as privileged, confidential, or other such designations; and

(g) using their lawyers, instead of scientists, to direct as well as suppress the scientific research and other scientific matters of the industry.

L. Conclusion

540. The foregoing evidence in the Court record, together with the evidence of Defendants' fraudulent scheme adduced at trial and presented at US FF § III, infra, proves that Defendants established and have each participated in an association-in-fact Enterprise that has functioned continuously for over fifty years to achieve shared unlawful objectives.

II

THE ENTERPRISE IS ENGAGED IN AND AFFECTS INTERSTATE AND FOREIGN COMMERCE

1. The RICO Enterprise established in this case at all relevant times has been and is engaged in interstate and foreign commerce and its activities have affected, and continue to affect, interstate and foreign commerce within the meaning of 18 U.S.C. § 1962(c) and (d). Regarding Defendant-members of this RICO enterprise, the Court finds the following facts.

A. Philip Morris Companies

2. Defendant Philip Morris Companies has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from July 1, 1985 to December 10, 2002. Order #280, United States v. Philip Morris, at ¶7, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

B. Philip Morris

3. Defendant Philip Morris has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1953 to December 10, 2002. Order #280, United States v. Philip Morris, at ¶1, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

C. R.J. Reynolds

4. Defendant RJR has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1953 to December 10, 2002. Order #280, United States v. Philip Morris, at ¶2, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

D. Liggett

5. Defendant Liggett has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1990 through January 29, 2003. Liggett's predecessors in interest engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) from 1953 until 1990. Order #308, United States v. Philip Morris, at ¶1, filed January 31, 2003; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

E. Lorillard

6. Defendant Lorillard has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1953 to December 10, 2002. Order #280, United States v. Philip Morris, at ¶5, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

F. BATCo

7. Defendant BATCo has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1953 to December 10, 2002. Order #280, United States v. Philip Morris, at ¶6, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

G. Brown & Williamson

8. Defendant B&W has engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1953 to December 10, 2002. Order #280, United States v. Philip Morris, at ¶3, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

H. American

9. Defendant American, predecessor to Defendant B&W, engaged in and conducted activities affecting interstate commerce within the meaning of 18 U.S.C. § 1962(c) and (d) during the period from 1953 to February 28, 1995. Order #280, United States v. Philip Morris, at ¶4, filed December 11, 2002; Mem. Opinion to Order #538, United States v. Philip Morris, at 7-8, filed May 6, 2004.

I. Tobacco Institute

10. Defendant Tobacco Institute admits that it was a not-for-profit corporation and tobacco industry association formed in 1958 under the laws of the State of New York, and that, at one time, its principal place of business was located in Washington, D.C. Answer, Defenses and Jury Demand of The Tobacco Institute, Inc., United States v. Philip Morris, filed October 30, 2000, at 16.

11. From at least 1959 through 1995, Defendants American, B&W, Liggett, Lorillard, Philip Morris, and RJR were among the member organizations of the Tobacco Institute who, as a part of their membership, contributed to the Tobacco Institute's funding. TIFL0020285-0311 at 0297-0305 (JD-080429) (O).

12. From 1958 until 1999, Defendants Philip Morris, RJR, American, B&W, Lorillard, and Liggett declared contributions of over $618.4 million to the Tobacco Institute, which were processed through the interstate banking system. Response of Brown & Williamson Tobacco Corporation to United States' First Set of Interrogatories to Defendants, United States v. Philip Morris, served February 6, 2001, at 97-103 (US 89561) (O); Liggett Group Inc.'s Objections and Responses to United States' First Set Of Interrogatories to Defendants, United States v. Philip Morris, served February 6, 2001, at 54-56 (US 75925) (A); Lorillard Tobacco

Company's Responses to United States' First Set of Interrogatories to Defendants, United States v. Philip Morris, served February 6, 2001, at 40-44; (US 89561) (O); Philip Morris Incorporated's Responses to United States' First Set of Interrogatories to Defendants, United States v. Philip Morris, served February 6, 2001, at 71-73 (US 75555) (A); Response of R.J. Reynolds Tobacco Company to Plaintiff United States' First Set of Interrogatories, United States v. Philip Morris, served February 6, 2001, at 132-135 (US 89561) (O).

13. For the period 1980 through 1994 alone, the Tobacco Institute spent more than $169 million for public relations and advertising. TIFL0020285-0311 at 0298 (JD-080429) (O).

14. The Tobacco Institute, its agents, or former employees have made numerous public statements or admissions of the interstate nature and scope of its business. For example, on January 12, 2005, Brennan Dawson, former Senior Vice President for Public Affairs of the Tobacco Institute, testified at trial in this case that she made public statements, on behalf of the Tobacco Institute, concerning smoking and health issues on television programs, including CNN's Newsmaker Sunday, CNN's Crossfire, Good Morning America, and CBS News Night Watch, and that she intended that millions of American television viewers believe such public statements. Dawson TT, 1/12/05, 9925:17-9930:16.

15. During trial, Brennan Dawson also testified that many of the Tobacco Institute's press releases and other public statements were disseminated to the public via newspapers and magazines. Dawson TT, 1/12/05, 9928:19-9929:10.

16. On February 25, 1994, the Tobacco Institute's Senior Vice President of Administration, William Adams, and its Senior Vice President for State Activities, Kurt L. Malmgren, mailed, out of state, individual letters to: Brown & Williamson Senior Vice President Ernest Pepples (authored by Mr. Malgrem); Philip Morris President and CEO William Campbell

(authored by Mr. Adams); and Lorillard Senior Vice President M. Alfred Peterson (authored by Mr. Adams), requesting their company's respective contribution of at least $100,000 to the Michigan Citizens for Fair Taxes to fight a 1994 ballot initiative, and requesting that each of the companies wire its contribution to the Tobacco Institute's Washington, D.C. bank account. TI16370185-0402 at 0366, 0368, 0369 (US 21258) (O).

17. On August 31, 1994, William Adams, Senior Vice President of Administration of the Tobacco Institute, mailed, out of state, individual letters to: Philip Morris President William Campbell; Reynolds Executive Vice President David Anderson; Brown & Williamson Senior Vice President Ernest Pepples; Lorillard Senior Vice President M. Alfred Peterson; and American Vice President John Hager, advising them each that the Tobacco Institute Management Committee had approved additional lobbying expenditures for a state initiative and requesting their respective company's payment. TI16370185-0402 at 0340-0346 (US 21258) (O).

J. TIRC/CTR

18. Defendant TIRC was formed in January 1954 by several entities, including Defendants Philip Morris, RJR, B&W, American, and Lorillard. TIRC had its principal place of business in New York. In 1964, TIRC changed its name to The Council for Tobacco Research – U.S.A. In 1971, the name was changed to The Council for Tobacco Research – U.S.A., Inc., when CTR incorporated as a not-for-profit corporation organized under the laws of the State of New York. Answer of Defendant The Council for Tobacco Research - U.S.A., Inc. to Plaintiff's Complaint for Damages and Injunctive and Declaratory Relief, United States v. Philip Morris, filed October 30, 2000 ("CTR Answer"), at 4, 6.

19. From 1954 to 1999, Defendants Philip Morris, American, B&W, Liggett, Lorillard, and RJR contributed a total of approximately $505.4 million to CTR, which payments

were processed through the interstate banking system. From the period 1954 through 1999, member contributions to the CTR General Fund, processed through the interstate banking system, totaled over $470.2 million. DXA0630917-1033 at 1017-1023 (US 75927) (A).

20. Through 1997, CTR funded 1,657 research grants-in-aid, research contracts, and scientific conferences, totaling approximately $317 million, in the United States and abroad. McAlllister WD, 53:3-54:3; 70000302-0618 at 0308 (JD-090039) (A).

21. From about 1966 to 1991, CTR also administered the funding of certain CTR Special Projects, which were separate and distinct from CTR's grant in aid program. CTR administered Special Project funding through a separate checking account, and received direction and funding from sponsor companies, including defendants Philip Morris Companies, Philip Morris, American, B&W, Liggett, Lorillard, and RJR and/or their attorneys. CTR also sent correspondence and funds to Special Project recipients and/or their affiliated institutions through the United States Mail. For the period 1966 through 1990, CTR members contributed over $18.2 million toward the funding of these Special Projects. CTR Answer, at 9; McAllister WD, 159:8-164:5; DXA0630917-1033 at 1024 (US 75927) (A).

22. CTR provided funding to Special Projects recipients via checks processed through the interstate banking system and delivered via the United States Mail. McAllister PD, United States v. Philip Morris, 5/24/02, 98:3-99:2, 102:13-22, 103:7-19.

23. According to Harmon McAllister, CTR's 30(b)(6) witness on the subject of mailings, CTR mailed its Annual Reports through the United States mails. McAllister PD, Philip Morris, 5/24/02, 65:11-66:21.

III

DEFENDANTS DEVISED AND EXECUTED A SCHEME TO DEFRAUD CONSUMERS AND POTENTIAL CONSUMERS OF CIGARETTES

1. From in or about December 1953 and continuing to the present, Defendants did knowingly and intentionally devise and execute a scheme and artifice to defraud consumers and potential consumers of cigarettes of money and property by means of material false and fraudulent statements, pretenses, representations and promises, and omissions of material facts, knowing that the statements, pretenses, representations and promises, were false, misleading and deceptive when made, including: (1) to deceive consumers into starting and continuing to smoke cigarettes by endeavoring to misrepresent and conceal the adverse health effects caused by smoking cigarettes and exposure to cigarette smoke and by maintaining that there was an "open question" as to whether smoking cigarettes causes disease and other adverse effects, despite the fact that the defendants knew otherwise; (2) to deceive consumers into starting and continuing to smoke cigarettes by undertaking an obligation to take actions, including funding independent research, in order to determine if smoking cigarettes causes cancer or other diseases, while pre-selecting researchers and directing funds to irrelevant research and research that supported Defendants' positions on smoking and health issues; (3) to deceive consumers into becoming or staying addicted to cigarettes by maintaining that nicotine is not addictive, despite the fact that Defendants knew that nicotine is addictive; (4) to deceive consumers into becoming or staying addicted to cigarettes by manipulating the design of cigarettes and the delivery of nicotine to smokers, while at the same time denying that they engaged in such manipulation; (5) to deceive consumers through deceptive marketing to exploit smokers' desire for less hazardous and "low

tar" cigarettes; (6) to deceive consumers, particularly parents and children, by claiming that they did not market to children, while engaging in marketing and advertising with the intent of addicting children into becoming lifetime smokers; and (7) to suppress and conceal information, including to destroy documents relevant to these allegations.

A. Adverse Health Effects

(1) Defendants Jointly Engaged in a Massive Public Relations Campaign to Fraudulently Deny and Distort the Health Consequences of Smoking

(a) Cigarette Smoking, Including Exposure to Secondhand Smoke, Causes Disease and Death

2. Cigarette smoking and exposure to secondhand smoke, also known as environmental tobacco smoke or "ETS," kills nearly 440,000 Americans every year. The annual number of deaths due to cigarette smoking is substantially greater than the combined annual number of deaths due to illegal drug use, alcohol consumption, automobile accidents, fires, homicides, suicides, and AIDS. Approximately one out of every five deaths that occur in the United States is caused by cigarette smoking. TLT0960104-0112 at 0104 (US 87047) (O) (Centers for Disease Control and Prevention, Smoking-Attributable Mortality and Years of Potential Life Lost—United States, 1994, MMWR, 46(20) (1997)); VXA1000001-0604 (US 77217) (A) (Thun M., Myers D., Day-Lally C., Namboodiri M., Calle E., Flanders W.D., Adams S., Heath Jr. C., Age and the Exposure-Response Relationships Between Cigarette Smoking and Premature Death in Cancer Prevention Study II, Chapter 5, Smoking and Tobacco Control Monograph 8: Changes in Cigarette-Related Disease Risks and Their Implications for Prevention and Control, National Institutes for Health – National Cancer Institute, p. 383-476 (1997)); TLT0930001-0949 (US 88621) (A) (2004 Surgeon General Report).

3. Cigarette smoke contains carbon monoxide, nitrogen oxides, cyanide, benzene, radioactive polonium, aldehydes, numerous toxins and other human carcinogens. Samet WD, 22:15-23:10. Carcinogens and toxins are absorbed into the bloodstream when cigarette smoke is inhaled. Samet WD, 23:11-24:3.

4. Cigarette smoking causes lung cancer. Lung cancer kills 160,000 Americans each year, and 90% of all lung cancer cases are caused by cigarette smoking. The five-year survival rate for lung cancer is only 14%. Samet WD, 71:18-22, 80:1-3; Carmona WD, 1:18-21.

5. The risk of developing lung cancer increases with an increase of smoking. Individuals smoking ten to twenty cigarettes per day have a ten-fold increased risk and individuals smoking forty or more cigarettes per day – two packs and over – have more than a twenty-fold increased risk of developing lung cancer. This rate of risk is referred to as "relative risk." Samet WD, 64:17-67:19; (no bates) (US 17141) (A).

6. There are four types of lung cancer: small-cell carcinoma, squamous-cell carcinoma, adenocarcinoma, and large-cell carcinoma. Small cell-and squamous-cell carcinomas usually arise early in the divisions of the airways as they move out to the alveoli. Adenocarcinomas arise more frequently in the periphery of the lung. This type of carcinoma has become more common in the past 25 or 30 years, and now accounts for 30% of the lung cancers in the United States. Samet WD, 71:23-72:2, 74:12-75:11.

7. Cigarette smoking, including exposure to secondhand smoke, causes cardiovascular disease, including myocardial infarction (commonly known as "heart attack"), coronary heart disease ("CHD") and atherosclerosis. CHD refers to diseases which affect the blood vessels of the heart. CHD can cause a deprivation of oxygen to the heart, and thus, cause

heart attacks. Atherosclerosis refers to the development of plaque on the arteries. This contributes to the blocking of blood flow to the heart. Samet WD, 107:18-118:21; (no bates) (US 17165) (A); (no bates) (US 17158) (A); (no bates) (US 17134) (A); (no bates) (US 17159) (A); (no bates) (US 17160) (A); (no bates) (US 17204) (A).

8. Cigarette smoking causes bladder cancer. Samet WD, 90:22-91:4; 97:5-98:17; (no bates) (US 17103) (A).

9. Cigarette smoking causes cerebrovascular disease. Samet WD, 118:21-120:18, 121:15-122:14.

10. Cigarette smoking causes chronic obstructive pulmonary disease ("COPD"). Samet WD, 81:4-90:21.

11. COPD, previously referred to as "emphysema" or "chronic bronchitis," was found to be causally related to smoking in 1964. Id., 81:10-83:14.

12. Cigarette smoking causes esophageal cancer. Id., 90:22-91:4; 94:5-95:13.

13. Cigarette smoking causes kidney cancer. Id., 90:22-91:4; 98:18-101:4.

14. Cigarette smoking causes laryngeal cancer. Id., 91:5-92:21.

15. Cigarette smoking causes oral cancer. Id., 92:22-94:4.

16. Cigarette smoking causes pancreatic cancer. Id., 90:22-91:4; 95:14-97:4.

17. Cigarette smoking causes peptic ulcer disease. Id., 125:10-127:3.

18. Cigarette smoking causes aortic aneurysm. Id., 122:15-125:9.

19. Cigarette smoking causes cataracts. Id., 127:4-128:8.

20. Cigarette smoking causes low bone density in post-menopausal women. Id., 128:9-129:22.

21. Cigarette smoking causes reduced fertility. Id., 130:12-131:23.

22. Cigarette smoking causes adverse reproductive outcomes, including pre-mature rupture of the membranes, placenta previa, placental abruption, pre-term delivery and shortened gestation, fetal growth restriction and low birth weight. Id., 130:20-132:9.

23. Cigarette smoking causes acute myeloid leukemia leukemia. Id., 101:5-102:23.

24. Cigarette smoking causes stomach cancer. Id., 103:1-104:9.

25. Cigarette smoking causes cervical cancer. Id., 104:10-105:15.

26. Cigarette smoking causes liver cancer. Id., 105:16-106:9.

27. Cigarette smoking causes diminished health status. Id., 132:15-135:20.

28. Exposure to secondhand smoke causes acute respiratory illness and chronic respiratory symptoms in children and infants. Id., 207:7-211:16.

29. Secondhand smoke causes reduction of lung function growth in otherwise healthy children. Id., 211:17-213:15.

30. Secondhand smoke causes asthma exacerbation and symptoms in children. Id., 213:16-218:2.

31. Prenatal and neonatal exposure to cigarette smoke causes sudden infant death syndrome ("SIDS"), otitis media, and cognitive and behavioral difficulties. Id., 201:14-207:6; Weitzman WD, 19:18-20:2.

32. On May 27, 2004, the United States Surgeon General announced causal conclusions in connection with a substantial number of additional diseases that were not previously causally associated with smoking: cancers of the stomach, uterine cervix, pancreas, and kidney; acute myeloid leukemia; pneumonia; abdominal aortic aneurysm; cataract; and

periodontitis. The report also concludes that smoking generally diminishes the health of smokers. TLT0930001-0949 (US 88621) (A) (2004 Surgeon General Report).

(b) Scientific Investigation of the Rise in the Incidence of Lung Cancer Led Researchers to Identify Smoking as a Cause of Disease by the Early 1950s

33. The Court recognized Dr. Allan M. Brandt as an expert in the history of science and medicine without objection from Defendants. Brandt TT, 9/27/04, 642:19-643:3.

34. Dr. Brandt's qualifications and expertise in, broadly, the history of science and medicine and, more specifically, the development of scientific knowledge of the disease risks associated with cigarette smoking and Defendants' response to the emerging scientific evidence, are unquestionable. He is the Amalie Moses Kass Professor of the History of Medicine at Harvard Medical School and Professor of the History of Science at Harvard University, where he is the chair of the Department of the History of Science. Brandt WD, 1:3-6. Dr. Brandt has published extensively in the field of the history of science and medicine for a period of almost three decades, receiving a Pulitzer Prize nomination for his work, and has published more than 15 peer-reviewed essays and articles on the history of cigarette smoking during the past decade. Id., 3:17-15:3.

35. In the course of his historical investigation of tobacco, Dr. Brandt has reviewed and analyzed the archival materials from the 1964 Surgeon General's Advisory Committee at the National Archives, and numerous additional archival collections, including those of Harvard University (William Cochran); the Countway Library at Harvard Medical School (J. McKeen Cattell), the University of Maine (C.C. Little); Washington University, St. Louis (Evarts Graham); the Wisconsin Historical Society (Bruce Barton, John W. Hill, Robert Lasch, M.V.

O'Shea); the Alan Mason Chesney Medical Archives at the Johns Hopkins Medical Institutions (Lewis Robbins); University of Washington, Seattle (Warren Magnuson); the Library of Congress (Edward Bernays, Harvey Wiley); Yale University (Chester Bliss, Lester Savage); Duke University (the John W. Hartman Center for Sales, Advertising and Marketing History); the Smithsonian (NC Ayer Collection, The Warshaw Collection of Business Americana); the National Library of Medicine (Stanhope Bayne-Jones); and the National Archives (The Surgeon General's Advisory Committee). He has also reviewed internal documents of Defendants, including correspondence, reports, and memoranda on tobacco industry activities and programs. Id., 26:14-28:13.

36. The historical methods utilized by Dr. Brandt in his extensive study of cigarettes in the United States and in preparation for his testimony as an expert in this case were systematically and rigorously applied, and he arrived at interpretations and conclusions that are both persuasive and authoritative, and that meet professional standards of evidence and objectivity in his field. Defendants did not call an expert witness in Dr. Brandt's field, nor did they offer testimonial or documentary evidence that in any way contradicts or impeaches Dr. Brandt's testimony.

37. By the middle of the twentieth century, physicians and public health officials in the United States had widely noted an alarming increase in numbers of cases of lung cancer. Virtually unknown as a cause of death in 1900, by 1935 there were an estimated 4,000 deaths annually attributed to lung cancer. A decade later, the estimate of deaths attributed to lung cancer had nearly tripled. VXA1601844-2232 at 1986 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 31:16-32:1.

38. The rise in lung cancers had followed the dramatic increase in cigarette consumption beginning early in the twentieth century. Annual per capita consumption of cigarettes in 1900 stood at approximately forty-nine cigarettes; by 1930, annual per capita consumption was over 1,300; by 1950, it was over 3,000. Even though the increases in lung cancer cases and deaths substantially lagged this increase in cigarette use, the apparent association led to considerable speculation about this relationship. VXA1601844-2232 at 1895-1898 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 32:2-17; Samet TT, 9/29/04, 01031:13-01033:25.

39. The dangers of smoking, including its connection to lung cancer, began to attract more concerted attention of scientists in the 1920s, when researchers began to focus on the specific health consequences of smoking. Brandt WD, 32:18-34:13.

40. As early as 1928, researchers conducting a large field study associated heavy smoking with cancer. 2060544267-4274 (US 39010) (A) (Lombard, Herbert L. and Carl R. Doering, "Cancer Studies in Massachusetts: Habits, Characteristics and Environment of Individuals With and Without Cancer," *New England Journal of Medicine* 196.10: 481-487 (1928)); Brandt WD, 33:14-34:13.

41. In 1931, Frederick L. Hoffman, a well-known statistician for the Prudential Insurance Company, linked smoking with cancer. Hoffman assessed the basic methodological questions of such research: issues of representativeness, sample size, and the construction of control groups. These questions presented researchers with a series of complex problems, of which they were aware and then began to find ways to resolve them. VXA2510202-0219 (US 63597) (A) (Hoffman, Frederick L., "Cancer and Smoking Habits," *Annals of Surgery* 93: 50-67

(1931)); Brandt WD, 33:21-34:4.

42. In 1938, a population biologist and biometrician from Johns Hopkins, Raymond Pearl, published one of the first significant statistical analyses of the health impact of smoking. Pearl's conclusion was that individuals who smoked could expect shorter lives. 503285883-5884 (US 20714) (A) (Pearl, Raymond, "Tobacco Smoking and Longevity," *Science*: 87:2253 (1938)); Brandt WD, 34:5-13.

43. Early research efforts led to publication of the first case control study that showed the connection between smoking and lung cancer in Germany in 1939. VXA2510202-0219 (US 63597) (A) (Hoffman, Frederick L., "Cancer and Smoking Habits," *Annals of Surgery* 93:67 (1931)); VXA251 0239 (US 63595) (A) (F. H. Muller, "Abuse of Tobacco and Carcinoma of the Lungs," *Journal of the American Medical Association* (translation of the original from Zeitschrift fur Krebsforschung, Berlin) (1939)); Brandt WD, 34:5-36:7.

44. In the 1930s, chest surgeons such as Alton Oschner and Richard Overholt published observations that the patients they saw with advanced lung malignancies were typically smokers. Oschner and another surgeon, DeBakey concluded that: "In our opinion the increase in smoking with the universal custom of inhaling is probably a responsible factor, as the inhaled smoke, constantly repeated over a long period of time, undoubtedly is a source of chronic irritation to the bronchial mucosa." 85868807-8823 at 8807 (US 63596) (A) (Oschner, Alton, DeBakey, Michael, "Primary Pulmonary Malignancy, Surgery, Gynecology and Obstetrics 68:435-45 (1939)); Brandt WD, 34:14-36:7.

45. By the end of 1940s, more evidence linking smoking to disease began to appear. Beginning in 1948, under the auspices of the Medical Research Council, a unit of the recently

created National Health Service in the United Kingdom, Bradford Hill and Sir Richard Doll conducted a study to investigate the rising incidence of lung cancer. Following World War I, Hill had become one of the most distinguished medical statisticians in Great Britain. Doll, a physician, also possessed sophisticated training in statistics and epidemiologic methods. They realized that questions concerning the causality of systemic chronic diseases would not readily succumb to experimental laboratory investigation (unlike the study of infectious disease where specific causality was important). Nonetheless, the timeliness and public health significance of these questions demanded immediate attention and the development of new knowledge. TIMN0145510-5519 at 5510, 5518 (US 62855) (A) (Doll, Richard, and A. Bradford Hill, "Smoking and Carcinoma of the Lung: Preliminary Report," *British Medical Journal* (1950)); Brandt WD, 32:18-34:13; 40:19-44:2.

46. From their data from lung cancer patients and a control group in late 1948 and early 1949, it became clear to Doll and Hill that cigarettes were the crucial factor in the rise of lung cancer. With data on almost 650 lung cancer patients, they concluded that they had, in fact found cause and effect. The findings were impressive: among the 647 lung cancer patients entered into Doll and Hill's study, all 647 were smokers. They waited to publicize their results, however, until they had data on 1400 lung cancer patients, further strengthening their conclusions. TIMN0145510-5519 (US 62855) (A) (Doll, Richard, and A. Bradford Hill, "Smoking and Carcinoma of the Lung: Preliminary Report," *British Medical Journal* (1950)); Brandt WD, 42:1-44:2.

47. In the early 1950s, Doll and Hill understood that some critics might dismiss findings linking smoking to disease (as Defendants did) as "merely" statistical. As a result, they

meticulously described the specific criteria that they required before an "association" could be identified as a genuine causal relationship. First, they worked to eliminate the possibility of bias in the selection of patients and controls, as well as in reporting and recording their histories. Second, they emphasized the significance of a clear temporal relationship between exposure and subsequent development of disease. Finally, they sought to rule out any other factors that might distinguish controls from patients with disease. This explicit search for possible "confounders" and their elimination marked a critical aspect of their arrival at a causal conclusion. They insisted on carefully addressing all possible criticisms and all alternative explanations for their findings. In this respect, Doll and Hill and the other epidemiologic investigators expressed a strong commitment to inductive science, hypothesis-testing, and scientific method:

> Consideration has been given to the possibility that the results could have been produced by the selection of an unsuitable group of control patients, by patients with respiratory disease exaggerating their smoking habits, or by bias on the part of the interviewers. Reasons are given for excluding all these possibilities, and it is concluded that smoking is an important factor in the cause of carcinoma of the lung.

VXA2510117-0126 at 0125 (US 63604) (A) (Doll, Richard, and A. Bradford Hill, "Smoking and Carcinoma of the Lung: Preliminary Report," *British Medical Journal* (1950)); Brandt WD, 42:10-43:9.

48. Noted historian Charles Webster observed of the first Doll and Hill paper, published in 1950: "This modest paper is now regarded as a classic. From these findings emerged the realization that smoking has been responsible for as many deaths per annum as were claimed by the great cholera epidemics of the nineteenth century. Smoking was thus established as a major cause of preventable disease." VXA2510301-0310 at 0301 (US 63589) (A) (Webster,

Charles, "Tobacco Smoking Addiction: A Challenge to the National Health Service," *British Journal of Addiction* 79:7 (1984)); Brandt WD, 46:4-47:23.

49. Doll and Hill's work withstood scientific scrutiny. In fact, two years later, in a 1952 follow-up report, Doll and Hill offered additional evidence for sustaining their conclusion, again fully considering alternative explanations:

> The present analysis of nearly 1,500 cases, or more than double the number dealt with in our preliminary report, supports the conclusion then reached and has revealed no alternative explanation – for example, in the use of petrol lighters.
>
> It has been suggested that subjects with a particular physical constitution may be prone to develop *(a)* the habit of smoking and *(b)* carcinoma of the lung, and that the association might therefore be indirect rather than causal (Parnell,1951). We know of no evidence of such a physical constitution characteristic of patients with lung carcinoma. If it does exist we should still have to find some environmental factor to account for the increased incidence of the disease in recent years.

VXA2510127-0142 at 0139 (US 63603) (A) (emphasis in original) (Doll, Richard, and A. Bradford Hill, "A Study of the Aetiology of Carcinoma of the Lung," *British Medical Journal* (1952)); Brandt WD, 43:10-44:2.

50. Doll and Hill also sought to confirm the findings of their retrospective study through prospective investigation. They gathered data from 40,000 British physicians who were followed in order to see whether they would develop lung cancer. This study showed that heavy smokers had death rates 24 times higher than non-smokers did. Doll and Hill's research was continued through June of 2004 when Doll and his colleagues published a 50 year observational study in the *British Medical Journal*. Brandt WD, 46:1-20; VXA2510001-0005 (US 63612) (A) (Doll, Richard, and A. Bradford Hill, "The Mortality of Doctors in Relation to Their Smoking

Habits: A Preliminary Report," *British Medical Journal* (1954));VXA2510006-0021 (US 63611) (A) (Doll, Richard, and A. Bradford Hill, "Lung Cancer and Other Causes of Death in Relation to Smoking," *British Medical Journal* (1956)).

51. Other researchers studied the connection between smoking and lung cancer during the same time period. In 1949, Evarts Graham, a leading surgeon at Barnes Hospital in St. Louis, and Ernst Wynder, a medical student at Washington University, designed and implemented a study to address and resolve directly the persistent and increasingly important questions concerning the possible harms of cigarette smoking. Graham, a nationally known surgeon who had performed the first pneumonectomy, was a heavy smoker himself and skeptical of the cigarette-lung cancer hypothesis. He initially had speculated that, if smoking was a cause of lung cancer, it would occur more bilaterally (rather than in a single lobe). Wynder and Graham collected extensive data on a group of 684 patients with lung cancer located in hospitals throughout the United States. These patients were extensively interviewed about their smoking levels and histories. Histological exams confirmed the diagnosis in all cases. This group was then compared to a "control group" of non-smokers, similar in age and other demographic characteristics. Wynder and Graham explained, "[T]he temptation is strong to incriminate excessive smoking, and in particular cigaret smoking, over a long period as at least one important factor in the striking increase of bronchiogenic carcinoma." They offered four reasons to support this conclusion. First, it was very unusual to find lung cancers among non-smokers. Second, among patients with lung cancer, cigarette use tended to be high. Third, the distribution of lung cancer among men and women matched the ratio of smoking patterns by gender. And finally, "the enormous increase in the sale of cigarettes in this country approximately parallels the

increase in bronchiogenic carcinoma." These results were reported in the *Journal of the American Medical Association ("JAMA")*, a prestigious, peer reviewed journal, on May 27, 1950. VXA2510109-0116 at 0114 (US 63605) (A) (Wynder, Ernst L., and Evarts A. Graham, "Tobacco Smoking as a Possible Etiologic Factor in Bronchiogenic Carcinoma: A Study of Six Hundred and Eighty Four Proved Cases," *JAMA* 143.4: 329 (1950)); Brandt WD, 32:18-34:13; 37:13-40:15.

52. That 1950 issue of *JAMA* also included the report of an investigation reaching similar conclusions by Morton Levin and others. In his commentary on research into the connection between cigarettes and lung cancer, Levin compared the current epidemiological research on cigarette smoking to research on the smoking/lung cancer connection done in the preceding twenty years, arguing that the past work was "inconclusive because of lack of adequate samples, lack of random selection, lack of proper controls or failure to age-standardize the data." In the case of the data gathered for his study, careful attention to "excluding bias" had been central: "[I]n a hospital population, cancer of the lung occurs more than twice as frequently among those who have smoked cigarets for twenty-five years than among other smokers or nonsmokers of comparable age." VXA2510106-0108 at 0106, 0107 (US 63606) (A) (Levin, Morton L., Hyman Goldstein, and Paul R. Gerhardt, "Cancer and Tobacco Smoking; A Preliminary Report," *JAMA* 143.4 (1950)); Brandt WD, 39:23-40:18.

53. By the 1950s, animal research was also pointing to the carcinogenicity of cigarettes. Wynder and Graham turned their attention to the question of the "biological plausibility" of their epidemiological findings. In conducting animal investigations, Wynder reasoned that if tumors could be produced in animals, it would be an important step in

confirming the early epidemiologic findings. Noting that smoke condensates, also known as tars, contained benzopyrenes, arsenic and other known carcinogens, he painted the backs of mice to evaluate their effects. Fifty-eight percent of the mice developed cancerous tumors. Wynder concluded that "the suspected human carcinogen has thus been proven to be a carcinogen for a laboratory animal." These findings were reported in *Cancer Research* in December 1953. The study was often referred to as the Sloan-Kettering study because Wynder was affiliated with the Sloan-Kettering Institute of the Memorial Center for Cancer and Allied Diseases. CW00860130-0144 at 0137(US 58868) (A) (Wynder, Ernst L., Evarts A. Graham, and Adele B. Croninger, "Experimental Production of Carcinoma with Cigarette Tar," *Cancer Research* 13.12 (1953)); Brandt WD, 62:13-63:13; Harris WD, 62:4-63:10.

54. By late 1953, there had been at least five published epidemiologic investigations, as well as others pursuing carcinogenic components in tobacco smoke and its impacts. These researchers had come to a categorical understanding of the link between smoking and lung cancer. This understanding was markedly more certain than the case studies and preliminary statistical findings earlier in the century. While some of the epidemiological methods were innovative, the scientists using them were careful to approach them in a thorough manner; these methods were completely consistent with established scientific procedure and process. Epidemiology was not just based on statistics, but also was an interdisciplinary, applied field. The studies had substantially transformed the scientific knowledge base concerning the harms of cigarette use. Unlike earlier anecdotal and clinical assessments, these studies offered new and path-breaking approaches to investigating and resolving causal relationships. Brandt WD, 46:21-47:17.

55. Medical historians would come to view these studies as among the most important contributions to public health and medicine in the twentieth century. They offered a sophisticated scientific methodology for resolving central questions of causality. Brandt WD, 46:21-48:6.

(c) The Scientific Evidence Establishing Smoking as a Cause of Lung Cancer Led to Concerted Action by Defendants

56. The studies connecting smoking and lung cancer were receiving attention outside the scientific community by 1953. For example, published reports like a Readers Digest article titled "Cancer by the Carton" shared the scientific findings in national media, creating public concern. 03358234-8235 (US 46459) (A); Brandt WD, 48:1-18.

57. The "Cancer by the Carton" article, published in 1952 explained:

> A study of 684 cases, made by Ernest L. Wynder and Evarts A. Graham for the American Cancer Society and published in the AMA *Journal*, May 27, 1950, stated this conclusion: "Excessive and prolonged use of tobacco, especially cigarettes, seems to be an important factor in the induction of bronchiogenic carcinoma."
>
> More recently Wynder, now associated with Memorial Cancer Center in New York, expanded the statement: "The more a person smokes the greater is the risk of developing cancer of the lung, whereas the risk was small in a nonsmoker or a light smoker."

03358234-8235 at 8235 (US 46459) (A).

58. As detailed above in Section I, supra, by 1953-1954, tobacco company executives were aware both of the significant scientific studies establishing smoking as a cause of lung cancer and the public attention the studies were receiving. Defendants' executives well understood that this new scientific evidence constituted a full-scale crisis for their respective

companies. Brandt WD, 48:19-51:23.

59. In late 1953, at the same time as the Wynder and Graham study was published, tobacco stocks declined. Overall cigarette sales had also declined about 2% in 1952, which was the first time sales had declined since the Great Depression. Harris WD, 63:11-64:12; 01138541-8542 (US 34313) (A).

60. As evidence regarding the harms of smoking surfaced, Defendants engaged in advertising campaigns to induce the public to believe that cigarette smoking was actually beneficial to one's health. Some examples of Defendants' advertisements include: Kent Micronite filters, which were supposedly "developed by researchers in atomic energy plants," Kent cigarettes, which claimed "No other cigarette approaches such a degree of health protection and taste satisfaction," a Chesterfields ad claiming to cite test results that "smoking Chesterfields would have no adverse effects on the throat, sinuses, or affected organs." ADV1100001-0003 at 0002-03 (US 88703) (A); LW02427396-7397 at 7396(US 74413) (A); ADV1110007-0009 at 0008 (US 88728) (A); ADV1100040-0043 at 0042 (US 88715); Harris WD, 67:11-70:20.

61. While continuing to insist that there was no indication that cigarettes were unsafe, Defendants moved aggressively to market products which they subtly and not-so-subtly implied were safer. In 1953, Defendant Liggett hired Arthur D. Little, Inc. ("ADL") to test tobacco condensates on mice in an attempt to develop strategies for removing carcinogens, at the same time that it advertised its filters as "Just What the Doctor Ordered." VXA2611190-1190 (US 63543) (A) (Liggett Advertisement, "Fredric March Says - This Is It L & M Filters Are Just What the Doctor Ordered").

62. Initially, individual promotion and advertisement to persuade the public that each

brand was safer, smoother, better tasting and less irritating by Defendants was competitive, rather than cooperative or collusive, from an economics standpoint. In 1953, however, as reflected in the creation of TIRC and the issuance of the Frank Statement, Defendants shifted into a cooperative and collusive economic model. Harris WD, 71:19-83:6.

63. As detailed in Section I, supra, in December 1953 Defendants entered a conspiracy to defraud the public and maintain the viability of their product. This conspiracy began at a series of meetings at the Plaza Hotel in New York City. The Plaza Hotel meetings were the first time since 1939 that the chief executives of major cigarette manufacturers had come together. While prior fears of anti-trust violations had previously kept them from doing so, the concern over the crisis of smoking and health trumped that concern. Brandt WD, 51:1-14.

64. From an economic standpoint, Defendants' response to the smoking and health crisis was consistent with collusion. Collusion occurs when competitors in a market take actions that will benefit them only when rivals cooperate in that plan, and which harms the consuming public. Harris WD, 22:12-28:17.

65. Collusion is noted when internal data contradicts public statements, as seen with Defendants refusals to admit that smoking caused disease. In the case of Defendants, it was their only hope to stay afloat–working together they had the sway to create doubt within a public who was hearing contradictory messages from public health institutions. In a market functioning with typical competition, one company would not stand to gain from such a denial–it would generally lose credibility and thus, business. Defendants benefitted from uniform denial in lawsuits as well as in sales. Harris WD, 102:1-106:5.

66. At the meetings, the executives of American, Lorillard, RJR, Philip Morris,

B&W, Benson & Hedges, Tobacco Associates, and United States Tobacco developed a public relations plan to respond to the emerging scientific information indicting their product. They agreed to meet with the public relations firm, Hill & Knowlton, and with Hill & Knowlton's assistance launched their public relations campaign with the issuance of the Frank Statement and the formation of the Tobacco Industry Research Committee ("TIRC"). Brandt WD, 51:15-23; 86017454-7454 (US 21418) (A).

67. TIRC purported to sponsor research into "all phases of tobacco use and health" and issued a "Frank Statement to Cigarette Smokers," which appeared in 448 newspapers in 258 cities. The Frank Statement was a public relations act that reflected the strategy that Hill & Knowlton had crafted along with the tobacco executives. Among other promises made in the Frank Statement were:

> We accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business.
>
> We believe the products we make are not injurious to health.
>
> We always have and always will cooperate closely with those whose task it is to safeguard the public health.

86017454-7454 (US 21418) (A); Brandt WD, 54:20-55:21. The promises contained in the Frank Statement were false.

68. The Frank Statement fraudulently claimed:

> That there is no proof that cigarette smoking is one of the causes [of lung cancer]
>
> * * *
>
> That statistics purporting to link cigarette smoking with the disease could apply with equal force to any one of many other aspects of

> modern life. Indeed the validity of the statistics themselves is questioned by numerous scientists.

86017454-7454 (US 21418) (A); Harris WD, 65:2-67:10.

69. In sworn testimony, Joseph Cullman, the former President and CEO of Philip Morris, admitted that Philip Morris intended consumers to rely on the representations made in the Frank Statement. Cullman PD, Minnesota v. Philip Morris, 6/11/97, 88:12-89:20.

70. Rather than carefully and critically assessing the emerging scientific data concerning the harms of smoking, the TIRC took the lead in denying and distorting these harms. Brandt WD, 54:20-55:21; CTR-TIRCMIN000033-0052 (US 33006) (A).

71. Internal TIRC documents provide evidence of the goals and strategies it employed:

> Essentially, the major purposes of the TIRC are Research and Public Relations. Our job is to maintain a balance between the two, and to continue to build soundly so that at all times Research and Public Relations complement each other. In that way we intend to assume the mantle of leadership and, ultimately, to create a condition where the public will look to the TIRC for answers rather than to others.

CTR-TIRCMIN000033-0052 at 0043 (US 33006) (A); Brandt WD, 82:16-85:2.

72. The first Scientific Director of TIRC, appointed in 1954, was biologist Clarence Cook Little. A former president of University of Maine, University of Michigan, and the founder of the Roscoe B. Jackson Memorial Laboratory, Little quickly became a steadfast critic of the emerging scientific data linking cigarettes to cancer. Brandt WD, 86:4-88:5.

73. The fact that Little was recognized by some in the scientific community as "estimable" or "sincere" was important to Defendants in their effort to use TIRC, with Little at its

helm, to advance Defendants' public relations objectives. Little's personal commitments and a priori assumptions about cancer causality made him an ideal proponent of Defendants' goal of maintaining a "controversy" rather than scientifically resolving the questions regarding smoking and health. Id. As Dr. Brandt explained at trial, the selection of Little as Scientific Director of TIRC was consistent with Defendants' goals because

> he was so clearly an individual who would be highly skeptical of any evidence coming from any of the domains of investigation that I mentioned in my live direct testimony except for the laboratory. And so it became a very constricted view of exploring the question and causality, but it was also a view of saying we're doing science and this is valuable from a public relations point of view to the industry.

Brandt TT, 9/28/04, 968:10-23.

74. Little's public statements served Defendants well. On June 15, 1954, Little publicly emphasized the purported purpose of the newly- formed organization during a press conference when he stated that TIRC was "trying to find out the facts." 11310464-0500 at 0466 (US 20278) (A); Brandt WD, 86:4-88:5.

75. Little had no compunction about offering unsubstantiated claims about the health benefits of cigarette use: "It is very well-known, for example, that tobacco has relaxed a great many people. It is a very good therapy for a great many nervous people." 11310464-0500 at 0466 (US 20278) (A); Brandt WD, 86:4-88:5.

76. A confidential report of a TIRC meeting held October 19, 1954, made explicit Little's and Defendants' agenda: "He [Little] declared that both he and the members of the board were aware of the attacks which had been made on tobacco for over 200 years, and wished to build a foundation of research sufficiently strong to arrest continuing or future attacks."

CTRMN007295-7297 at 7295 (US 22900) (O); Brandt WD, 86:4-88:5.

77. Little tended to castigate as moralists those whose findings showed harms with tobacco use:

> The right of an individual to determine his own level or threshold of convincibility is unquestioned.
>
> There are and will always be individuals who are convinced without the need of experimental evidence that *all* tobacco in *any* form is evil, noxious and toxic. There are individuals with a similar attitude toward alcohol, coffee, and the use of drugs, sera or medicines.
>
> * * *
>
> Such assumptions [that smoking caused cancer] stimulated some investigators to begin an enthusiastic hunt for *the* "component" or "components" in tobacco smoke that can be blamed for the unproved cause-and-effect relationship as well as for the reported production of skin cancer in some experiments with certain strains of laboratory mice.

501773418-3466 at 3428-3429 (US 20686) (A) (emphasis in original); Brandt WD, 86:4-88:5.

78. Little continually called for more research: "In the active and continuing discussions about tobacco use and health, there seems to be nearly complete agreement among scientists on only one point: The need for much more intensive research into the subject." 501773418-3466 at 3425 (US 20686) (A); Brandt WD, 86:4-88:5.

79. Under Little's leadership, the major thrust of TIRC was to emphasize that human cancers were complex processes – difficult to study and difficult to understand. Little directed TIRC towards what he called "pioneer research." He claimed that studies focused on cigarettes could "stifle or delay needed research to find the basic origins of lung cancer or cardiovascular diseases, which are most powerful, diversified and deadly enemies to our well-being."

85865874-5946 at 5878 (US 21084) (A); Brandt WD, 86:19-88:5.

80. Little also argued that there were no known carcinogens in tobacco tars (this despite Defendants' clear knowledge to the contrary, as addressed infra). He repeatedly centered attention on the so-called "constitutional hypothesis," other environmental risks, and the need for more research:

> Too little is known about many factors, including why people smoke or what kind of people become particularly heavy smokers.
>
> * * *
>
> The problem of causation of any type of cancer is complex and difficult to analyze. All research on this so-called constitutional disease is, and must be, painstaking and time-consuming. There is not known today any simple or quick way to answer the question of whether any one factor has a role in causing human lung cancer. Despite all the attention given to smoking as an accused factor in human lung cancer, no one has established that cigarette smoke, or any one of its known constituents, is cancer-causing to man.

501773418-3466 at 3422-3423 (US 20686) (A); Brandt WD, 85:10-86:3.

81. Under Little, TIRC focused its energies and resources in two areas: (1) it served as a public relations unit for the tobacco industry, especially with regard to growing public concerns about the risk of smoking, repeatedly attacked scientific studies demonstrating the harms of cigarette smoke, and worked concertedly to reassure smokers about cigarettes; and (2) it developed a research program that focused on basic science mechanisms in cancers that was distant, if not completely irrelevant, to evaluating the risks and harms associated with smoking. Indeed, the TIRC research program was organized and devised to **not** address the immediate and fundamental questions of the health effects of smoking. See US FF § I.B, supra and § III.B, infra. In this way, both functions of TIRC (public relations and research) were integrally related;

both were fully committed to the goals of denying and discrediting the substantial scientific evidence of smoking's harms and reassuring the public (especially smokers and potential smokers) through promotion of the image that a genuine scientific controversy existed about whether smoking caused disease. Brandt WD, 57:16-59:7.

(d) A Scientific Consensus Existed that Smoking Was a Cause of Lung Cancer by the Mid-1950s

82. During the 1950s, the evidence implicating smoking as a cause of lung cancer became overwhelming and undeniable. The published research appeared in the most elite, peer-reviewed journals, and the conclusion was unanimous. Studies employing different methodologies all reached the same verdict, and not a single substantial study contradicted the findings demonstrating that smoking causes disease. Id., 66:10-73:10.

83. The history of science and medicine demonstrates that scientists have utilized clinical observation, population studies and laboratory investigation, alone or in combination, to reach correct causal conclusions for centuries. Brandt TT, 9/27/04, 643:5-652:11.

84. For example, in the mid-18th century, Dr. James Lind identified the cause of scurvy in sailors through acute clinical observation and case-controlled trials. Id., 643:17-644:23. Dr. Edward Jenner developed the smallpox vaccine through clinical observation and population studies during the 19th century. Id., 644:3-646:2. In the 1840s, Dr. John Snow identified certain London water supplies as the source for the cholera epidemic through the same scientific methods – clinical observation and population studies. Id., 646:3-647:9. In 1917, Joseph Goldberger utilized population studies to make determinations as to the cause of pellagra. Id., 650:22-652:8.

85. The critical scientific investigation that led to the determination that smoking was a cause of lung cancer in the early 1950s crossed all three domains of investigation that are utilized in the development of scientific and medical knowledge: clinical observation, population studies and laboratory investigation. Id., 658:4-11.

86. The existence of skepticism voiced by individual scientists at the time is not inconsistent with a finding of scientific consensus. Brandt TT, 9/28/04, 963:10-19. The isolated reservations about certain scientific findings proffered by Defendants at trial represent mere individual skepticism rather than any participation in a comprehensive assessment of the available evidence. Id., 963:3-9.

87. The opinions of Dr. Brandt concerning the formation of a scientific consensus in the mid-1950s are shared by Dr. David M. Burns, a medical doctor, senior scientific editor of Surgeon General's Reports and one of the world's most accomplished smoking and health researchers. And the opinions of both experts are consistent with comprehensive, independent evaluations of the entirety of the scientific evidence at the time. Those evaluations uniformly demonstrate the existence of a scientific consensus: smoking was established as a cause of lung cancer by the mid-1950s. Brandt WD, 46:21-47:3; Brandt TT, 9/28/04, 960:22-961:21; Burns WD, 10:19-20.

88. In 1956, at the urging of Surgeon General Leroy Burney, a study group on smoking and health was organized by the American Cancer Society, the American Heart Association, the National Cancer Institute, and the National Heart Institute. This group of distinguished experts met regularly to assess the character of the scientific evidence relating to tobacco and health. At that time, the group noted that sixteen studies had been conducted in five

countries all showing a statistical association between smoking and lung cancer. Among the studies they summarized, it was demonstrated that: lung cancer occurs five to fifteen times more frequently among smokers than non-smokers; on a lifetime basis one of every ten men who smoke more than two packs a day will die of lung cancer; and cessation reduces the probability of developing lung cancer. VXA2510023-0027 (US 63610) (A) (Strong, Frank M., et al., "Smoking and Health: Joint Report of the Study Group on Smoking and Health," *Science* 125:1129-1133 (1957)); Brandt WD, 69:22-71:7.

89. The group also noted that the epidemiological findings were supported by animal studies in which malignant neoplasms had been produced by tobacco smoke condensates. Further, human pathological and histological studies added evidence to strengthen the "concept of causal relationship." The authors concluded:

> Thus, every morphologic stage of carcinogenesis, as it is understood at present, has been observed and related to the smoking habit.
>
> The sum total of scientific evidence establishes beyond reasonable doubt that cigarette smoking is a causative factor in the rapidly increasing incidence of human epidermoid carcinoma of the lung.

VXA2510023-0027 at 0023 (US 63610) (A) (Strong, Frank M., et al., "Smoking and Health Joint Report of the Study Group on Smoking and Health," *Science* 125:1129-1133 (1957)); Brandt WD, 69:22-71:7.

90. In addition, surgeons and pathologists published clinical reports associating cancer in their patients with their smoking habits. In 1957, Oscar Auerbach and his colleagues first reported in the *New England Journal of Medicine* on "Changes in the Bronchial Epithelium in Relation to Smoking and Cancer of the Lung." Auerbach's study evaluated patients with

confirmed smoking histories who died and were autopsied. Microscopists were kept ignorant of the smoking histories in the 30,000 examinations that they made to assure against potential bias. Auerbach and his co-authors concluded: "These findings are fully consistent with the hypothesis that inhalants of one sort or another are important factors in the causation of bronchogenic carcinoma. The findings are also consistent with the theory that cigarette smoking is an important factor in the causation of bronchogenic carcinoma." Auerbach presented additional confirmatory findings in 1961 and 1979. 682628764-8771 at 8771 (US 54185) (A) (Auerbach, Oscar, et al., "Changes in the Bronchial Epithelium in Relation to Smoking and Cancer of the Lung A Report of Progress," *New England Journal of Medicine* 256.3:97-104 (1957)); VXA2511322-1328 (US 63538) (A) (Auerbach, Oscar, E. Cuyler Hammond, and Lawrence Garfinkel, "Changes in the Bronchial Epithelium in Relation to Cigarette Smoking, 1955-1960 vs. 1970-1977," *New England Journal of Medicine* 300.8:381-386 (1979)); Brandt WD, 63:14-64:11.

91. During the same time period, E. Cuyler Hammond and Daniel Horn conducted a massive epidemiological study of smoking and lung cancer under the auspices of the American Cancer Society. In the Hammond and Horn study, more than 200,000 men were followed prospectively for nearly four years; during this period 12,000 died. They found that not only was lung cancer far more prevalent among those who smoked as a cause of death (twenty-four times more than non-smokers), so too was heart disease and circulatory disease. Hammond and Horn estimated that among smokers, smoking might account for up to 40% of their mortality. VXA2510028-0045 (US 63609) (A) (Hammond, E. Cuyler, and Daniel Horn, Smoking and Death Rates--Report on Forty-four Months of Follow-up of 187,783 Men, *JAMA*, 2840-2857

(1958)); Brandt WD, 65:16-66:9.

92. These results were consistent outside the United States. In 1957, the Medical Research Council of Great Britain issued a statement printed in the *British Medical Journal* and the *Lancet* which read:

> Evidence from many investigations in different countries indicates that a major part of the increase [in lung cancer] is associated with tobacco smoking, particularly in the form of cigarettes. In the opinion of the Council, the most reasonable interpretation of ths evidence is that the relationship is one of direct cause and effect. The identification of several carcinogenic substances in tobacco smoke provides a rational basis for such a causal relationship.

01149261-9264 at 9264 (US 63537) (A); Brandt WD, 75:23-76:12.

93. In January 1959, Jerome Cornfield, who was Assistant Chief of the Biometrics Section at the National Cancer Institute and Chairman of the Department of Biostatistics at Johns Hopkins University, offered a substantive review of the available evidence linking cigarettes to lung cancer. Cornfield and his colleagues carefully considered the range of alternative hypotheses to account for the significant rise in cases of, and deaths from, lung cancer. They concluded:

> The magnitude of the excess lung-cancer risk among cigarette smokers is so great that the results can not be interpreted as arising from an indirect association of cigarette smoking with some other agent or characteristic, since this hypothetical agent would have to be at least as strongly associated with lung cancer as cigarette use; no such agent has been found or suggested. The consistency of all the epidemiologic and experimental evidence also supports the conclusion of a causal relationship with cigarette smoking, while there are serious inconsistencies in reconciling the evidence with other hypotheses which have been advanced. Unquestionably there are areas where more research is necessary, and, of course, no single cause accounts for all lung cancer. The information already available, however, is sufficient for planning and activating public

health measures.

This paper also explicitly refuted ongoing critiques by statisticians Fisher and Berkson, often trumpeted by Defendants:

> We see nothing inherently contradictory or inconsistent in the suggestion that one agent can be responsible for more than one disease, nor are we lacking in precedents. The Great Fog of London in 1952 increased the death rate for a number of causes, particularly respiratory and coronary disease, but no one has given this as a reason for doubting the causal role of the Fog. Tobacco smoke, too, is a complex substance and consists of many different combustion products. It would be more "incredible" to find that these hundred of chemical products all had the same effect than to find the contrary. A universe in which cause and effect always have a one-to-one correspondence with each other would be easier to understand, but it obviously is not the kind we inhabit.

VXA2510068-0098 at 0068, 0091 (US 63607) (A) (Cornfield, Jerome, et al., "Smoking and Lung Cancer: Recent Evidence and Discussion of Some Questions," *Journal of the National Cancer Institute* 22.1:173-203 (1959)); Brandt WD, 71:23-73:10.

94. Cornfield noted that investigations of the health implications of smoking had significantly accelerated following the epidemiological studies earlier in the decade. Not only did the new prospective studies conducted in diverse populations confirm and strengthen the earlier findings, so too did pathological and toxicologic analyses. Cornfield and his colleagues also noted that the persistent "debate" about the scientific findings regarding cigarette smoking was driven by Defendants:

> It would be desirable to have a set of findings on the subject of smoking and lung cancer so clear-cut and unequivocal that they were self-interpreting. The findings now available on tobacco, as in most other fields of science, particularly biologic science, do not meet this ideal. Nevertheless, if the findings had been made on a new agent, to which hundreds of millions of adults were not

> already addicted, and on one which did not support a large industry, skilled in the arts of mass persuasion, the evidence for the hazardous nature of the agent would generally be regarded as beyond dispute.

As Cornfield suggested, the very idea of a "controversy" had been manufactured by TIRC and other public relations efforts by the Defendants. VXA2510068-0098 at 0093 (US 63607) (A) (Cornfield, Jerome, et al., "Smoking and Lung Cancer: Recent Evidence and Discussion of Some Questions," *Journal of the National Cancer Institute* 22.1:173-203 (1959)); Brandt WD, 71:23-73:10; 79:14-82:15.

95. In November 1959, Surgeon General Burney offered his own evaluation of the scientific evidence linking cigarettes to lung cancer. Burney revisited the epidemiologic data, as well as other confirmatory animal and pathological investigations. After a thorough assessment of current data, Burney came to the following conclusions:

> There can be no doubt that a significant portion of the increase in lung cancer is real. This rise has not been caused solely by improvements in diagnostic techniques, better reporting on death certificates, or an increase of older persons in the population. If we accept as valid the sequence of pathological changes given above the prevention of lung cancer, to a large extent, becomes possible. This will be accomplished if carcinogenic substances from any source can be kept out of the air inhaled into the lungs.

VXA2510046-0054 at 0052 (US 63608) (A) (Burney, Leroy E., "Smoking and Lung Cancer A statement of the Public Health Service," *JAMA* 71:1828-1837 (1959)); Brandt WD, 76:13-77:21.

96. For Burney, this fact meant that there were important and timely opportunities to prevent disease:

> The Public Health Service believes that the following statements are justified by studies to date.

1. The weight of evidence at present implicates smoking as the principal etiological factor in the increased incidence of lung cancer.

2. Cigarette smoking particularly is associated with an increased chance of developing lung cancer.

3. Stopping cigarette smoking even after long exposure is beneficial.

4. No method of treating tobacco or filtering the smoke has been demonstrated to be effective in materially reducing or eliminating the hazard of lung cancer.

5. The nonsmoker has a lower incidence of lung cancer than the smoker in all controlled studies, whether analyzed in terms of rural areas, urban regions, industrial occupations, or sex.

6. Persons who have never smoked at all (cigarettes, cigars, or pipe) have the best chance of escaping lung cancer.

7. Unless the use of tobacco can be made safe, the individual person's risk of lung cancer can best be reduced by elimination of smoking.

VXA2510046-0054 at 0052-0053 (US 63608) (A) (Burney, Leroy E., "Smoking and Lung Cancer: A Statement of the Public Health Service," *JAMA* 71: 1828-1837 (1959)); Brandt WD, 76:13-77:21. The totality of the conclusions offered by Burney demonstrate that Defendants' focus on a single word – "implicates" – in an effort to soften Burney's analysis is misplaced: Burney's conclusion that cigarette smoking is a cause of lung cancer is unequivocal. As Dr. Brandt testified, "the Burney Statement, when you read the whole paper, and this is what historians do, is very clear." Brandt TT, 9/27/04, 706:3-4.

97. In 1960, the World Health Organization ("WHO") also issued a statement signaling their own confirmations of the Surgeon General's and Medical Research Council's conclusions, after conducting a review of the scientific findings. Brandt WD, 77:22-78:1.

98. In 1962, yet another thorough and far-reaching assessment of the scientific evidence reached the same conclusions as previous studies. The British Royal College of Physicians, after two years of investigation, stated, "[d]iseases associated with smoking now cause so many deaths that they present one of the most challenging opportunities for preventive medicine today." The report concluded:

> The strong statistical association between smoking, especially of cigarettes, and lung cancer is most simply explained on a causal basis. . . . The conclusion that smoking is an important cause of lung cancer implies that if the habit ceased, the death rate from lung cancer would eventually fall to a fraction, perhaps to one fifth or even, among men, to one tenth of the present level. Since the present annual number of deaths attributed to lung cancer before the age of retirement is some 12,000 . . . a large amount of premature shortening of life is at issue.

(no bates) (JD 001007) (A) (Royal College of Physicians of London, *Smoking and Health Summary and Report of The Royal College of Physicians of London on Smoking in Relation to Cancer of the Lung and Other Diseases*, 1 at 19)); Brandt WD, 78:2-17.

99. As the work of the Royal College of Physicians makes clear, lives were at stake in the assessment of this scientific evidence linking cigarettes to disease. Over and over again, independent critical evaluation of the scientific findings that cigarettes caused lung cancer reached the same conclusion.

(e) Internally, Defendants Recognized the Validity of the Scientific Consensus

100. Internal documents reveal that Defendants knowledge of the potential harm caused by smoking was markedly different from their public statements regarding the same subject. Defendants specifically recognized the validity of the scientific consensus that existed in

the 1950s.

101. At the same time that Defendants assured the public through their "Frank Statement" that "there is no proof that cigarette smoking is one of the causes [of cancer]," they documented a large number of known carcinogens delivered in cigarette smoke. 86017454-7454 (US 21418) (A).

102. For example, a December 24, 1952 memorandum entitled "Report of Progress – Technical Research Department" contained a "Cancer" section, which noted: "The B&W lab has in the past made a partial isolation and identification of the aromatic hydrocarbons, benzopyrene, in both smoke and original tobacco from RALEIGH blend cigarettes." The report refers to benzopyrene as a "carcinogenic hydrocarbon." 65020084-0095 at 0092 (US 21388) (O).

103. Beginning in 1954, the BAT Group's major research laboratory performed research into the carcinogenicity of cigarette smoke by conducting skin-painting experiments on mice. This research showed that when compounds in cigarette smoke were painted onto mouse skins, it caused cancerous tumors. 682621615-1617 at 1615 (US 54180) (O).

104. RJR recognized smoking as a cause of disease as early as 1953. This knowledge is documented in a February 1953 Report drafted by Claude Teague, an RJR research scientist, entitled "Survey of Cancer Research with Emphasis on Possible Carcinogens from Tobacco." It was clear to Teague that: "Some workers have attempted to produce experimental cancers in test animals by application of tars obtained from tobacco, tobacco smoke, and other materials derived from tobacco." Teague further acknowledged: "On the basis of the information at hand, it would appear that polynuclear aromatic compounds occur in the pyrolytic products of tobacco. Bensyprene and 'N-bensyprene[sic], both carcinogens, were identified in the distillates. . . .

Studies of clinical data tend to confirm the relationship between heavy and prolonged tobacco smoking and incidence of cancer of the lung." 501932947-2968 at 2952-2953, 2961, 2963 (US 21407) (A).

105. A 1959 RJR document written by Alan Rodgman, an RJR scientist, discusses a 1954 report of a "carcinogenic (cancer producing) polycyclic hydrocarbon, 3, 4-benzpyrene" and elaborates on RJR's in-house research which corroborated this finding.

> There is no evidence that any of these compounds will produce cancer in man. Nonetheless, there is a distinct possibility that these substances would have a carcinogenic effect on the human respiratory system. Medical experience has shown that man responds to various chemical substances in the same manner as experimental animals. It follows therefore that it would be better for the consumer if cigarette smoker were devoid of such compounds.
>
> * * *
>
> Some thirty-odd polycyclic hydrocarbons have since been similarly characterized in these laboratories. Of these, eight are carcinogenic to mouse epidermis.

500945942-5945 at 5942 (US 21249) (A).

106. RJR sought to remove some of the cancer-causing compounds at the same time they were denying that the compounds existed: "[h]aving confirmed and extended the early published findings on polycyclic hydrocarbons in cigarette smoke, we initiated a lengthy research program to develop methods to lessen the amounts of these potentially dangerous compounds in cigarette smoke." 500945942-5945 at 5943 (US 21249) (A).

107. Rodgman's later work corroborated his prior findings. He wrote an extensive paper on "The Analysis of Cigarette Smoke Condensate." In it, Rodgman explained:

> The research described in this report represents a concerted effort

> to determine whether or not the polycyclic aromatic hydrocarbons are present in cigarette smoke condensate. One of the major objections offered to previous investigations is that the identification of specific compounds solely on the basis of ultraviolet absorption studies is not definitive. Since the present research describes the actual isolation, identification and characterization of several polycyclic aromatic hydrocarbons including the highly carcinogenic 3, 4-benzpyrene, the major criticisms of past research are now nullified.

Rodgman further wrote of the studies undertaken using standard Camel cigarettes:

> In view of this data, it is logical to assume that the carcinogenic activity of cigarette smoke condensate is due to the presence of one or more carcinogenic polycyclic aromatic hydrocarbons.
>
> * * *
>
> Since it is now well-established that cigarette smoke does contain several polycyclic aromatic hydrocarbons, and considering the potential and actual carcinogenic activity of a number of these compounds, a method of either complete removal or almost complete removal of these compounds from cigarette smoke is required.

501008241-8293 at 8254, 8279, 8280 (US 20667) (A).

108. Rodgman's views were consistent with what visiting scientists from the United Kingdom observed in 1958 about researchers working for Defendants. While TIRC, under Little's leadership never wavered from its essential mission of attempting to maintain "controversy" and an "open question" while avoiding research centered on the potential impact of smoking on health, Defendants' researchers did not accept this approach. The three British scientists reported widespread acceptance that smoking causes disease among top officials and scientists in the United States tobacco industry, including those at TIRC, Liggett, Philip Morris, and American. They further noted that there was virtual consensus among researchers within the

industry that cigarettes played a role in the production of human cancers:

> With one exception (H.S.N. Greene) the individuals whom we met believed that smoking causes lung cancer if by "causation" we mean any chain of events which leads finally to lung cancer and which involves smoking as an indispensable link. In the U.S.A. only Berkson, apparently, is now prepared to doubt the statistical evidence and his reasoning is nowhere thought to be sound.
>
> * * *
>
> In their [Liggett's] opinion T.I.R.C. has done little if anything constructive, the constantly re-iterated "not proven" statements in the face of mounting contrary evidence has thoroughly discredited T.I.R.C., and the S.A.B. of T.I.R.C. is supporting almost without exception projects which are not related directly to smoking and lung cancer. Liggetts [sic] felt that the problem was sufficiently serious to justify large-scale investment by the Company directly in experimental research on smoke and cancer, accepting privately that a strong case against tobacco had been made out and avoiding any public comment until their own research had provided something concrete to offer.
>
> * * *
>
> The majority of individuals whom we met accepted that beyond all reasonable doubt cigarette smoke most probably acts as a direct though very weak carcinogen on the human lung. The opinion was given that in view of its chemical composition it would indeed be surprising if cigarette smoke were <u>not</u> carcinogenic. This undoubtedly represents the majority but by no means the unanimous opinion of scientists in U.S.A. These individuals advised us that although it is not possible to predict unambiguously the effect of any substance on man from its effect on experimental animals the generally successful use of animals in other fields as a model for man fully justifies their use in our problem.

TINY0003106-3116 at 3108, 3111, 3112 (US 21369) (A) (emphasis in original); Brandt WD, 94:8-96:13; Brandt TT, 9/28/04, 820:6-20.

109. In 1962, Rodgman offered his assessment of "the smoking and health problem":

> Although the major part of the sales of this Company consists of cigarettes, what the Company sells is <u>cigarette smoke</u>. This

> Company, therefore, should be concerned with the physiological properties and composition of cigarette smoke. The benefits from such knowledge are obvious, particularly it anticipates possible governmental regulation. During the past two decades, cigarette smoke has been the target of a host of studies relating it to ill-health and particularly to lung cancer. The majority of these studies incriminate cigarette smoke from a health viewpoint.
>
> * * *
>
> Epidemiological data: The results of 34 different statistical studies show that cigarette smoking increases the risk of developing lung cancer. Many authorities believe the relationship to be one of cause-and-effect. . . . The statistical data from the smoking-health studies are almost universally accepted. After more than ten years, criticisms of the studies have been reduced to the dictum A statistical study cannot prove a cause-and-effect relationship between two factors.

Rodgman made explicit that he considered the evidence of smoking's harm convincing:

> The Evidence to Date: Obviously, the amount of evidence accumulated to indict cigarette smoke as a health hazard is overwhelming. The evidence challenging this indictment is scant. Attempts to shift the blame to other factors, e.g., air pollutants, necessitates acceptance of data similar to those denied in the cigarette smoke case.
>
> * * *
>
> It has been repeatedly stated that some scientists discount the cigarette smoke-lung cancer theory. This is true. But it should be noted that many of those quoted in this regard are on record with contrasting views, e.g., Berkson, the statistician, has stated "...the definitive important finding of these statistical studies is not that there is an association between smoking and lung cancer, but that there is an association between smoking and deaths from all causes generally...."

504822847-2852 at 2847-2848, 2850-2852 (US 20735) (A) (emphasis in original); Brandt WD, 96:14-99:4.

110. Rodgman's testimonial explanation of his analysis of the evidence of smoking and disease, offered in deposition almost 40 years after he drafted U.S. Exhibits 20735, 21369 and 21249 and 20667 and read into the trial record during the cross-examination of Dr. Brandt (Brandt TT, 9/28/04, 933-935), directly contradicts Rodgman's own papers and is not credible.

111. Not only is Rodgman's post-hoc explanation contrary to the plain text of the documents he authored in the 1950s and 1960s, but Rodgman had a financial incentive to offer favorable testimony to RJR when deposed in litigation. Rodgman worked for RJR as a scientist from 1954 to 1987, rising to the level of R&D Director of Fundamental Research. Since his retirement from RJR in 1987, Rodgman has been retained as a paid smoking and health litigation consultant to Womble Carlyle PLLC ("Womble"), earning as much as $600,000 for his work there. Rodgman PD, United States v. Philip Morris, 6/26/02, 23:20-32:8. At the same time that he was being paid as a consultant to Womble, Rodgman also served as a fact witness for RJR in its defense of various smoking and health cases. Id., 12:10-16, 27:1-32:8, 33:2-25. Specifically, while a consultant, he testified as a fact witness for RJR in at least seven cases, giving at least eleven days of testimony. Rodgman admits that there is a virtually complete overlap between the "historical" information he has given Womble as a litigation consultant and the content of his testimony in these smoking and health proceedings. Id., 37:1-41:12, 42:14-43:11.

112. Not only has there been overlap between topics about which Rodgman consulted and topics about which he has testified, but there also was a blurring of the lines between when he was paid to consult and when he was paid to testify or prepare to testify. Rodgman acknowledged that he billed Womble for some of the time he spent meeting with lawyers and preparing to be deposed as a fact witness. On at least one occasion, he considered requesting

payment for his time testifying as a fact witness in a smoking and health deposition, and may have been paid for such testimony. Id., 40:1-43:11.

113. Teague and Rodgman do not provide the only internal acknowledgment of the mainstream scientific consensus within RJR. In 1968, RJR's Biological Research Division internally published findings regarding exposure of rats to cigarette smoke:

> The histology of the tissues from the rat which had smoked TEMPO cigarettes via an indwelling tracheal cannula has been completed with the results given on the following page.
> 1. A diffuse marked emphysema throughout the lungs.
> 2. Deposition of pigment (tars?) in lung tissue, mediastinal lymph nodes and tracheal adnexia.
> 3. Lymphocyte infiltration.
> 4. Frequent epithelial hyperplasia in trachea and bronchioles.

515384987-4992 at 4987-4988 (US 87980) (O).

114. Lorillard also conducted research which pointed to cigarette smoking as a cause of cancer and other diseases. In the early 1960s, Lorillard conducted in-house experiments on animals that showed ciliastatic effects of tobacco smoke on the respiratory tract. Spears PD, Blue Cross/Blue Shield of New Jersey v. Philip Morris, 3/23/00, 144:4-22 .

115. Philip Morris researchers and senior executives accepted the evidence that cigarette smoking caused disease as early as the 1950s. A July 20, 1956 confidential Philip Morris memo discussing the advisability and feasibility of new product designs demonstrated Philip Morris's knowledge that smoking caused disease. In the memo, which was indicated "Confidential", Philip Morris scientists observed: "Decreased irritation is desirable not only from the subjective viewpoint but also as a partial elimination of a potential cancer hazard." 2023226912-6913 at 6912 (US 20383) (O).

116. A July 24, 1958 memorandum written by C. Mace, head of research for Philip Morris, admitted that Philip Morris was aware that smoking was a causal factor for lung cancer. The memorandum stated that: "the evidence . . . is building up that heavy cigarette smoking contributes to lung cancer either alone or in association with physical and physiological factors." 1000305086-5087 at 5086 (US 20090) (O).

117. Dr. Helmut Wakeham, a high ranking Philip Morris scientist, candidly wrote of the cancer-causing effect of cigarette smoke in a September 22, 1959 memorandum regarding nicotine:

> One of the main reasons people smoke is to experience the physiological effects of nicotine on the human system. Nicotine, to the best of present knowledge, does not produce cancer. Hence, in theory one could achieve the major advantage of smoking without the hazard of cancer. But nicotine in tobacco smoke is present in the tar phase, and so far a reduction in tar by filtration or otherwise has been accompanied by a comparable reduction in nictoine.

1005039423-9424 at 9424 (US 21657) (A).

118. Wakeham's conclusion in 1961, which he shared with Philip Morris's Research and Development Committee was:

> Low irritation and low nicotine cigarettes for commercial exploitation will be developed in the course of our present R&D program during the next two to five years with an expenditure of not more than 25% of the R&D budgets during this period.
>
> A medically acceptable low-carcinogens cigarette may be possible. Its development would require:
>
> TIME
> MONEY
> UNFALTERING DETERMINATION

2023193305-3328, at 3328 (US 20381) (A) (emphasis in original).

119. On April 20, 1962, Wakeham recommended diversification of Philip Morris's business at a greater rate due to the evidence that smoking leads to disease. 1001882121-2122 (US 20120) (A).

120. At the very time that Defendants worked in concert to disparage meticulously conducted scientific investigations, their advertisements offered unverifiable reassurances from "medical specialists." At the same time that industry researchers, such as Rodgman of RJR and Wakeham of Philip Morris, were detailing carcinogenic substances in cigarettes and potential strategies for their removal, TIRC put out a press release dated September 27, 1960 asserting: "Chemical tests have not found any substance in tobacco smoke known to cause human cancer or in concentrations sufficient to account for reported skin cancer in animals." 500518873-8875 at 8874 (US 20635) (A); Brandt WD, 132:9-133:14.

121. Liggett accepted that cigarette smoke caused disease and sought to reduce or remove those constituents. In a memorandum dated March 15, 1961, Arthur D. Little, Inc., Liggett's outside research consultants, summarized the results of the contract research performed for Liggett:

> 1. There are biologically active materials present in cigarette tobacco.
>
> These are: a) cancer causing
> b) cancer promoting
> c) poisonous
> d) stimulating, pleasurable, and flavorful.
>
> 2. There is no reason why the poisonous group, CO, HCN, NO2, etc., cannot be reduced, even though they are not seen as a primary health hazard. Methods for removal are:
>
> a) filtration (treated carbon, etc.)

b) treatment for removing precursors, CN elimination
c) addition as a reactant (urea for NOs).

3. Cancer promoting materials, esters, phenols, amines, can possibly be reduced by some treatment, extraction, etc.

4. The cancer-causing materials apparently are in many substances that are pyrolyzed but seem to be associated with tobacco in greater concentration than for primarily cellulose.

These findings were marked "confidential." 2021382496-2498 at 2496 (US 20345) (A).

122. A Liggett document prepared on April 24, 1963 accepted inferences of a causal relationship between smoking and development of carcinoma that was suggested by Defendant scientists. 2022969727-9728 (US 20368) (A).

123. In addition, at trial in this action, Defendants' own scientists and former scientists admitted that they believed smoking was a cause of disease, along with their scientific colleagues and executives at the Defendant companies.

(f) Upon Formation of the Enterprise, Defendants Began a Decades-Long Campaign of Misinformation With False Statements about the Health Risks of Smoking That Were Directly Contrary to What They Recognized Internally

124. Beginning in the 1950s, all Defendants, including TIRC, the Tobacco Institute and TIRC's successor, The Council for Tobacco Research–U.S.A., Inc. ("CTR"), issued numerous false public statements designed to mislead the public about the connection between cigarette smoking and disease. The public campaign of misinformation was undertaken with reckless disregard for the truth of the assertions made – its sole purpose was to mislead.

125. A March 1954 public speech to the National Association of Tobacco Distributors by George Weissman, a Vice President with Defendant Philip Morris, captured Defendants'

public position that medical evidence had not established the link between smoking and disease:

> *For never in the history of American industry – a history that not so incidentally had its origins in tobacco – has one industry been under such attack as we are today, never has an industry's very existence been so dependent on its relations with the public.
>
> * * *
>
> Which brings me to another, and even more important current problem! – the current medical propaganda being directed against the cigarette industry by a small number of doctors and a large number of magazines, and newspapers. As many, if not more, distinguished scientists have disputed the arbitrary statements of the few doctors. As many, if not more, distinguished researchers, have pointed out other factors such as air pollution rather than cigarette smoking. There are many scientists who question the statistics and even doubt the fact that there is a health question involved in cigarette smoking. Yet, who rated the headlines when the charges were made? Unfortunately, the cigarette industry. Where were the denials and counterclaims? You sometimes had to use a microscope to find them. . . . If we had any thought or knowledge that in any way we were selling a product harmful to consumers, we would stop business tomorrow.

2022239339-9343 at 9339, 9341 (US 21766) (A) (emphasis in original); Brandt WD, 49:23-50:10.

126. On April 14, 1954, TIRC published "A Scientific Perspective on the Cigarette Controversy," which restated the Frank Statement's false pronouncement that the Defendants had accepted "an interest in people's health as a basic responsibility, paramount to every other consideration in our business." A total of 205,000 copies were printed and sent to 176,800 doctors, general practitioners and specialists. It was also sent to the deans of medical and dental colleges. The book and an accompanying press release went to a press distribution of 15,000, including editors of daily and weekly newspapers, consumer magazines, veterans magazines, and

medical and dental journals, news syndicate managers, business editors, editorial writers, science writers, radio and TV commentators, news columnists, and Members of Congress. The Sunday *New York Daily News* (circulation 3,800,000) gave feature treatment to the booklet, devoting a major part of the page to comment and a cartoon. The story was also sent to some 1,400 radio stations. 1005039987-0008 at 9990 (US 20192) (O); TLT0902954-2955 (US 88388) (A).

127. In a July 1, 1954 statement by TIRC, Defendants promised not only to conduct research, but to make their findings known to the public. VXA2511193-1194 (US 63544) (A).

128. On October 12, 1954, in newspapers such as the *New York Daily Mirror*, Timothy Hartnett, Chairman of TIRC, was quoted as saying that "no clinical evidence has yet established tobacco to be the cause of human cancer." ATC2454770-4770 (US 87049) (O) ("Tobacco Unit Assails Report," *New York Daily Mirror*, October 13, 1954).

129. In 1957, after figures from Hammond and Horn's epidemiological study showing that quitting smoking lowered one's risk, that death rates from lung cancer were ten times higher than for men who never smoked, and that the primary danger of smoking, in terms of average years of life lost, was from heart disease, Defendants responded with formulaic dismissals, arguing that smoking had never been conclusively linked with any kind of disease. For example, A June 4, 1957, TIRC press release asserted that: "the causes of cancer and heart disease are not yet known to medical science." and that statistical studies "do not prove cause and effect." CTR-PUBLIC STMT 000330-0330 (JD-094091) (O).

130. TIRC issued a July 15, 1957 press release entitled "Scientist Comments on Benzypyrene Report," where it disputed the United States Surgeon General's report that benzypyrene had been identified in cigarette smoke, and stated that scientists had concluded that

benzypyrene in cigarette smoke cannot be a cause of cancer in smokers. This public statement directly contradicted internal B&W research. 11313243-3244 (US 20280) (O); 650200084-0095 (US 21388) (O).

131. The Tobacco Information Committee, a TIRC subcommittee, published the first in a series of *Tobacco and Health* newsletters in October 1957. The newsletters contained articles that disputed the relationship between smoking and disease, criticized research that supported such a relationship, and asserted that differing opinions existed regarding tobacco use and health. The newsletter was sent to the medical and scientific communities. It reached a circulation of 520,000 in 1962, with about 315,000 copies being sent to doctors, dentists, and medical schools. The admitted purpose of the publication was to rebut and discredit the charges against tobacco. TIMN123324-3327 (US 21282) (O); 511018410-8413 (US 22459) (A); TIMN0070640-0656 (US 21299) (O); TIMN0070657-0674 (US 22983) (O); TIMN0081443-1457 (US 21307) (O).

132. A December 16, 1957 press release from TIRC falsely stated that "[n]o substance has been found in tobacco smoke known to cause cancer in human beings." 500518708-8711 at 8708 (US 21834) (A).

133. On June 27, 1958, Bowman Gray, President of RJR, told a meeting of the Flue-Cured Tobacco Co-operative Stabilization Corp.:

> The theory that tobacco smoking is a factor in lung cancer causation rests almost entirely on statistical observations. These are chiefly that there are more smokers among lung cancer patients than among other patients and that a higher proportion of lung cancer seems to appear among smokers than among non-smokers. The statement that a mere statistical association is neither proof nor good evidence of a cause and effect relationship has been asserted so often by so many scientists that it sounds almost like a broken phonograph record. Nevertheless, it remains as true and significant

> as ever. Yet, assiduous search by these methods has failed to identify sufficient quantity of any substance that could account for even the relatively infrequent results obtained by painting on skins of mice. Additionally, there is the fact that all tobacco smoke inhalation studies, conducted with different species of animals over a period of several years, have consistently failed to produce any bronchogenic carcinoma – the type of lung cancer most frequently found in human lungs.

TIMN436721-6734 at 6730, 6732 (US 21366) (A).

134. With the rising popularity of filters, Defendants found themselves in a delicate position of seeking to promote these new products as safer without explicitly indicating health problems with their previous products. They continued to insist that the rise of filter cigarettes merely reflected the nature of consumer demand. James P. Richards, President of the Tobacco Institute, explained on June 30, 1958:

> The cigaret industry has not changed its mind. Our position was and is based on the fact that scientific evidence does not support the theory that there is anything in cigaret smoke known to cause human lung cancer. . . . [The Tobacco Institute] believes that the health of the people is more important than dividends for any industry.

TIMN0122775-2775 (US 21326) (A).

135. In a newspaper article published on November 19, 1958, Clarence Cook Little was quoted as saying that there was scant clear evidence that smoking caused lung cancer, much more research was needed, and TIRC would continue to provide funds for independent research in universities and hospitals until the final answers were obtained. 501860595-0595 (US 21233) (A).

136. In a December 27, 1958 public statement, Hartnett, still TIRC's Chairman, emphasized that links to smoking and disease remained undetermined and asserted that an

increasing number of factors were being associated statistically with lung cancer incidents. He cited occupational exposures, specific air pollutants, place of birth and residence, previous lung ailments, and nutrition, claiming that these factors and others were subjects of much scientific investigation and further claiming that

> at its formation in January 1954, the Tobacco Industry Research Committee stated its fundamental position: 'We believe the products we make are not injurious to health.' We are pledging aid and assistance to the research effort into all phases of tobacco use and health. That statement and pledge are reaffirmed today by the members of the Tobacco Industry Research Committee.

500518759-8761 at 8761 (US 20636) (A); Brandt WD, 88:6-89:4.

137. In another *Tobacco and Heath* newsletter, TIRC claimed: "Continuing scientific research lends support to the position that too many unknowns exist today concerning lung cancer to warrant conclusions placing a major causative role on cigarette smoking, according to the 1957 Report of the Scientific Director of the Tobacco Industry Research Committee." The publication also declared: "Cigarette smoking is compatible with normal health, and even heavier-than-average cigarette smoking is compatible with better-than-average mortality rates, according to a scientific report presented before the Southern Medical Association." MNAT00515648-5651 at 5648 (US 72185) (A); Brandt WD, 84:10-85:2.

138. As the foregoing evidence demonstrates, TIRC, and its successor, CTR, were front and center in the Defendants' response to the scientific evidence that established smoking as a cause of lung cancer. TIRC, and later CTR and the Tobacco Institute, maintained that role as time progressed. TIRC representatives frequently issued statements during this period explaining: "Its purpose [TIRC] is solely to obtain new information and to advance human

knowledge in every possible phase of the tobacco and health relationship." Nonetheless, the TIRC program funded almost no research whatsoever that focused on the constituents of cigarette smoke and/or the health of smokers. 511018410-8413 at 8410 (US 22459) (A).

139. At the same time TIRC and CTR falsely pledged Defendants' dedication to advancing human knowledge about the relationship between smoking and disease, TIRC, CTR and the Tobacco Institute issued press releases and made public statements on behalf of Defendants that attempted to discredit non-industry scientists, government public health statements, and scientific findings that linked cigarette smoking to human disease. The statements contradicted both Defendants' own knowledge of the link between cigarette smoking and disease and the parallel, scientific study by public health scientists. See US FF § I.B, supra.

140. On November 27, 1959, the Tobacco Institute issued a statement attacking the article written by Surgeon General Burney on the hazards of cigarette smoking. The release marked a concerted and coordinated effort with TIRC to attack the Surgeon General, as Little's public criticism of Burney was released the following day. TIMN0110091-0091 (US 21319) (A).

141. Little issued the following statement upon the publication of Burney's 1959 evaluation:

> Despite the recent research trends, the conclusions set forth in the Public Health Service review rely almost entirely on past reports that are no more conclusive today than when these reports were first published. Most of the points are not new but are familiar to the American public because they were first advanced some years ago in statistical studies that admittedly are not supported by experimental evidence.

Little issued this statement despite the fact that Burney had carefully evaluated the science of recent investigators and had not limited his assessment to epidemiological studies. 503283464-

3467 at 3465-3466 (US 22981) (A); Brandt WD, 90:20-92:5.

142. Hill and Knowlton, TIRC's public relations counsel, explained its strategy in anticipation of the Burney report:

> Comment from TIRC for the press remains an effective way to meet anti-tobacco publicity efforts and emphasizes the multiple factors that should be considered. This, of course, is complemented with a continuing program of supplying information to give editors and writers a balanced perspective on questions of tobacco and health.
>
> * * *
>
> Published in the November 28 issue of the Journal of the American Medical Association, the article signed by the Surgeon General presented a selection of published data about smoking as related to lung cancer. Anticipating the appearance of the Burney article and learning of its contents in advance of publication, it was possible to provide the press promptly with statements from Dr. C.C. Little, Mr. James P. Richards, president of The Tobacco Institute, and others. Press stories used the tobacco industry comment in covering the Surgeon General's article.

HT0145148-5150 at 5148 (US 21177) (A); Brandt WD, 92:23-94:7.

143. Internally, Defendants acknowledged the falsity of their public statements and public relations strategy. William Kloepfer, Vice President of Public Relations for the Tobacco Institute wrote to Earle Clements, President of Tobacco Institute expressing concern about this issue: "Our basic position in the cigarette controversy is subject to the charge, and may be subject to a finding, that we are making false or misleading statements to promote the sale of cigarettes." TIMN0072354-2356, at 2354 (US 63576) (A).

144. But Defendants' campaign continued unabated. On July 6, 1961, Tobacco Institute issued a press release that quoted the Tobacco Institute President George Allen's

comments on current health concerns regarding cigarette smoking: "The tobacco industry itself is more interested than anyone else in finding out and making public the true facts about tobacco and health." Allen further claimed that "research in recent years has produced findings that weaken rather than support the claim that smoking is a major contributor to lung cancer." TIMN0104428-4429 at 4428 (US 21762) (A).

145. Defendants not only attacked mainstream scientists, they also made blanket assertions, denying the evidence that smoking caused disease. For example, another press release, issued following Allen's attack on the public health community in 1962, stated:

> The causes of cancer are not now known to science. Many factors are being studied, along with tobacco. The case against tobacco is based largely on statistical association studies, the meanings of which are in dispute.

TIMN0123775-3779 at 3777 (US 85930) (O).

146. These statements were made at the time the Surgeon General was forming an Advisory Committee, with the aim of developing the first Surgeon General's Report on Smoking and Health.

(g) In 1964, the Surgeon General Released the First Surgeon General's Advisory Committee Report on Smoking and Health

147. The 1964 Surgeon General's Report on Smoking and Health is widely considered by historians to be one of the most significant documents in the history of twentieth century public health. Brandt WD, 99:5-112:1.

148. The Surgeon General's Advisory Committee on Smoking and Health was organized to evaluate the evidence about cigarettes and disease and offer a definitive assessment. As a result, the process of the committee's work, its selection, and its findings were designed to

represent a model of objective, public scientific and medical inquiry based on a rigorous and systematic assessment of the health implications of smoking. Brandt WD, 99:5-112:1.

149. To establish the Advisory Committee, Surgeon General Luther Terry created a list of some 150 individuals. None were known to have taken a public position regarding the relationship of smoking and health. These individuals represented a number of fields and medical specialties from pulmonary medicine to statistics, cardiology to epidemiology. This list was then circulated to the American Cancer Society, the American Heart Association, the National Tuberculosis Association, the American Medical Association, as well as the Tobacco Institute. Each group was permitted to eliminate any name, without any reason cited. Individuals who had already published on the issue or had taken a public position were also eliminated. The selection process indicated Terry's commitment to a process that would eventuate in a genuine and definitive consensus. He had insured that the Report could not be attacked on the basis of its membership. All ten of the members chosen were eminent physicians and scientists; eight were medical doctors, one was a chemist and the other a statistician. Three of the panelists smoked cigarettes, two others occasionally smoked pipes or cigars. VXA1601844-2232, at 1864-67 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 100:8-102:8.

150. The 1964 Report explained: “All of the major companies manufacturing cigarettes and other tobacco products were invited to submit statements and any information pertinent to the inquiry. The replies which were received were taken into consideration by the Committee. VXA1601844-2232 at 1870 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 100:8-102:8.

151. Terry's first ten selections all agreed to serve on the Advisory Committee, indicating to him "that these scientists were convinced of the importance of the subject and of the complete support and confidence of the Public Health Service." VXA2511396-1397 at 1396 (US 21376) (A) (Terry, Luther L., "The Surgeon General's first report on smoking and health A challenge to the medical profession," *New York State Journal of Medicine* 1254 (1983)); Brandt WD, 102:4-23.

152. The Report drew on the respective disciplinary strengths of the committee members. Walter J. Burdette was a prominent surgeon and chair of the Surgery Department at the University of Utah; John B. Hickman was the Chair of Internal Medicine at the University of Indiana; and Charles LeMaistre was a pulmonary specialist and head of a very large cancer treatment center. The pathologists joining the Committee were: Emmanuel Farber, Chair of Pathology at the University of Pittsburgh; Jacob Furth from Columbia, an expert on the biology of cancer; and Maurice Seevers, Chair of the University of Michigan Pharmacology Department. Louis Feiser of Harvard University was an eminent organic chemist. Completing the Committee were: Stanhope Bayne-Jones, a bacteriologist, former head of New York Hospital and Dean of Yale Medical School; Leonard H. Schumann, epidemiologist at the University of Minnesota; and William G. Cochran, a Harvard University mathematician with expertise in statistical methods. VXA1601844-2232 at 1864-67 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 102:9-23;

153. Terry divided the work into two distinct phases. The first phase, the work of the Advisory Committee, was to determine the "nature and magnitude of the health effects of smoking." The Committee sought to arrive at a clinical judgment on smoking. As one public

health official explained, "What do we (that is, The Surgeon General of the United States Public Health Service) advise our patient, the American public, about smoking?" VXA2511346-1350 at 1346 (US 63531) (A) (Surgeon General's Advisory Committee on Smoking and Health, *The Nature, Purpose and Suggested Formulation of the Study of the Health Effects of Smoking, Phase I*, National Archives, Record Group 90, Typescript).

154. The Advisory Committee met together nine times in just over a year. In between these meetings, both committee members and staff worked to review, critique, and synthesize what had become a formidable volume of scientific work on tobacco. Terry promised that the report on these findings would be followed by phase II, proposals for remedial action. This was significant, for it kept the Committee away from the politics that swirled around the tobacco question. What Terry sought – and ultimately got – was a document that was unimpeachable from a scientific point of view. Terry astutely recognized that the Advisory Committee could only speak with authority about the scientific nature of the health risks of smoking; he would leave the policy questions to the political process. Brandt WD, 103:23-104:19.

155. The Advisory Committee established a set of criteria to evaluate the significance of a statistical association. Recognizing that the nature of inference, as a process, requires judgment, the committee sought to define this process specifically, outlining five specific conditions for judging causal relations:

a. Consistency of the Association. Nearly all the retrospective and prospective studies produced comparable results, despite the fact that different methods were employed for collecting data.

b. Strength of the Association: the ratio of lung cancer rates for smokers versus non-smokers. The Committee assessed the significance of the dose effect phenomenon, finding that risk increased with amount smoked.

According to the Report:

> [A]verage smokers of cigarettes have a 9- to 10 fold risk of developing lung cancer, and heavy smokers, at least a 20-fold risk. Thus it would appear that the strength of the association between cigarette smoking and lung cancer must be judged to be high.

c. Specificity of Association. This criteria, according to the Report:

> implies the precision with which one component of an associated pair can be utilized to predict the occurrence of the other, i.e. how frequently the presence of one variable (e.g., lung cancer) will predict, in the same individual, the presence of another (e.g., cigarette smoking).
>
> In a discussion of the specificity of the relationship between any factor possibly causal in character and a disease it may produce, it must be recognized that rarely, if ever, in our biologic universe, does the presence of an agent invariably predict the occurrence of a disease. Second, but not less important, is our growing recognition that a given disease may have multiple causes.

In the current case, the specificity of the association was especially strong. The Report explained, "of the total load of lung cancer in males about 90 percent is associated with cigarette smoking."

d. Temporal Relationship of Associated Variables: the Advisory Committee wrote:

> Exposure to an agent presumed to be causal must precede, temporally, the onset of a disease which it is purported to produce. . . . [N]o evidence has thus far been brought forth to indicate that the initiation of the carcinomatous process in a smoker who developed lung cancer antedated the onset of smoking.

e. Coherence of the Association: the Advisory Committee concluded:

> A final criterion for the appraisal of causal significance of an association is its coherence with known facts in the natural history and biology of the disease.

VXA1601844-2232, at 2033-36 (US 64057) (A) (1964 Surgeon General Report); Brandt WD,

105:6-111:7.

156. The 1964 Surgeon General's Advisory Committee's assessment of causality was part of a coherent and logical explanation. These criteria have become the basic orthodoxy for causal inference concerning disease since the time of the report. Brandt WD, 104:20-108:21.

157. In all, the 387-page 1964 Surgeon General's Report cited 7,000 articles; its critical review of this evidence substantiated the cigarette as a cause of disease. The Report came to the following conclusions:

> Cigarette smoking is associated with a 70 percent increase in the age-specific death rates of males. The total number of excess deaths causally related to cigarette smoking in the U.S. population cannot be accurately estimated. In view of the continuing and mounting evidence from many sources, it is the judgment of the Committee that cigarette smoking contributes substantially to mortality from certain specific diseases and to the overall death rate.
>
> * * *
>
> Cigarette smoking is causally related to lung cancer in men; the magnitude of the effect of cigarette smoking far outweighs all other factors. The data for women, though less extensive, point in the same direction.
>
> Their risk of developing lung cancer increases with duration of smoking and the number of cigarettes smoked per day, and is diminished by discontinuing smoking.

VXA1601844-2232, at 1884 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 108:22-111:7.

158. The 1964 Report carefully evaluated the animal studies that had been conducted up to that time:

> Condensates of tobacco smoke are carcinogenic when tested by

> application to the skin of mice and rabbits and by subcutaneous injection in rats.
>
> * * *
>
> Bronchogenic carcinoma has been produced in laboratory animals by the administration of polycyclic aromatic hydrocarbons, certain metals, radioactive substances, and viruses. The histopathologic characteristics of the tumors produced are similar to those observed in man and are predominantly of the squamous variety.

VXA1601844-2232 at 1884, 1994-97, 2016 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 108:22-111:7.

159. The 1964 Report found very high death rates among smokers, which increased with consumption:

> The death rate for smokers of cigarettes only, who were smoking at the time of entry into the particular prospective study, is about 70 percent higher than that for nonsmokers. The death rates increase with the amount smoked. For groups of men smoking less than 10, 10-19, 20-39, and 40 cigarettes and over per day, respectively, the death rates are about 40 percent, 70 percent, 90 percent, and 120 percent higher than for non-smokers. The ratio of the death rates of smokers to nonsmokers is highest at the earlier ages (40-50) represented in the studies, and declines with increasing age. The same effect appears to hold for the ratio of the death rate of heavy smokers to that of light smokers. In the studies that provided this information, the mortality ratio of cigarette smokers to non-smokers was substantially higher for men who started to smoke under age 20 than for men who started after age 25. The mortality ratio was increased as the number of years of smoking increased. In two studies which recorded the degree of inhalation, the mortality ratio for a given amount of smoking was greater for inhalers than for non-inhalers.

VXA1601844-2232 at 1888-89 (US 64057) (A) (1964 Surgeon General Report); Brandt WD, 108:22-111:7.

160. The 1964 Report also reached conclusions as to coronary heart disease: "It is also

more prudent to assume that the established association between cigarette smoking and coronary disease has causative meaning than to suspend judgment until no uncertainty remains." The 1968 Report went a step further, concluding that "[b]ecause of the increasing convergence of epidemiological and physiological finding relating cigarette smoking to coronary heart disease it is concluded that cigarette smoking can contribute to the development of cardiovascular disease and particularly to death from coronary heart disease." VXA1601844-2232 at 1885 (US 64057) (A) (1964 Surgeon General Report); ATC1081418-1542 at 1430 (US 65351) (A) (1968 Surgeon General Report).

161. The 1979 Report flatly stated that "for purposes of preventive medicine, it can be concluded that smoking is causally related to coronary heart disease for both men and women in the United States." VXA1604926-6020 at 4969 (US 64071) (A) (1979 Surgeon General Report).

162. From both a clinical and a public health perspective, the 1964 Report concluded that stopping smoking lowered an individual's risk of disease and health:

> Cigarette smokers who had stopped smoking prior to enrollment in the study had mortality ratios about 1.4 as against 1.7 for current cigarette smokers. The mortality ratio of ex-cigarette smokers increased with the number of years of smoking and was higher for those who stopped after age 55 than for those who stopped at an earlier age.

VXA1601844-2232 at 1888-89 (US 64057) (A) (1964 Surgeon General Report).

163. Unfortunately, the 1964 Report did not stop Defendants' efforts to perpetuate the idea of a "controversy" over whether smoking causes disease. Defendants simply re-doubled their efforts and maintained the strategy they had laid out in 1953: Insist there was no proof, attack and undermine all studies showing that smoking caused disease, and fund research that

investigated alternate theories of carcinogenesis. Brandt WD, 112:2-114:6.

(h) Defendants Intensified Their Fraudulent Public Relations Campaign in Anticipation of and Immediately Following the Release of the 1964 Report

164. The 1964 Report caused Defendants to further intensify their public relations campaign, which was undertaken without any regard for the truth of public statements and assertions and, in fact, with knowledge of the falsity of Defendants' claims that smoking had not been established as a cause of disease.

165. Before the Surgeon General's Report was released in January 1964, Defendants took steps to minimize its impact. George Allen, president of the Tobacco Institute, laid out the Defendants' ongoing position in a radio interview:

> ALLEN:. . . .All the medical authorities as far as I know, or practically all of them, agree that nobody knows what causes cancer, and specifically lung cancer, and this is a matter that remains to be found by thorough and energetic scientific investigation.
>
> * * *
>
> ALLEN: . . .That study [from the Royal College of Physicians, 1962], while considered very strong in its accusations, charges regarding smoking, nevertheless that study itself said that the majority of people smoke without any harm to their system. So if you say, am I going to get lung cancer if I smoke, a lot of people get lung cancer who have never smoked in their lives. We had a recent case, in which 27 nuns had died of lung cancer, not all together, not in the same place, but among the statistics. . . who had never been near tobacco. So, certainly one would have to say that if you just ask the question flatly, if I smoke, will I get lung cancer, there are many, many cases and evidences - cited statements to the fact that there is no proved cause and effect relationship between the two.

This was precisely designed to mislead the public concerning the known harms of cigarette

smoking. 500062010-2018 at 2011, 2015-2016 (US 20619) (A); Brandt WD, 114:6-115:7.

166. On March 14, 1963, the Tobacco Institute issued a press release to the *New York Times* containing a statement by Allen:

> Scientific opinions differ widely. Many scientists say that more must be learned before it will be known whether any of the factors now under study, including smoking, has a role in causation of diseases such as lung cancer, and, if so, whether that role is direct or indirect, primary or incidental. In the opinion of these scientists, singling out tobacco as a major factor is not warranted by scientific knowledge.

TIMN0131426-1426 (US 21336) (O).

167. On April 15, 1963, Allen commented on a recent booklet issued by the American Cancer Society:

> There is dispute among scientists as to the causes of lung cancer. Many differing opinions exist. . . .
> The booklet does not purport to contribute new knowledge.
>
> It is our belief that the answers to questions about diseases such as lung cancer will come through the research laboratory, not through booklets or campaigns for or against smoking.

TIMN0118348-8349 at 8348 (US 21320) (O).

168. A June 1963 Tobacco Institute statement by Allen similarly claimed that there was "dispute among scientists as to the causes of lung cancer." Allen reported that since 1954 the tobacco manufacturers had supported grant-in-aid research through TIRC and had contributed more than $6 million in funds towards independent medical and scientific research. While the research programs were continuing, the press release claimed that research findings regarding underlying causes of cancer and cardiovascular diseases were to that date inconclusive. TIMN0104311-4312, at 4311 (US 21317) (O).

169. A July 9, 1963 press release reaffirmed the Tobacco Institute's public position to not accept any claims that smoking played a part in causation of human disease until further research provided facts to link smoking to certain health effects. The release quoted Allen: "With the numerous theories, statements, and resolutions that have been presented to the public, there is some danger of losing sight of what ought to be the basic objective of all who are concerned. That is, doing the needed research. We believe the answers will be found. And they will be found in the scientific laboratory, not through pronouncements either for or against tobacco." TIMN0098597-8598 at 8598 (US 21270) (A).

170. In September 1963, the Tobacco Institute issued a publication entitled "Tobacco and The Public Interest." It provided: "there ought to be a respite from theories, resolutions and emotional statements for a time at least, so that scientists can objectively evaluate what is known and what is not known." He reaffirmed Defendants' purported commitment to research to find necessary facts: "That is what this industry has tried to do in the past, through the research program of the [TIRC]. And that is what we shall do in the future, until enough facts are known to provide solutions to the health questions involved." TIMN0104251-4256 at 4254, 4256 (US 21316) (O).

171. On October 11, 1963, in order to intensify Defendants' public relations campaign in anticipation of the 1964 Report, the Tobacco Institute issued a press release: "Allen Outlines Some of Reasons Why Smoking-Health Theory is Disputed." It provided: "people sometimes forget that there are good reasons why the theories about smoking and health problems are in dispute, and are often questioned by responsible scientists. . . . [T]he original theory about smoking and lung cancer – the theory that smoke was a direct, contact carcinogen – has virtually

been abandoned." He asserted that the case against smoking rested largely on statistical studies, whose meanings were questioned by many leading medical statisticians, and that there was a growing interest among scientists studying the issue as to the possible role of constitutional and genetic factors. TIMN0118249-8250 at 8249 (US 21561) (O).

172. On November 3, 1963, a Tobacco Institute news release entitled "Tobacco Industry Confident Research Will Find Answers, George Allen Says," stated that Allen was "convinced that scientific research will discover the answers to questions about smoking and health and the causes of the diseases with which smoking has been associated." After cataloguing Defendants' positions on smoking and health, Allen "suggested a moratorium on resolutions and emotional statements about smoking and health, so that scientists can objectively evaluate what is known and what is not known." TIMN0118245-8246 at 8245, 8246 (US 77055) (O).

173. The Surgeon General's Report was released on January 11, 1964. Following the release of the Report, the principal approach by Defendants to the burgeoning knowledge of tobacco's harms was to "stay the course." Defendants continued to rely on the basic strategic formulations set forth in the mid-1950s. They continued to assert alternative causation theories (through arguments that had already been effectively refuted). Despite overwhelming evidence from a wide range of disciplines including statistics and epidemiology, pathology and chemistry, clinical observation, and animal experimentation, and their own observations, Defendants continued to claim "no proof" and continued to attempt to create doubt about the scientific findings.

174. Defendants intentionally exploited denial and rationalization by smokers. In a

memo to Joseph F. Cullman of Philip Morris, George Weissman described how in response to the 1964 Surgeon General's Report "we must in the near future provide some answers which will give smokers a psychological crutch and a self-rationale to continue smoking." Among the "crutches" and "rationales" proposed to be offered to the smokers were questions of medical causation, "that more research is needed," and that there are "contradictions" and "discrepancies." 1005038559-8561 at 8559-8560 (US 20189) (A).

175. In testimony on June 25, 1964 at a hearing of the Committee on Interstate and Foreign Commerce, Bowman Gray, Chairman of the Board of RJR, stated: "I believe . . . that nearly everyone familiar with these difficult problems would agree that there are large and basic areas where there is lack of knowledge, uncertainty, and where a great deal more research is essential before definitive answers can be made. Many distinguished scientists are of the opinion that it has not been established that smoking causes disease." 501935056-5071 at 5060 (US 20690) (A).

176. In a newspaper article dated July 12, 1964, Horace Kornegay, the Chairman and President of the Tobacco Institute, was quoted as saying: "There exists no definite proof that smoking cigarettes causes lung cancer or any other dreaded disease." TIMN013181-3181 (US 88779) (O).

177. On August 17, 1964, CTR issued a press release quoting Little: "the fact remains that knowledge is insufficient either to provide adequate proof of any hypothesis or to define the basic mechanisms of health and disease with which we are concerned." MNAT00287815-7818 at 7815 (US 21224) (A).

178. On December 29, 1965, the Tobacco Institute issued a press release stating that

research had not established whether smoking causes disease and that it was still an "open question." The release went on to state that "[i]f there is something in tobacco that is causally related to cancer or any other disease, the industry wants to find out what it is, and the sooner the better." TIMN0123790-3793 at 3790, 3791 (US 21330) (A).

179. On October 21, 1966, the Tobacco Institute issued a public statement to newspapers that stated that the tobacco industry knew "of no valid scientific evidence demonstrating that either 'tar' or nicotine is responsible for any human illness." TIMN0099040-9041 at 9040 (US 21550) (A).In 1967, Defendants received feedback showing that their "open controversy" strategy was working. Through a focus group with smokers conducted by public relations firm Ted Bates and Company for Lorillard, Defendants learned that

> because they are still smoking, smokers are <u>compelled</u> to feel the government has not proved its case. If they want to hear anything, it is reassurance that smoking does <u>not cause</u> lung cancer – not that there is a difference of opinion. Smokers agree that smoking is "unhealthy" but don't translate this as meaning it causes lung cancer or any specific, potentially fatal, disease. Smoking may cause shortness of breath, a cough or even a shorter life – but they don't expect it to give them lung cancer.

92382009-2011 at 2010 (US 21554) (A) (emphasis in original).

(i) Following Publication of the 1964 Report, the Scientific Community Continued to Document the Link Between Smoking and an Extraordinary Number of Serious Health Consequences

180. Smoking and health is one of the most studied subjects in the field of public health. The Smoking and Health Database, maintained by the Centers for Disease Control and Prevention, United States Department of Health and Human Services, is a bibliographic database – accessible via the internet – which covers over thirty years of information and abstracts with over 62,000 items on smoking and health. The medical literature is replete with extensive epidemiological studies, conducted over decades, comparing the disease and death rates of millions of smokers and nonsmokers. Every relevant population and demographic group has been examined. Examples of these studies are: American Cancer Prevention Study I and II; British Physicians Study; Dorn Study of United States Veterans; National Health Interview Study; Current Population Survey; and the Behavioral Risk Factor Survey. Burns WD, 9:2-16.

181. This body of literature has been reviewed and presented in Reports of the Surgeon General on Smoking and Health published in 1964, 1967, 1968, 1969, 1971, 1972, 1973, 1974, 1975, 1976, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1988, 1989, 1990, 1992, 1994, 1998, 2000, and 2001. Id.

182. The scientific conclusions presented in each of the Reports of the Surgeon General are based on the consensus of then-existing scientific understanding. Burns WD, 14:10-12.

183. Beginning with the first Report in 1964, the United States Public Health Service has followed the scientific consensus formation approach when producing a Report of the Surgeon General on Smoking and Health. The scientific community forms a consensus on issues

of causation by reviewing all of the scientific evidence available; examining that evidence for its strength, consistency, coherence, temporal association and biological plausibility; and then reaching a judgment as to whether the data support a causal relationship between smoking and a disease. Burns WD, 14:13-19.

184. The Reports go through a careful process to ensure that individual biases are not determining the conclusions or statements within the volume. That process occurs through a set of expert reviews of the Report at various stages in its preparation. Individual scientists, usually outside of the government, are first selected and asked to author chapters on a given topic. Sometimes the entire Report will be devoted to a specific topic, like cancer or heart disease or lung disease, but individuals are asked to offer chapters or sections on specific questions that relate to the issue examined, so that chapters can be assembled to cover the entire topic. The individual authors selected are extensively knowledgeable in the specific area that they are asked to write about, with the constraints that all of the pertinent scientific literature is to be considered and that conclusions of the chapter are to be based on the data presented in that literature rather than on the individual perspective of the author. Initial drafts of chapters are prepared for each Report by the individual authors, and the initial drafts are received by the editors and edited into chapters. Once the chapters are submitted, the editors make all subsequent changes and the chapters are not resubmitted to the authors for approval of those changes. The chapters are next sent out to a group of expert scientific reviewers for peer review of their scientific accuracy and completeness, as well as for balance, tone and appropriateness of the conclusions drawn from the scientific data. These comments are integrated into the volume, and the entire volume is sent out to a group of senior scientists in the academic community for review of the entire volume for its

accuracy, balance and tone. The Report is also formally reviewed by each of the agencies of the Public Health Service. Once these reviews are completed, the editors again integrate the comments into the text to strengthen the text and the science. Each Report is then submitted for formal clearance by the Centers for Disease Control, by the Assistant Secretary for Health and the Surgeon General, and by the Secretary of Health and Human Services. Once it is cleared, it is transmitted as a formal requirement of the law to Congress as the official position of the HHS on the issue. It is also released to the public and the press. Burns WD, 15:3-16-7.In 1960s and 1970s, the Report preparation process was accomplished within approximately a one-year time period. More recently, given the vast expansion in the body of smoking and health literature, it has required two to three years to accomplish the task of preparing a Report of the Surgeon General on Smoking and Health. Burns WD, 16:8-11.

185. The expansion in the body of smoking and health literature and intense study of the leading preventable cause of death in the United States has led scientists to determine that smoking is a cause of numerous additional diseases, as set out in the 2004 Surgeon General's Report (summarized in US FF § III.A(1)(a), supra).

(j) Defendants Continued Their Determined Fraudulent Campaign Throughout the Late 1960s and Early 1970s

186. Defendants responded to the formation of scientific consensus throughout this period in the same way they had responded to the evidence that smoking caused lung cancer in the early 1950s: with a campaign of proactive and reactive responses to scientific evidence that were designed to mislead the public about the health consequences of smoking in furtherance of the goals of the Enterprise.

187. For instance, publications of the Tobacco Institute consistently argued that evidence implicating cigarettes and smoking as causes of disease remained hypothetical, limited and static.

188. One of the most significant of those publications was created in 1967. In November 1967, at the direction of outside lawyers David Hardy of Shook, Hardy & Bacon, and Ed Jacobs of Cabell, Medinger, Forsyth & Decker, the Tiderock Corporation, the Tobacco Institute's public relations firm, prepared an action plan entitled "The Cigarette Controversy." The action plan laid out the objective of influencing public opinion by designing specific initiatives to re-establish the "cigarette controversy." The program called for the creation of a position paper for intra-industry use as well as one for distribution to the media and public. The plan included targeted categories for mailings such as the medical profession, scientists, communicators (press, radio, television), educators, top public figures, and 10,000 top corporate presidents. It also detailed the publication of magazine articles. 1005109086-9106 (US 20211) (O); TIMN0070816-0821 (US 77048) (O); 502644592-4616 (US 20703) (A).

189. In 1968, the Tobacco Institute published a pamphlet entitled "The Cigarette Controversy: An Examination of the Facts by the Tobacco Institute -- The Tobacco Industry's Contribution to Health Research." It declared:

> In order to help advance scientific understanding of the causes, as well as the means of preventing and controlling disease, the American tobacco industry has contributed millions of dollars for independent research on smoking and health. During the past thirteen years, the industry has supported over 300 independent health studies through the industry's Council for Tobacco Research - U.S.A. Do cigarettes cause disease? In spite of all the debate – in spite of all of the research – that questions is still unanswered. The industry will continue to seek the truth in the continuing

cigarette controversy.

TINY0006498-6601 at 6534-6536 (US 87056) (O); TIMN0104765-4868 at 4802-4803 (US 21613) (O).

190. An April 23, 1968 version of The Cigarette Controversy re-stated and re-emphasized Defendants' views:

> Q: Has any important new evidence against cigarettes been reported in recent years?
>
> A: No. Cigarettes today are branded guilty on virtually the same kind of evidence that was considered insufficient only a few years ago.
>
> * * *
> Q: Is smoking a health hazard?
> A: That question is still an open one.
>
> * * *
> At that time [the early 1950s], most scientists considered the findings of these studies insufficient to prove a case against smoking. Since then, many other studies have been done. But there is still no proof that cigarette smoking is a cause of lung cancer- or any other disease.

502644592-4616 at 4595, 4596 (US 20703) (A).

191. In a 1969 press release entitled "American Tobacco Refutes Anticigarette Charges," American announced it was distributing a another version of "The Cigarette Controversy." The booklet purported to review research done over the prior fifteen years and concluded that, in the absence of medical evidence, "the question is still an open one." It was mailed to more than 140,000 stockholders of American. TLT0962304-2309 at 2304 (US 88668) (O).

192. This updated version presented "facts" explaining that there was "controversy"

surrounding the science of smoking and health that must be answered by further scientific research and public discussion. The pamphlet was reviewed by CTR's Scientific Director Robert Hockett prior to publication. According to a letter from David Hardy, an attorney with Shook, Hardy & Bacon, to Hockett this Tobacco Institute booklet was written to explain to the public the "reasons why representatives of the Cigarette Industry contend that the case against cigarettes has not been proved." Hardy explained that "the Tobacco Institute has felt it desirable to have some readable document or pamphlet to give them which spells out some of the unanswered questions." 1005152849-2896 (US 20226) (O); HK0108004-8004 (US 21171) (O).

193. In 1971, the Tobacco Institute revised and republished another edition of "The cigarette controversy - eight questions and answers." It was distributed by direct mail to physicians, librarians, newspaper and magazine editors, Members of Congress and their top aides, members of public relations groups, medical school faculties, leading tobacco growers and executives of industry supplier firms, other United States business leaders, college and university presidents and department heads, science writers, and business and financial writers and securities analysts. Copies were also mailed to a large list of ministers. The mailing went to nearly 350,000 persons. It was sent to over 300 radio and TV station managers together with a sixty second announcement. TIMN300233-0257 (US 21675) (A); 690014815-4838 (US 21041) (O); TIMN0080470-0477 (US 21716) (O); 03768320-8337 (US 20064) (O).

194. The Tobacco Institute published a shorter summary of the 1970 "Cigarette Controversy" pamphlet in 1971 entitled "Smoking/Health An Age-Old Controversy." This leaflet briefly stated Defendants' opinions on the questions of causation and the validity of the scientific research conducted to date. A November 9, 1973 Tobacco Institute memorandum

regarded "Smoking/Health An Age-Old Controversy" as a "good synopsis of the [1970] pamphlet" and a "shorter version of the industry stand on the cigarette controversy" that should "be put to good use." TIMN0121524-1527 (US 21710) (A); TIMN0395428-5429 at 5429 (US 21365) (O).

195. In November 1971, RJR requested and received from the Tobacco Institute 1,000 copies of the pamphlet "Smoking/Health An Age Old Controversy" for use in responding to inquiries from children about smoking and health. Again in February 1973, 500 more copies were requested again for responding to school children. TIMN0121524-1527 (US 21710) (A); 500005148-5148 (US 21323) (A); 500013882-3882 (US 20611) (O).

196. After the publication of "The cigarette controversy," the Tobacco Institute published a series of advertisements in various magazines, inviting readers to request copies of the pamphlet. For example, on November 6, 1972, the Tobacco Institute ran an advertisement in *The Nation* that stated "YOU HAVE A RIGHT TO A FULL DISCUSSION ABOUT smoking and health. The cigarette question is still a question. Send for free booklet, 'The Cigarette Controversy.'" TIMN0124460-4460 (US 21333) (O).

197. The Tobacco Institute published a 1974 version of "The Cigarette Controversy" and continued to argue that objective research was needed to explore questions about smoking and health. The Cigarette Controversy stated that a causal relationship between smokers and illness or death had not been established and that such claims were unproven. Over one million copies of the Cigarette Controversy which was described as "the basic guide for other forms of communication" were in print by the end of the year. TIMN0017604-7612 (US 23020) (O); TIMN217628-7639 at 7634 (US 21263) (O).

198. Defendants pursued their fraudulent public relations strategy through addictional means during the same time period. In an address delivered on October 3, 1967, Paul D. Smith, Vice President and General Counsel of Philip Morris, stated: "The truth of the matter is this: No one knows whether cigarette smoking causes any human disease or in any way impairs human health." Smith also claimed that "[n]obody has yet been able to find any ingredient as found in tobacco or smoke that causes human disease." He also criticized the Public Health Service's accusations against tobacco and claimed that the public research community was biased due to influence from the distribution of federal funds. 2015068601-8612 at 8603, 8611 (US 20337) (O); 2010035814-5818 (US 21603) (O).

199. In 1968, a sportswriter named Stanley Frank wrote an article entitled "[T]o smoke or not to smoke–that is still the question," appearing in the "Science" section of *True.* In the article, Frank stated that he had reviewed the evidence on smoking and disease and found it inconclusive and contradictory. He also stated that the risks of smoking were not as real as the public had been led to believe. Frank later acknowledged that he was at the time an employee of Hill & Knowlton and he was paid $500 by the Tobacco Institute for the work. TIMN462375-2380 (US 21660) (O); 690012994-2994 (US 54322) (O).

200. The Tobacco Institute ordered millions of reprints of the Stanley Frank article for mass mailings. In April 1968, Lorillard, RJR Philip Morris, and B&W purchased reprints of the article for further mailings. 690012994-2994 (US 54322) (O); TIMN0070307-0307 (US 21571) (O); TIMN0070324-0335 (US 21592) (O); TIMN0071398-1401 (US 21301) (O).

201. Later, when the FTC began an investigation into industry involvement in the Frank article, the Tobacco Institute's Vice President of Public Relations, William Kloepfer,

falsely denied direct involvement or knowledge of payment for the freelance article or mailings of article reprints. In actuality, as noted above, the Tobacco Institute had initiated mass mailings of reprints before the article appeared.

202. In an internal memorandum outlining the Tobacco Institute's involvement with the Frank article, Kloepfer noted with approval that the Tobacco Institute's involvement in another article, "the Barron's editorial," had not been uncovered: "It should be noted that our earlier project, the advertisement of the Barron's editorial, escaped noticeable rebuttal. The editorial will be remembered, however, as an independent criticism of government activity, with no reasonable suspicion possible that cigarette interests were responsible for its preparation." TIMN0071398-1401 (US 21301) (O); 1005112459-2461 at 2460 (US 20213) (O).

203. Endeavors like the Cigarette Controversy series, the Frank article, and public statements of the industry were all undertaken as part of a concerted, fraudulent public relations strategy on the part of Defendants. In particular, the Tobacco Institute's internal documents reveal Defendants' true intentions with respect to the Tobacco Institute's press releases and public statements. The Tobacco Institute's 1968 "Tobacco and Health Research Procedural Memo" states: "The most important type of story is that which casts doubt on the cause and effect theory of disease and smoking. . . . [T]he headline should strongly call out the point – Controversy! Contradiction! Other factors! Unknowns!" TIMN0071488-1491 at 1489 (US 21302) (A).

204. The public relations effort was extensive. A December 24, 1968, statement prepared by Shook Hardy for Joseph F. Cullman, Chairman of the Board of Philip Morris explained:

> The cigarette industry recognizes its responsibility to the American

> people. It is anxious to seek the answer to the question of whether cigarettes are in fact the cause of any human disease. It is unfortunate that emotional propaganda against cigarettes has been permitted to suppress scientific inquiry and proof.

The statement also asserted that statistical association can never prove cause and effect. 1000313777-3779 at 3779 (US 20093) (O).

205. In 1969, the Tobacco Institute prepared an article entitled "Centuries-old Smoking/Health Controversy Continues," which asserted that the causes of cancer and heart disease were still unknown. The article stated that evidence concerning smoking and cardiovascular disease was, if anything, more confused than it was in 1964 and did not permit the conclusion that there was a causal relationship between smoking and cardiovascular disease. TIMN395434-5437 (US 21664) (O).

206. Claims that smoking was only statistically linked to disease persisted. A February 3, 1969 CTR press release explained:

> The scientist who has been associated with more research in tobacco and heath than any other person [Clarence Cook Little] declared today that there is no demonstrated causal relationship between smoking and any disease. The gaps in knowledge are so great that those who dogmatically assert otherwise – whether they state that there is or is not such a causal relationship – are premature in judgment. If anything, the pure biological evidence is pointing away from, not toward, the causal hypothesis. . . . Statistical associations between smoking and lung cancer, based on study of those two factors alone, are not proof of causal relationship in the opinion of most epidemiologists.

670307882-7891 at 7882 (US 21867) (A).

207. On February 6, 1969, General Counsel for Philip Morris, RJR, B&W, Lorillard, Liggett, and their members of the Committee of Counsel, approved the running of a copy of the

foregoing press release under the headline: "How much is known about smoking and health." The ad was run in major newspapers around the country, advertising journals, and medical journals, including papers in Richmond, Raleigh, Knoxville, Nashville, Washington, New York, Louisville, Lexington and Columbia; in the eastern edition of the *Wall Street Journal*, *Advertising Age*, *Broadcasting*, *Editor and Publisher*, *Southern Advertising and Publishing*, *National Association of Retail Druggist Journal*, *Food Topics*, *VEND*, *Retail Tobacconist*, *Southern Tobacco Journal, Tobacco*, *Tobacco Distributor and Confectionary Guide*, *Tobacco Jobber*, *Tobacco Leaf*, *Tobacco Record*, *Tobacco Reporter*, *US Tobacco Journal*, *Medical World News*, *Medical Economics*, and *US Medicine.* 1005132848-2849 (US 20222) (A); 1005153098-3099 (US 20227) (A); TIMN0081698-1698 (US 21309) (O); TIMN0000560-0561 (US 21874) (A); TIMN0081695-1696 (US 21308) (A).

208. Members of the Enterprise realized that they needed to change public opinion in order to sustain the viability of the tobacco industry even if there was no evidence to support their position. In an August 10, 1967 RJR memo from J.S. Dowdell to C.B. Wade, Dowdell acknowledged:

> Despite the fact that the industry has very little, if any, positive evidence upon which to base the aggressive campaign necessary at this late date to materially change public opinion, public attitudes can be changed. At least to the extent that the majority who now believe smoking is a <u>proven</u> cause of lung cancer could become doubtful; and, others who are now skeptical could be convinced that before the industry is further penalized more evidence is required. However, the unfavorable opinion on the hazards of smoking will remain definitely high, and will not shift in a favorable direction, until positive action is taken by the industry to counter the anti-smoking propaganda and publicity.

Dowdell advocated that the Tobacco Institute Executive Committee approve the 1967 Public

Relations Program and begin an aggressive public relations campaign. 500006192-6194 at 6193 (US 47761) (O).

209. At the same time, an internal B&W document entitled the "Smoking and Health Proposal" explained: "Doubt is our product since it is the best means of competing with the 'body of fact' that exists in the mind of the general public. It is also a means of establishing a controversy." 690010951-0959 at 0954 (US 21040) (A).

210. In a 1969 B&W document prepared for public dissemination entitled "How Eminent Men of Medicine and Science Challenged the Smoking-and-Health Theory During Recent Hearings in the U.S. Congress," B&W stated that "the question of smoking and health remains an open, not a closed, issue." B&W also asserted that "[t]he cause of cancer in humans, including the cause of cancer of the lung, is unknown" and that "[t]he concept that cigarette smoking is the cause of the increase in lung cancer and emphysema is a colossal blunder." 650332832-2839 at 2833, 2835-2836 (US 20947) (O).

211. On November 11, 1969, the Tobacco Institute published an advertisement entitled "All Advertising Should be Truthful," which contained a reprint of an article entitled "The Truth Seems a Little Twisted," from the Advertising Age, which attacked the American Cancer Society and the American Heart Association commercials regarding cigarette smoking risks. The article alleged that the commercials were untruthful and misleading; and that "wild" unsupported allegations should not be permitted on the air. The Tobacco Institute ran these advertisements in newspapers in New York, Boston, Philadelphia, Washington, Chicago, Los Angeles and San Francisco and in issues of *Time, Newsweek*, and the *Wall Street Journal*. 1005132842-2842 (US 21667) (O); 1005132840-2840 (US 21668) (O); 1005132841-2841 (US 21669) (O).

212. By the 1970s, the die of denial was long since cast and it proved impossible to shift Defendants' position of "no proof," "open question," and "controversy." Even as new data confirming the powerful harms of tobacco came to be understood and articulated, Defendants held fast to their position that the dangers of smoking had not been demonstrated. Brandt WD, 125:2-131:4.

213. In February 1970, the Tobacco Institute issued an announcement intended for publication titled "The Tobacco Institute believes the American public is entitled to complete, authenticated information about cigarette smoking and health," with the subtitle "The American Cancer Society does not seem to agree." This announcement challenged information issued by the American Cancer Society concerning a research project published by Dr. Oscar Auerbach titled: "The Effects of Cigarette Smoking Upon Dogs." TIMN0081949-1949 (US 21686) (O).

214. On April 30, 1970, the Tobacco Institute sent a press release that falsely claimed that the American Cancer Society had refused to release experimental data underlying the Auerbach/Hammond "smoking beagles" study (which discovered bronchial carcinoma in beagle dogs forced to smoke tobacco). T076378-6379 (US 21237) (O). For a complete discussion of the Enterprise's efforts with respect to the Auerbach Studies, see US FF § I, infra, and § III, supra.

215. In March 1970, the Tobacco Institute approved TV spots which alleged: "Today, we in this industry support more impartial research on the vital question of tobacco and health than any agency of the Federal Government, and more than all the voluntary agencies combined. We have great confidence that the findings of this research will lead the way in providing fair and accurate information regarding cigarette smoking." "Do Smokers have common sense? We in

the tobacco industry believe they do, and that millions of reasonable and responsible men and women who smoke will not be misled by the campaign of fear that is conducted against smoking." We believe that these emotional charges are no substitute for objective facts gathered from research." 2010008819-8822 at 8820 (US 20300) (O).

216. On April 22, 1970, a CTR press release issued by Leonard Zahn titled "Studies Raise Questions About Smoking as Health Hazard" quoted Clarence Cook Little as stating: "The deficiencies of the tobacco causation hypothesis and the need of much more research are becoming clearer to increasing numbers of research scientists." 500015901-5905 at 5902 (US 47778) (A).

217. On September 7, 1970, Dr. Sheldon Sommers, Scientific Director of CTR and Chairman of the SAB, asserted in an article entitled "Smoking and Health: Many Unanswered Questions": "I do not believe it has been scientifically established that cigarette smoking causes human disease," and "The Council for Tobacco Research is deeply committed to the search for answers." ZN16062-6065 at 6063, 6065 (US 21161) (O).

218. In December 1970, the Tobacco Institute issued yet another statement, published as an advertisement in major American newspapers, this one titled "The Question about Smoking and Health Is Still a Question":

> [A] major portion of this scientific inquiry has been financed by the people who know the most about cigarettes and have a great desire to learn the truth . . . the tobacco industry. And the industry has committed itself to this task in the most objective and scientific way possible. . . .1115 reports in all. Through this work much valuable data have been produced about lung cancer, heart disease, chronic respiratory ailments and other diseases. However, there's still a lot more to be learned. . . . There are eminent scientists who believe that the question of smoking and health is an open one and

> that research in this area must go forward. From the beginning, the tobacco industry has believed that the American people deserve objective, scientific answers. With this same credo in mind, the tobacco industry stands ready today to make new commitments for additional valid scientific research that offers to shed light on new facets of smoking and health.

But the eminent scientists in such pronouncements were never identified. Defendants widely distributed reprints of the advertisement and provided it to every member of Congress with a personal letter from Horace Kornegay, President of the Tobacco Institute. TIMN0081352-1352 (US 21305) (A); 2010008873-8873 (US 22010) (O); 1005132832-2832 (US 21666) (O); 2010008878-8879 (US 36514) (O); 500004807-4809 at 4807 (US 20608) (O); Brandt WD, 128:14-129:11.

219. Defendants' executives also continued to insist in the 1970s, as they had in the 1950s, that "if and when" any harmful elements were identified in cigarettes, they would take necessary steps to remove them. For example, on January 3, 1971, Joseph Cullman III, President of Philip Morris, explained in a "Face the Nation" TV interview:

> [T]his industry can face the future with confidence because when, as, and if any ingredient in cigarette smoke is identified as being injurious to human health, we are confident that we can eliminate that ingredient . . . . We do not believe that cigarettes are hazardous; we don't accept that. But we are working with the government, working very hard with the government, on various methods of ascertaining whether or not cigarettes can be found to be hazardous. . . . I believe they have not been proved to be unsafe.

1002605545-5564 at 5550, 5560 (US 35622) (A).

220. During the same televised interview, Cullman falsely denied that cigarettes posed a hazard to pregnant women or their infants. His statement contradicted what Helmut Wakeham, Philip Morris's Vice President for Corporate Research and Development, had informed him two

years earlier. 1002605545-5564 at 5561-62 (US 35622) (A); 1000211305-1305 (US 20080) (O).

221. In 1997, Cullman testified that he was speaking on behalf of the tobacco industry during this interview, and that he expected viewers of the 1970 program to believe what he said. Cullman PD, Minnesota v. Philip Morris, 6/11/97, 194:8-195:13.

222. In an effort to detract attention from smoking as a cause of disease, Defendants pointed to other possible causes. On January 3, 1971, a Tobacco Institute press release contained statements criticizing public health efforts, and suggested to the public that not enough was being done to investigate incidents of lung cancer in non-smokers. The press release alleged that "thousands of lung cancer victims who have never smoked cigarettes [are] being neglected by expensive propagation of myths instead of scientific knowledge." It also quoted Tobacco Institute President Horace Kornegay: "Any organization in a position to apply resources in the search for those keys– and which fails to do so – will continue to be guilty of cruel neglect of those whom it pretends to serve." Kornegay told the public that the defendants planned to provide more than $4 million in 1971 for independent scientific research. 2001052715-2718 at 2716, 2718 (US 21719) (O); TIMN0123716-3720 at 3717 (US 21328) (O).

223. A May 25, 1971 Tobacco Institute press release again publicly denied any links between smoking and health. In this press release, Defendants represented that "many eminent scientists" believe that "the question of smoking and health is still very much a question." TIMN0131768-3769 at 3769 (US 21337) (O).

224. On November 15, 1971, the Tobacco Institute stated in a press release challenging the claim that smoking is harmful to pregnant women. Horace Kornegay, President of the Tobacco Institute, was quoted: "We just don't know, and only further research on smoking and all

the other possible factors that may affect pregnancy will answer the question." TIMN0100469-0470 at 0469, 0470 (US 21687) (O).

225. TI prepared an entire "backgrounder" on smoking and pregnancy which was sent to newspaper editorial writers throughout the country. A TI press release discussing the backgrounder claimed that "...opponents of cigarettes are endeavoring to scare pregnant women with such statements as that of the Surgeon General that 'we are losing babies because of mothers' smoking.'" TIMN0100469-0470 at 0469 (US 21687) (O).

226. In the January 24, 1972 issue of the *Wall Street Journal*, Philip Morris's Senior Vice President James Bowling was quoted as stating: "[i]f our product is harmful . . . we'll stop making it. We now know enough that we can take anything out of our product, but we don't know what ingredients to take out." Bowling further stated that "[w]e don't know if smoking is harmful to health, and we think somebody ought to find out." 500324162-4164 at 4163 (US 20627) (A).

227. On February 1, 1972, the Tobacco Institute issued a press release declaring that "[t]he cigarette industry is as vitally concerned or more so than any other group in determining whether cigarette smoking causes human disease, whether there is some ingredient as found in cigarette smoke that can be shown to be responsible, and if so, what it is," and that "despite this effort [the commitment of $40 million by the tobacco industry for smoking and health research] the answers to the critical questions about smoking and health are still unknown." TIMN0120596-0597 at 0597 (US 21321) (O).

228. Defendants vilified reports demonstrating the adverse health effects of smoking. A February 26, 1972 Tobacco Institute press release asserted that the 1972 Surgeon General's

Report "insults the scientific community" and that the report was "another example of 'press conference science' -- an absolute masterpiece of bureaucratic obfuscation." The press release further asserted that "the number one health problem is not cigarette smoking, but is the extent to which public health officials may knowingly mislead the American public." TIMN0120602-0603 at 0602 (US 21322) (O).

229. The reason behind the Tobacco Institute's public relations campaign touting the open question controversy is explained by a 1972 Tobacco Institute internal document, which stated: "In the cigarette controversy, the public – especially those who are present and potential supporters (e.g. tobacco state congressmen and heavy smokers) – must perceive, understand, and believe in evidence to sustain their opinions that smoking may not be the causal factor." 87657703-7706 at 7705 (US 21098) (A).

230. In a 1975 marketing document, B&W acknowledged the necessity of continuing the "open controversy" strategy, for the company discovered that:

> Smokers perceive cigarette smoking as dangerous for one's health. However, they continue to smoke. Thus, they are faced with the fact that they are behaving illogically. They respond by providing either a rationalization for smoking or by repressing their perceptions of the dangers involved. . . . The advertising must also cope with consumer attitudes about smoking, providing either a rationale or a means of repressing the health concern.

680113760-3763 at 3761-3762 (US 20987) (A).

231. These materials, and the entirety of Defendants' fraudulent campaign, took public positions that were both extraordinarily uniform in content as a result of Defendants' coordination, and directly contrary to Defendants' internal assessments, which recognized that smoking caused disease.

(k) Defendants' Internal Documents and Research from the 1960s, 1970s, and Beyond Show Their Continued Recognition of the Health Effects of Cigarette Smoking

232. Defendants knew there was a consensus in the scientific community that smoking caused lung cancer and other diseases, yet they publicly insisted that there was a scientific controversy and disputed scientific findings linking smoking and disease knowing that their assertions were false.

233. Following the 1964 Surgeon General's Report, a report by Helmut Wakeham noted that "little basis for disputing the findings [of the 1964 Surgeon General's Report] at this time has appeared" and acknowledged that the report reflected a "professional approach" to the matter of smoking and health. However, Philip Morris continued to maintain – for another forty-five years – its public position that the causal link between smoking and health was an "open question." Philip Morris and the other Defendants attacked the Report with reckless disregard for the truth or falsity of their assertions. 1000335612-5625 at 5615, 5616 (US 22986) (A).

234. According to a February 1964 report prepared by Alan Rodgman at RJR, "Cigarette smoke from any tobacco type or tobacco blend contains carcinogenic components" The report also indicated that "None of the chemical data acquired in our studies or in studies conducted elsewhere is inconsistent with reported biological, pathological, or statistical data indicting cigarette smoke as a health hazard." 504912643-2713 at 2704 (US 20736) (O).

235. In August 1964, Rodgman recognized in an internal RJR document:

> Many nitrosamines [substances in tobacco smoke] have been shown to be carcinogenic for different organs in several species of animals. As nitrosamines are formed by the reaction of oxides of nitrogen with secondary amines, it is possible that cigarette smoke could contain nitrosoanabasine and nitrosonornicotine.

> Nitroanabasine, which is a derivative of the carcinogenic nitrosopiperidine, has now produced many tumors of the esophagus when given orally to rats.

501013277-3277 (US 20670) (O).

236. In 1966, in a semi-annual report on Philip Morris's "Project 6900," which explored the biological activity of tobacco smoke, Project Director Peter C. Luchsinger noted that "cigarettes will most likely be implicated as one of the causative agents in these diseases [emphysema and bronchitis]." Luchsinger noted that in a series of long-term primate experiments financed by Philip Morris, monkeys that were forced to inhale smoke had a higher rate of emphysema than those in a non-smoking control group. Project 6900 included other experiments with smoking rodents, cats and other animals to determine whether lung function was differently disabled by different types of cigarettes. Luchsinger's report, never released to the public and marked "[n]ot to be taken from this room," concluded based on long-term inhalation studies that "gross lung pathology can be induced by smoking cigarettes." 100341400-1414 at 1402, 1406 (US 20095) (O).

237. A May 1967 report on "Project 6900" described further tests with mice, pigs, monkeys and cats, concluding that filtered smoke was "no less tumorigenic than nonfiltered smoke." 1000342063-2073 at 2065 (US 20096) (O).

238. Wakeham informed Philip Morris executives on January 10, 1969, that "[n]ow we have a study of the effect of smoking in pregnancy which supports previous conclusions that smoking mothers produce smaller babies," and that the medical field recognized that "smaller babies suffer detrimental effects all through life," including "lower intelligence test scores at age 10." 1000211305-1307 at 1306 (US 20080) (O).

239. A 1969 Phillip Morris memorandum revealed:

> A review of recent mouse skin painting data from the Harrogate Laboratories appearing in progress reports of the Tobacco Research Council (Great Britain) indicates strong support for previously published data on the following points: Cigaret smoke condensate painted on the backs of mice over a two-year period produces tumors in numbers proportionate to the amount of condensate applied. In other words, the dose-response relationship is clearly being followed in these experiments.

2025010581-0583 at 0591 (US 20405) (O).

240. In the 1960s, RJR established a facility in Winston-Salem, North Carolina to research the health effects of smoking using mice. In this facility, nicknamed the "Mouse House," RJR scientists researched a number of specific areas, including studies of the actual mechanism whereby smoking causes emphysema. Internally, an RJR-commissioned report favorably described the Mouse House work as the most important of the smoking and health research efforts because it had come close to determining the underlying mechanism of emphysema. Bumgarner PD, Texas v. American Tobacco, 11/11/86, 32:9-33:5

241. Research done in RJR's science and health group located at the Mouse House was routinely withheld from the scientific community: scientists were forbidden both to discuss and publish their findings. Id., 35:3-38:18.

242. As a result of the Mouse House work, RJR was aware that smoking was linked with emphysema. Dr. Joseph Bumgarner, a scientist who worked in the "Mouse House, testified that he saw slides from within his group comparing normal lung tissue with exposed lung tissue that was showing signs of emphysema. After exposure the animals suffered weight loss and changes in metabolism of lipids both in surfactant and in lung and liver. Id., 63:17-66:15, 68:14-

20.

243. By 1969, RJR had a plan to carry out studies to examine the lungs of animals to see if they could detect changes in chemical metabolism that would relate to the diseased state. Id., 75:4-81:4.

244. RJR knew that exposing rabbits to tobacco smoke led to: slowing of heartbeat during puffs, decrease in pulse pressure, increased number of goblet cells, alveolar collapse, erythema of nasopharynx, acute pulmonary edema, erythema, endocardial hemorrhage, kidney disease, bronchial hyperplasia, emphysema, epithelial hyperplasia, bronchial edema, bronchiolar plugs, and gross lesions on lungs. 515384994-4999 (US 87983) (O).

245. Moreover, the fact that RJR scientists had produced emphysema in chronic-smoke- exposed rats was known to Philip Morris. In a 1969 Philip Morris document concerning the biological research program at the Mouse House and the links it showed to smoking and disease, a Philip Morris scientist wrote: "I met Dr. Price from R.J Reynolds at the CTR-USA meeting of December 11 and 12, 1969. He mentioned doing chronic cigarette smoke exposure studies with rats. The animals received up to 500 cigarettes and emphysema was produced." 1001882748-2749 at 2748 (US 26123) (A).

246. In 1970, Philip Morris's President complained to RJR about the work going on in the Mouse House. Despite the progress made there, RJR responded to the complaint by closing the Mouse House -- disbanding in one day, without notice to the staff, the entire research division, firing all twenty-six scientists at the Mouse House, and destroying years of smoking and health research. 110315968-5971 (US 26378) (A).

247. At the meeting informing employees working at the "Mouse House" of its

disbanding, the group was informed by its supervisor that the legal department had requested their lab notebooks. They were initially told that the notebooks would be returned, but they were not. Later, Anthony V. Colucci, Director of the company's Scientific Litigation Support Division, informed them that the notebooks had been accidentally destroyed in the legal department. Bumgarner PD, Texas v. American Tobacco, 11/11/96, 38:19-44:4.

248. On the day the "Mouse House" was disbanded, twenty-six people were called into a conference room, and with the exception of a few technicians, everyone was terminated. Scientists were told that the terminations were not a reflection on their work, but that "economic reasons" caused a change in the direction of the company. Id., 44:5-53:24.

249. When the scientists were dismissed, they were reminded that they had signed confidentiality agreements that meant they were not to discuss company research. Id., 44:5-53:24.

250. The United States' expert economist, Dr. Jeffrey Harris, testified that he reviewed the closing of the Mouse House in great detail. He concluded that although RJR later contracted with an outside program for certain research activities, the "magnitude and intensity of the research program subsequent to the closing of the Mouse House was diminished considerably." Harris TT, 10/18/04, 02753:12-20; 02768:5-02769:11.

251. Defendants also obtained evidence about the health effects of smoking that was contrary to their public statements from research they funded jointly. Dr. Gary Huber conducted smoking and health research funded by Defendants from 1972 to 1980 while working at Harvard University Medical School. Huber's research was conducted pursuant to a written agreement between Harvard and B&W, Liggett, Lorillard, RJR, and Philip Morris. The agreement created

the Harvard Research Tobacco and Health Program, with Huber as its head and chief investigator. Huber PD, Texas v. American Tobacco, 9/20/97, 11:9-12:16; 24:1-11; 24:13-25:9.

252. Huber and his group conducted numerous studies into the response of the lung to tobacco smoke using laboratory animals. These studies assessed the effects of smoke on the lung airways, lung parenchyma, and the heart and cardiovascular systems of animals. The studies also looked at COPD, emphysema, chronic bronchitis and coronary artery disease. Huber's animal studies utilized commercially available and research cigarettes, including commercially available cigarettes supplied by Defendants, and produced human-type diseases in the lungs of animals that inhaled cigarette smoke. The inhalation studies demonstrated changes in animal lungs that Huber's group concluded were analogous to human diseases. Id., 12:4-13:20; 40:13-15; 40:17-25; 42:2-43:3.

253. Huber specifically reported to his sponsors – B&W, Liggett, Lorillard, RJR, and Philip Morris – that his research demonstrated a response to inhaled cigarette smoke, including disease mechanisms similar to those associated with diseases in humans. Id., 12:20-13:20; 14:17-15:1; 15:6-16; 17:24-18:14; 18:22-24; 19:3-9.

254. Huber also conducted research funded by Defendants that studied changes in human smoking behavior as a function of lower and higher nicotine levels in cigarettes. The research (discussed at greater length in US FF § III.B, infra) demonstrated that smokers of lower nicotine cigarettes had an increased risk of developing pulmonary disease. Huber found that "compensation," or smoking behavior modifications, exhibited by smokers of lower nicotine cigarettes, rendered such cigarettes potentially more harmful than high nicotine counterparts because deeper inhalation carried the smoke deeper into the lung where adenocarcinoma

generally occurs. Id., 49:6-50:3, 50:5-51:4, 51:6-11.

255. Another group of inhalation studies conducted by Huber focused on rats. The research showed that rats exposed to cigarette smoke developed emphysema. Huber reported these results to Defendants. Id., 17:16-18, 18:21-24, 19:3-9.

256. Huber had frequent contact with scientists working for Defendants, including Alexander Spears of Lorillard, Alan Rodgman of RJR, and Thomas Osdene of Philip Morris, but Huber's access to them was controlled by Defendants' attorneys. Additionally, Spears made several site visits to Huber's laboratory and reviewed his progress reports. Spears admitted that the research conducted by Huber concluded that tobacco smoke caused changes in the respiratory tracts of the animals consistent with chronic obstructive lung disease. Id., 27:15-28:23; 29:4-13; Spears PD, Texas v. American Tobacco, 7/24/97, 233:1-238:12, 239:8-16; Spears PD, Cipollone v. Liggett, 7/26/84, 177:1-181:25.

257. On September 26, 1977, Philip Morris's Assistant General Counsel, Alexander Holtzman, sent a warning to the company President, Joseph Cullman, informing him that the results from the Harvard Project had led Huber to the conclusion that exposure of rats to cigarette smoke for six months causes emphysema and that a paper announcing the results would be delivered at the American College of Chest Physicians meeting the next month. Holtzman indicated that attorney William Shinn of Shook, Hardy & Bacon, under the direction of the industry counsel at the Tobacco Institute, had been sent to change Huber's mind on the results and causation, but the attorney did not succeed in altering the scientists' interpretation of the results of ths study. The Tobacco Institute prepared a press release to mitigate the damage in the event Huber's interpretation received any media attention. 1005053856-3856 (US 20197) (O).

258. In 1980, Huber sought to continue his research on animals at a time when he was making significant progress in his smoking and health research, but Defendants cut off funding for his research at Harvard and denied his request for funding after he moved later that year to the University of Kentucky. In a 1980 meeting at a Boston hotel, Defendants' attorneys told Huber that the reason funding for his research had been discontinued was because he was "getting too close to some things." The attorneys included Lee Stanford from Shook, Hardy & Bacon, Ernest Pepples from B&W, and Arthur Stevens from Lorillard. Huber PD, Texas v. American Tobacco, 9/20/97, 41:4-17; 43:21-44:15; 46:6-10; 46:12-24; 47:2-5; 73:12-74:18.

259. A number of exhibits were identified and introduced by plaintiff's and Defendant's counsel during Dr. Huber's September 20, 1997 deposition in the State of Texas litigation, documents that shed light on Dr. Huber's relationship with Defendants and that provide specific examples of information withheld from him by Defendants. HTT0010212-0214 (US 88807) (O); HTT0010215-0216 (US 88808) (O); HTT0010217-0219 (US 88809) (O); HTT0010220-0222 (US 88810) (O); HTT0010223-0225 (US 88811) (O); 1335866-5870 (US 88812) (O); HTT0010359-0360 (US 88815) (O); HTT0010361-0363 (US 88816) (O); HTT0010364-0368 (US 88817) (O); 1000037069-7069 (US 88818) (O); 501009723-9727 (US 88819) (O); 01421596-1600 (US 88820) (O); 03540193-0194 (US 88821) (O); 01346204-6208 (US 88822) (O); HTT0010392-0404 (US 88823) (O); 504822923-2923 (US 88824) (O); 504912643-2713 (US 88825) (O); HTT0010502-0503 (US 88826) (O); 0000130803-0803 (US 88827) (O); 01370915-0915 (US 88828) (O); HTT0010508-0510 (US 88829) (O); HTT0010511-0513 (US 88830) (O); HTT0010514-0516 (US 88831) (O); HTT0010517-0531 (US 88832) (O); HTT0010532-0534 (US 88833) (O).

260. When Huber was subpoenaed by the State of Texas to testify in its case against the Defendants in 1997, lawyers for Defendants, including Robert McDermott at Jones Day and Lee Stanford at Shook, Hardy & Bacon, contacted him and urged him "to keep the faith, to hold the line." Huber PD, Texas v. American Tobacco, 9/20/97, 99:21-100:2, 100:4-8. The attorneys implied to Huber that he did not "fully appreciate the full weight of Shook, Hardy & Bacon and Jones Day" representatives of the tobacco industry; the calls caused Huber to fear for the safety and financial security of his family. Id., 101:4-8, 10-21. The message to Huber was clear: Defendants wanted to keep him silent. Id., 102:3-17.

261. After the conclusion of his Texas case deposition, Defendants obtained an order sealing the transcript to keep Dr. Huber's testimony from public view and vigorously opposed efforts by litigants to obtain the transcript. Those efforts continued in this case, before this Court and in the Eastern District of Texas. Defendants succeeded in keeping the transcript sealed for almost seven years, but ultimately, the United States obtained an order from the Eastern District of Texas in 2004, unsealing the transcript. In re United States' Motion to Modify Sealing Orders, 5:03-MC-2 (E.D.Tex. June 18, 2003), Order of June 8, 2004.

262. Scientists working for Defendants also recognized the validity of research conducted by Dr. Oscar Auerbach with smoking beagles in the 1960s and early 1970s.

263. Principal Philip Morris scientist Raymond Fagan sent a memorandum dated February 25, 1970 to Wakeham, then Philip Morris's Research Director, on "Auerbach's Smoking Beagles" that described his visit to Auerbach's laboratory to observe a smoking dog and evidence slides. Fagan observed: "I would say that the experiment is a crude one but effective in that carcinoma in dogs has been produced. . . . The crux of the situation is whether there is general

agreement by qualified pathologists that carcinoma . . . has indeed been produced. And even if the cancer-production is invalidated the obvious emphysema produced cannot be denied." 1000837391-7392 at 7392 (US 20109) (O).

264. On January 7, 1969, Wakeham informed his superiors at Philip Morris that an abstract of a paper prepared by a researcher receiving funding from CTR stated: "scientific findings suggest that inhalation of fresh cigarette smoke may enhance carcinogenesis in mice." 682011667-1671 at 1668 (US 21021) (O).

265. On April 3, 1970, a company researcher of Gallaher Ltd. (American Tobacco Company's British-based sister company) wrote his managing director a confidential memo titled "Auerbach/Hammond Beagle Experiment" describing Auerbach's research as "undoubtedly a significant step forward" and that "[W]e believe that the Auerbach work proves beyond reasonable doubt that fresh whole cigarette smoke is carcinogenic to dog lungs and therefore it is highly likely that it is carcinogenic to human lungs." The research manager continued, "[t]he results of the research would appear to us to remove the controversy regarding the causation of the majority of human lung cancer," and "[t]o sum up, we are of the opinion that Auerbach's work proves beyond all reasonable doubt the causation of lung cancer by smoke." 321993992-3995 at 3992, 3993, 3994 (US 21688) (O).

266. After a review of a presentation before the Tobacco Working Group, Lorillard's Alexander Spears admitted that "[t]he slides (shown by Auerbach) represented obvious lung pathology with increased cellular proliferation with smoke exposure." Spears PD, Cipollone v. Liggett, 7/26/84, 190:1-191:25.

267. Defendants also reviewed outside research that confirmed that smoke constituents

were carcinogenic. A February 14, 1973 research report distributed to Defendants and their outside law firms linked smoking to cancer. The report, titled "Cigarette Smoke Condensate Preparation and Dermal Application to Mice," was prepared by Hazelton Laboratories and submitted to American, B&W, Liggett, Lorillard, Philip Morris, RJR, and the law firm of Covington & Burling. It reported that "97 of the 100 mice developed gross lesions in the skin in the area of dermal applications of benzo(a)pyrene." Examination indicated that these were squamous cell carcinomas. 501547434-7448 at 7444 (US 20682) (O).

268. In March 1975, a Lorillard chemist acknowledged in an internal memorandum that smoking posed a health hazard, and speculated about whether a nicotine-free cigarette could possibly reduce risk. 516966953-6953 (US 79297) (O).

269. A July 21, 1970 letter from B&W outside counsel Shook, Hardy, Ottman, Mitchell & Bacon to B&W General Counsel Debaun Bryant, reveals that B&W was concerned that statements of B&W and BAT employees, "which appear to demonstrate a belief on the part of company personnel that cigarette smoking has been established as a general health hazard or a cause of some particular disease or diseases," would expose B&W and BAT to smoking and health litigation. As examples, the letter discusses statements memorialized in the minutes of a conference at Kronberg, Germany, held from June 2 through 6, 1969 that was attended by both BAT and B&W researchers. It was David Hardy's opinion that such statements "constitute a real threat to the continued successful defense of smoking and health litigation." The letter also discusses additional concern stemming from the existence of a "'BAT/B&W Cost & Risk Pooling Agreement' executed in July 1969." 681805313-5319 at 5313, 5314, 5316 (US 30935) (O).

270. In 1974, David Hardy of Shook, Hardy & Bacon advised BATCo against

admitting to the public what its scientists knew internally – that smoking causes disease. At the time, BATCo was considering placing a warning on cigarette packages sold in England – with no government attribution – that stated that smoking "causes lung cancer, bronchitis, heart disease." In a letter addressed to BATCo, Hardy advised that this admission of fact would impede the defense of smoking and health litigation in the United States. He wrote:

> The proposed new warning removes the attribution of the warning to "H.M. Government," and instead appears to be a voluntary and direct admission by the cigarette manufacturer that the cigarettes contained in the package cause "lung cancer, bronchitis, heart disease." A wholly owned subsidiary of the manufacturer would, in our opinion, be adversely and prejudicially effected by such a voluntary warning even though it is a separate entity.
>
> * * *
>
> Once the fact and content of the warning got before a jury in the United States in a case involving the subsidiary, the defense of "no proof of causation" would be lost for all practical purposes. Such a result would indeed be unfortunate in view of the fact that in every instance where the matter has been explored in our Courts through expert testimony and otherwise, the cigarette manufacturer has prevailed.

110318156-8157 at 8156, 8157 (US 34974) (A).

271. Similarly, a January 1, 1976 letter from B&W Vice President and General Counsel, Ernest Pepples, to BATCo General Counsel, H.A. Morini, discusses B&W's concern that voluntary consent by BAT to bring additives under the Tobacco Medicine Act would prejudice B&W, because it could attribute to B&W knowledge of specific hazards, which would badly weaken B&W's litigation position. MNATPRIV00023457-3457 (US 86869) (O).

272. BATCo senior scientist S.J. Green questioned the logic of Defendants' stance on smoking and health in the light of its knowledge, stating in an October 27, 1976 memorandum

entitled "Cigarette Smoking and Causal Relationships":

> The problem of causality has been inflated to enormous proportions. The industry has retreated behind impossible demands for "scientific proof" whereas such proof has never been required as a basis for action in the legal and political fields. Indeed if the doctrine were widely adopted the results would be disastrous. . . . It may therefore be concluded that for certain groups of people smoking causes the incidence of certain diseases to be higher than it would otherwise be.

109938433-8436 at 8433, 8436 (US 34938) (O).

273. In February 1978, Rodgman wrote a colleague at the company instructing him to decline an invitation to write a handbook of trace substances found in tobacco. He explained that he had spoken with both in-house and law firm attorneys, who questioned whether it would be better to have RJR or an industry scientist write the handbook. Rodgman concluded: "Why hand the scientists antagonistic to the industry a complete compilation of the information useful to them in their efforts to put us out of business?" 501557495-7496 at 7496 (US 20684) (O).

274. In 1980, BATCo internally admitted: "It is simply incorrect to say, 'There is still no scientific proof that smoking causes ill-health.'" 680050983-1001 at 0998 (US 20981) (O).

275. Philip Morris scientist James Charles (who would later serve as the company's Vice President of Research) addressed a February 23, 1982 memorandum to department head Thomas Osdene, responding to the 1982 Surgeon General's Report on Smoking and Health: "Cigarette smoke <u>is</u> biologically active" and "cigarette smoke condensate applied to the backs of mice causes tumors." He listed nine facts on the biological activity of cigarette smoke and told Osdene "you may shred this document . . . or use [it] in any way you see fit." 1003171563-1567 at 1564, 1566 (US 26137) (O).

276. In May 4, 1982, a BATCo consultant, Francis Roe wrote to BAT and explained why he believed the industry position on causation to be unsupported, noting that "[i]t is not really true, as the American Tobacco industry would like to believe, that there is a raging worldwide controversy about the causal link between smoking and certain disease." 100432193-2203 at 2194 (US 20182) (O).

277. RJR's recognition of the validity of epidemiological and scientific studies led Anthony V. Colucci, Director of the company's Scientific Litigation Support Division, to write to attorney James E. Young of Jones, Day, Reavis & Pogue to push the "mechanistic argument" of causation. Colucci explicitly admitted: "that cigarettes are a risk factor for human lung cancer is an irrefutable fact." 507910855-0856 at 0855 (US 20803) (O).

278. Lorillard was aware that every major medical and scientific group in America that had studied the question has concluded that smoking causes disease. The company was equally aware that the only scientific studies to disagree with that conclusion were performed or funded by the tobacco industry. Spears PD, Texas v. American Tobacco, 7/24/97, 58:3-60:12.

279. Defendants' internal acceptance of the fact that smoking causes disease was unequivocally demonstrated during trial. First, former Philip Morris scientist Dr. William Farone, an impressive witness who appeared as both a fact and expert, testified:

> **Q: What was the view among Philip Morris scientists on the question of whether smoking cigarettes is a cause of lung cancer and other diseases?**
>
> A: There was widespread acceptance that smoking caused disease. I never talked with a scientist at Philip Morris who said that smoking doesn't cause disease.
>
> **Q: What was the basis for this understanding, if you**

know?

A: The compelling epidemiology such as that recounted in the Surgeon's General's reports, and our knowledge about the chemicals that were created by cigarettes and what was delivered to the smoker, hundreds of times per day on average.

* * *

Q: Did discussions about whether smoking causes adverse health effects occur frequently in and around the Richmond meetings?

A: I wouldn't necessarily say it was frequently discussed, because it was so well accepted internally. At the Richmond meetings and other meetings internally, the issue for the company was not whether smoking caused disease, but how the company should respond to that fact.

Q: Did any of these executives, in your discussions with them, challenge the validity of the scientific evidence that smoking caused disease?

A: No. Their comments generally focused on how the company could or should respond, not to whether the scientific evidence was valid. Remember, a main reason why they hired me in 1976 was to help develop a less hazardous cigarette. It seemed to me at the time I was hired, and certainly was the case during my entire time there, that hiring me for that job was itself implicit recognition that the cigarettes that were out there being sold were causing disease.

Farone WD, 66:11-18, 68:22-69:10. This testimony from Dr. Farone was not challenged by Defendants.

280. Subsequently, Jerry Whidby, a former Philip Morris scientist who continues to appear as a fact and expert witness for the company and was paid $2800 per day by Philip Morris for his testimony in this case, responded to questions from the Court on the same subject:

THE COURT: And you were asked in this question: "How long have you recognized that smoking was dangerous and caused cancer, emphysema and other diseases?"
And am I correct that you answered: "Since years before I went to work for Philip Morris."
So the answer would be, I gather, that for years before 1972, you recognized that smoking caused cancer, emphysema and other diseases; is that correct?

THE WITNESS: Yes, that is correct. When I was in high school and grammar school, we talked about it in school.

THE COURT: And the next question was: "Have you ever doubted that smoking was dangerous and caused cancer, emphysema and other diseases?"
And you answered: "No, I have never doubted that."
Is that correct?

THE WITNESS: That's what I answered, yes.

THE COURT: And were you aware from 1972 for at least 20 years, more than 20 years that you were working at Philip Morris, that Philip Morris was taking the public position that it was an open question as to whether smoking was dangerous and caused cancer, emphysema and other diseases?

THE WITNESS: I was aware of some of those statements, not all the statements, no.

THE COURT: And did you not also testify, and I must admit I probably don't have that marked -- but did you not also testify in your direct that that was the common knowledge amongst your scientific colleagues at Philip Morris, that smoking was dangerous and caused cancer, emphysema and other diseases?

THE WITNESS: People I worked around who shared their beliefs with me, yes, that's what we thought. We were there to make the cigarette better.

Whidby TT, 2/22/05, 14112:6-14113:11.

281. Former B&W scientist Dr. Jeffrey Wigand confirmed that B&W scientists held

the same views as their counterparts at Philip Morris. Wigand WD, 32:5-15, 34:16-35:8.

(l) Despite Their Internal Knowledge, Defendants Continued Their Public Campaign of Denial from 1975 Onward

282. A memo written by Fred Panzer, Vice President of the Tobacco Institute describes the strategy employed by Defendants:

> For nearly twenty years, this industry has employed a single strategy to defend itself on three major fronts–litigation, politics, and public opinion.
>
> While the strategy was brilliantly conceived and executed over the years helping us win important battles, it is only fair to say that it is not–no was it intended to be–a vehicle for victory. On the contrary, it has always been a holding strategy consisting of
>
> > –creating doubt about the health charge without actually denying it
> >
> > –advocating the public's right to smoke, without actually urging them to take up the practice
> >
> > –encouraging objective scientific research as the only way to resolve the question of health hazard.
>
> On the litigation front for which the strategy was designed, it has been successful. While we have not lost a liability case, this is not because juries have rejected the anti-smoking arguments.
>
> On the political front, the strategy has helped make possible an orderly retreat. But it is fair to say that it has not stemmed the pressure for new legislation, despite the major concessions we have made.
>
> On the public opinion front, however, our situation has deteriorated and will continue to worsen. This erosion will have an adverse effect on the other fronts, because here is where the beliefs, attitudes and actions of judges, juries, elected officials and government employees are formed.

Panzer, like others, noted that the open question strategy was not likely to be successful much

longer. Still, he believed the traditional defense was viable in some respects:

> As things stand we supply them [the public] with too little in the way of ready-made credible alternatives.
>
> * * *
>
> Two such credible alternatives exist:
>
> 1) The Constitutional Hypothesis i.e. people who smoke tend to differ importantly from people who do not, in their heredity, in constitutional makeup, in patterns of life, and in the pressure under which they live.
>
> 2) The Multi-factorial Hypothesis i.e. as science advances, more and more factors come under suspicion as contributing to the illnesses for which smoking is blamed–air pollution, viruses, food additives, occupational hazards and stresses.
>
> Our 1970 public opinion survey showed that a majority (52%) believed that cigarettes are only one of the many causes of smokers having more illnesses. It also showed that half of the people who believed that smokers have more illnesses than non-smokers accepted the constitutional hypothesis as the explanation.

TIMN0077551-7554, at 7551-7553 (US 63585) (A).

283. Consistently with the strategy, on January 14, 1975, the Tobacco Institute released another version of its booklet "The Cigarette Controversy." This announcement stated that:

> If smoking does cause disease, why, after years of intensive research, has it not been shown how this occurs? And why has no ingredient as found in smoke been identified as the causal factor? These are among the unanswered questions set forth in a new publication of the Tobacco Institute, entitled The Cigarette Controversy.

TIMN0120638-0639 at 0638 (US 21698) (O).

284. Defendants continued to recognize that their public relations campaign provided rationalization to the smoker. Their use of public relations was calculated and precise, and

internal research done on it demonstrated its efficacy. As B&W stated in a November 29, 1976 memo entitled "Cigarette Advertising History": "Good cigarette advertising in the past has given the average smoker a means of justification on the two dimensions typically used in anti-smoking arguments: [risk to health and immorality] . . . All good cigarette advertising has either directly addressed the anti-smoking arguments prevalent at the time or has created a strong, attractive image into which the besieged smoker could withdraw." 680086039-6044 at 6039, 6040 (US 20984) (A).

285. On June 6, 1977, Addison Yeaman, B&W's General Counsel, publically reaffirmed Defendants' promise to conduct meaningful research, as he explained in his remarks at Maxwell Associates Biannual Tobacco Seminar that: "I am utterly secure in saying to you that the tobacco industry recognizes its responsibility and its duty and that it will continue its every effort and at whatever cost to find the answer to the question, 'what part, if any, does tobacco play in human diseases'". CTRPUBLICSTMT001437-1445 at 1445 (US 21164) (O).

286. In a document distributed by B&W entitled "Facts Every Tobacco Man Should Remember," which appeared in the October 27, 1977 edition of the *United States Tobacco Journal*, B&W claimed that "The case against tobacco is not closed . . . in a sense, the jury still isn't able to retire to consider the case because it doesn't have all the relevant facts." 544001284-1297 at 1285-1286 (US 20935) (O).

287. The Tobacco Institute's public relations strategy was to focus as much attention as necessary in order to get Defendants' message out to the public that there was no definite link between smoking and health and that until answers to these questions were found, smokers should not fear that their health was endangered. Defendants' four-point platform is set out in a

December 29, 1977 Tobacco Institute press release:

1. The question of smoking and health is still a question requiring scientific resolution.

2. Tobacco smoke does not imperil normal nonsmokers.

3. The tobacco farm program is an essential part of public policy.

4. The freedom of choice of our industry's customers must be preserved.

TIFL0522279-2280 at 2280 (US 21424) (O).

288. In 1977, the Tobacco Institute published a pamphlet titled "Facts About the Smoking Controversy." The pamphlet claims that the 1964 Surgeon General's Report "was essentially a 'study of numbers – a selective review of population studies which compared disease rates among smokers, ex-smokers and non-smokers." It also stated: "Has the Surgeon General's report established that smoking causes cancer or other diseases? No." TIMN0055129-5135 at 5130 (US 21298) (O).

289. Defendants focused much of their public relations campaign on lung cancer and, as time went on, heart disease. In 1978, a Tobacco Institute pamphlet falsely stated: "The flat assertion that smoking causes lung cancer and heart disease and that the case is proved is not supported by many of the world's leading scientists." TIMN319568-9604 at 9578 (US 62902) (O).

290. On January 12, 1978, Ross Millhiser, President of Philip Morris, stated in a letter to the editor in the *New York Times*: "as for the lack of research on the 'harmful' effects of smoking, the fact is there is good reason to doubt the culpability of cigarette smoking in coronary

heart disease." ATC2411308-1308 (US 21378) (O) (Millhiser, "In Defense of Smoking," *New York Times*, January 12, 1978).

291. In May 1978, the Tobacco Institute published a fifty-four page document entitled "Fact or Fancy?" and sent it to broadcasters, editors, writers, and officers of women's associations and organizations "because the tobacco and health controversy has increasingly focused on women and smoking." The document was allegedly produced "to present more factual and balanced answers on the health question about which mature women need to know more," however, it presented the controversy argument that causality had not yet to be proven in any of the diseases and conditions linked statistically with cigarette smoking. 03731785-1838 (US 21466) (O); 04326897-6897 (US 21468) (O); 04326898-6898 (US21467) (O); 04326900-6900 (US 21469) (O); 04326901-6901 (US 21470) (O).

292. Defendants also continued to insist publicly that there was no need to undertake research to develop "safer" cigarettes, based on their assertion that no harm could be attributed to cigarettes. In June 1978, William Dwyer, Vice President of the Tobacco Institute, explained in an article entitled "Smoking: A Free Choice":

> A question often asked of the tobacco industry is whether researchers are developing a 'safe' cigarette. A variation of that question is whether low 'tar' nicotine cigarettes are safer. The tobacco industry is convinced that no cigarette has been proved unsafe. Therefore, they regard any suggestion of a 'safe' or 'safer' cigarette as tortured logic. The reduced 'tar' and nicotine cigarettes represent about 20 percent of sales and are in the marketplace because of consumer demand. That demand obviously reflects the personal preferences of smokers.

TIMN0074796-4800 at 4797 (US 21480) (A).

293. In December 1978, the Tobacco Institute published "The Smoking Controversy: A

Perspective." The publication stated that society was on the "brink of paranoia" regarding smoking; that "No one really knows whether this personalized warfare against tens of millions of Americans will prevent a single case of lung cancer," that "No one really knows the root or causes of cancer," and that the "wars" against disease that were being "waged by the government and voluntary health agencies" were "beyond the realm of science." TIMN0129593-9628 (US 21499) (O); MNAT00224317-4354 (US 21223) (A).

294. In 1979, the Tobacco Institute published a document entitled "TOBACCO from seed to smoke amid controversy." It declared that "it has not been established that smoking causes any human disease." 690142176-2180 at 2178 (US 21512) (O).

295. Defendants' public relations response to the release of the 1979 Surgeon General's Report demonstrates the extent to which they pursued the strategy of denying scientific consensus and seeking to discredit or undermine mainstream scientific investigation.

296. One year prior to the release of the 1979 Surgeon General's Report, Defendants' planned their response, which set up a task force to write and publish a rebuttal paper. Rather than have scientists evaluate the evidence or the Report's findings, the Tobacco Institute had a public relations staff member research, write, and edit this paper. Anne Duffin was assigned this responsibility, under the direction and guidance of the law firm Shook, Hardy & Bacon. Other public relations staff members re-read and edited the chapters of the document as it was drafted. TIMN0073990-3992 at 3990 (US 21525) (O).

297. On January 10, 1979, one day prior to the release of the 1979 Report of the Surgeon General on Smoking & Health, the Tobacco Institute published a document entitled "Smoking and Health 1964-1979: The Continuing Controversy." The Tobacco Institute prepared

it for distribution to the news media and tailored it to respond to the content of the 1979 Report. The Tobacco Institute had managed to obtain three draft chapters of the Surgeon General's Report which assisted it in the development of the publication. The document was 166 pages long and represented a major effort on the part of the tobacco industry to pre-empt the impact of the1979 Surgeon General's Report. TIMN0084430-4594 (US 21534) (O).

298. BATCo consultant Peter Lee characterized the Tobacco Institutes's 1979 document "The Continuing Controversy" (to which they referred as "TA73") as "misleading." He wrote that the Tobacco Institute's counter publication did not appear to understand the idea of medical causation:

> Discussion of the role of other factors can be particularly misleading when no discussion is made of relative magnitudes of effects. For example, heavy smokers are observed to have 20 or more times the lung cancer rates of non-smokers. Sure, this does not prove smoking causes lung cancer, but what it does mean, and TA73 never considers this, is that for any other factor to explain this association, it must have at least as strong an association with lung cancer as the observed association for smoking (and be highly correlated with the smoking habit).
>
> * * *
>
> TA73 seems ready to accept evidence implicating factors other than smoking in the aetiology of smoking. This is blatantly unscientific without requiring the same stringent standards of proof that it requires to accept evidence implicating smoking.

100214029-4047 at 4046 (US 21515) (O).

299. While he identified problems with the Tobacco Institute public relations document, Lee, a long-time consultant for Defendants on numerous smoking and health issues, acknowledged the scientific authority of the Surgeon General's Report: "There is no doubt that it is an impressive document." His memorandum dated February 9, 1979 also states that "The way

in which the information was presented was on the whole sound, scientific and unemotive." He predicted that the Report would become "the Number One basic reference document for smoking and health researchers the world over." 100214029-4047 at 4030 (US 21515) (O).

300. Defendants held a press conference the day before the 1979 Report was released, distributed press kits, and arranged for several television appearances by Horace Kornegay, President of the Tobacco Institute. A January 25, 1979 Tobacco Institute document memorializes remarks made at a TI Executive Committee meeting where the goal of the TI approach to the 1979 Surgeon General's Report was explained. Among these stated goals was: "...to encourage the press and public officials to apply a skeptical, or at least questioning, attitude to the substance of the report, and its source." TIMN0073990-3992 at 3991-92 (US 21525) (O); TIFL0403308-3312 at 3308 (US 62631) (O); TIMN0055304-5330 (US 62816) (A).

301. And while Defendants have argued at trial that their efforts to undermine the 1979 Report were not successful based on evidence that the editorial commentary in the press following release of the 1979 Report favored the Surgeon General, Defendants' internal documents note that their public relations efforts received press coverage that equaled what the findings of the Report received: "Most of us are aware that news coverage of the 1979 Surgeon General's Report achieved a balance, of sorts, with attention given to the Tobacco Institute's views both before and after the actual event." TIMN0073993-4002 at 3994 (JD-011663) (A).

302. On January 11, 1979, for example, the *News and Observer* of Raleigh, North Carolina, quoted the Tobacco Institute as stating that "'many scientists' are becoming concerned that the focus on cigarette smoking diverts attention from other suspected health hazards." TIMN0122721-2721 (US 21325) (O).

303. On January 17, 1979, the Tobacco Institute continued its aggressive public relations effort around the release of the 1979 Surgeon General's Report when it issued a press release which stated that the tobacco industry had spent $75 million on research over twenty years to learn whether smoking is harmful, but that "the case against cigarettes is not satisfactorily demonstrated." TIMN0074006-4006 (US 87985) (O).

304. Philip Morris's 1979 Annual Report similarly declared: "No conclusive clinical or medical proof of any cause-and-effect relationship between cigarette smoking and disease has yet been discovered." 2043819548-9607 at 9561 (US 20451*) (A).

305. While the public relations assault persisted, Defendants continued to falsely promise their commitment to disinterested research. In 1981, for instance, the Tobacco Institute published a document entitled "On Smoking - 21 questions and answers," written by the law firm Shook, Hardy & Bacon, which stated: "The tobacco industry has committed more that $91 million for independent research on smoking and health questions. . . . The tobacco industry remains committed to advancing scientific inquiry into the gaps in knowledge in the smoking controversy." TIEX0007587-8106 at 7589 (US 87061) (O).

306. On December 31, 1981, the Tobacco Institute published a document entitled "Tobacco Industry Research on Smoking and Health: A $104 Million Commitment" that again asserted: "questions of smoking and health are unresolved." 2046754709-4710 at 4710 (US 20474) (O).

307. In 1982, the Tobacco Institute launched a national series of advertisements on behalf of Defendants that addressed smoking and health issues, environmental tobacco smoke ("ETS"), public smoking restrictions, and youth smoking. These ads asked readers to keep an

open mind on tobacco issues and "[w]eigh both sides before [they] take sides." Readers were encouraged to request a free copy of the Tobacco Institute's booklet "Answers to the Most Asked Questions about Cigarettes." 03028799-8809 at 8801 (US 20053) (O).

308. On February 18, 1982, "Smoking and Cancer – A Scientific Perspective" was published by the Tobacco Institute in anticipation of the release of the 1982 Surgeon General's Report on Smoking and Health. The timing of the release was based on the Tobacco Institute's "axiom that it is more effective to take the initiative in situations involving a prospective negative news event." The press release accompanying the 104-page Tobacco Institute document stated that scientific research has not been able to establish a causal link between smoking and cancer. Copies were provided to correspondents and to various Members of Congress. 2025431644-1748 (US 20417) (O); TIMN0245529-5529 (US 21340) (O); 03762472-2472 (US 20063) (O); TIMN0245530-5532 (US 21341) (O); TIMN0245292-5292 (US 21339) (O); 03762460-2461 (US 20062) (O).

309. A May 7, 1982 memorandum to RJR executives advised that the key point to be made in any discussion of the issue of smoking and health "is that it is a legitimate scientific controversy which continued unresolved. The insistence on an open controversy in 1982, along with the company's other positions, was contrary to at least twenty-nine years of internal research at RJR, as well as more than three decades of conclusive mainstream scientific study. 502483421-3421 (US 20700) (A).

310. In 1983, in anticipation of 1983 Surgeon General's Report, "The Health Consequences of Smoking – Cardiovascular Disease," the Tobacco Institute published a document titled "Cigarette smoking and Heart Disease." It falsely stated that smoking was not an important

risk factor for heart disease, and that "[w]hether cigarette smoking is causally related to heart disease is not scientifically established." The document was first distributed to Defendants, who were asked not to distribute the publication widely, but to use it for internal purposes until the Report was released. Upon release, the Tobacco Institute distributed the document, as did the Defendants' European information clearinghouse, known as "INFOTAB" (discussed in detail at US FF § I.H, supra). 2501112047-2098 at 2090, 2091 (US 20561) (O); 2023274132-4133 (US 20386) (O); 2501023645-3645 (US 20556) (O).

311. Sheldon Sommers, Scientific Director of CTR, testified before Congress that year that "cigarette smoking has not been scientifically established to be a cause of chronic diseases, such as cancer, cardiovascular disease, or emphysema." 503685073-5075 at 5073 (US 88734) (O).

312. In 1984, RJR placed an ad in numerous newspapers, including the *New York Times*, entitled "Smoking and health: Some facts you've never heard about." This ad contained the statement,

> You hear a lot these days about reports that link smoking to certain diseases. This evidence has led many scientists and other people to conclude that smoking causes these diseases.
>
> But there is significant evidence on the other side of this issue.
>
> It is regularly ignored by the critics of smoking. And you rarely hear about it in the public media. But, it has helped persuade many scientists that the case against smoking is far from closed.
>
> No one wants to know the real answers more than RJR. That is why we are providing major funding for scientific research. The funds are given at arm's length to independent scientists who are free to publish whatever they find. We don't know where such research may lead. But this much we can promise: when we find the

answers, you'll hear about it.

504100135-0136 at 0136 (US 50882) (A).

313. In 1983, the Tobacco Institute published a pamphlet entitled "Tobacco Industry Research on Smoking and Health: A $120 Million Commitment." This pamphlet stated: "Since the first questions were raised about smoking as a possible health factor, the tobacco industry has believed that the American people deserve objective, scientific answers. The industry has committed itself to this task." 2045377870-7876 at 7871 (US 20460) (O).

314. In January 1984, an RJR press release declared:

> After all of this study, there are many scientists who believe there is no laboratory of clinical proof that cigarette smoke does – or does not – cause disease. We believe that reasonable people who examine all the evidence concerning smoking and disease would agree this is an open scientific controversy, not a closed case.

504638054-8056 at 8056 (US 20733) (O).

315. A month later, Edward Horrigan, Chairman of the Board at RJR, made the following comments as part of a panel discussion on the "Nightline" television program: (1) "It is not known whether cigarettes cause cancer"; (2) "Despite all the research to date, there has been no causal link established [between smoking and emphysema]"; and (3) "As a matter of fact, there are studies that while we are accused of being associated with heart disease, there have been studies conducted over 10 years that would say, again, that science is still puzzled over these forces." 502371212-1223 at 1216, 1217 (US 20699) (A).

316. Also in 1984, RJR placed an ad in daily newspapers entitled, "Can we have an open debate about smoking?" In this ad, RJR claimed that "Studies which conclude that smoking causes disease have regularly ignored significant evidence to the contrary", that these "scientific

findings come from research completely independent of the tobacco industry." It also states that "reasonable people who analyze it [the evidence] may come to see the issue not as a closed case, but as an open controversy." 513943434-3434 (US 50268) (A).

317. The same year, the Tobacco Institute published a document entitled: "Cigarette Smoking and Chronic Obstructive Lung Diseases: The Major Gaps in Knowledge." It declared that Defendants did not agree with the judgment of the Surgeon General's reports that cigarette smoking had been established as a cause of chronic bronchitis and that a causal relationship between smoking and either chronic bronchitis or emphysema had not been established scientifically. TI13062142-2156 (US 62409) (O).

318. Also in 1984, the Tobacco Institute published a report entitled "The Cigarette Controversy: Why More Research is Needed" as a formal statement of Defendants' position. It purported to be a review of testimony at the 1982 and 1983 congressional tobacco labeling hearings. It discussed the testimony of the thirty-nine scientists who testified to Congress, but undisclosed was the fact that most of these scientific witnesses were tobacco consultants receiving funds from the lawyer's Special Account No. 4. It stated:

> Thirty nine scientists presented testimony against proposals in the bills. Their evidence was based on their own published research or their review of scientific literature.
>
> Each of them in his or her own right is a recognized scientist, and most have reached eminence in their area of expertise.
>
> * * *
>
> The evidence presented by these men and women is summarized in the following pages. The scientists and their professional affiliations are listed in the Appendix. We publish this summary in the belief that the controversy about smoking must be resolved by

> scientific research and in the belief that informed discussion of the controversy is in the public interest.
>
> * * *
>
> Fifteen witnesses explained why they consider the hypothesis that cigarette smoking causes lung cancer to be unproven.
>
> * * *
>
> Witnesses also questioned the assertion that cigarette smoking causes emphysema in particular and chronic obstructive lung disease (COPD) in general.

The report was presented to United States Congressional committees. TI12431636-1650 at 1638, 1642,1645 (US 62384) (O).

319. In a July 1984 deposition, Lorillard's Alexander Spears declared that there were no epidemiological studies that could be designed or conducted to determine if cigarette smoking played a role in lung cancer development. Spears PD, Cipollone v. Liggett, 7/26/84, 200:22-25. Dr. Spears's statement was false.

320. In July 1984, RJR mailed letters from employee Ann Griffin addressed to various children who had written to the company. In the letters, RJR claimed to be engaged in an effort to determine the harmful effects of smoking for the benefit of smokers, promised to support disinterested research into smoking and health, and claimed that research had not revealed any "conclusive" evidence that any element in cigarettes causes disease. 505465919-5919 (US 20741) (A).

321. Over time, RJR sent numerous letters to survivors of deceased smokers, falsely denying the scientifically established links between smoking and disease. For instance, on August 18, 1988, RJR sent a letter to Anthony A. Christina (the widower of a lung cancer victim) in

which the company denied that there was any causal link between smoking and disease. 515792869-2869 (US 20869) (A).

322. At trial, the Court questioned RJR Chairman Andrew Schindler about the Christina letter, asking, if Mr. Schindler were writing the letter today, whether he would have admitted that smoking causes disease. Mr. Schindler indicated that the answer was no. Instead, "based on where we are now, it would have been significant health risks and may contribute to certain diseases in some people." Schindler TT, 1/24/05, 10810:9-21.

323. In January 1990, RJR's Public Relations Manager wrote in a letter to the principal of a grade school and one of the school's students:

> The tobacco industry is also concerned about the charges being made that smoking is responsible for so many serious diseases. Long before the present criticism began, the tobacco industry, in a sincere attempt to determine what harmful effects, if any, smoking might have on human health, established the Council for Tobacco Research--USA. The industry has also supported research grants directed by the American Medical Association. Over the years the tobacco industry has given in excess of $162 million to independent research on the controversies surrounding smoking-- more than all the voluntary health associations combined. Despite all the research going on, the simple and unfortunate fact is that scientists do not know the cause or causes of the chronic diseases reported to be associated with smoking.

508466199-6200 at 6199 (US 20813) (A).

324. RJR's letter-writing was paralleled by public relations activities of wider reach and visibility. Beginning in 1986, Brennan Dawson (formally Brennan Moran) as the spokesperson for the Tobacco Institute reiterated in numerous television appearances the Tobacco Institute's public position that the links between smoking and disease were based on statistics, and that the causative relationship between smoking and disease had not yet been established. The Tobacco

Institute's position that it had not been proven that smoking caused disease was not shared by a single public health organization during the entire time Dawson served as a spokesperson for the organization. Dawson WD, 64:17-23, 76:8-11; Dawson TT, 1/3/04, 10102:5-24.

325. During an August 17, 1986 appearance on the television program "Newsmaker Sunday," Dawson falsely stated, in response to a question about the Tobacco Institute's position on whether cigarette smoking is hazardous to the smoke, that "what we think . . . is that the facts are not clear. The causal relationship has not been established." (US 89296) (A).

326. Other spokespersons made similar false statements to those of Dawson. In January 1987, the Tobacco Institute's Vice President of Media Relations, Walker Merryman, appeared in an advertisement where he was quoted as saying, "I'll fill in the government's blanks. No judge would decide a case without hearing both sides. But a lot of people have done just that on the subject of smoking." TIMN0133708-3708 (US 77073) (O).

327. In an April 8, 1987 appearance on the television show "Ask An Expert," when asked whether smoking causes lung cancer, Dawson stated, "[i]t's not a yes and it's not a no. . . We're not going to tell anyone that smoking is good for them. We're not going to tell them that smoking is bad for them. It may be, it may not be." (no bates) (US 89292) (A).

328. In a January 11, 1989 appearance on the television show "Good Morning America," Dawson falsely stated that "all the links that have been established between smoking and certain diseases are based on statistics. What that means is that the causative relationship has not yet been established." This was 25 years after the Surgeon General announced a causal relationship between smoking and lung cancer. TIMN389474-9479 at 9475 (US 21286) (A).

329. Similarly, in an appearance on CNN's Crossfire on April 18, 1989, Dawson falsely

claimed:

> Statistically there are associations. In terms of biological causation that hasn't been found which is why I came to the conclusion that smokers have to make up their own minds. We all know what the Surgeon General's warnings say. In fact, the vast majority of people believe it so I think we are intelligent enough as adults to make up our own minds.

(US 89290)(A).

330. In a February 27, 1990 appearance on CBS Nightwatch, when asked whether she believed cigarette smoking "contributes to heart disease and cancer," Dawson refused to provide a straight answer, instead responding that "I think that that's an individual decision that each person needs to make for themself." CORTI1731-1738 at 1737 (US 87735) (A).

331. In a subsequent appearance on Crossfire on an April 11, 1990, when asked whether smoking caused cancer, heart attacks, or strokes?," Dawson again repeated the industry mantra that: "The links that have been made between smoking and disease you just rattled off, for example, are statistical in nature. The industry sticks by that position." CORTI1828-1841 at 1831 (US 85150) (A).

332. After repeated probing by the Court, Dawson acknowledged during trial that she intended the public to believe the statements on smoking and health matters she made during her television appearances before millions of viewers. Dawson TT, 1/12/05, 9929:11-9930:18.

333. Other high level executives of Defendants also admitted that they intended the public to rely on their public statements concerning the health consequences of smoking.

334. Defendant Altria, which was incorporated in 1985 (as Philip Morris Companies Inc.), effectively and actively controls the activities of all of its subsidiaries, including Defendant

Philip Morris USA Inc. and Philip Morris International, Inc. ("PM International"). Overall policies on all major aspects of Altria operating companies' operations are set by Altria management, and senior Altria executives, employees, and agents participate in and/or control decisions about how the operating companies implement those policies, through both formal and informal reporting relationships. Berlind PD, United States v. Philip Morris, 5/23/02, 8:4-10:13; 2071412978-3143 (US 23061*) (A).

335. The Chief Executive Officer and Chairman of Philip Morris Companies, Geoffrey Bible, was the ultimate authority on content of public statements on smoking and health made by Philip Morris Companies subsidiaries, including Philip Morris USA. Bible PD, United States v, Philip Morris, 8/22/02, 83:9-84:9, 85:22-86:25.

336. Bible agreed that when a company makes a statement about the carcinogens in its product, that has much more impact upon the consuming public than if some third party does. Bible PT, Minnesota v. Philip Morris, 3/2/98, 5762:5-9.

337. Bible testified that when Philip Morris made statements about smoking and health, the company intended the public – including consumers and public health authorities – to rely on them. Id., 5718:7-14.

338. Similarly, when former B&W CEO and current Reynolds American CEO Susan Ivey appeared at trial, she specifically admitted:

> Q. And so when Brown & Williamson puts statements on its website, doesn't it intend that consumers should act in reliance upon the information given by Brown & Williamson?
>
> A. Yes. Yes.

Ivey TT, 11/16/04, 6098:16-19

(m) Defendants' Fraudulent Public Relations Campaign and Failure to Admit to the Disease-Consequences of Cigarettes Continues to the Present Day

339. More than forty years after Defendants issued the Frank Statement and invented TIRC, Defendants' essential position on the relationship of smoking and health had remained virtually unchanged. In April 1994, in Congressional hearings before the Subcommittee on Heath and the Environment, Defendants' executives asserted yet again that the causal relationship of smoking and cancer had not been proven: the CEOs of Defendants B&W, Liggett, Lorillard, Philip Morris USA, and RJR publicly denied that smoking caused cancer. TLT0730001-0850 (US 77011) (O); TLT0730851-1975 (US 77012) (O); Brandt WD, 128:14-131:4; Cimons, Marlene, "Cigarette Chiefs Steadfastly Deny Smoking Kills," *Los Angeles Times*, April 15, 1994 at A1 (US 20468) (A).

340. The statements of the CEOs were restatements of positions the companies continued to take publicly and uniformly during this time period. For instance, in 1991, Philip Morris Companies coordinated with its international competitors the development of unified industry language continuing to deny that cigarette smoking had been proven to "cause" lung cancer. 2023235511-5512 (US 22725) (A).

341. Thomas Sandefur, CEO of B&W from 1993-1996, testified in 1994 that "there's a health risk with smoking and disease," but that it "hasn't been proven that it [smoking] causes lung cancer." Sandefur PD, Broin v. Philip Morris, 7/13/94, 84:22-86:5.

342. Sandefur also testified that he did not agree with the Surgeon General's conclusion that smoking does cause cancer, heart disease, and other diseases because, as he stated, "[t]hey're not dealing with whole smoke. They're dealing with painting of mice and that kind of thing. I

don't think that's valid in terms of human practices of smoking whole smoke." Later in the deposition, Sandefur admitted that he was unaware of any studies showing that whole smoke does not cause disease. Id., 86:6-87:4; 125:13-16.

343. During a 1994 deposition, Sandefur was unable to name one scientist or medical doctor totally unconnected with the tobacco industry who said that it had not been established that cigarette smoking causes cancer. He stated that, according to his personal opinion, scientists are convinced that smoking causes cancer because they do not know what causes cancer and that it is "a cop out." Id., 89:11-17; 144:15-145:9.

344. Sandefur also testified that he had never seen any sort of in-house document that shared evidence that smoking is hazardous to health and addictive. When asked what he would have done if he had ever seen such a document, he indicated that he "would have pursued it very vigorously and if I were convinced it was right, I would have made it public." Id., 124:11-125:3.

345. Holding the line articulated by Sandefur, in April 1995, B&W informed B&W Japan to answer inquiries about smoking and health by reassuring the person making the inquiries that whether or not smoking cause diseases "is still [an] inconclusive matter." 450180143-0143 (US 21885) (O).

346. Lorillard's position on causation as of the early1990s was as follows: "Lorillard does not and will not authorize the use of the Risk Factor formulation for causation for public relations purposes. We wish to maintain the traditional articulation: unproven, statistical, lack of mechanism. Risk Factor discussion is for scientists only and only in the courtroom and its controlled circumstances." 92348935-8936 (US 57176) (A); Stevens WD, 47:21-48:13.

347. Michael Prideaux, a spokesperson for BAT, stated in 1994 that BAT's current

position was that there was no causal link between smoking and cancer. 502576028-6030 at 6028 (US 86882) (O) ("British tobacco companies hushed up health dangers," *The Independent*, June 19, 1994).

348. Martin Broughton, Chairman of BAT plc, the ultimate parent of BATCo, falsely stated in opening remarks to analysts, investors and journalists at a briefing held at Windsor House on October 30, 1996, that "We have no internal research which proves that smoking causes lung cancer or other diseases or, indeed that, smoking is addictive." 800113810-3812 at 3810 (US 85343) (O).

349. In 1994, Philip Morris ran a paid newspaper statement about smoking, nicotine and addiction. It said: "Both smokers and non-smokers deserve to know facts, not innuendo, about cigarettes." The statement also said "'Philip Morris does not believe cigarette smoking is addictive. People can and do quit smoking all the time." 2023011263-1263 (US 20371) (A); Keane WD, 36:21-37:16.

350. In 1997, Philip Morris Companies Chief Executive Officer and Chairman, Geoffrey Bible, took the position that cigarettes were not a cause of lung cancer, but asserted that if they were shown to be, "I'd probably . . . shut [the] company down instantly to get a better hold of things." He made this statement four decades after Philip Morris USA recognized the carcinogenic and disease-causing nature of cigarettes in internal documents. Bible PD, Florida v. American Tobacco, 8/21/97, 27:1-24.

351. During a 1997 deposition, Joseph Cullman, former President and CEO of Philip Morris, was asked “If Philip Morris had concluded that there was sufficient proof that cigarettes caused emphysema, would Philip Morris nevertheless have continued to sell cigarettes?”

Cullman simply responded: “We have continued to manufacture cigarettes. That’s the answer that I give you.” Cullman PD, Minnesota v. Philip Morris, 6/11/97, 58:12-19.

352. Although Philip Morris expressed "differences" in opinions between it and the public health authorities, Senior Vice President and General Counsel Denise Keane could not cite any peer-reviewed article, study, or consensus report that disputed the scientific conclusion that smoking causes lung cancer. Keane WD,16:18-17:12.

353. Also in 1997, Bible testified that he did not agree with an Australian cigarette label warning that stated: “Smoking causes lung cancer.” Bible PD, Florida v. American, 8/21/97, 32:16-33:8.

354. In 1998, Bible testified that he would reassess his duties if one person died from smoking, but that he would only shut down the business after he talked to the government about whether they would ban the product. Bible PT, Minnesota v. Philip Morris, 3/2/98, 5708:2-5710:3.

355. The same year, Bible confirmed that Philip Morris intends for the public and consumers to rely on its public statements about cigarettes. Bible PT, Minnesota v. Philip Morris, C1-94-8565, 3/2/98, 5718:7-14.

356. As reported in the *New York Times*, Bible was asked, "[h]as anyone died from smoking cigarettes?" His reply: "I don't know if anyone died from smoking tobacco, I just don't know." VXA2511462-1464 at 1462 (US 22167) (A) (Bill Dedham, “Executive Says He's Uncertain about Tobacco's Harm,” *New York Times*, March 3, 1998, at A16).

357. At his deposition in this case, Bible testified that he did not know if Philip Morris cigarettes had ever caused disease in any individual. Bible PD, United States v. Philip Morris,

8/22/02, 63:19-64:5.

358. On October 13, 1999, Philip Morris launched a corporate website which discussed Philip Morris' public position on smoking and health issues. It stated: "There is an overwhelming medical and scientific consensus that cigarette smoking causes lung cancer, heart disease, emphysema, and other serious disease in smokers." Steve Parrish, Senior Vice President of Corporate Affairs for Altria Group, acknowledged that the overwhelming scientific consensus referenced in the October 1999 statement had existed for decades. Parrish further conceded that Philip Morris' refusal to acknowledge prior to October 1999 that smoking caused disease had damaged the company's credibility because there was no support for Philip Morris' view outside of the tobacco industry. 2085240087-0089 at 0087 (US 45673) (A); Parrish WD, 9:20-12:3, 15:5-10; Keane WD, 24:21-25:28:8.

359. Philip Morris's October 1999 website statement was preceded by a series of adverse litigation verdicts against the company, and was made within a few weeks of the of the filing of the complaint in this case, United States v. Philip Morris. Parrish WD, 13:1-14:21.

360. Prior to October 1999, Philip Morris' public position on disease causation was that smoking cigarettes was a risk factor for many diseases, but may or may not cause these diseases. A senior executive of Altira, Steve Parrish, admitted that Philip Morris' "risk factor" position was at odds with the position of the public health authorities who had stated for decades that smoking was not merely a risk factor for certain diseases, but caused these diseases as well. Parrish WD, 15:11-16:14

361. Although Philip Morris recognized this "overwhelming medical and scientific consensus," regarding cigarette smoking disease causation it did not admit to agreeing with it

prior to October 2000. Parrish acknowledged that Philip Morris changed its position on causation in 2000 because of criticism from the public health community, and that Philip Morris' decision to state its agreement with the "overwhelming medical and scientific consensus" was not based on any new scientific evidence. The scientific basis for the "overwhelming medical and scientific consensus" had existed for decades prior to Philip Morris' decision to state its agreement with it. Keane WD, 27:11-28:11; Parrish WD, 19:13-21:21.

362. At the same time that the campaign continued, at least one Philip Morris executive falsely denied Defendants' decades-long "open controversy" strategy. Denise Keane, Philip Morris General Counsel and an attorney at the company since 1977, discounted the "open controversy" on October 2, 2002, when she testified under oath: "From my perspective, Philip Morris has not historically discussed smoking" publicly until the 1997 statement submitted to Senator Hatch and its 1999 website. Keane WD, 26:1-11.

363. While Philip Morris can voluntarily change the information it includes on cigarette warning labels, the company chose not to change their labels after October 2000 when the company changed its position to state that smoking causes disease and is addictive. Bible PD, United States v. Philip Morris, 8/22/02, 112:12-113:17.

364. Philip Morris has never told its customers on the cigarette packaging or in onserts that it agrees that smoking causes cancer and other diseases in smokers. They have only included the website address on packages. Keane WD, 35:10-22.

365. And while Defendants have grudgingly made certain concessions in the form of limited or qualified admissions, testimony at the trial of this action demonstrates that Defendants have not changed.

366. RJR Chairman Andrew Schindler, who received between $44 million and $45 million in compensation in 2004, refused to admit on behalf of RJR at trial that smoking causes disease.

(i) Mr. Schindler was specifically challenged on this point, "you won't say sitting here today that cigarette smoking causes disease, right?" He responded: "Well, my testimony and what's on our Website today is cigarette smoking and inherent health risks may cause certain diseases in some people." Schindler TT, 1/24/05, 10811:11-19.

(ii) When pressed, "So you say it's possible, it's likely, but you don't say it does, do I have that right?" Mr. Schindler admitted, "Yes." Id., 10812:20-22.

(iii) RJR's website, like its Chairman, does not admit that smoking is a cause of disease, but merely repeats the mantra that Mr. Schindler retreated to at trial. Id., 10814:11-15.

(iv) Mr. Schinder admitted that the website does not state that smoking causes disease, despite the fact that RJR could, if it desired, state unequivocally that smoking causes disease. Id., 10816:22-10817:5.

367. Lorillard CEO Martin Orlowsky refused to admit to the full extent of smoking's harm. He was specifically asked, "Why hasn't Lorillard specifically stated publicly that smoking causes any diseases other than smoking emphysema, COPD or heart disease?" He responded:

> We have – in certain instances, we do not know if in fact the evidence, the scientific evidence is such that it warrants saying it does cause. However, Lorillard's longstanding position, as long as I've been with the company, is that certainly smoking can, and is a risk factor for those diseases.

Orlowsky TT, 10/13/04, 2303:7-15.

368. Arthur Stevens, former Senior Vice President and General Counsel of Lorillard responded in 2000 to the question of whether smoking causes disease: "I am aware that the company and others are of the position and the view, and I embrace that, that cigarette smoking is a risk factor for disease and I have no argument with the public health and the medical and other authorities taking that position." Stevens WD, 47:1-11.

369. The risk factor language was not and is not the position of the scientific community and Stevens knew that. When questioned regarding that testimony, Stevens testified: "Q: Were you aware, Mr. Stevens, that the risk factor formulation you stated was not the position of public health authorities? A: Yes I was." Stevens WD, 47:12-14.

370. In this litigation, Stevens was asked whether Lorillard's position in the 60s, 70s and 80s was that smoking was **not** a risk factor for disease. He testified: "I do not know every position Lorillard took in the defense of its product liability litigation over the decades in hundreds of cases. Therefore, I do not know that Lorillard consistently took a position in litigation that smoking is not a risk factor for disease. If I testified otherwise in any proceeding, I was mistaken." Stevens WD, 48:17-19.

371. Stevens' familiarity with Lorillard's positions taken during the same period of time improved and allowed him to answer the next question posed: "Q. And isn't it true that Lorillard consistently took a position during that same time in litigation that smoking does not cause disease? A. Yes, I believe that was our position." Stevens WD, 48:20-22.

372. Lorillard continues to issue public statements on smoking and health issues through PR Newswire. Press releases are sent by interstate wire transmission by PR Newswire,

which in turn sends the releases out to news media so that Lorillard can "get the message out." Milstein TT, 1/7/05, 9261:8-18, 9271:7-17.

373. Press releases are also kept on Lorillard's website, where they can be accessed and reviewed by the public. Id., 9272:12-20.

374. Lorillard General Counsel Ronald Milstein admitted that the content of recent Lorillard press releases on smoking and health issues, including addiction and the health effects of exposure to ETS, is similar to statements that Defendants have made for decades. Id., 9264:11-24; 9266:6-16; 9277:23-9278:12; TLT0961610-1610 (US 86693) (A); USX5710001-0002 (US 89303) (A); USX5710005-0006 (US 89305) (A). At trial, Mr. Milstein specifically refused to remove from Lorillard's website a press release on addiction, which falsely stated that willpower is the only smoking cessation aid that always works. Milstein TT, 1/7/05, 9288:12-19.

375. Two years after the effective date of the Master Settlement Agreement, B&W told visitors to its website: "We know of no way to verify that smoking is a cause of any particular person's adverse health or why smoking may have adverse health effects on some people and not others." (JD-012645) (O).

376. Liggett's controlling shareholder Bennett LeBow equivocated on the question of whether smoking causes lung cancer when he appeared at trial, despite touting Liggett's supposed admissions concerning the health consequences of smoking in an effort to secure favorable financial consideration in litigation and regulation over nearly a decade. LeBow TT, 2/7/05, 12246:11-14; 4/4/05, 17565:17-17567:17.

377. The foregoing evidence demonstrates an absence of change on the part of Defendants' communication with the public concerning the serious health risks posed by smoking.

(2) Passive Smoking: The "Open Question" Fraud Continues

(a) Introduction

378. Defendants' collective effort to maintain an open question as to the health effects of cigarette smoking was not limited to whether cigarettes caused disease in smokers themselves. During the 1970s, scientific evidence suggesting that exposure to cigarette smoke was hazardous to nonsmokers began to grow, and public health authorities began to warn of a potential health risk to both adults and children. Fearing government regulation to restrict smoking in public places and sensing a decrease in the social acceptability of smoking, Defendants were faced with a major threat to their profits.

379. In 1974, Tobacco Institute chairman Horace Kornegay warned that smoking restrictions not only impacted sales but also "could lead to the virtual elimination of cigarette smoking." TIMN0067732-7755 at 7734 (US 22047) (O). Reynolds CEO Ed Horrigan wrote Lorillard executives in 1982: "We all know that probably the biggest threat to our industry is the issue of passive smoking." 93443843-3843 (US 32289) (O). A 1986 BATCo document recorded: "The world tobacco industry sees the ETS issue as the most serious threat to our whole business." 100993158-3165 at 3158 (US 89556) (O). Philip Morris Companies Vice Chairman Bill Murray was advised in 1987: "The situation can't get any worse. Sales are down, can't be attributed to taxes or price increases. ETS is the link between smokers and non-smokers and is, thus, the anti's silver bullet." 2021502671-2678 at 2678 (US 22950) (A).

380. In response, Defendants crafted and implemented a broad-based "open question" strategy to attack and distort the evidence indicting passive smoking as a health hazard. Defendants initiatives and public statements with respect to passive smoking attempted to, and in many ways succeeded in, deceiving the public, distorting the scientific record, avoiding adverse

findings by government agencies, and forestalling indoor air restrictions. Before and after 1986 – the year the scientific community reached a consensus that passive smoking can cause disease in healthy nonsmokers – Defendants' objective to deceive the public, government officials, and scientists has remained constant. This was done in spite of the Frank Statement and other public promises to seek the truth and conduct objective research, and in spite of internal research suggesting that passive smoke was a health hazard. Defendants' conduct with respect to passive smoking continues to this day, when currently no Defendant publicly accepts the overwhelming scientific consensus that passive exposure to cigarette smoke causes disease and other adverse health effects.

(b) Exposure to Secondhand Tobacco Smoke Causes Disease and Other Adverse Health Effects

(i) The Scientific Record on Passive Smoking

381. Secondhand smoke, also called passive smoke or environmental tobacco smoke ("ETS"), is a mixture of mostly sidestream smoke given off by the smoldering cigarette and some mainstream smoke exhaled by smokers. Samet WD, 171:2-14; 186:10-13.

382. Evidence of the health risks of passive smoking comes from knowledge of the health risks of active smoking, the carcinogenicity and toxicity of components of mainstream and sidestream smoke, the evidence of the absorption by nonsmokers of disease-causing components of tobacco smoke, and epidemiological studies that have assessed the association of passive exposure with disease outcomes. Samet WD, 185:21-186:23; see also TLT0240387-0537 at 0470-0480, 0485-0517 (US 60597) (A) (1972 SGR); 03763710-3956 3804-3833 (US 34340) (A) (1975 SGR); VXA1604926-6020 at 5418-5457 (US 64071) (A) (1979 SGR); TLT0242222-2551 at 2468-2484 (US 60598) (A) (1982 SGR); VXA1601456-1742 at 1649-1675 (US 64059) (A) (1984 SGR); VXA2110670-1053 at 0806-0865 (US 63709) (A) (1986 SGR); VXA2111054-

1229 at 1072-1092 (US 63708) (A) (1986 NRC Report); VXA1600406-0824 at 0483-0598 (US 64066) (A) (1986 IARC) (A); DXA0390094-0699 at 0142-0194 (US 88654) (A) (1992 EPA Risk Assessment); JDM1870820-1333 at 0864-0867 (US 76125) (A) (1997 California EPA Report); 2065192422-2615 at 2438-2448 (US 22092) (A) (1997 Australia Report); VXA1600843-0981 at 0872-0879 (US 64063) (A) (1998 UK SCOTH Report); VXA1600982-1000 (US 64062) (A) (1999 WHO); VXA1240568-1258 at 0928-0957 (US 64315) (A) (2001 SGR); TLT0970001-1455 at 1191-1230 (US 86746) (A) (2002 IARC).

383. Conclusions about the causal relationship between secondhand smoke exposure and adverse health effects are based on the extensive evidence derived from epidemiological and toxicological investigation of active smoking. Additionally, studies using biomarkers of exposure and dose, such as the nicotine-specific metabolite cotinine and white cell adducts, document the absorption of known disease-causing components of secondhand smoke by exposed nonsmokers, confirming the biological plausibility and observed associations of secondhand smoke with adverse health effects. Samet WD, 172:17-173:18; VXA2110670-1053 at 0866-0914 (US 63709) (A) (1986 SGR); VXA2111054-1229 at 1127-1140 (US 63708) (A) (1986 NRC Report); VXA1600406-0824 at 0563-0570 (US 64066) (A) (1986 IARC); DXA0390094-0699 at 0181-0189 (US 88654) (A) (1992 EPA Risk Assessment); JDM1870820-1333 at 0875-0884 (US 76125) (A) (1997 California EPA); 2065192422-2615 at 2444-2446 (US 22092) (A) (1997 Australia Report); TLT0970001-1455 at 1207 (US 86746) (A) (2002 IARC).

384. Passive exposure of infants and children to tobacco smoke has adverse effects on their respiratory health, including increased risk for severe lower respiratory infections, middle ear disease (otitis media), chronic respiratory symptoms, and asthma. Passive exposure also causes a reduction in the rate of lung function growth during childhood, and is linked to Sudden

Infant Death Syndrome (SIDS). Samet WD, 132:10-14 (SIDS), 209:11-15 (acute respiratory infections), 220:1-6 (middle ear disease); 211:11-16 (chronic respiratory infections), 217:1-218:2 (asthma); 213:9-15 (reduced rate of lung growth), 220:11-13 (summary statement); (no bates) (US 17304) (A); see also 03763710-3956 at 3829 (US 34340) (A) (1975 SGR); VXA1601456-1742 at 1665-1670 (US 64059) (A) (1984 SGR); VXA2110670-1053 at 0720-0744 (US 63709) (A) (1986 SGR); DXA0390094-0699 at 0320-0387 (US 88654) (A) (1992 EPA Risk Assessment); JDM1870820-1333 at 0940-1153 (US 76125) (A) (1997 California EPA); 2065192422-2615 at 2164-2193 (US 22092) (A) (1997 Australia Report); VXA1600843-0981 at 0876-0877 (US 64063) (A) (1998 UK SCOTH Report); VXA1600982-1000 (US 64062) (A) (1999 WHO).

385. In adults, exposure to secondhand smoke causes lung cancer. Passive exposure causes two to three percent of all lung cancer cases in the United States. Compare DXA0390094-0699 at 0118, 0309 (US 88654) (A) (1992 EPA Risk Assessment) (over 3,000 deaths annually) with Samet WD, 63:15-64:5 (155,000 lung cancer deaths from all causes in 2000) and DXA0390094-0699 at 218 (US 88654) (A) (98,451 lung cancer deaths in 1979); see also (no bates) (US 17140) (A).

386. In 1986, the Surgeon General, the National Research Council of the National Academy of Sciences (NRC), and the International Agency for Research on Cancer (IARC) concluded that passive smoking causes lung cancer in nonsmokers. Samet WD, 179:13-180:10; (no bates) (US 17304) (A) (summary chart of authoritative scientific conclusions); VXA2110670-1053 (US 63709) (A) (1986 Surgeon General's Report); VXA2111054-1229 (US 63708) (A) (1986 NRC Report); VXA1600406-0824 (US 64066) (A) (1986 IARC Monograph).

387. The 1986 Surgeon General's Report represents a scientific consensus on

secondhand smoke causing lung cancer in adults and increased frequency of respiratory infections, increased respiratory symptoms, and slightly smaller rates of increase in lung function among smokers' children. Burns WD, 12:8-14:19, 68:20-69:2.

388. Exposure to secondhand smoke can also cause coronary heart disease in adults. Samet WD, 198:1-21 (coronary heart disease); (no bates) (US 17304) (A) (summary chart of authoritative scientific conclusions); JDM1870820-1333 (US 76125) (A) (1997 California EPA Report at Table ES.1); VXA1600843-0981 (US 64063) (A) (1998 Report of the UK Scientific Committee on Smoking and Health); VXA1240568-1258 at 0957 (US 64315) (A) (2001 SGR at 372).

389. Secondhand smoke is also linked to the exacerbation of asthma, reduced lung function, and respiratory symptoms in children. Samet WD, 132:10-14 (SIDS), 209:11-15 (acute respiratory infections), 220:1-6 (middle ear disease); 211:11-16 (chronic respiratory infections), 217:19-218:2 (asthma); 213:9-15 (reduced rate of lung growth), 220:11-13 (summary statement). See generally (no bates) (US 17304) (A) (summary of authoritative conclusions).

390. Dr. David M. Burns testified without objection as an expert witness on the science of tobacco and health, disease causation, the adverse health effects of secondhand smoke, and the effects of nicotine on smokers. Dr. Burns is a professor of medicine at the University of California at San Diego's School of Medicine and a licensed physician who is board certified in pulmonary and internal medicine. He is a recipient of the Surgeon General's Medallion and has participated as an author, editor, or reviewer on 18 Surgeon General's Reports. Dr. Burns was the Senior Scientific Editor and an author of the 1986 Surgeon General's Report "The Health Consequences of Involuntary Smoking." Dr. Burns has been the editor of ten National Cancer Institute monographs in its series on smoking and health. He remains an active researcher and

has published over 30 peer-reviewed articles on issues involving smoking and health. He is a member of the EPA's Indoor Air Quality Board and NCI's Advisory Committee for the COMMIT trial. VXB3740061-0081 (US 78526) (A).

391. Dr. Burns testified that since the 1986 Surgeon General's Report, reviews and assessments of the science on ETS conducted by other public health authorities have reviewed available evidence and consistently concluded that ETS causes lung cancer in adults. Burns WD, 12:8-14:19, 68:12-69:2. Indeed, each Surgeon General's Report is intended to represent and, as a result of an extensive peer-review process, does represent the scientific consensus on smoking and health topics. Burns WD, 13:7-15; 14:10-19; 16:12-17. Dr. Burns' expert opinion is that:

> Multiple reviews conducted by medical and governmental organizations over the years leave no doubt that environmental tobacco causes disease in nonsmokers and is particularly dangerous for children. Regulation of smoking in indoor environments clearly stands on a strong foundation of scientific support.

Burns WD, 68:12-69:2.

392. Dr. Jonathan M. Samet testified without objection as an expert in the science of smoking and health, including epidemiology, pulmonary medicine, and internal medicine. Samet TT, 9/29/04, 1026:10-18. Dr. Samet is professor and chair of the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health. He is also a licensed physician who is board certified in pulmonary and internal medicine. Dr. Samet is a member of the National Academy of Sciences' Institute of Medicine, the Board of Scientific Counselors of the National Cancer Institute, and EPA's Clean Air Scientific Advisory Committee. He is a recipient of the

Surgeon General's Medallion and has participated as an author and/or editor of nine Surgeon General's Reports, including as Consulting Scientific Editor and an author for the 1986 Report. He has participated in four NCI monographs in its series on smoking and health. He chaired the 2002 review of active and passive smoking and health for the International Agency for Research on Cancer of the World Health Organization. Dr. Samet remains an active researcher and has published over 80 peer-reviewed articles on topics related to smoking and health. VXB3740316-0364 (US 78540) (A).

393. Defendants have recognized Dr. Samet's expertise and conservatism regarding opinions on the causal relation between adverse health effects and passive smoking in an internal litigation document that was written in or about August 1994:

> Dr. Samet is highly respected by his professional constituency. His scientific/medical capabilities appear to be quite sophisticated and are recognized as such by the professional societies with which he is affiliated. . . . This is probably due at least in part to his scientific conservatism regarding inference and interpretations from limited information; in most instances, Dr. Samet carefully assesses the available information prior to drawing general conclusions. . . . He seems to be a believer in the 'weight-of-the-evidence' approach and, usually, does not form conclusive opinions until the available data are sufficiently consistent and of high enough quality to warrant such opinions.

2050987891-7898 at 7891 (US 76214) (A).

394. In arriving at his opinions, Dr. Samet applied the Surgeon General's causal

criteria: consistency of association; strength of association; specificity of association; temporal relationship of the association; and coherence of association. Samet WD, 53:10-56:16; VXA1601844-2232 at 1874 (US 64057) (A) (1964 Surgeon General's Report); see (no bates) (US 17132) (A) and (no bates) (US 17133) (A).

395. In addition to concluding that exposure to secondhand smoke causes lung cancer and coronary heart disease in adults and a number of respiratory diseases in children, Dr. Samet concluded that the knowledge gained from active smoking, the knowledge of components of sidestream smoke, and the absence of a "safe" level of exposure to the carcinogens and toxins found in tobacco smoke, were sufficient evidence to conclude that the health risk posed by exposure to secondhand smoke is significant.

> [C]igarette smoke contains carcinogens and inhaling smoke causes cancer. We have no scientific evidence to postulate that there is a level of smoke exposure that does not increase lung cancer risk. On this basis alone, including our knowledge of the nature of the carcinogens in secondhand smoke and the evidence from active smokers, I conclude that exposure to secondhand smoke poses a significant health risk to nonsmokers. The association of involuntary smoking with lung cancer derives biological plausibility from the presence of carcinogens both in secondhand smoke and in sidestream smoke, its main source, and from the lack of a documented threshold dose for respiratory carcinogens in active smokers. In my opinion, therefore, the question is not whether secondhand smoke poses a risk; rather, the question is how much of a risk does secondhand smoke pose. That question has been studied by epidemiologists and public health officials over the past three decades, and they have quite consistently shown and

concluded that secondhand smoke causes disease, including lung cancer, in nonsmokers. Those findings would be expected, as secondhand smoke contains the same irritants, toxicants, and carcinogens that are found in sidestream and mainstream smoke, and biomarkers of tobacco smoke, such as cotinine and the carcinogen NNAL, show that secondhand smoke is absorbed by non-smokers.

Samet WD, 186:5-21.

(ii) Defendants' Expert Witnesses

396. In response to the overwhelming weight of scientific authority finding that secondhand smoke is a health risk to both adults and children, Defendants called only a statistician, Edwin Bradley. Dr. Bradley's opinion was that "the existing epidemiologic evidence does not demonstrate a valid association between ETS exposure and either lung cancer or heart disease." Bradley WD, 1:17-19.

397. Defendants did not call one expert witness in the field of epidemiology, disease causation, internal medicine, toxicology, or chemistry to challenge the scientific evidence on ETS. Defendants also did not offer any expert evidence to challenge the biological plausibility that passive smoking can cause cancer, namely, that active smoking causes disease and ETS contains the same known carcinogens as the smoke inhaled by the active smoker.

398. Dr. Bradley is not a medical doctor, epidemiologist, biologist, or toxicologist. Bradley TT, 3/15/05, 15553:2-23. Dr. Bradley is not aware of the components of tobacco smoke or what components might be carcinogens. Id. at 15538:5-15539:19. Dr. Bradley has never published on passive smoking; in fact, he has never published on smoking and health generally; he has never been the principal investigator on any grant of any kind. (no bates) (JD-025137) (A); Bradley TT, 03/15/05, 15564:19-15566:15, 15568:3-16. None of his analyses have ever

been subjected to peer review, much less published. Id. at 15564:19-24. Dr. Bradley is not qualified to use most of the Surgeon General's criteria for disease causation. Id. at 15467:4-11. He has not served on an editorial board of a journal or a government review panel. Id. at 15566:10-18. He retired from his position at the University of Alabama at Birmingham in 1997 to become a full-time professional witness and litigation consultant. Bradley WD, 10:4-5, 11:15-19; Bradley TT, 03/15/05, 15554:12-15555:24.

399. Dr. Bradley has testified on behalf of the tobacco industry in 25-30 cases over the past ten years, earning approximately $800,000. He earned $200,000 for this case alone. Most of the cases on which he has worked for Defendants involved active smoking. Bradley TT, 03/15/05, 15556:1-15558:21; Bradley WD, 18:14-16. In active smoking cases, Dr. Bradley continues to dispute the overwhelming scientific consensus that smoking causes disease, claiming instead that smoking "may" cause lung cancer, heart disease and emphysema. Bradley TT, 3/15/05, 15559:3-24. This opinion parrots the industry's long-time public position on active smoking. See supra US FF §§ III.A(1)(l) and (m).

400. In ruling on the Government's Daubert objection to Dr. Bradley's testimony, the Court stated, "There's . . . no question that all of the issues which the government very effectively raised in its cross-examination will go to my determinations about the credibility of this witness, both personal credibility and substantive credibility in terms of the testimony he's offered, and will weigh very heavily with me in terms of ultimate findings of fact." Bradley TT, 03/15/05, 15573:1-7.

401. Dr. Bradley's methodology questioned only the epidemiological evidence that secondhand smoke causes lung cancer and heart disease in adults. Bradley WD, 1:14-23; Bradley TT, 03/14/05, 15462:25-15463:4; Bradley TT, 03/15/05, 15561:13-19. Dr. Bradley did

not challenge any of the Surgeon General's conclusions, beginning with the 1975 Report, that exposure to parental smoking causes diseases in neonates and other children. Specifically, children of parents who smoke are more likely to have bronchitis and pneumonia during the first year of life due to smoke exposure (03763710-3956 at 3829 (US 34340) (A) (1975 SGR)), have an increased prevalence of reported respiratory symptoms (VXA1601456-1742 at 1671 (US 64059) (A) (1984 SGR)); and have an increased frequency of respiratory infections, increased respiratory symptoms, and smaller rates of increase in lung function (VXA2110670-1053 at 0690 (US 63709) (A) (1986 SGR)). See generally (no bates) (US 17304) (A) (chronic respiratory symptoms; decrement in pulmonary function; acute respiratory illness; middle ear disease; new asthma; severity of asthma episodes and symptoms; SIDS).

402. Indeed, Dr. Bradley did not even include these important scientific conclusions of the Surgeon General in his review of the authoritative scientific studies. See, e.g., Bradley WD, 119:7-14. Nor did he challenge the 1972 Surgeon General's conclusion that secondhand smoke exacerbates nonsmokers' allergies: "Tobacco smoke can contribute to the discomfort of many individuals. It exerts complex pharmacologic, irritative, and allergic effects, the clinical manifestations of which may be indistinguishable from one another. . . . Exposure to tobacco smoke may produce exacerbation of allergic symptoms in nonsmokers who are suffering from allergies of diverse causes." TLT0240387-0537 at 0495 (US 60597) (A) (1972 SGR).

403. Dr. Bradley's "methodology" was dependent on his evaluation of statistical significance. His position was that any epidemiological study whose result is not statistically significant *must* be discarded and cannot be relied upon to determine whether an association exists. Dr. Bradley stated: "If a purported association is not statistically significant, your inquiry can end there." Bradley WD, 25:8-14, 99:1-3; Bradley TT, 03/14/05, 15426:6-9.

404. No scientific or medical authority shares Dr. Bradley's view. Statistical significance is not a Bradford Hill or Surgeon General criterion at all; as described below, it is a statistician's term of art, a tool to evaluate chance in a particular study. Indeed, a careful reading of Dr. Bradley's testimony confirms that he recognizes this. Bradley WD, 21:19-22:15.

405. Moreover, Dr. Bradley admits that he stands alone in adopting and applying his test. When confronted with the conclusions of Sir Richard Peto, Sir Richard Doll, the Surgeon General, the EPA, WHO, IARC, National Research Council, and the American Heart Association, Bradley responded:

> I didn't say they were wrong. I said that my opinion is that [causation of lung cancer and CHD] has not been established. Now they have other judgments and methodologies they used to come to that conclusion. **Using my methodology, I cannot establish an association.**

Bradley TT, 03/15/05, 15563:3-15564:4 (emphasis added). Dr. Bradley did not testify that he consulted with any scientific or medical authority in establishing his causal criteria or reaching his conclusions.

406. The foundation of Dr. Bradley's opinion was "statistical significance." As a statistical term of art, statistical significance is determined solely by whether the value of one (also called the "null hypothesis," or the possibility that the observed risk is due to chance) is contained within a given confidence interval. Bradley TT, 03/14/05, 15427:16-15429:6. In determining statistical significance, no other causal evidence is evaluated.

407. Rothman & Greenland's MODERN EPIDEMIOLOGY, identified by Dr. Bradley as a leading epidemiological text, specifically rejects Dr. Bradley's position that statistical significance is a bright line test by which to accept or reject results of epidemiological studies. Bradley TT, 03/14/05, 15465:8-23. Instead Rothman & Greenland state:

Although a single confidence interval can be . . . informative, it is subject to the

> misinterpretation that values inside the interval are all equally compatible with the data, and all values outside it are equally incompatible. The specific level of confidence used in constructing a confidence interval is arbitrary, however; values of 95% or less often 90% are those most frequently used. A given confidence interval is but one of an infinite number of ranges nested within one another. **Points nearer the center of these ranges are more compatible with the data than points further away from the center**.

(no bates at 191) (JD-003150) (A) (emphasis added).

408. Indeed, as Rothman & Greenland emphasize, the point estimate found in a study is always the best answer to what the effect is, even if the confidence interval includes 1. Or, stated another way, "results that are not significant may be compatible with substantial effects. **Lack of [statistical] significance alone provides no evidence against such effects**." (no bates at 192) (JD-003150) (A) (emphasis added). Rothman & Greenland state: "It is lamentable to go to the trouble to calculate confidence limits and then use them for nothing more than classifying the study finding as statistically significant or not." (no bates at 194, Fig.12-2 at 190) (JD-003150) (A).

409. Dr. William Wecker, a statistician put forward by Defendants as an expert on the issue of the health benefit of low tar cigarettes, testified under questioning by the Court that the point estimate is the most accurate estimate of risk in a particular study. Using exhibits in which he used the height of bars to mark the point estimates within the "whiskers" of the confidence interval, Wecker testified: "[T]he better interpretation is that the best estimate we can make is the height of the bars [the point estimate] . . . . It's always the height of the bar that is the best estimate. It's a statistical term of art". Wecker TT, 03/15/05, 15693:23-15694:7.

410. When questioned by the Court, Dr. Bradley admitted that his methodology was in "fundamental disagreement" with Rothman & Greenland about "how much weight . . . should be given to the factor of statistical significance." Bradley also agreed that under the recognized

methodology of Rothman & Greenland, secondhand smoke studies whose confidence intervals include 1, and are therefore not statistically significant as a technical matter, are nonetheless more compatible with a positive association. Bradley TT, 3/15/05, 15548:22-15549:8, 15546:9-15.

411. Dr. Bradley chose to limit his analysis to epidemiological studies from the United States. In so doing, he arbitrarily eliminated all foreign studies, whether statistically significant or not, including the Hirayama and Trichopoulos studies. Bradley WD, 55:4-60:6. No review of the ETS evidence by any recognized authority has ever limited itself solely to the studies from one country. Many of the foreign studies have elevated, statistically significant relative risk estimates; See, e.g., VXA2110670-1053 at 0750-0766 (US 63709) (A) (1986 SGR); DXA0390094-0699 at 0225-0226 (US 88654) (A) (1992 EPA Risk Assessment). Bradley's "methodology" thus permitted him to exclude these results from consideration and from the meta-analysis he used to counter those relied upon by Dr. Samet. Bradley WD, 59:3-60:6.

412. Another element of Dr. Bradley's method is his belief that "relative risks below 2.0 are too weak to support a conclusion that an exposure is associated with a disease." Bradley TT, 03/14/05, 15473:12-16.

413. Yet again, Rothman & Greenland reject this proposition: "As [Bradford] Hill himself acknowledged, the fact that an association is weak does not rule out a causal connection." (no bates at 24) (JD-003150) (A). In fact, many risk factors with relative risks below two are considered important to public health. Bradley TT, 03/14/05, 15474:15-15475:18 (high blood pressure in men has a relative risk of 1.6 for coronary heart disease).

414. Rothman & Greenland specifically use active smoking and coronary heart disease (CHD), and secondhand smoke and lung cancer as examples of weak associations that are

recognized to be causal: "Cigarette smoking is not seriously doubted as a cause of cardiovascular disease. Another example would be passive smoking and lung cancer, a weak association that few consider to be noncausal." (no bates at 24) (JD-003150) (A). Dr. Bradley acknowledged under questioning by the Court that there is no bright line rule in epidemiology concerning the magnitude of the relative risk with regard to causation. Bradley TT, 03/14/05, 15473:17-19; see also Samet WD, 53:10-56:16; VXA1601844-2232 at 1874 (US 64057) (A) (1964 SGR); (no bates) (US 17132) (A) and (no bates) (US 17133) (A).

415. Dr. Samet's opinions are entirely consistent with the causal criteria set forth by the Surgeon General and the dictates of Rothman & Greenland. Dr. Samet relies on causal conclusions with regard to active smoking, the constituents of mainstream and secondhand smoke, and the absence of a "safe" threshold dose of tobacco smoke. Samet WD, 186:3-13.

416. While Dr. Bradley admitted that he is not qualified to interpret most of the Surgeon General's criteria on disease causation, he nonetheless criticized the methodology and quality of a number of the epidemiologic studies and meta-analyses relied on by Dr. Samet and the major scientific reviews of the evidence. Bradley TT, 03/15/05, 15467:4-11. Dr. Bradley testified that the studies were flawed because of misclassification bias (smokers classified as non-smokers) and confounding (other risk factors associated with lung cancer). Bradley WD, 2:13-3:10; Bradley TT, 3/15/05, 15544:5-15545:6.

417. Defendants' expert testimony that bias and confounding explain the increased risk of both lung cancer and heart disease among nonsmokers exposed to cigarette smoke did not present any novel concepts. Dr. Samet considered whether bias and confounding influenced study results and testified that they did not account for the magnitude of the excess risk of passive smoking shown in the epidemiological studies. Samet WD, 176:16-177:4, 177:9-23,

180:11-19, 187:9-188:3 ("The extent to which this bias explains the numerous reports of association between spouse smoking and lung cancer has been considered and found to be an insufficient basis for explaining the association of spouse smoking with lung cancer."); Samet WD, 188:4-189:7 ("Thus, confounding cannot explain the consistent findings by researchers over the past 25 years that secondhand smoke is associated with lung cancer."); see also Samet TT, 9/30/04, 1244:7-1245:17.

418. The scientific community has routinely addressed the issues of bias and confounding in evaluating studies of the association between lung cancer and passive smoking. In fact, all of the major reviews of the evidence on the lung cancer and heart disease risks of ETS discuss both bias and confounding at length and take both factors into consideration. See, e.g., VXA2110670-1053 at 0787 (US 63709) (A) (1986 SGR) ("Speculation that the positive results reported in Japan and Greece were due to cultural bias against admission of smoking by women in these more traditional societies may be discounted because positive significant findings have now been observed in the United States . . . where no comparable social stigma exists."); DXA0390094-0699 at 0243-0246, 0267-0279 (US 88654) (A) (1992 EPA Risk Assessment) (In summary, an examination of six non-ETS factors that may effect lung cancer risk finds none that explains the association between lung cancer and ETS exposure as observed by independent investigators across several countries that vary in social and cultural behavior, diet, and other characteristics."); TLT0970001-1455 at 1264-1266, 1269, 1409 (US 86746) (A) (2002 IARC) ("The excess risk is of the order of 20% for women and 30% for men and remains after controlling for potential sources of bias and confounding.").

419. More importantly, Dr. Bradley never advised the Court that there are biases in epidemiological studies that *reduce* the reported relative risks as well as biases that *increase*

them. He intentionally chose to take into consideration only those biases that would tend to increase reported risks. Similar critical information was omitted from recently published papers vetted and sponsored by Defendants. See supra US FF §§ III.A(2)(k)(i), (iv).

420. Scientific authorities have recognized that studies are also subject to biases that would tend to reduce reported risks. For example, the 2002 IARC Monograph stated, "Studies of the risk for lung cancer exposure to secondhand smoke have defined the reference [or control] group as never-smoking women with husbands who are nonsmokers. However, these women although not exposed at home, may be exposed to secondhand smoke outside the home. **This bias will tend to underestimate the true relative risk.**" TLT0970001-1455 at 1263 (US 86746) (A) (2002 IARC).

421. Relying on studies of cotinine levels found in the blood of never-smoking women with husbands who are nonsmokers, Alan K. Hackshaw, Deputy Director, Cancer Research United Kingdom and University College London Cancer Trials Centre, observed, "In the epidemiological studies the reference group – non-smoking women living with non-smokers – was taken to have no exposure and no increase in risk. Some of these women would have been exposed to environmental tobacco smoke from other sources. The average urinary continine in nonsmokers is not zero, yet nicotine from tobacco smoke is, for practical purposes, the only source of cotinine. **This increase in risk in the reference group will dilute (reduce) the relative risk estimate.**" 325300938-0946 at 0942 (US 20599)(A). Hackshaw calculated that adjusting for the exposure of the reference group increased the risk of lung cancer among never smoking women living with a smoking spouse in his meta-analysis from 1.24 to 1.42 (CI 1.21-1.66). Id. That is an absolute increase in the risk of lung cancer from 24% to a 42% increased risk. See also (no bates) (JD-024502) (A).

422. For all these reasons, Dr. Bradley's opinions, and Defendants' reliance on statistical significance, bias, and confounding to disregard the epidemiologic evidence, is overstated and not credible. Moreover, Defendants have put on no evidence to contest the testimony by the United States' experts and findings by public health authorities on the biological plausibility of harm caused by passive smoking, that is, that passive smoke contains carcinogens and toxins that are absorbed into the bodies of exposed nonsmokers.

(c) The Mounting Scientific Evidence That Passive Smoke is a Health Hazard

423. Several years after the 1964 Surgeon General's Report concluded that active smoking caused lung cancer and other diseases, the issue of the harms of exposure to secondhand smoke began to receive public attention.

424. In January 1971, Surgeon General Jesse Steinfeld spoke before the National Interagency Council on Smoking and Health, where he advocated indoor smoking regulations to protect nonsmokers. Steinfeld stated that: "Finally, evidence is accumulating that the nonsmoker may have untoward effects from the pollution his smoking neighbor is forcing upon him," and that "it is high time to ban smoking from all confined places such as restaurants, theaters, airplanes, trains, and buses." Dr. Steinfeld's speech generated press coverage across the country. TIMN0121541-1558 (US 65632) (O). In 1971, the Interstate Commerce Commission mandated separate smoking sections in the rear of all interstate buses. VXA2110670-1053 at 0973 (US 63709) (A); see 37 F.R. 5700 (Mar. 18, 1972) (ICC order issued on November 8, 1971 and effective April 17, 1972).

425. In February 1972, Surgeon General Steinfeld issued a new report to Congress that collected and reviewed the mounting body of scientific evidence concerning the risks of passive smoking. The Surgeon General described studies showing that "tar and nicotine levels in

sidestream smoke may be significantly higher than mainstream smoke and may be harmful to the nonsmoker." TLT0240387-0537 at 0505 (US 60597) (A) (1972 SGR); Samet TT, 09/29/04, 1044:25-1045:13.

426. In the 1972 Report, the Surgeon General also summarized the scientific evidence on the adverse effect of ETS on nonsmoker allergies:

> Tobacco smoke can contribute to the discomfort of many individuals. It exerts complex pharmacologic, irritative, and allergic effects, the clinical manifestations of which may be indistinguishable from one another. . . . Exposure to tobacco smoke may produce exacerbation of allergic symptoms in nonsmokers who are suffering from allergies of diverse causes.

TLT0240387-0537 at 0495 (US 60597) (A).

427. Chapter 8 of the 1972 Report, titled "Public Exposure to Air Pollution from Tobacco Smoke," catalogued the existing scientific findings concerning carbon monoxide and other constituents of tobacco smoke that can exacerbate existing heart disease and other conditions:

> The level of carbon monoxide attained in experiments using rooms filled with tobacco smoke has been shown to equal, and at times exceed, the legal limits for maximum air pollution permitted for ambient air quality in several localities and can also exceed the occupational Threshold Limit Values for a normal work period presently in effect in the United States as a whole. **The presence of such levels indicates that the effect of exposure to carbon monoxide may on occasion, depending upon the length of exposure, be sufficient to be harmful to the health of an exposed person.** This would be particularly significant for people who are already suffering from chronic bronchopulmonary disease and coronary heart disease. . . .
>
> Other components of tobacco smoke, such as particulate matter and the oxides of nitrogen, have been shown in various concentrations to adversely affect animal pulmonary and cardiac structure and function. The extent of the contributions of these substances to illnesses in humans exposed to the concentrations present in an atmosphere contaminated with tobacco smoke is not presently known.

TLT0240387-0537 at 0513 (US 60597) (A).

428. On February 26, 1972, Defendants counterattacked in a Tobacco Institute press

release disputing the 1972 Report. Quoting Tobacco Institute vice president J.C.B. Ehringhaus, Jr., the press release stated, "[T]he 1972 report of the Surgeon General to Congress on smoking and health 'insults the scientific community' and that 'the number one health problem is not cigarette smoking, but it is the extent to which public health officials may knowingly mislead the American public.'" Defendants' statement deceptively downplayed the significance of the Surgeon General's statements on secondhand smoke by focusing on statements about the difficulties encountered in collecting scientific evidence: "Ehringhaus noted that a 'new section' of the report dealt with allegedly hazardous effects of smoking on nonsmokers. But, the tobacco industry representative said, just three days after the report's release the Surgeon General went on television and said: 'The real problem is that . . . even in a crowded room, or an automobile, we can't measure the effect of the trace chemicals upon the nonsmoker.'" TIMN0120602-0603 (US 21322) (O).

429. In 1973, new federal regulations made nonsmoking sections in airplanes mandatory. VXA2110670-1053 at 0973 (US 63709) (A). See 38 F.R. 12207 at 12211.

430. Several of the earlier studies during the 1960s had focused on allergic and toxic substances in sidestream smoke – notably particulates in the form of soot and ash, but also carbon monoxide, nitrogen oxides, and other noxious/poisonous gases. A 1967 study by Czech researcher Milan Srch, for example, examined the impact of riding in a closed car with smokers and found that levels of carbon monoxide in the blood of the nonsmokers increased by 250%. TLT0240387-0537 at 0507 (US 60597) (A) (1972 SGR).

431. A different methodology was used in a 1973 experiment by the U.S. Department of Transportation, which measured ambient carbon monoxide in a bus where 23 cigarettes were smoked, compared to a situation where three cigarettes were smoked. At the driver's seat, carbon

monoxide levels rose to 33 parts per million (ppm) in the former situation, compared to 18 ppm in the latter. 03763710-3956 at 3812 (Table 2, ref. 44) (US 34340) (A) (1975 SGR). Both situations exceeded the "maximum acceptable ambient level of 9 ppm." Prolonged exposures to low levels of carbon monoxide had already been implicated in heart disease by 1975. 03763710-3956 at 3748-3749 (ref. 4) (US 34340) (A) (1975 SGR).

432. More generally, scientific studies documenting the health hazards of secondhand smoke increased in both quality and quantity in the 1970s. In 1970 and 1971, German researcher Hans-Peter Harke studied nonsmokers in smoky environments where there was ventilation and found a 50% increase in carbon monoxide in the blood. 03763710-3956 at 3816 (ref. 23) (US 34340) (A).

433. Other studies further analyzed the chemical composition of secondhand smoke. Ulrich Hoegg's 1972 study, for example, was only one of a number of studies at this time exploring the concentration of carbon monoxide in closed, smoke-filled environments. The sidestream smoke, for example, was found to contain a concentration of carbon monoxide nearly five times as great as that derived from mainstream smoke. 03763710-3956 at 3809-3810 (ref. 32) (US 34340) (A).

434. The 1975 Surgeon General's Report conducted another review of the increasing scientific evidence demonstrating that secondhand smoke causes adverse health effects, particularly in children. In Chapter 4, the Surgeon General reviewed the causation of disease in newborns: "Children of parents who smoke are more likely to have bronchitis and pneumonia during the first year of life, and this is probably at least partly due to their being exposed to cigarette smoke in the atmosphere." 03763710-3956 at 3829 (US 34340) (A).

435. Carbon monoxide continued to pose a health risk in secondhand smoke. The

Surgeon General also stated in the 1975 Report: "Even in cases where the ventilation was adequate, the measured CO levels did exceed the maximum acceptable ambient level of 9 ppm". 03763710-3956 at 3811 (US 34340) (1975 SGR)(A). The 1975 Report also warned of effects on patients with heart disease: "Levels of carbon monoxide commonly found in cigarette smoke-filled environments have been shown to decrease the exercise tolerance of patients with angina pectoris." 03763710-3956 at 3829 (US 34340) (A).

436. On December 29, 1977, the Tobacco Institute issued a press release claiming that the links between smoking and health generally were still unproven and that passive smoking in particular was not dangerous. In the press release, Tobacco Institute vice president Bill Dwyer stated that the first two points of the industry's "four-point platform" were: "1. The question of smoking and health is still a question requiring scientific resolution" and "2. Tobacco smoke does not imperil normal nonsmokers.'" TIFL0522279-2280 at 2280 (US 21424) (O).

437. In the late 1970s and continuing thereafter, more studies focused on hazardous components in secondhand smoke, as well as links to lung cancer, heart disease, and health effects on children. Earlier studies had noted the presence of benzpyrene in sidestream smoke; now, there was increasing attention given to nitrosamines, a family of carcinogens already coming under scrutiny for their presence in smoked and nitrate-cured meats. Studies by Klaus Brunneman and his colleagues in the late 1970's, for example, showed the presence of n-nitrosamines (which derive from nicotine), carbon monoxide, and others substances in sidestream smoke in even far greater concentrations than in mainstream smoke. The concentrations of these substances are 5 to 10 times higher in sidestream smoke. VXA1604926-6020 at 5422, 5633 (US 64071) (A) (1979 SGR). In addition, scientists had established that n-nitrosamines (NNN, NNK, etc.) were carcinogenic. VXA1604926-6020 at 5631-5633, 5648-

5649 (US 64071) (A) (1979 SGR).

438. Based on these studies and others, the Surgeon General stated in the 1979 Report: "Many of the substances, including nicotine, carbon monoxide, and ammonia, are found in much higher concentrations in sidestream smoke than in mainstream smoke. **Thus, the total smoke exposure of nonsmokers is quantitatively smaller than the exposure of smokers, but the smoke nonsmokers inhale may be qualitatively richer in certain compounds than mainstream smoke.** This qualitative difference in smoking exposure makes the quantification of the involuntary smoking exposure in terms of 'cigarette equivalents' confusing and inaccurate." VXA1604926-6020 at 5422-5431 (US 64071) (A) (emphasis added).

439. The 1979 Report, as the 1972 and 1975 Reports before it, addressed possible health effects passive smoking. After reviewing the scientific evidence and earlier warnings about the adverse effects of secondhand smoke, and emphasizing the effects of carbon monoxide on nonsmokers and the effects of tobacco smoke on exposed children, the Surgeon General warned:

> Tobacco smoke can be a significant source of atmospheric pollution in enclosed areas. Occasionally, under conditions of heavy smoking and poor ventilation, the maximum limit for an 8-hour work exposure to carbon monoxide (50 ppm) may be exceeded. The upper limit for CO in ambient air (9 ppm) may be exceeded even in cases where ventilation is adequate. . . .
>
> Children of parents who smoke are more likely to have bronchitis and pneumonia during the first year of life, and this may be due to their being exposed to cigarette smoke in the atmosphere.
>
> Levels of carbon monoxide which can be reached in cigarette smoke-filled environments have been shown to decrease the exercise duration required to induce angina pectoris in patients with coronary artery disease . . . [and to] reduce the exercise time until onset of dyspnea in patients with hypoxic chronic lung disease."

VXA1604926-6020 at 5449-5450 (US 64071) (A); see Samet TT, 9/29/04, 1045:15-24.

440. One week later, Defendants again went on the attack. The Tobacco Institute issued a press release on January 17, 1979, quoting their vice president Bill Dwyer:

> Dwyer said at the time the report was released that it was an attempt to "guess us out of business." The best the government can say is that cigarette smoking "may be hazardous to health." It may not be.

TIMN0074006-4006 (US 21303) (O).

441. Later in 1979, Defendant Tobacco Institute issued a brochure to the public called "Fact or Fancy?" that denied any adverse health effects caused by cigarettes. With respect to passive smoking, the brochure disputed that: "Women who smoke harm their babies before and after birth." Moreover the brochure claimed: "It is difficult to understand why parental smoking is blamed for a child's coughs or wheezes, in view of these conflicts in research findings." TIMN0133740-3798 at 3741, 3754 (US 21280) (A).

442. In 1980, following the lead of earlier researchers, James Repace of the United States Environmental Protection Agency and Alfred Lowrey of the United States Naval Research Laboratory conducted measurements of respirable particulates in cocktail lounges, restaurants, and public halls in both the presence and absence of smoking. Repace and Lowery found that short-term measurements in rooms with smokers yielded high respirable particulate concentrations, varying from 100 to 1000 micrograms per cubic meter. VXA2110670-1053 at 0826, 0852 (US 63709) (A) (1986 SGR).

443. James White and Herman Froeb published an article in the *New England Journal of Medicine* that same year finding that nonsmokers working in smoky environments tend to have pulmonary functions similar to light smokers. White and Froeb calculated that in terms of long-term lung (small-airway) dysfunction, nonsmokers working in a smoky environment had about the same risk of impairment as smokers who inhaled between one and ten cigarettes per day.

VXA2110670-1053 at 0744 (US 63709) (A) (1986 SGR).

444. In 1980, the Tobacco Institute published a brochure titled "A Two-Way Street" in which Defendants ignored the mounting evidence that passive smoke posed a hazard, particularly to young children: "First of all, it is important to understand that there is no convincing evidence that tobacco smoke causes disease in nonsmokers." 2024299572-9575 at 9573 (US 20401) (O).

445. The results of two major epidemiological investigations were published in 1981. First, Takeshi Hirayama, Chief of Epidemiology at Tokyo's National Cancer Centre Research Institute, published a study titled "Non-Smoking Wives of Heavy Smokers Have a Higher Risk of Lung-Cancer: A Study From Japan" in the *British Medical Journal*. Hirayama's study showed a significant correlation between lung cancer and ETS based on his epidemiological studies of 91,540 nonsmoking Japanese women over nearly fifteen years. Hirayama showed that wives of heavy smokers had "a higher risk of developing lung cancer" and that "the effect of passive smoking was most striking in younger couples and in agricultural families (ruling out the complication of urban air pollution), relative risk reaching 4.6, probably because of the lesser extent of the exposure to passive smoking outside the family in the case of rural residents." 2046342378-2380 (US 22963) (A); Samet WD, 176:15-177:4; US 17172 (A) (summary chart of Hirayama study).

446. Second, Dimitrios Trichopoulos, working with colleagues from the University of Athens School of Medicine and the Harvard School of Public Health, published a case-control study of 51 Greek women suffering from lung cancer in the *International Journal of Cancer*, finding that the non-smoking wives of heavy smokers had elevated lung cancer risks. 504437867-7870 (US 50615) (A); see also Samet WD, 177:5-23; (no bates) (US 17201) (A) (summary chart of Trichopoulos study). Trichopoulos, like Hirayama, found that lung cancer

was about twice as common among nonsmoking women whose husbands smoked as among nonsmoking women whose husbands did not smoke.

447. Later in 1981, the results of a third study were also reported in the *Journal of the National Cancer Institute* by Lawrence Garfinkel in a paper titled "Time trends in lung cancer mortality among nonsmokers and a note on passive smoking." Garfinkel 's observed risks of lung cancer were 1.27 for women married to men who smoked less than 20 cigarettes per day, and 1.10 for women married to smokers of more than 20 cigarettes per day. However, in contrast to the observed risks found by Hirayama and Trichopoulos, the elevated risks in the Garfinkel study were not statistically significant. TLT0242222-2551 at 2478-2479 (US 60598) (A).

448. Thus, all three major epidemiologic studies published as of 1981 showed an increased risk of lung cancer with passive smoke exposure. For the first time, the Surgeon General in 1982 warned about the link between secondhand smoke and lung cancer, stating in the Foreword:

> While the nature of this [lung cancer] association is unresolved, it does raise the concern that involuntary smoking may pose a carcinogenic risk to the nonsmoker. Any health risk resulting from involuntary smoke exposure is a serious public health concern because of the large numbers of nonsmokers in the population who are potentially exposed. **Therefore, for the purpose of preventive medicine, prudence dictates that nonsmokers avoid exposure to second-hand tobacco smoke to the extent possible.**

TLT0242222-2551 at 2228 (US 60598) (A) (1982 SGR) (emphasis added).

449. All three epidemiologic studies were reviewed, along with evidence of carcinogens in both mainstream and sidestream smoke, in Chapter 4 of the 1982 Report. The Report concluded that:

> 1. Mainstream and sidestream cigarette smoke contain similar chemical constituents. . . These constituents include known carcinogens, some of which are present in higher concentrations in sidestream smoke than they

are in mainstream smoke. . . .

2. In two epidemiological studies, an increased risk of lung cancer in nonsmoking wives of smoking husbands was found. In these studies, the nonsmoking wife's risk of lung cancer increased in relation to the extent of the husband's smoking. In a third study, the risk of lung cancer among nonsmoking wives of smoking husbands was also increased, but the difference was not statistically significant.

3. **Although the currently available evidence is not sufficient to conclude that passive or involuntary smoking causes lung cancer in nonsmokers, the evidence does raise a concern about a possible serious public health problem.**

TLT0242222-2551 at 2481 (US 60598) (A) (emphasis added).

450. In response to the three studies showing an increased risk of lung cancer among spouses married to smokers and the Surgeon General's warning of a "possible serious public health problem," Defendants again went on the attack. In 1982 and 1983, Defendant Tobacco Institute ran a series of advertisements called "Answers to the most asked questions about cigarettes." "Question 5" was "Does Cigarette Smoke Endanger Nonsmokers?" The Tobacco Institute's "answer" in the advertisement blatantly distorted both the scientific evidence and the Surgeon General's conclusions:

Here's what two major opponents of smoking said on the subject:

1. The Surgeon General. Clearly and simply put, he has not concluded from the scientific literature reviews that cigarette smoker causes disease in nonsmokers.

2. The American Cancer Society. A report covering 17 years and some 200,000 people indicated that 'second-hand' smoke has an insignificant effect on lung-cancer rates in nonsmokers. Fact from a report published by the Statistical Director of the Society in June, 1981.

A recent Japanese study made claims about lung cancer rates among nonsmokers. This got wide press coverage. But the validity of the study was seriously questioned by a variety of experts around the world.

TIMN0121194-1205 at 1196 (US 85358) (O); see also 93852854-2869 at 2854 (US 88574) (O).

451. The ad campaign attacking the 1982 Surgeon General's Report was substantial: "The campaign . . . [was] targeted to reach eight out of 10 Americans 25 years or older. It is appearing in publications including Newsweek, People, Sports Illustrated, Time, TV Guide, U.S. News & World Report . . . " Previous ads had already generated 10,000 requests for the Tobacco Institute's booklet. A series of nine ads were planned to run throughout 1982. TIMN0121194-1205 at 1196 (US 85358) (O); see also 93852922-2933 at 2931 (US 21118) (O); TI04591849-1855 at 1853 (US 22028) (O); TINY0006369-6379 at 6376 (US 87667) (O).

452. In October 1983, the Tobacco Institute ran another advertisement in the series called "Answers to the most asked questions about cigarettes," posing the question "What happens to cigarette smoke in the air?" The ad ran in the Wall Street Journal and other news media. Among other things, the ad stated, "Even the U.S. Surgeon General, an outspoken critic of smoking, said in 1982 that the available evidence is not sufficient to conclude that other people's smoke causes disease in nonsmokers. The fact is, no claim of adverse health effect of cigarette smoke on a healthy nonsmoker has yet been proved." TLT0601093-1095 at 1094 (US 65131) (O); TLT0601100-1104 at 1101-1102 (US 65133) (O).

453. The 1984 Surgeon General's Report continued to review the passive smoking evidence, looking specifically at the evidence of biomarkers showing exposure to and absorption of secondhand smoke components. The Surgeon General concluded, "Cigarette smoke can make a significant, measurable contribution to the level of indoor air pollution at levels of smoking and ventilation that are common in the indoor environment. The Report added that: "Nonsmokers who report exposure to environmental tobacco smoke have higher levels of urinary cotinine, a metabolite of nicotine, than those who do not report such exposure." The Report also reviewed the scientific evidence on adverse health effects on children and reiterated the conclusion from

the 1982 Report: "The children of smoking parents appear to have an increased prevalence of reported respiratory symptoms, and have an increased frequency of bronchitis and pneumonia early in life." VXA2110670-1053 at 1475 (US 64059) (A).

454. In 1984, Defendant Reynolds ran an advertisement entitled, "Can we have an open debate about smoking?" Among other things, the advertisement stated, "Studies which conclude that smoking causes disease have regularly ignored significant evidence to the contrary. These scientific findings come from research completely independent of the tobacco industry. We at R. J. Reynolds think you will find such evidence very interesting. We think reasonable people who analyze it may come to see this issue as not a closed case, but as an open controversy." Reynolds included the adverse health effects of secondhand smoke in its campaign:

> We will also explore other important issues including relations between smokers and non-smokers, smoking among our youth, and 'passive smoking.' Some of the things we say may surprise you. Even the fact that we say them may prove controversial. But we won't shy away from the controversy because, quite frankly, that's our whole point. We don't say there are no questions about smoking. Just the opposite. We say there are lots of questions – but, as yet, no simple answers.

513943434-3434 (US 50268) (A).

455. Subsequently in 1984, Reynolds ran an advertisement entitled "Smoking and Health: Some facts you've never heard about." The advertisement directly attacked the conclusions of the Hirayama study:

> You also hear a lot today about 'passive smoking' – breathing other people's cigarette smoke. One study from Japan, which recently received tremendous publicity, claimed to have shown that wives of smokers ran a greater risk of lung cancer than wives of non-smokers. But this study contained such serious flaws that it was quickly and strongly criticized by several independent scientists – including the statistician who designed the test used in the study.

506100136-0136 (US 50882) (A).

456. In fact, studies confirming the original Hirayama/Trichopoulos findings continued to accumulate in the 1980s. See, e.g., VXA2110670-1053 at 0755-0775 (US 63709) (A) (1986 SGR). In addition, Hirayama published follow-up studies in 1983 and 1984 finding essentially identical results to those reported in his 1981 paper. VXA2110670-1053 at 0755, 0759 (US 63709) (A) (Reported relative risks were 1.42, 1.58, and 1.91 for nonsmokers married to smokers of 1-14 cigarettes/day, 15-19 cigarettes/day, and 20+ cigarettes/day, respectively.). Trichopoulos also published a report in 1984 updating his findings. VXA2110670-1053 at 0763 (US 63709) (A) (Reported relative risks were 1.9 and 2.5 for women married to smokers of 1-20 cigarettes/day and 21+ cigarettes/day, respectively.) These new studies, and the updated reports from Hirayama and Trichopoulos, further strengthened the link between passive smoking and lung cancer in nonsmokers.

457. From January 1984 to April 1986, Reynolds ran an a series of advertisements in newspapers across the country. One was titled "Smoking in Public: Let's separate fact from friction"; another was titled "Secondhand smoke: Let's clear the air"; and a third ran under the headline "Secondhand smoke: The Myth and the Reality." The three Reynolds advertisements asserted: "**In fact, there is little evidence - and certainly nothing which proves scientifically - that cigarette smoke causes disease in nonsmokers.**" 506290558-0792 at 0608, 0611, 0612 (US 29799) (O).

458. As described above, the 1986 Surgeon General's Report concluded that passive smoking is a cause of disease, including lung cancer, in healthy nonsmokers. The 1986 Report also expanded the scientific consensus regarding disease causation in children, finding that the children of parents who smoke have an increased frequency of a number of adverse health effects. Finally, the Report concluded that separation of smokers within the same air space does

not eliminate exposure to secondhand smoke. VXA2110670-1053 at 0690 (US 63709) (A).

459. That same year, two separate, independent reviews also concluded that exposure to secondhand smoke was a health hazard. The National Research Council (NRC) of the National Academy of Sciences (NAS) issued "Environmental Tobacco Smoke, Measuring Exposures and Assessing Health Effects." The 1986 NRC Report found that known toxic and carcinogenic chemicals in mainstream smoke are also found in ETS; and that respiratory effects, such as wheezing and coughing, are increased in children of smoking parents. With respect to lung cancer, the NRC Report concluded:

> Considering the evidence as a whole, exposure to ETS increases the incidence of lung cancer in nonsmokers. . . .
>
> Since carcinogenic agents contained in ETS are inhaled by nonsmokers, in the absence of a threshold for carcinogenic effects, an increased risk of lung cancer due to ETS exposure is biologically plausible.

VXA2111054-1229 at 1066 (US 63708) (A).

460. In 1986, the International Agency for Research on Cancer (IARC) of the World Health Organization issued its Monograph titled "Tobacco Smoking, the latest in a series of IARC "Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans." Similar to the 1986 Surgeon General's Report and the 1986 NRC Report, the 1986 IARC Monograph concluded that secondhand smoke was a health hazard and a carcinogen:

> Tobacco smoke affects not only people who smoke but also people who are exposed to the combustion products of other people's tobacco. The effects produced are not necessarily the same, as the constituents of smoke may vary according to its source. Three main sources exist: (i) mainstream smoke, (ii) sidestream smoke, and (iii) smoke exhaled to the general atmosphere by smokers. . . . Examination of smoke from the different sources shows that all three types contain chemicals that are both carcinogenic and mutagenic. The amounts absorbed by passive smokers are, however, small, and effects are unlikely to be detectable unless exposure is substantial and very large numbers of people are observed. The observations on nonsmokers that have been made so far are

compatible with either an increased risk from 'passive' smoking or an absence of risk. **Knowledge of the nature of sidestream smoke and mainstream smoke, of the materials absorbed during 'passive' smoking and of the quantitative relationships between dose and effect that are commonly observed from exposure to carcinogens, however, leads to the conclusion that passive smoking gives rise to some risk of cancer.**

* * *

There is *sufficient evidence* that tobacco smoke is carcinogenic to humans.

VXA1600406-0824 at 0714 (US 64066) (A) (emphasis added).

461. The Enterprise was thus confronted with a series of major reports indicting passive smoking as a health hazard and cause of lung cancer. It was this global scientific consensus, and in particular the need to cast doubt on the consensus and create an "open question," that would guide Defendants statements and conduct thereafter.

462. In December 1986, the Tobacco Institute published a brochure titled "Tobacco Smoke and the Nonsmoker: Scientific Integrity at the Crossroads." The Tobacco Institute claimed in its brochure that "a detailed review of the scientific literature on ETS" led to the conclusion that: "**The evidence does not support conclusions that ETS represents a health hazard to nonsmokers.**" TIMN 284404-4413 at 4405 (US 77088) (O) (emphasis added).

463. In April 1987, the General Services Administration restricted smoking in Federal buildings. 41 C.F.R. §101-20.105-3, 52 F.R. 11263 at 11269 (April 8, 1987).

464. Defendants continued their drumbeat of public statements denying that cigarettes and tobacco smoke are a hazard to nonsmokers. The statements often borrowed from what the industry had said with respect to active smoking. For example, the Tobacco Institute published a booklet in 1987 titled "Smoking Restrictions: The Hidden Threat to Public Health." In this booklet, the authors asserted with respect to the health effects of passive smoke that:

> A detailed review of the scientific literature on environmental tobacco smoke yields two basic conclusions:
>
> First, environmental tobacco smoke has not been shown scientifically to pose a health hazard in nonsmokers.
>
> Second, as a National Academy of Sciences panel noted recently, more and better research needs to be done.

520911538-1542 at 1539, 1540-1541 (US 85593) (O).

465. A 1987 series of Philip Morris advertisements had pictures of smokers "talking" to the reader. The smokers in the ads asserted: "Please don't tell me my cigarette smoke is harmful to you. There's just no convincing proof that it is"; and "I know there's no proof my smoke can hurt you." 2500146093-6096 (US 20554) (O)

466. The Tobacco Institute published a brochure in 1988 titled "Environmental Tobacco Smoke and Health: THE CONSENSUS." This brochure referred to the 1986 reviews on passive smoking, then declared: "SCIENTIFIC CONSENSUS: No scientific case against environmental tobacco smoke." 507828094-8102 at 8096 (US 51276) (O).

467. On August 18, 1988, Reynolds Public Information Manager Jo Spach wrote, "We firmly believe that cigarettes have been unfairly blamed as a cause of human disease." 515792869 (US 20869) (A).

468. In 1988, the Federal Aviation Administration imposed a smoking ban on all domestic commercial flights of two hours or less. See 14 C.F.R. §121.317, 52 F.R. 12358 (April 13, 1988) (effective April 23, 1988). Subsequently in 1990, the FAA's smoking ban was extended to domestic flights of six hours or less. See 55 C.F.R. 8364 (March 7, 1990).

469. An April 1990 INFOTAB publication titled "Children & Smoking-The Balanced View" stated: "Exposure to ETS has not been scientifically proven to adversely affect the health of children." 2501342105-2110 at 2109 (US 20565) (A).

470. On January 11, 1990, Spach at Reynolds wrote the principal of Willow Ridge School, Amherst, NY, asking him to tell his fifth grade students:

> The tobacco industry is also concerned about the charges being made that smoking is responsible for so many serious diseases. . . . Over the years the tobacco industry has given in excess of $162 million to independent research on the controversies surrounding smoking – more than all the voluntary health associations combined. . . . **Despite all the research going on, the simple and unfortunate fact is that scientists do not know the cause or causes of the chronic diseases reported to be associated with smoking.** The answers to the many unanswered controversies surrounding smoking – and the fundamental causes of diseases often statistically associated with smoking – we believe can only be determined through more scientific research. Our company intends, therefore, to continue to support such research in a continuing search for answers.

508466199-6200 at 6199 (US 20813) (A) (emphasis added).

471. In 1992, the EPA issued "Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders," commonly called the EPA Risk Assessment. That report concluded, "ETS is a known human carcinogen, responsible for approximately 3,000 lung cancer deaths annually in U.S. nonsmokers." DXA0390094-0699 at 0115 (US 88654) (A). The EPA report was also issued as NCI Monograph 4. TLT0780160-0684 (US 78711) (A).

472. Defendants' statements and conduct with respect to the EPA Risk Assessment are addressed in detail later in this section in light of the magnitude and complexity of Defendants' initiatives. See supra US FF § III.A(2)(l).

473. Many of Defendants' public statements asserting an "open question" did not distinguish between active and passive smoking. For example, on November 12, 1993, Reynolds' Catherine Clinton responded to a letter from M. E. Smith in Hayward, California, with the statement: "[A] cause and effect relationship between smoking and disease has not been established." 513601091 (US 21815) (O). Similarly, on April 25, 1995, B&W's Melanie

Gnadinger transmitted the company's position on smoking and health to Hiromi Mikami: "'B&W believes that tobacco smoking and human health is still an inconclusive matter.'" 450010016-0019 at 0016 (US 21539) (O).

474. At the RJR Nabisco Holdings Company annual shareholders' meeting held on April 17, 1996, in Winston-Salem, corporate executives of the holding company, RJR Nabisco, and RJR Tobacco presented an overview of their companies' performance and answered questions from shareholders. One shareholder asked the companies' position on passive smoking and children, that is, whether the company believed that people should smoke around children. The answer from management did not acknowledge any health risk to children. Instead, the following ensued between the shareholder and the chairman of RJR Nabisco:

> THE CHAIRMAN: I will not restrict anybody's right to smoke. If the children don't like to be in a smoky room, and I wouldn't like to be, they'll leave. I don't know if you've got any grandchildren; I do. And if there is smoke around that's uncomfortable, they'll leave.
>
> MS. DONLEY: An infant cannot leave a room.
>
> THE CHAIRMAN: Well - Okay. **At some point they begin to crawl, okay. And then they begin to walk, and so on. I guess that's enough said.** Thank you very much.

520800648-0821 at 0708-0709 (US 92100) (A).

475. In 1997, California's EPA reviewed the evidence on passive smoking and concluded that exposure to secondhand smoke causes lung cancer, heart disease, and other adverse health effects. This report was also issued as NCI Monograph 10 and stated: "Using the most up-to-date evidence available, Cal/EPA concluded that ETS causes not only lung cancer in adults and respiratory problems in children, but also low birth weight, sudden infant death syndrome, middle ear infections, nasal sinus cancer, and heart disease morbidity and mortality." JDM1870820-1333 at 0834-0836 (US 76125) (A); DXA0581235-1694 at 1236 (US 78716) (A).

476. In August 1997, the President phased in the elimination of smoking in Federal facilities over a one-year period. Exec. Order 13058, 62 F.R. 43451 (August 9, 1997).

477. On October 2, 1997, Philip Morris Companies sent a letter to Congress in response to a request from senators for the Philip Morris position on smoking and health issues. In this letter, often referred to as the "Hatch Statement," the company stated that "the evidence with respect to ETS is not persuasive." 2085633197-3198 at 3198 (US 45754) (A). Philip Morris Companies Chairman Geoffrey Bible repeated this statement during his testimony before the House Commerce Committee on January 28, 1998. 86592673-86592675 at 3344 (US 21820) (O). Lorillard's letter to Congress, dated October 1, 1997, similarly asserted, "We do not agree that exposure to environmental tobacco smoke has been shown to be a cause of disease in nonsmokers. 86592673-2675 at 2675 (US 56175) (A).

478. In June 2002, IARC released "IARC Monograph (Vol. 83), Tobacco Smoke and Involuntary Smoking." The 2002 IARC Monograph was the product of a scientific working group of 29 experts from 12 countries who "reviewed all significant published evidence related to tobacco smoking and cancer, both active and involuntary." The Monograph concluded, "There is sufficient evidence that involuntary smoking (exposure to secondhand or 'environmental' tobacco smoke) causes lung cancer in humans. . . . Involuntary smoking (exposure to secondhand or 'environmental' tobacco smoke) is carcinogenic to humans (Group 1)." TLT0970001-1455 at 1413 (US 86746) (A).

479. Since the 1986 Surgeon General's Report, every major scientific review and assessment of the science on passive smoking and its health effects has independently and consistently concluded that passive smoking causes disease and other adverse health effects in adults and children. See, e.g., DXA0390094-0699 (US 88654) (A) (1992 EPA Risk

Assessment); 2065192422-2615 (US 22092) (A) (1997 Australia Report); JDM1870820-1333 (US 76125) (A) (1997 California EPA); VXA1600843-0981 (US 64063) (A) (1998 UK SCOTH); VXA1600982-1000 (US 64062) (A) (1999 WHO); VXA1240568-1258 (US 64315) (A) (2001 SGR) ; TLT0970001-1455 (US 86746) (A) (2002 IARC); see also Samet WD, 198:7-8 (1992 American Heart Association).

(d) More Frank Statements: Defendants' Public Promises With Respect to Passive Smoking

480. As was discussed previously, Defendants made several representations to the American public in 1954 in what became known as the "Frank Statement." Two promises in the 1954 Frank Statement are important to Defendants' conduct with respect to passive smoking:

> We accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business.
>
> We always have and always will cooperate closely with those whose task it is to safeguard the public health.

86017454-7454 (US 21418) (A).

481. While active smoking was the battleground between Defendants and the scientific community for decades after the Frank Statement, in the 1970s and 1980s, more and more scientists were reporting research confirming the health implications of passive smoking, as discussed above. The 1972 Surgeon General's Report noted the widespread public exposure to carcinogens and toxins that were being found in secondhand smoke. TLT0240501-0537 (US 60597) (A). The 1975 and 1979 Reports described ominous similarities between mainstream and sidestream smoke, as well as some potential adverse health effects. 03763710-3956 at 3809-3810 (US 34340) (A). The 1982 Surgeon General's Report examined the first epidemiological studies demonstrating elevated risks of lung cancer among nonsmoking women married to smokers, and cautiously concluded that "the evidence does raise a concern about a possible

serious public health problem." TLT0242222-2551 (US 60598) (A).

482. In response, Defendants reiterated the deceptive claims made in the 1954 Frank Statement, but this time tailored their statements to meet the mounting evidence of the adverse health effects of secondhand smoke.

483. In 1982, the Tobacco Institute ran the fifth in its series of advertisements called "Answers to the most asked questions about cigarettes." The advertisements ran in major magazines nationwide, including *Newsweek*, *People*, and *Sports Illustrated*. The advertisement asked, "Does Cigarette Smoke Endanger Nonsmokers?" After disputing the evidence linking passive smoking to lung cancer, the advertisement represented to the public that the industry was committed to "independent" research to answer questions about exposure to secondhand smoke:

> Like you, we seek answers.
>
> The tobacco industry has committed more funds for independent research on smoking and health than any non-governmental group. More than the American Cancer Society, the American Heart Association, and the American Lung Association combined. The researchers we fund are encouraged to publish whatever they find. Whatever the outcome.
>
> If you'd like more information, write for our booklet, 'Answers to the most asked questions about cigarettes.'

TIMN0121194-1205 at 1196 (US 85358) (O); see also 93852922-2933 at 2931 (US 21118) (O); TI04591849-1855 at 1853 (US 22028) (O).

484. In October 1983, the Tobacco Institute ran another advertisement in the series called "Answers to the most asked questions about cigarettes," publicly posing the question "What happens to cigarette smoke in the air?" The ad ran in the Wall Street Journal and other news media. The 1983 ad also publicly reiterated Defendants' representation that the industry was funding independent research and was committed to finding scientific answers to questions about smoking and health:

> The tobacco industry has committed more funds for independent research on smoking and health than any nongovernmental group. . . . Researchers funded by the tobacco industry are encouraged to publish whatever they find. Whatever the outcome.

TLT0601093-1095 at 1094 (US 65131) (O); TLT0601100-1104 at 1101-1102 (US 65133) (O).

485. Reynolds ran an advertisement in 1984 titled "Smoking and health: some facts you've never heard about." In the ad, Reynolds attacked the Hirayama study but then told the public:

> No one wants to know the answers more than R.J. Reynolds. This is why we are providing major funding for scientific research. **The funds are given at arms length to independent scientists who are free to publish whatever they find**.
>
> We don't know where such research may lead. **But this much we can promise: when we find the answers, you'll hear about it.**

506100136 (US 50882) (A). (emphasis added).

486. In or about 1987, a Tobacco Institute brochure called "Tobacco Smoke and The Nonsmoker: Scientific Integrity at The Crossroads" asserted: "The tobacco industry is therefore devoting substantial resources to the investigation of indoor air quality generally and to the ways in which particular constituents of indoor air - including tobacco smoke - may affect human health." 2025364951-5007 at 4954 (US 22173) (A).

487. These public promises, like the "Frank Statement" some 28 years before, were made with the intent to deceive the American public into believing that there was no risk associated with passive smoking and that Defendants would fund objective research to find answers. Instead, Defendants' conduct over the decades that followed was to attack independent research, to fund research designed and controlled to generate industry-favorable results, to suppress adverse passive smoking research, and to thwart the public health authorities, all designed to create the impression of an independent scientific controversy where there was none.

(e) The "Silver Bullet": Defendants' Recognition of the Passive Smoking Threat

488. Defendants' fraudulent conduct with respect to passive smoking can only be understood in the context of Defendants' acute appreciation since the 1970s that passive smoking posed a profound threat to the industry's profits and viability. As with Defendants' conduct in all areas of smoking and health, Defendants' motive was to maximize sales/consumption and protect profits.

489. On January 31, 1974, at the 1974 Tobacco Institute's annual meeting in New York, Tobacco Institute president Horace Kornegay described the gradual acceleration of indoor air restrictions, stating that these restrictions not only impacted sales but also "could lead to the virtual elimination of cigarette smoking." TIMN0067732-7755 at 7734 (US 22047) (O).

490. Two years later, BATCo held its Chairman's Conference in Hot Springs, Virginia. The conference gathered BAT executives from its subsidiaries around the world, including BATCo and Brown & Williamson. At this June 1976 conference, there was "unanimous agreement" that the social unacceptability issue resulting from evidence that cigarette smoke harmed nonsmokers "constitutes 'a more serious threat to the industry's future than any other aspect of the attack on smoking.'" 2025025481-5494 at 5481 (US 37220) (O). The minutes of the Chairman's Conference recorded: "It had been estimated that the issue of passive smoking had already lost the industry cigarette sales of 1,000 million a year" in Germany alone. 680040485-0502 at 0489 (US 25437) (O); 110069862-9862 (US 88580) (O).

491. BATCo understood that the passive smoking issue not only risked an increasing number of smoking restrictions, but even threatened to reduce the number of starting smokers. Papers from Australia, the United States, Canada, and Germany presented at the 1976 Hot Springs conference emphasized that the threat of "social unacceptability" emanating from the

health risks to nonsmokers "threatens to undermine smokers' confidence and to dissuade people not to take up the habit." 2025025457-5460 at 5457 (US 75152) (O).

492. In preparation for the 1976 Chairman's Conference, former BATCo chairman T.J.N. Foley set out the link between the health effects of passive smoking and the "social unacceptability" issue in these terms:

> Social Unacceptability of Smoking
>
> **The subject is inseparably linked with passive smoking and presents a major danger and challenge to the industry**. The danger exists in the clearly evident snowballing effect of the tactics aimed at making smoking a distasteful practice. **The challenge lies in the industry's need to devise a counter-campaign.**

110069860-9875 at 9863 (US 34951*) (O) (emphasis added).

493. In 1978, the Roper Organization conducted a study for the industry titled "A Study of Public Attitudes Toward Cigarette Smoking and the Tobacco Industry." Roper advised that:

> What the smoker does to himself may be his business, but what the smoker does to the non-smoker is quite a different matter. . . . **This we see as the most dangerous development to the viability of the tobacco industry that has yet occurred.** While there is little sentiment for an out-right ban on smoking in public gathering places, there is already a majority sentiment for providing separate facilities for smokers and non-smokers. As the anti-smoking forces succeed in their efforts to convince non-smokers that their health is at stake too, the pressure for segregating facilities will change from a ripple to a tide as we see it.

TITX0000963-1015 at 0968 (US 88582) (O) (emphasis added).

494. In January 1980, R. J. Reynolds scientist Frank Colby wrote in a draft memorandum addressing the activities of the precursor to the Hoel Committee, "The public smoking issue is, in my judgment, the issue most threatening to the Industry, not only in the United States and Canada, but also in Western Europe and elsewhere." The threat was to sales and profits: "The 'public smoking' activities of the anti-smoking forces do not only tarnish the

'image' of the industry, but they also represent a very substantive threat to sales. A cigarette which a smoker is prevented from smoking because of restrictions to smoke in public areas, is a cigarette not smoked." 502668016-8018 at 8016, 8018 (US 75399) (O).

495. In a June 29, 1982 letter from Reynolds CEO Ed Horrigan to Lorillard Executive Vice President of Sales Robert Ave, Horrigan stated flat out, "We all know that probably the biggest threat to our industry is the issue of passive smoking." 93443843 (US 32289) (O).

496. In September 1986, William Kloepfer, Senior Vice President of Tobacco Institute Public Relations, acknowledged that ETS "is our biggest public/political issue and deserves top-level navigation." TI10191292-1293 (US 62270) (A).

497. 1986 was the watershed year when the Surgeon General, the National Research Council, and IARC each evaluated the evidence linking passive smoking to disease and concluded that cigarette smoke was indeed a hazard to nonsmokers. Defendants' concern over the ETS issue was shaping up to be one of the most intractable problems for the tobacco industry. In 1987, a Philip Morris strategic planning memorandum on "social acceptability" stated that "the effects of ETS on others is now the most powerful anti-smoking weapon being employed against the industry." 2021553739-3926 at 3901-3905 (US 36767) (A).

498. Not surprisingly, the BATCo October 23, 1986 "ETS Action Plan" stated: "The world tobacco industry sees the ETS issue as the most serious threat to our whole business." 100993158-3165 at 3158 (US 89556) (O).

499. Philip Morris Companies subsequently held its conference called "Operation Downunder" in June 1987 to formulate a worldwide strategy on passive smoking. Covington & Burling's John Rupp told the group that the industry was "in deep shit" as a result of the 1986 reports and the industry's "serious credibility problem." 2021502102-2134 at 2105-2106 (US

20346) (A).

500. The following was recorded among the typed notes from the June 1987 "Downunder" meeting:

> Business Trends
>
> –2% annual decline in sales in U.S. . .
>
> –Decline in U.S. not explained by price increase . . .
>
> **In U.S., ETS issue will have devastating effect on sales . . .**
>
> **We are just at <u>beginning</u> of impact of ETS issue. . .**
>
> 1. Problem - threatens number of smokers and numbers of cigarettes they smoke.
> 2. How to alter public perception that ETS is damaging. . .
>
> (Assume that #2 causes #1)

2021502102-2134 at 2109-2110 (US 20346) (A) (emphasis added).

501. At the close of "Operation Downunder," Philip Morris Companies Vice Chairman Bill Murray asked about the risks of the proposals, and whether the proposals would "make the situation worse." He was told that "**The situation can't get any worse. Sales are down, can't be attributed to taxes or price increases. ETS is the link between smokers and non-smokers and is, thus, the anti's silver bullet.**" 2021502671-2678 at 2678 (US 22950) (A) (emphasis added).

502. An undated Philip Morris report from the 1990s stated, "Without a doubt, the social acceptability of smoking practices is the most critical issue that our industry is facing today. . . The consequences of any decrease in social acceptability are extremely important because of their direct effect on the total volume of sales . . . Attacks on acceptability are almost exclusively based on claims that ETS can cause diseases in the exposed population."

2026226012-6021 at 6012 (US 88583) (O).

503. The actual impact of smoking restrictions on cigarette sales was so substantial that by January 1992, Philip Morris USA was measuring past impacts on sales and modeling the future sales impact of the possible workplace smoking restrictions resulting from public concerns about the significant health impacts of secondhand smoke on non-smokers. John Heironimus was tasked to study the impact, and wrote the following in a January 22, 1992 memorandum to Louis Suwarna and copied to David Beran:

> Summary of Major Findings
>
> 1. Total prohibition of smoking in the workplace strongly affects industry volume. Smokers facing these restrictions consume 11% - 15% less than average and quit at a rate that is 84% higher than average. . . .
>
> 4. From 1987 to 1991, the industry lost an estimated incremental 1.7% (9.5 billion units) due to increasing workplace restrictions [alone]. If these trends continue, the industry will lose an additional 1.3% to 1.9% (8.4 to 11.4 billion units) from 1991 to 1996.
>
> 5. If smoking were banned in all workplaces, the industry's average consumption would decline 8.7%-10.1% from 1991 levels and the quitting rate would increase 74% (e.g., from 2.4% to 4.4%).

2023914279-4284 at 4280 (US 88584) (O).

504. In a July 1994 presentation, Philip Morris's Tina Walls stated: "The rights of smokers to smoke where they work, play – and even where they live – is under attack as it has never been before. The immediate implications for our business are clear: if our consumers have fewer opportunities to enjoy our products, they will use them less frequently and the result will be an adverse impact on our bottom line." 2041183751-3790 at 3752 (US 37924) (A).

505. Defendants recognized the parallels between the threat of passive smoking in the 1970s and beyond, and that of active smoking in the 1950s and 1960s. For example BATCo counsel Andrew Foyle wrote to representatives of the British manufacturers in 1993: "There is a

view that the industry now finds itself in the same position in relation to ETS that it was thirty-to-forty years ago in relation to active smoking." 503055325-5326 (US 20712) (O). At a 1987 meeting of the industry's international ETS groups and manufacturer associations, a Philip Morris representative similarly remarked: "I am reminded of the situation 20-30 years ago and all the research we put into active smoking." 2501458142-8148 (US 27951) (O).

506. As described below, from the mid-1970s forward Defendants affirmatively and collectively took steps to counter the threat to their profits posed by the evidence, and later the scientific consensus, that passive smoking was hazardous to the health of nonsmokers. Defendants acted collectively to counter the passive smoking threat through various industry committees and groups both in the United States and abroad. Defendants' response to the emerging scientific evidence was approved by their corporate leaders. In addition, in-house counsel and the outside law firms of Shook, Hardy & Bacon, Jacob & Medinger, and Covington & Burling played central roles in coordinating Defendants' actions worldwide.

(f) Internally, Defendants Recognized the Connection Between Passive Exposure and Disease

507. Defendants' fraudulent conduct also must be assessed in view of what the companies knew internally as to the health effects of passive smoking. Within the walls of the companies, Defendants recognized that secondhand smoke contained high concentrations of carcinogens and other harmful agents. Defendants also recognized that the research showing that passive exposure caused disease was persuasive evidence of the harmful effects of secondhand smoke. Most importantly, covert research funded by Defendants provided stark evidence confirming the public health authorities' warnings that passive exposure to cigarette smoke was a health hazard.

508. According to a March 30, 1980 document, a Philip Morris scientist reviewed the

1980 paper by James White and Herman Froeb titled "Small Airway Dysfunction in Nonsmokers Chronically Exposed to Tobacco Smoke." White and Froeb concluded in their study that nonsmokers exposed to secondhand smoke suffer significant damage to airway function. The Philip Morris scientist wrote to Tom Osdene and Jim Charles, "I have reviewed the above paper and find it to be an excellent piece of work which could be very damaging to our business." The scientist suggested several ways to attack the study, but concluded, "I can find little to criticize. The authors have put together an excellent paper in my opinion." 1002641904-1907 (US 22933) (O).

509. Philip Morris had recognized long before the 1980s that sidestream smoke contained known carcinogens. In 1961, scientist Helmut Wakeham presented a paper to the Research & Development Committee cataloguing known gas and particulate chemicals in cigarette smoke, including those that Wakeham acknowledged had been identified as carcinogens. According to Wakeham's analysis, 84% of cigarette smoke was sidestream smoke. 2024947172-7196 (US 22891) (O).

(i) ETS Research at Philip Morris's Institut für Biologische Forschung (INBIFO)

510. Much of Defendants' internal knowledge of the potential adverse health effects of ETS traced to a laboratory in Germany wholly owned by Philip Morris since 1971. The laboratory was (and still is) called INBIFO, a German acronym for Institut für Biologische Forschung, or Institute for Biological Research.

511. The Philip Morris acquisition of INBIFO followed a discussion among senior executives as to the advantages of the purchase, primarily the opportunity to conduct secret smoking and health research. In a February 24, 1970 memorandum from Philip Morris CEO Joseph Cullman to his Vice President of Research & Development Helmut Wakeham, Cullman

stated, "The possibility of getting answers to certain problems on a contractual basis in Europe appeals to me and I feel presents an opportunity that is relatively lacking in risk and unattractive repercussions in this country." 100216742-6742A (US 35183) (O).

512. Secrecy and confidentiality was an oft-repeated reason behind the Philip Morris decision to purchase INBIFO. A May 7, 1970 memorandum from Philip Morris President Ross Millhiser to Cullman attached an April 15, 1970 memorandum from Wakeham recommending the INBIFO purchase. Wakeham's recommendation included the following more candid assessment:

> It has been confirmed to me . . . that TRW has definitely decided to sell INBIFO in Cologne, Germany. The asking price is about $190,000...
>
> Since we have a major program at INBIFO, and **since this is a locale where we might do some of the things which we are reluctant to do in this country, I recommend that we acquire INBIFO**. . . Mr. Hugh Cullman and Mr. John Murphy of Philip Morris International have offered their services in acquiring INBIFO as that **its ownership would be achieved through some Swiss subsidiary of FTR. In this way, our involvement would not be unduly exposed.** On the other hand, International has stated a complete disinterest in operating INBIFO, and wish to leave that completely to the [Philip Morris] Research Department [in Richmond].

2012580900-0906 at 0902-0903 (US 89328) (A) (emphasis added).

513. Wakeham's April 15, 1970 memorandum also included a chart listing the advantages of owning INBIFO over simply contracting out the research. The following were listed among the advantages to Philip Morris:

> 1. Better security - research projects and research results are more likely to be kept confidential.
>
> 7. Location near major airport in Germany makes access easy and obviates the necessity of doing controversial biological work in United States.

> 10. Records of work in Germany cannot readily be subpoenaed for use in the United States.

2012580900-0906 at 0904 (US 89328) (A).

514. Philip Morris purchased INBIFO in July 1971 through FTR, the Philip Morris subsidiary in Neuchatel, Switzerland. 2023226100-6118 (US 89415) (O)

515. In December 1972, Philip Morris hired Ragnar Rylander to serve as the company's intermediary and "representative at INBIFO." 2081912524-2525 (US 89358) (A). Rylander reported to Philip Morris Research & Development in Richmond, with whom his contract was signed, while FTR would approve and pay INBIFO bills. 2501368665-8668 (US 89327) (A). A December 9, 1986 report by Reynolds' Charles Green recorded the following from a conversation with Osdene during a 14-hour flight to Tokyo: "Dr. Osdene is in charge of the INBIFO laboratory in Cologne. The managing director, $150K/year, reports directly to Osdene." 505491406-1410 at 1406 (US 50835) (A).

516. The secrecy of INBIFO and the desire to avoid any overt ties between Philip Morris (Richmond) and INBIFO continued. Philip Morris's Bob Seligman advised Philip Morris Europe's Max Hausermann in a letter dated March 31, 1977:

> As you were copied, you know that Helmut [Gaisch, or FTR] was requesting that we send samples directly to INBIFO. This suggested procedure is in direct conflict with our communications from the New York office. **We have gone to great pains to eliminate any written contact with INBIFO, and I would like to maintain this structure**.
>
> Therefore, I am advising Jerry Osmalov to continue sending samples to Neuchatel for transshipment to INBIFO. If this is unacceptable to you, **perhaps we should consider a "dummy" mailing address in Köln [Cologne] for the receipt of samples**.

2000512794-2795 (US 20295) (A) (emphasis added).

517. Repeated experiments carried out by Philip Morris at INBIFO in the early 1980s

were suggestive of adverse health effects associated with ETS. In a January 26, 1982 letter to Tom Osdene in Richmond, Rylander reported the following:

> Last week I visited with INBIFO. **The results from the first side stream smoke experiment are available and confirm the previous observation that this smoke on equal TPM is more irritating and/or toxic.** The histology demonstrates more advanced lesions in the nasal epithelium and hyper and metaplasia in areas which are not affected by main stream smoke. The extent of cornification observed in these animals has never been seen before.

1000081782-1783 (US 89174) (A) (emphasis added).

518. Rylander had previously informed Shook, Hardy & Bacon attorney Don Hoel in August 1981 that he was not "in a position to give ETS a clean bill of health." 680542957-2962 at 2958 (US 85718) (A).

519. Rylander also advised Osdene in his January 1982 letter that INBIFO was planning a series of new sidestream smoke studies utilizing two dose levels. 1000081782-1783 (US 89174) (A).

520. As described in the paragraphs that follow, a number of internal INBIFO research reports documented results of ETS inhalation experiments suggesting adverse health effects. Philip Morris USA continued to control INBIFO throughout the 1980s and 1990s.

521. From the early 1980s onward, INBIFO ETS studies began generating results suggesting harm. A July 29, 1982 INBIFO report titled "21-Day Smoke Inhalation Study with Mainstream and Sidestream Cigarette Smoke of Standard Reference Cigarette Type 2R1 on Rats" recorded the following in the "Results" section:

- The experiments used ETS-like smoke, namely "diluted mainstream and sidestream smoke from puffed and nonpuffed cigarettes."
- A number of "gas/vapor phase components were distinctly higher in diluted sidestream smoke than in diluted mainstream smoke: carbon monoxide (4 times),

carbon dioxide (3 to 4 times), nitric oxide (6 to 7 times) and acetaldehyde (2 to 3 times)."

- "By and large, the rats of the sidestream groups reacted more vigorously than those of the mainstream group. All rats showed general signs of exhaustion after the end of the daily exposure. In contrast to the rats of the mainstream group, which recovered by the next morning, the rats of the sidestream group continued to show shaggy fur and some pronounced respiratory symptoms characterized by whistling and rattling sounds."

- While the rats in the control group increased their body weight approximately 50% and those of the mainstream group increased their body weight 30%, the rats in the sidestream group "showed a decrease to approximately 80% of their initial body weight."

- Rats in the sidestream group also showed a decrease in water consumption and body temperature as compared to the control and mainstream groups.

- "All of the examined sidestream-exposed rats showed slight to severe atrophic or necrotic lesions of the olfactory epithelium, in some cases together with reactive inflammation. The ciliated epithelium of all sidestream-exposed rats showed squamous-cell metaplasia, with cornification in some cases."

- "Exposure to diluted side- and mainstream produced histological changes in the nasal cavity and larynx."

- "Generally spoken, sidestream exposure induced more frequent and more severe epithelial lesions in the olfactory and ciliated epithelium of the nasal cavity than mainstream of equal TPM concentration."

- "Sidestream smoke exposure invoked atrophy of the olfactory and metaplasia of the ciliated epithelium."

2029190329-0354 at 0335-0340 (US 89331) (A).

522. INBIFO scientists drew the following conclusions in their July 29, 1982 report of the inhalation study:

> The systemic toxicity of mainstream and sidestream smoke impaired the body temperature, food and water uptake, body weight development and increased mortality . . . . Puffed and nonpuffed sidestream caused almost identical reactions, but the reaction to mainstream was much less pronounced than to sidestream exposure.
>
> **If one extrapolates from the experience of previous mainstream**

> **inhalation studies, the mainstream TPM concentration of this study would have to be increased by a factor of 3 to produce similar strong reactions [to those] seen with sidestream exposure in this study.**

2029190329-0354 at 0344 (US 89331) (A) (emphasis added).

523. The introductory section of the July 29, 1982 report, bearing the name Ragnar Rylander, acknowledged that sidestream and mainstream cigarette smoke were "qualitatively similar" and that sidestream smoke condensate had "higher tumorigenic activity than mainstream condensate" in previous INBIFO skin-painting studies. 2029190329-0354 at 0331 (US 89331) (A).

524. Smoke condensate experiments at INBIFO continued to confirm that sidestream smoke was "more active" than mainstream smoke. In a July 6, 1984 INBIFO report titled "Comparison of 2R1 Mainstream and Sidestream Dry Impaction Cigarette Smoke Condensates, Base Fractions, and Neutral Fractions Activities in the Salmonella/Microsome Assay," scientists concluded that:

> In [Salmonella strain] TA98, the specific activity of MS [mainstream] and SS [sidestream] CSC [cigarette smoke condensate] suggest that MS CSC may be slightly more active than SS CSC. **The reverse was true for total activity, i.e., MS CSC was less active than SS CSC.** In [Salmonella strain] TA100, MS CSC specific activity appears to be less than or equal to SS CSC specific activity; **however, SS CSC total activity is greater that MS CSC total activity**.

2501656104-6125 at 6123 (US 89335) (A) (emphasis added).

525. Another study was carried out at INBIFO in 1985 to identify the "components causing biological effects of sidestream smoke." According to an INBIFO memorandum, the study results were presented to Philip Morris USA's Robert Pages in November 1985. 2028986635-6654 (US 89330) (A).

526. The following are excerpts from the November 1985 INBIFO sidestream smoke presentation to Pages:

> The last report gave you a survey of the irritative effects caused by inhalation of sidestream smoke (SS), such as reduced body weight development, histological changes in the respiratory tract, as well as biochemical changes.
>
> In addition, to the listed effects, SS causes a stimulation of the nerves. . . . Furthermore, this nervous stimulation causes a reduced CO2 [carbon dioxide] exhalation and a decrease in body temperature. **The observed irritative effects of SS are relevant to humans exposed to SS.**
>
> In this context the most important question is: which SS-components are responsible for the irritative (biological) effects of SS. . . .
>
> **Our first starting point to clarify these questions came from previous inhalation studies which showed that the irritative activity of SS was nearly 4 times higher than that of mainstream smoke (MS), based on body weight development and histological changes in the nasal mucosa and the larynx.** The comparison of the smoke composition of MS with SS shows that in SS the concentrations of aldehydes and ammonia are much higher than in MS. Therefore, it was supposed that these components are responsible for the irritative effects of SS.

2028986635-6654 at 6635-6636 (US 89330) (A) (emphasis added).

527. Later in the presentation, Pages was told of the results of examinations of animals exposed to sidestream smoke. These results included atrophy of the olfactory epithelium (nasal cavity), "reserve cell hyperplasia of the respiratory epithelium," "squamous metaplasia of the respiratory epithelium," and hyperplasia and squamous metaplasia in the larynx/vocal cords. Pages was also told that these effects were "concentration-dependent." 2028986635-6654 at 6646, 6648 (US 89330) (A).

528. Philip Morris produced a document from its files titled "ETS-Related INBIFO Projects, Status: Dec. 94." This 110-page report is a roll-up of ETS-related work at INBIFO

throughout the 1980s and 1990s, listing project names, dates of commission, a summary of the main results of each study, and an indication of whether the study was ever published. Very few INBIFO ETS studies were ever published. 2057077801-7911 (US 89333) (A).

529. The following is a small sample of the ETS-related inhalation, genotoxicity, and skin-painting projects summarized in the November 1994 INBIFO report. 2057077801-77911 (US 89333) (A). According to the report, none of these projects was ever published.

Project Number	Date	Objective	Main Results
5223 (page 7808)	7/22/91	Analyze fresh and room-aged sidestream smoke for polycyclic aromatic hydrocarbons (PAH), nitrosamines, and heavy metals).	"Data on cadmium and nitrosamines were generated. 24-h profile of several components in a smoke-filled room during ventilation showed persistence of formaldehyde, ammonia, and nicotine in the room."
5228 (page 7809)	8/02/91	Study of persistence of nicotine and n-nitrosamines absorbed on materials.	"TSNA [tobacco specific nitrosamines] and nicotine are still detectable after 50 days.
2126 (page 7811)	7/22/85	Determination of mainstream and sidestream smoke PAH in condensate from test cigarettes.	"PAH concentrations in the condensates similar for both cigarette types and both kinds of condensates (MS/SS); highest concentration found for phenanthrene."
3199 (page 7832)	10/13/83	Comparison of the cytotoxicity in human lung cells using mainstream and sidestream smoke from reference cigarette.	Sidestream smoke found approximately three times more cytotoxic than mainstream smoke.

3113 (page 7868)	11/27/84	Inhalation study of effects of diluted mainstream and sidestream smoke on the rat respiratory tract.	"In comparison to MS, SS caused a greater reduction in body weight gain and in weight of thymus and spleen as well as more pronounced histopathological changes in the nose and lungs. Only in the SS group atrophy and ulceration of the nasal olfactory epithelium were seen. Equally strong changes for MS and SS were seen in the trachea, and for SS less pronounced changes than for MS in the larynx."
3069 (page 7889)	11/04/82	Inhalation study of effects of diluted mainstream and sidestream smoke on the rat respiratory tract.	"Lung: Foam cells in alveoli, hyperplasia of bronchial epithelium; numerically higher incidence in SS-exposed rats. Larynx: Increased thickness of laryngeal epithelium, MS: Squamous metaplasia without or with cornification; SS: basal-cell hyperplasia; changes in MS-exposed rats stronger than in SS-exposed rats."
3068 (page 7897)	10/18/82	Tumorogenicity study of mainstream and sidestream smoke condensate on mice.	"Sidestream condensate showed a 2- to 6-fold higher tumorigenicity than mainstream condensate."
3070 (page 7898)	11/10/82	Acute toxicity (mortality) study of mainstream and sidestream condensate on mice.	"(SS = More Toxic)."

530. Philip Morris also knew that sidestream smoke effects were produced at very low concentrations. A 1994 written "short survey" of INBIFO ETS-related inhalation studies research was sent from INBIFO to Philip Morris USA. This survey stated that INBIFO inhalation research showed:

In general, the biological activity of SS (e.g., respiratory tract

> irritancy and mouse skin tumorigenicity as well as in vitro cytotoxicity, mutagenicity, and clastogenicity) has been found to match or to slightly exceed that of mainstream smoke . . . .
>
> **In order to allow extrapolations to possible environmental concentrations of SS, lowest observable effect concentrations for various biological responses to fresh SS have been established in subchronic inhalation studies on rats and hamsters . . .**
>
> Morphological changes (hyperplasia and metaplasia of airway epithelia) were detected in the rat larynx down to concentrations of 1 ug TPM/l. In the rat nose, hyperplasia was seen down to 6 ug/TPM/l. . . . Biochemical changes, i.e., the induction of the aryl hydrocarbon monoxygenase, was observed down to 0.5 ug TPM/l in the lungs. . . .
>
> Comparing the fresh and room-aged SS, the respiratory tract irritancy as well as the enzyme induction is mainly dependent on the total particulate matter concentration of the smoke regardless of the aging-related changes in the chemical composition.

2029221119-1120 (US 89417) (O) (emphasis added).

531. Several documents establish that Philip Morris intentionally concealed the adverse ETS-related study results from the public. First, the November 1994 INBIFO Status Report reveals that the few studies that produced industry-favorable results were generally published, but those that did not (described above) were not. For example, the one published INBIFO short-term inhalation study found that all but one of the observed effects on the rat respiratory tract reversed completely during the post-inhalation period; two studies finding that nicotine and particulate matter in fresh sidestream smoke was significantly reduced when the smoke aged and made contact with certain surfaces also resulted in a publication. The remaining INBIFO studies, many of which are described in the table above, were never published according to the 1994 status report. 2057077801-7911 at 7810, 7884, 7908 (US 89333) (A).

532. Other documents reveal an intent to conceal. In May 1986, Philip Morris USA

barred INBIFO scientists from presenting findings of a sidestream and mainstream smoke condensate study and an inhalation study to an upcoming symposium in Essen, Germany. In a May 9, 1986 telex to INBIFO director Ulrich Hackenberg, Dr. Pages advised the following:

> We have not yet reached a conclusion on what (if anything) could be presented. I should have something definitive to say by this time next week. . . .
>
> **We are having real problems with the presentation of the inhalation methodology in light of the fact that we almost assuredly [will] not authorize you to present any inhalation results.** Thus the idea occurred to try to focus on SS CSC [sidestream cigarette smoke condensate] with an emphasis on comparison to MS SCS [mainstream cigarette smoke condensate]. Strictly in vitro results and/or analytical chemistry. That type of thinking prompts the above questions. This idea would not allow you to illustrate the INBIFO specialty, but it might be better than not presenting anything.

2501459834 (US 87035) (A) (emphasis added).

533. In a memorandum dated May 20, 1986, Tom Osdene requested approval from management for the INBIFO scientists to present their smoke condensate results at the Essen symposium on ETS. The smoke inhalation studies were no longer under consideration in Osdene's memorandum. Osdene wrote the following in support of what he knew was still a controversial request:

> The principal reasons for allowing INBIFO to participate in the symposium are:
>
> 1) I have discussed the three papers with Don Hoel of Shook, Hardy & Bacon and he feels that we would not be assuming a major risk in having this material presented by INBIFO.
>
> 2) The presentation of these papers would be helpful to us on some aspects of the ETS issue. (Hoel concurs with this view.)
>
> 4) The presentations would be identified as coming only from INBIFO; there would be no mention of PM whatsoever. . .

> 6) The subject matter of the presentations would be restricted solely to the collection, chemical analysis, and in vitro testing of sidestream (SS) cigarette smoke condensate (CSC) from the University of Kentucky Reference Research Cigarette. . . .

2001225907-5911 (US 87033) (A).

534. Even after taking the inhalation studies off the table, Philip Morris blocked the remaining INBIFO studies. The decision was made at the highest level, by Philip Morris USA President and CEO Frank Resnik, to bar the INBIFO presentations. Dr. Pages wrote Dr. Hackenberg a May 28, 1986 telex informing him of the news:

> Regret to inform you that we were unsuccessful in obtaining approval for INBIFO to present any of the proposed abstracts at the Norpoth Symposium. . . .
>
> I want you to know that Tom [Osdene] personally discussed the abstracts with both Serrano and Resnik. We even wrote a short memo to put forth all the reasons why it would be helpful and beneficial to have the papers presented. . . . **Resnik was hesitant: he said he wanted to run it by the New York lawyers (Fred Newman). Newman said no. Resnik decided to go along with Newman and that was the end of that.**

2501459823-9823 (US 87034) (A) (emphasis added).

535. Dr. Pages informed the other members of the TI ETS Advisory Group of Philip Morris's decision to not allow the presentations. 505347180-7186 at 7185 (US 85779 (O); 504933596-3702 (US 24219) (A).

536. INBIFO studies that produced results adverse to Defendants' position on ETS were even used as a basis to block research outside of INBIFO. For example, in a November 1990 Philip Morris memorandum intended to memorialize reports to Philip Morris Companies general counsel Chuck Wall and Alex Holtzman, the following was described with respect to VdC (Verband, or German manufacturers association), VdC director Franz Adlkofer, and research that Philip Morris stopped in order to avoid probable adverse findings:

> The smoking and health program of the VdC consists of three units . . .
>
> (3) The third unit is the industry-owned and operated research laboratory in Munich, directed by Dr. Adlkofer. . . . There have been some disagreements between Adlkofer and Philip Morris about certain projects he has proposed. Philip Morris recently succeeded in blocking Adlkofer's plan to conduct a lifetime animal inhalation study of sidestream smoke. [On our visit to INBIFO we learned that Dr. Reininghaus, Director of INBIFO, provided an analysis of Adlkofer's proposal pointing out that an INBIFO study had shown that in a 90-day inhalation test no non-reversible changes had been detected. **In a lifetime study, the results were almost certain to be less favorable. Based on the analysis, the other members of the German industry agreed that the proposed study should not proceed.**]

2023223372-3383 at 3376-3378 (US 22337) (A) (emphasis added).

537. The report to Wall and Holtzman also disclosed that Adlkofer was conducting other secret ETS research in Munich as well:

> A list of ETS projects proposed by Adlkofer was shown on a slide. [Note: Should obtain a copy. Certain projects relating to the measurement of effects of passive smoking in humans - e.g. acute reactions of the airways; content of cadmium in lungs of smokers and nonsmokers - should be closely followed.]

2023223372-3383 at 3376-3378 (US 22337) (A).

538. In a March 1, 1994 presentation by Adlkofer to an industry sidestream smoke meeting attended by representatives of Philip Morris, Reynolds, and BATCo, he again asserted that his 90-day study finding both dysplasia and metaplasia in exposed rats was not permitted to be extended to a longer-term study: "Dr. Adlkofer then told us that he wanted to do a 2-year study in rats, but the industry would not support the study because they were afraid of the results." 508793116-3129 at 3117 (US 88577) (O).

539. Secrecy was consistently important to Philip Morris, as was the need to avoid a document trail leading to Philip Morris. In an undated 1984 document, Director of Science &

Technology, Tom Osdene listed the following steps to be taken with respect to INBIFO documents:

> 1. Ship all documents to Cologne by Tom.
>
> 2. Keep in Cologne.
>
> 3. **OK to phone and telex (these will be destroyed) . . . .**
>
> 5. We will monitor in person every 2 - 3 months.
>
> 6. **If important letters or documents have to be sent, please send to home - I will act on them + destroy.**
>
> 7. Advise Rylander - when writing re INBIFO.

1000130803 (US 34424) (A) (emphasis added).

540. Even into the 1990s, documents sent to Richmond from INBIFO were returned to INBIFO, ostensibly to avoid disclosure. A December 2, 1993 memorandum written by Shook, Hardy & Bacon attorney Lee Stanford recorded a conversation with fellow Shook, Hardy attorney Tony Andrade:

> On November 30, 1993, I talked with Tony Andrade about records at INBIFO . . . . According to Tony, final reports on PM USA product research are sent to Richmond for a review and are then returned to INBIFO. Supporting data and documents are kept at INBIFO.

2043725390-5391 (US 20449) (A).

541. Keeping the ties between Rylander, INBIFO, and Philip Morris hidden served the secondary purpose of creating a facade of scientific "independence." Rylander himself wrote in a June 23, 1997 letter to Philip Morris USA's Richard Carchman: "I have never been involved with any Philip Morris executive in meetings or contacts with outside persons, to retain as far as possible the image of an independent scientist." 2063590609-0610 (US 85731) (A).

542. Defendants cannot claim that the INBIFO studies were not related to operations in

the United States. A 1990 Philip Morris memorandum written by Philip Morris Companies General Counsel Chuck Wall estimated that "INBIFO's work comes approximately 80% from PM-Richmond and 20% from FTR." FTR is the Philip Morris European subsidiary that Philip Morris used to purchase INBIFO in 1971. 2023223372-3383 at 3383 (US 22337) (A).

543. Philip Morris shared the adverse results of some of its INBIFO studies with other Defendants. B&W's Gil Esterle recorded the following at the May 22, 1986 meeting of the Tobacco Institute ETS Advisory Committee:

> Toxicity Testing. At the April meeting, Dr. Osdene (PM) requested delaying further discussions on the Deskin (RJR) proposal until May. Dr. Pages (PM) now reports that PM has had a toxicity project on ETS going on for three years in a Cologne, Germany laboratory. . . Animals are whole body exposed to sidestream smoke greatly diluted with air. Exposure is carried out in a chamber in which diluted sidestream smoke is continuously fed while exhausting an equal volume of chamber air. Both rats and hamsters are being exposed. Animals are exposed seven hours/day for 21 consecutive days . . . .
>
> At higher concentrations of particulate, 20 ug/m3 and 60 ug/m3, histological changes occur. The changes at 60 ug/m3 are greater than at 20 ug/m3. Changes are reversible with cessation of exposure. PM estimates that the diluted sidestream is about three times as active as mainstream smoke at some concentrations of particulate.

655042500-2503 at 2502 (US 22921*) (O); 505347180-7186 at 7185 (US 85779 (O); 504933596-3702 (US 24219) (A).

544. According to one record of this May 22, 1986 meeting of the TI ETS Advisory Group, Covington & Burling attorney John Rupp stated to the committee that ETS was the "Achilles heel of the industry." TIBU28843-8845 at 8845 (US 75440) (O). It was no surprise, then, that at the June 1987 Philip Morris conference code-named "Operation Downunder" it was Rupp who was quoted as introducing his presentation on ETS with the phrase "Where we are / In

deep shit." 2021502102-2134 at 2105 (US 20346) (A).

(ii) Defendants' Recognition of the Validity of the Hirayama Study

545. In January 1981, Takeshi Hirayama published his ground breaking epidemiological study in the *British Medical Journal* showing a significant correlation between lung cancer and secondhand smoke based on his studies of 91,540 nonsmoking Japanese women. Hirayama showed that wives of heavy smokers had "a higher risk of developing lung cancer" and that "the effect of passive smoking was most striking in younger couples in agricultural families (ruling out the complication of urban air pollution), relative risk reaching 4.6, probably because of the lesser extent of the exposure to passive smoking outside the family in the case of rural residents." 2046342378-2380 (US 22963) (A).

546. Dr. Samet, a scientific editor and author to the 1986 Surgeon General's Report, testified that the 1981 Hirayama report was undermined by the tobacco industry. Dr. Samet testified:

> When these first studies on secondhand smoke and lung cancer were published, they received substantial criticism. Some of the criticism was organized by the tobacco industry. Critics raised questions in particular about misclassification of exposure and confounding. **From the tobacco industry's own documents, we know that efforts were made to create and sustain an apparent scientific controversy concerning research on secondhand smoke.**

Samet WD, 179:1-9 (emphasis added).

547. In fact, Defendants' internal documents demonstrate that defendant Tobacco Institute knowingly issued false public attacks on the Hirayama study in the United States and worldwide. On or about June 14, 1981, the Tobacco Institute issued a press release claiming that professor Nathan Mantel had found a mathematical error in the Hirayama study that invalidated its conclusions. 03739919-9920 (US 22958) (O). The Tobacco Institute media initiatives to

discredit Hirayama - including a press kit, press releases, and several letters from Tobacco Institute consultants. Tsokos and Kastenbaum- were the subject of at least one Committee of Counsel meeting on June 24, 1981. ATX9275490311-0324 at 0316 (US 36232) (O). A lengthy Tobacco Institute document summarizing the June/July initiatives revealed that Defendants' statisticians supposedly found a "statistical error" in the Hirayama study, that the Tobacco Institute and Burson-Marsteller publicized the "error" to the press, and that the "error" received widespread coverage in the national media. TITX0027702-7826 at 7707, 7803, 7814 (US 22332) (O).

548. In August 1981, the Tobacco Institute leveraged the June press coverage by publishing an advertisement proclaiming: "Here's what's now being said about tobacco smoke in the air. . . . Scientist disputes findings of cancer risk to nonsmokers." In the ad, the Tobacco Institute declared that newspapers were reporting that "several eminent biostatisticians" had found a "statistical error" in Hirayama's calculations that raised "serious questions about the study." TIMN0019293-9293 (US 21575) (O).

549. The Tobacco Institute knew, however, that the Hirayama data was correct and that the "statistical error" did not exist. Prior to making the press release public, industry consultant Peter Lee reviewed Hirayama's data and the Tobacco Institute statisticians' allegations. Lee concluded that the Tobacco Institute claim of a statistical error in the study was "wrong and that Hirayama was right." 501622432-2433 (US 88150) (O).

550. Indeed, in early June 1981, both Lee and Mantel made it clear in writing to the Tobacco Institute that any error, even if an error did exist, did not invalidate Hirayama's results. Lee wrote in a June 10, 1981 telex that:

> Mantel's suspicions. . . are in my opinion definitely unfounded.

> Even if they were correct, T.I. should not quote Mantel as saying there is an arithmetical error which invalidates the claim of a high level of significance. . .I have talked to Mantel and he feels it probable that the best analysis methods would not significantly alter Hirayama's conclusions. . . .
>
> Please show this to T.I. and try to persuade them not to do the press release. If it is released and it is proved that Hirayama was not in error, they will be in danger of implicitly agreeing passive smoking causes lung cancer.

03029460-9461 (US 22830*) (O).

551. In fact, notes of the June 24, 1981 Committee of Counsel meeting minutes recorded that recorded that Mantel was "backpedaling" on his initial allegation of a statistical error. ATX9275490311-0324 at 0316 (US 36232) (O).

552. Lee's confirmation of the Hirayama conclusions did not sit well with Defendants. RJR's Frank Colby wrote to general counsel Sam Witt on June 12, 1981that Lee's conduct constituted an "act of **extreme disloyalty**." 501622432-2433 (US 88150) (O) emphasis added).

553. By July 15, 1981, Franz Adlkofer, Scientific Director of the German Verband, had reviewed Hirayama's data and, after discussions with Lee, also expressed internally his opinion that the Japanese study was accurate and that the Tobacco Institute had issued its press release despite knowing that the study was accurate. B&W in-house counsel Kendrick Wells summarized the events to Ernie Pepples in a July 24, 1981 memorandum as follows:

> Dr. Adlkofer . . . has committed himself to the position that Lee and Hirayama are correct and Mantel and TI are wrong. Adlkofer called Frank Colby at Reynolds and said that Germany has received new data from Japan which confirms the Hirayama work. Adlkofer and Lee and another German associate were all asked to review Hirayama's work and did not find the error picked up by Kastenbaum. They believe that Hirayama is a good scientist and that his nonsmoking wives publication was correct. . . .
>
> **[Adlkofer] replied with a strong statement that Hirayama was correct, that the TI knew it and that TI published its statement**

about Hirayama knowing that the work was correct."

2050987570-7571 at 7571 (US 22318) (A) (emphasis added) ; see also Rupp TT, 10/28/04, 4343:1-4346:6.

554. Adlkofer invited Tsokos and Kastenbaum to Germany to review the Hirayama data. However, Tobacco Institute president Kornegay "gave a forceful veto" of the proposal without the dissent of any member company. 2050987570-7571 at 7571 (US 22318) (A). Thus, Defendants intentionally chose not to review the Hirayama data, and instead continued their public campaign attacking the study.

555. The Tobacco Institute published its press release with its false claim of a statistical error as part of an aggressive campaign that reached an estimated 56.7 million people by July 31, 1981. TITX0027702-7826 at 7707 (US 22332) (O). In an advertising campaign that ran through October 1981, the Tobacco Institute continued to insist the study was flawed. TIMN0073499-3499 (US 77049) (O). Reynolds was running a similar ad as late as 1984. 504100136-0136 (US 50882) (A).

556. With respect to the Tobacco Institute advertisement that the Mantel "error" "invalidated" the Hirayama study, Mantel later publicly stated, "I didn't say that – the Tobacco Institute did." 2015029221 (US 22923) (O).

557. In a November 16, 1981 speech at the Tobacco Institute, the chairman of INFOTAB stated that the Tobacco Institute had provided INFOTAB with its Hirayama communications plan (press package) for worldwide use and publication. This activity was considered an example of the "outstanding help we have been receiving from the Tobacco Institute." 2501029891-9901 at 9898 (US 20557) (O).

558. Defendants internally were aware that they were never able to overcome the 1981

Hirayama study. In 1986, John Rupp considered the Hirayama study "the most damaging evidence that has been cited to support a risk due to ETS exposure." 2021004058-4064 at 4063 (US 20339) (A). In 1988, Donald Hoel recorded Rupp's comments at a joint industry ETS meeting in London, frankly admitting that the industry had not succeeded in discrediting the conclusions of Hirayama's study:

> Rupp then engaged in a defense of existing scientific undertakings. He noted that epidemiological evidence is necessary if for no other reason than to effectively respond to anti-smoking groups, which are still engaged in epidemiological research. Furthermore, the industry has not yet adequately dealt with Hirayama's study.

2021548222-8235 at 8233 (US 20349) (O).

(iii) Other Internal Research and Statements Revealing Defendants' Knowledge of the Health Risks of Passive Smoking

559. While Philip Morris used INBIFO to carry out the bulk of its secret ETS research, the company also conducted a limited amount of internal research suggestive of adverse ETS health effects at its FTR affiliate in Neuchatel. 2057077653-7661 (US 66809) (A). According to former Philip Morris scientist William Farone, Philip Morris initiated a study in 1985 code-named "Project Tasso" to determine the levels of tobacco-specific nitrosamines such as NNK (nicotine-derived nitrosaminoketone) in sidestream smoke. Farone WD, 175:17-19.

560. Tobacco-specific nitrosamines are known toxic substances generated by the smoking of tobacco, and are known components of secondhand smoke. Farone WD, 175:17-176:17; (US 17108) (A); Samet WD, 171:15-172:16.

561. In a 1986 Philip Morris report from Project Tasso, FTR scientists wrote, "The NNK formation rate and concentration 3.5 h. [hours] after smoking is directly related to the filler nitrate content." Dr. Farone explained at trial that this means "the chemical reactions that result

in the formation of NNK," reactions that occur in secondhand smoke, "continue in the air as long as there are adequate concentrations of nicotine and oxides of nitrogen." 2024770266-0267 (US 37155) (A); 2028638794-8803 (US 37424) (A); Farone WD, 175:17-176:17.

562. The objective of Project Tasso belied Philip Morris's knowledge of the TSNA hazard posed by secondhand smoke:

> OBJECTIVE
> Previous test chamber experiments had shown that NNK concentration in SS increased after smoking and reached a maximum concentration about four hours after smoking. The objective of project TASSO is to investigate the mechanism of NNK formation, to determine the reason for the increase of NNK concentration in SS with time and to attempt to suppress NNK formation by cigarette filler or paper modifications.

2028638794-8803 at 8794 (US 37424) (A); 2024770266-0267 (US 37155) (A).

563. Researchers wrote in the "Project TASSO" Intermediate Report dated November 24, 1986, that: "Commercial cigarettes present a wide range of NNK formation in aging SS. . . . Because these compounds [TSNAs] could pose a health risk, reducing their levels in cigarette smoke is therefore a primary goal." 2026209210-9269 at 9212-9213 (US 89557) (O).

564. Philip Morris in the 1980s also carried out a study, code-named "Project POLDI," another study to determine the levels of toxic compounds in sidestream smoke. A 1985 interim report on Project POLDI recorded that the levels of NNK "rose sharply" in the secondhand smoke until four hours after smoking; the levels of other TSNAs rose as well. Dr. Farone stated at trial that Project POLDI is further evidence of "Philip Morris's awareness, in 1985, that undesirable sidestream smoke reactions and effects continued for hours after the sidestream smoke entered the air." Farone WD, 176:18-177:2; 2028639730-9731 (US 37427) (A).

565. Dr. Farone testified that he is aware of no subsequent research that disproved the results obtained by Philip Morris in Project TASSO and Project POLDI, namely that exposure to

carcinogenic TSNAs increases over time, even after smoking. Defendants did not challenge this testimony during cross-examination. Farone WD, 175:11-16, 177:3-9; 2062574000-4016 (JD-040113) (O).

566. Also at its Neuchatel facility, Philip Morris studied the concentrations of numerous compounds in ETS. A report titled "Quantitative Evaluation of Cigarette Sidestream Smoke Components Under Controlled Experimental Conditions" summarized the measurements of known harmful components as a function of time and number of cigarettes smoked. Researchers generated sidestream smoke in ambient air, then measured nicotine, carbon monoxide, ammonia, cyanide, and nitrogen oxides over time in an experimental chamber. 2029269056-9126 (US 20432) (A).

567. BATCo appears to have employed a policy of withholding at least some of its research from the public. The summary/minutes of the 1982 BAT Group Research Conference in Montebello, Canada recorded the following with respect to ETS:

> (a) We must get hard data both to help counter anti-smoking attacks and to support the design of future products . . . .
>
> (b) We should keep within BAT:
>
> i) animal results on sidestream activity
>
> ii) thoughts on the biological activity of sidestream
>
> iii) research findings on the consumer annoyance aspects of environmental smoke - since there have potential commercial value.

100448162-8184 at 8170 (US 34661) (A).

568. B&W recognized the weight of the scientific evidence indicting passive smoking as a cause of harm. In a November 16, 1982 memorandum from B&W in-house counsel Bob Sachs to company scientists and lawyers, Sachs questioned the role of the Tobacco Institute in

affecting the "public smoking" issue given "the overwhelming weight of scientific literature pointing toward [the] toxicity" of tobacco smoke. 680546750-6752 (US 21001) (A).

569. In 1988, Reynolds partially funded a comprehensive assessment of the health risks of passive smoking. The assessment, conducted by a working group led by Professor Walter Spitzer at the University of Toronto, was published in 1990 in *Clinical and Investigative Medicine* under the title "Links Between Passive Smoking and Disease: A Best-Evidence Synthesis." 515251440-1465 (US 92103) (A).

570. The 1990 Canadian (Spitzer) study funded by Reynolds concluded that "the weight of the evidence is compatible with a positive association between residential exposure to environmental tobacco smoke (primarily from spousal smoking) and lung cancer." The study also found links between passive smoking and respiratory illness and reduced lung function in both adults and children, as well as childhood hospitalization and asthma in children. 515251440-1465 at 1441 (US 92103) (A).

571. Reynolds in-house counsel Mary Ward recognized the impact of the Canadian study even before it was published. Ward wrote to fellow counsel in a memorandum dated March 15, 1989, that "this document can be very damaging when we are confronted with it in a legislative or litigation context." She also recommended that Reynolds not fund the publication of the final study. 515541733-1736 at 1733, 1736 (US 51950) (A).

572. When Defendants learned that Spitzer and his scientific working group would publish their study concluding that passive smoking was associated with lung cancer and other adverse health effects, Defendants took steps to "neutralize" the study, including organizing the 1989 McGill "symposium" described below. 2500048508-8515 at 8508 (US 20549) (A).

573. On July 6, 1994, the Majority Staff, Health and the Environment Subcommittee of

the Committee on Energy and Commerce in the United States of Representatives sent members of Defendants' CIAR Science Advisory Board (SAB) a survey on the health effects of passive smoking. Six of the seven SAB members who responded agreed that ETS "presents a serious and substantial public health threat to children" and five of the seven members agreed that ETS is "a human lung carcinogen." 2044436543-6544 (US 21991) (A).

574. In 2000, Philip Morris commissioned the firm Arthur Little to study the economic impact of tobacco use in the Czech Republic. Philip Morris then submitted the economic impact analysis in opposition to a proposed excise tax increase. The analysis concluded that tobacco use results in millions of dollars in cost benefits to the Czech Republic in terms of reduced pension and healthcare costs for smokers who die early because of smoking-related illnesses. 2085293756-3783 (US 45699) (A).

575. With respect to passive smoking, the Philip Morris-commissioned study not only assumed that secondhand smoke may be harmful to the health of non-smokers, and but also that a certain fraction of health care costs attributable to cigarette smoking resulted from passive smoking. While the analysis was carried out by Arthur Little, it was submitted by Philip Morris to the Czech government. 2085293756-3783 at 3759, 3764, and 3772 (US 45699) (A); 2085238767-8768 (US 25214) (A).

576. When word of the economic impact analysis became known, Philip Morris Companies apologized. Steven Parrish stated, for example, that the calculation of cost savings due to the early deaths of smokers was an "inappropriate" reason for his company to advance in opposition to the excise tax increase. Parrish TT, 1/26/05 11315:22-24. Chairman Geoffrey Bible admitted that submitting the report was "terrible judgment." 2085259123 (JD-054580) (A). However, Philip Morris has *never* claimed that Arthur Little's assumptions and calculations

- including the assumption that a certain number of persons will incur health care costs due to passive smoking - were erroneous. 2085238767-8768 (US 25214) (A).

577. In 2001, Philip Morris executives even discussed changing the Philip Morris corporate position to admit that passive smoking caused disease. As described below, a number of documents related to this proposal reveal that executives believed that the case against ETS had been made.

578. When Philip Morris Companies originally established the Philip Morris website in October 1999, the Philip Morris public position on passive smoking was that while "many scientists and regulators have concluded that ETS poses a health risk to nonsmokers," Philip Morris did not agree with these conclusions. (no bates) (US 92056) (A).

579. In summer 2001, Philip Morris decided to revise its position on ETS. According to a June 11, 2001 memorandum from Paula Desel to Raymond Lau and others, and copied to Ellen Merlo, Chuck Wall, Denise Keane, Mark Berlind, and others, Desel attached a draft revised ETS position for the Philip Morris website. Philip Morris withheld the draft ETS position itself from production in this litigation on the basis of privilege. 2083609049-9049 (2083609050-9056 (withheld as privileged)) (US 92058) (A).

580. The draft was forwarded to Roger Walk, a Philip Morris scientist in Europe (and INBIFO Scientific Adviser), who forwarded his comments to Raymond Lau. According to an undated Philip Morris document, someone at Philip Morris reviewed Walk's and Lau's comments, then responded to Desel with the following revision to the paragraph on lung cancer and heart disease:

> The conclusions reached by governmental authorities and the public health community with respect to lung cancer and heart disease in non-smoking adults are based on a large number of scientific studies that have investigated the association of reported

> ETS exposure with these health end points. **These studies have shown a small, but generally consistent, increase in the relative risk of contracting these diseases for non-smokers reportedly exposed to ETS.**

2085126542-6544 at 6542 (US 92059) (A) (emphasis added).

581. A later draft of the Philip Morris revised position on passive smoking, marked "Confidential" and dated August 6, 2001, was produced in this litigation. The three page document, bearing the handwritten notation "PMI," is titled "Our Policy and Position on Secondhand Tobacco Smoke." This iteration of the company's position acknowledged *and agreed with* the scientific consensus that passive smoking can cause lung cancer and other diseases:

> We agree with [accept] the consensus among governmental authorities and the public health community that secondhand smoke (also known as environmental tobacco smoke or ETS) can cause or increase the risk of diseases - including lung cancer and heart disease - in nonsmoking adults, as well as conditions in children such as asthma, respiratory infections and Sudden Infant Death Syndrome.

2085126539-6541 at 6539 (US 92057) (A).

582. The August 6, 2001 draft Philip Morris position even stated that, "Given the health effects of secondhand smoke, we believe that legislatures should adopt meaningful and reasonable public smoking restrictions, considering all the factors and interests involved." 2085126539-6541 at 6539 (US 92057) (A).

583. A Philip Morris e-mail dated August 6, 2001, from Even Hurwitz states that the attachment reflected the "current view" of Philip Morris International (PMI) on a possible ETS policy. According to the message from Philip Morris USA counsel Mark Berlind forwarding the PMI draft from Hurwitz, Berlin agreed with the PMI position: "I know I still owe you my own thoughts (**they're pretty much in line with the [PMI] draft below**); I'll try to get them to you

today." 2085776232-6232A (US 93324) (O) (emphasis added).

584. Notwithstanding the position of Philip Morris International and Mark Berlind that Philip Morris should state its agreement with the consensus that passive smoking causes lung cancer and other diseases, the current Philip Morris position, as stated on its website, does not even acknowledge the existence of a consensus, much less an agreement with that consensus. (no bates) (US 92055) (A). See infra US FF § III.A(2)(m)(i).

(g) Defendants' Collective Responses to the Economic Threat Posed By Passive Smoking

585. As described above, Defendants recognized from the mid-1970s forward that the health effects of passive smoking posed a profound threat to industry viability and cigarette profits, through (1) increasing numbers of smoking restrictions; (2) making smoking "socially unacceptable"; and (3) reducing the number of starter smokers. This recognition resulted in concerted, international action by Defendants and other members of the industry to meet the passive smoking threat head on.

(i) 1975-1980: The "Public Smoking Advisory Group" to the Research Liaison Committee

586. Defendants set up the Research Liaison Committee in 1974 to collectively assess and guide research that was jointly funded and managed by the companies. The RLC was comprised of senior executives and industry attorneys. A subcommittee or "Advisory Group" to the RLC, including outside attorneys Don Hoel and Ed Jacob, was tasked in 1975 to consider and recommend research related to the emerging issue of passive smoking. The RLC meetings in 1976 were additionally staffed by company general counsel such as Cy Hetsko (American Brands) and Alex Holtzman (Philip Morris). BWX0007549-BWX0007588 at 7575-7576 (US 20286) (A); 1003293761-3763 (US 86502) (O); 500294698-4698 (US 24145) (O);

1003293752-3753 (US 20169) (O).

587. Projects recommended by this Advisory Group to the RLC were presented to and approved for funding by the Committee of Counsel, and funded by Defendants as both CTR Special Projects and Special Account 4 projects. 1003294930-4933 at 4931-4932 (US 23416) (O); 503673145-3146 (US 86405) (A); 1000255997-6001 (US 20086) (O).

588. The activities of the Advisory Group, referred to in some documents as the "Public Smoking Advisory Group," were kept secret from the public. According to Hoel's summary of the October 2, 1975 meeting of the group, and confirmed in the notes of the same meeting by Philip Morris's Bill Dunn and Ray Fagan:

> All communications with potential researchers should be kept in strict confidence (i.e., the submission of a proposal should not later appear in a researcher's curriculum vitae). Potential researchers should be instructed not to place individual company names on proposals. Finally, the proposals should be labeled "DRAFT" and should not contain language of the type discussed.

1003294930-4933 at 4931-4932 (US 23416) (O); 1000205071-5073 (US 20079) (O).

589. A handwritten Philip Morris summary of the November 5, 1975 meeting of the Advisory Group even recorded that: "Ed Jacob suggested that no further formal minutes [of meetings] be made - also **all should destroy** [crossed-out] **remove notes and previous minutes from corporate files.**" 1003294811-4814 at 4811 (US 23402) (O) (emphasis added).

590. Very few documents describing the actions of the Advisory Group exist (or were produced) after the date of Jacob's "suggestion" to group members to cease keeping records of meetings. However, other documents establish that the actions of the Advisory Group resulted in the funding of several ETS-related projects through CTR Special Projects and Special Account 4 throughout the late 1970s and into the early 1980s. These projects included work by John Salvaggio, Response Analysis, Stanford Research Institute (SRI) and others. 1005122237-2240

(US 20215) (A); 1005122267-2271 (US 20219) (A).

(ii) 1984-1988: The Tobacco Institute ETS Advisory Group (ETSAG), or "Hoel Committee"

591. In September 1984, the Committee of Counsel directed Donald Hoel to reconstitute and reconvene the committee he had helped coordinate in the 1970s to manage Defendants' passive smoking efforts. This new group was called the Tobacco Institute ETS Advisory Group (TI-ETSAG), sometimes referred to as the "Hoel Committee" after its chairman. 2015029667 (US 20315) (O); Green TT, 11/15/04, 5975:23-5976:7.

592. The TI-ETSAG existed from 1984 to 1988, when its mission was turned over to the Center for Indoor Air Research, or CIAR. 2023054167-4167 (US 75232) (A); 511252621-2626 (US 51554) (A); See infra US FF § III.A (2)(g)(iv).

593. The TI-ETSAG was made up of representatives from the cigarette manufacturer Defendants, in-house counsel, outside law firm attorneys, and public relations experts from the Tobacco Institute. In addition to Hoel, some of the committee members included John Rupp of Covington & Burling; Lorillard's Alexander Spears, Reynolds scientists Charles Green and Guy Oldaker, Reynolds in-house counsel Mary Ward, Philip Morris scientists Tom Osdene and Bob Pages, Brown & Williamson scientist Gil Esterle, and Marvin Kastenbaum, Bill Kloepfer, and Charles Waite from the Tobacco Institute. The group met monthly. 2021004058-4064 (US 20339) (A); TI00610153-TI00610154 (US 62064) (O).

594. While Liggett and American Tobacco did not participate directly, they contributed funding to the committee activities. 2021004058-4064 at 4058 (US 20339) (A); Rupp TT, 10/27/04, 4009:4-16.

595. The purpose of the TI-ETSAG was to generate data to resist smoking restrictions and conclusions that supported the industry's public position that ETS posed no proven health

risk to nonsmokers. Tom Osdene wrote the following in an April 28, 1988 letter to Tobacco Institute president Sam Chilcote:

> I think many of us have conceptualized the ETS issue as a battlefield in which the arena is dominated by public relations and legal issues, while the ammunition which is used happens to be science. **It has been the purpose of CIAR as well as its precursor, the ETS Advisory Committee, to provide ammunition in this fight.**

2021012384-2388 at 2384 (US 20340) (A) (emphasis added).

596. A Philip Morris document dated February 25, 1986 stated the mission of the ETSAG in these terms: "Solicit and review proposals for the conduct of **ETS-related research that will be helpful to the industry.** Recommend (to the Committee of Counsel) that approved projects be funded as CTR Special Projects." 2021004058-4064 at 4058 (US 20339) (A) (emphasis added).

597. Don Hoel testified that the projects were funded as CTR Special Projects, with no SAB review, because the ETSAG "was more litigation oriented" as opposed to scientifically oriented. In fact, one purpose of the ETSAG was to fund projects in order to "get scientific publications that would be of use in litigation." Donald Hoel PD, United States v. Philip Morris, 6/27/02, 58:20-59:19.

598. Another goal of the ETSAG was to generate data and conclusions from "independent" scientists. The same Philip Morris report noted, "To be useful and effective, approved research projects: 1) should be conducted in independent, outside laboratories (not obviously connected with the tobacco industry) . . . . " 2021004058-4064 at 4058 (US 20339) (A).

599. Thus, the Hoel Committee reported to and provided updates to the Committee of Counsel, who were authorized to approve ETS projects for funding. 521028862-8863 (U.S.

52693*) (A); 680542518-2522 at 2520-2521 (US 30899) (O); 91821775 (US 57128) (O); 91820443 (US 57123) (O); Donald Hoel PD, United States v. Philip Morris, 6/27/02, 129:3-10, 129:24-130:7; Ward TT, 11/3/04, 4961:11-4962:5.

600. From 1984 to 1988, the ETSAG was responsible for developing and managing the following passive smoking projects, all designed to generate data and findings that Defendants could use to attack evidence indicting passive smoking as a health hazard, and all funded through CTR as Special Projects:

ORNL Personal Nicotine Monitor, developed by Roger Jenkins and Michael Guerin at the Oak Ridge National Laboratory (ORNL) and Reynolds. The method of measurement was intended to reveal that nicotine levels in ambient air were "very low. . . contrary to what is stated or assumed in many presently published reports." Approved funding via ETSAG: $855,000.

Indoor air particulate sampling, by Salvatore DiNardi. The purpose of this project was "to refute [the] oft-cited paper of Repace and Lowery (1980) concluding that nonsmokers were exposed to high levels of airborne particulate due to ETS. Approved funding via ETSAG: $688,878.

Indoor air testing/surveys, by ACVA, a firm controlled by industry consultant "Gray" Robertson. The purpose of the project was to show that the "vast majority of [indoor air] complaints are directly caused by airborne dust, bacteria, and or fungi" as well as poor ventilation, "and not to the presence of ETS." Approved funding via ETSAG: $13,800.

Portable air sampler, developed by Reynolds. The purpose of the sampler was to take "measurements" of air in aircraft, restaurants, homes, and workplaces, to show that everyday indoor air contains very small amounts of ETS. While the sampler was created by Reynolds, "scientists from PM, B&W, Lorillard and Reynolds will participate." Testing was carried out in numerous cities - including New York, Ottawa, Dallas, and others - using the Reynolds apparatus. The results were then used to resist smoking restrictions in those cities.

Epidemiological and other scientific critiques, by industry consultants Lee Husting, Theodor Sterling, David Sterling, Demetrios Moschandreas, Marvin Kastenbaum, and James Kilpatrick. The purpose of these critiques was to cast doubt on the epidemiological studies by Hirayama (called "the most damaging evidence that has been cited to support a risk due to ETS exposure") and others showing an association between passive smoking and lung cancer. Known approved funding via ETSAG: $198,034 (Husting); $70,000 (D. Sterling).

ETS allergy testing, by Tulane University researchers John Salvaggio and Samuel Lehrer. In Hoel's words, "it is expected that even the extreme case of the allergic asthmatic will not show physiological responses to ETS." Approved funding via ETSAG: $263,117.

Aircraft cabin air quality measurements, by R.J. Reynolds using the R.J. Reynolds sampler apparatus described above.

2021004058-4064 (US 20339) (A); TIDN0008191-8194 (US 62592) (O); 86024167-4167 (US 56093) (O); 86024168-4172 (US 21089) (A); 92613920-4198 (US 32132) (O); 2028343885-3890 at 3887 (US 75166) (O); 504933703-3707 (US 24220) (O); 512252621-2626 (US 51554) (A); 521028861 (US 27065) (O).

601. The clear intent of the ETSAG was to obtain data helpful to the industry. As Hoel wrote in his April 5, 1985 letter on behalf of the group to the Committee of Counsel requesting $855,000 in joint CTR Special Project funding for ORNL to develop a nicotine sampler:

> The proposed project involves the development and field testing of the personal nicotine monitor originally designed and developed by Dr. Muramatsu of the Japan Tobacco and Salt Public Corporation [JTI]. This original research which was published in 1984 indicated that nonsmokers are exposed to much lower amounts of environmental tobacco smoke than those claimed by industry critics such as James Repace. . . .
>
> It is the opinion of the Advisory Group that the present proposal . . . should provide useful data on the issue of nonsmoker response to environmental tobacco smoke.

507734379-4380 (US 29905) (O).

602. One means to insure that projects would produce industry-favorable results was to carry out small-scale pilot studies. Scientists were often asked to provide the results of a proposed study first, and thus they employed "pilot" studies to give the lawyers advanced information. If the preliminary study produced results unfavorable to the litigation positions of Defendants, the lawyers would not continue to fund them. Donald Hoel PD, United States v. Philip Morris, 6/27/02, 176:13-20, 178:6-179:22.

603. For example, Reynolds scientist Charles Green advertised at a presentation to an

INFOTAB meeting on October 15, 1986 that while he was a part of ETSAG, "One of the things that the lawyers always ask us before we do any experiment is what are the results going to be. So oftentimes we conduct pilot studies." These pilot projects enabled Defendants fund only projects that they knew would generate industry-favorable results. 2501457517-7522 (US 22956) (A); 89259467-9468 (US 22982) (A); Donald Hoel PD, United States v. Philip Morris, 6/27/02, 176:13-20,178:6-179:22.

604. When Green was asked at trial if it was also unusual for groups like the ETSAG, and later CIAR, to consider the expected results of a study when making a funding decision, he admitted, "Sometimes that would be discussed." Green TT, 11/15/04, 5976:16-19.

605. A 1986 ETSAG meeting record stated that an ACVA "Home Ventilation Evaluation" project was carried out first as a pilot study coordinated by Covington & Burling's Mike Michaelson. 504933703-3707 at 3704 (US 24220) (O); 80406377-6385 (US 23476) (A).

606. Another means to control research results was to have lawyers review all project proposals prior to funding and papers prior to publication. For example, a November 21, 1986 legal bill from Shook, Hardy & Bacon to Philip Morris, Reynolds, Lorillard, and B&W detailed the following work under the heading of "Science and Research":

> [R]eview Sterling memorandum re Vancouver ETS seminar; attorneys and analysts conference re Dr. First and ETS Advisory Group projects . . . review Koo manuscript . . . review DiNardi proposal . . . review ORNL paper submission on ETS; review IITRI project proposals and abstracts . . . telephone conference with Dr. Sterling regarding clearance of manuscript . . . review and analyze ETS Advisory Group agenda . . . review research project and send to general counsel . . . correspondence and telex to Dr. Rylander . . . telephone conference with Dr. Sterling regarding clearance of paper on smoking by occupation. . . . "

682174838-4844 at 4839-4840 (US 69159) (O).

607. Numerous meeting minutes and summaries illustrate how ETSAG group

members, particularly attorneys from Shook, Hardy & Bacon and Covington & Burling, designed, monitored, and carefully controlled projects initiated by the group. See e.g., 2021003952-3957 (US 25563) (O); 2021004054-4057 (US 25564) (O); 2021004286-4290 (US 25565) (O); 2021003620-3625 (US 25562) (O); 504933596-3702 (US 24219) (A); 512309183-9189 (US 24751) (A); 505491303-1308 (US 50834) (O); TIBU0030330-0331 (US 62566) (O); TI05440380-0380 (US 62214) (O); 2021001009-1009 (US 25533) (A); 511252621-2626 (US 51554) (A).

608. The ETSAG even reviewed and edited papers written by the outside researchers prior to publishing. For example, a record of the May 22, 1986 ETSAG meeting recorded the following with respect to the paper by long-time industry consultant Theodor Sterling critiquing the model used by Repace in estimating annual deaths attributable to ETS:

> Sterling on Repace - Kastenbaum (TI) has had a conversation with Sterling suggesting he rewrite his papers before submitting for publication. The consensus is that Sterling has a good series of papers on Repace but needs to rewrite. Especially noted is the need not to appear to support the Repace model. . . . Hoel will follow up.

655042500-2503 at 2501 (US 22921*) (O).

609. The ETSAG avoided research that might have confirmed that ETS was indeed a health hazard. Osdene admitted in his April 25, 1988 letter to Chilcote: "In terms of the second issue, sponsorship of research into alleged health effects of ETS, with the exception of some [allergy] work by Dr. Salvaggio, we have avoided this issue." 2021012384-2388 at 2384 (US 20340) (A).

610. In addition, the Tobacco Institute Executive Committee and Committee of Counsel set guidelines for the types of scientific research that Hoel and his committee could direct. For example, several documents establish that the ETSAG was barred from directing any

research into whether components of cigarette smoke, or biomarkers, were absorbed into the body fluids of nonsmokers. The November 2, 1984 meeting agenda listed as one of the "Executive Committee and Committee of Counsel Guidelines": "No body fluid testing for the present." 2021004916-4917 (US 21706) (O). Osdene's notes of the meeting contain the same guideline. 2021004909-4912 at 4909 (US 25577) (A).

611. The industry ban on ETS body fluid testing traces back to 1981. Following the release of the first epidemiological studies suggesting that ETS was associated with an increased risk of lung cancer, the Industry Research Committee discussed a project by Battelle labs to study cotinine, a nicotine metabolite, in the urine of nonsmokers. Spears recorded the following in his notes of the October 1981 meeting:

> The cotinine proposal was discussed which is now funded and on-going at Battelle in Phase 1. . . . Janet Brown and Ed Jacob separately indicated their possible reluctance to fund Phase 2 which involves some measurement of cotinine in non-smokers exposed to environmental tobacco smoke. Jacob's objection is on the basis that he believes that **we should not be involved in demonstrating that non-smokers' body fluids contain anything related to tobacco smoke.** He apparently has no objection to measuring smoke components in the environment, but draws this distinction and objection to measurements in non-smokers' body fluids.

03543860-3864 (US 89058) (A) (emphasis added).

612. Defendants' self-imposed ban on ETS body fluid studies was in stark contrast to their liberally funded air sampling projects through the ETSAG. In other words, while Defendants readily initiated projects to test *air* in an attempt to show that ETS was a minimal contributor to indoor air quality, Defendants stayed away from *body fluid* research that would show that nonsmokers absorb cigarette smoke into their bodies. This is important considering that the biomarker evidence (nonsmoker absorption of smoke components) was still developing in both the 1982 and 1984 Surgeon General Reports. TLT0242222-2551 at 2470 (US 60598) (A)

(1982 SGR); VXA1601456-1742 at 1652 (US 64059) (A) (1984 SGR).

613. Defendants' self-imposed ban on body fluid testing continued into 1988, when Osdene wrote to Chilcote in his April 25, 1988 letter with respect to research directed by the ETSAG:

> I would remind you that **there were restrictions placed upon us over the period of time regarding any determinations of any smoke components in body fluids.** This, I believe led to discouragement of doing specific experimentation in this area.

2021012384-2388 at 2384 (US 20340) (A) (emphasis added).

614. Defendants coordinated the actions of the ETSAG with those of other international industry bodies. For example, on April 8, 1986, a joint meeting of the ETS Advisory Groups from the United States, the United Kingdom, Germany, and INFOTAB took place in London "to discuss scientific and public relations problems relating to environmental tobacco smoke" and to "avoid duplication of the various efforts." Osdene and Green presented a summary of ETSAG projects to the assembled group. 505347172-7174 (US 20739) (A).

615. For two days in March 1987, the entire ETSAG met with representatives of the U.K. Tobacco Advisory Council (TAC), the German Verband der Cigarettenindustrie (VdC), and Japan Tobacco (JTI) at the L'Enfant Plaza Hotel in Washington, D.C. Each group presented its projects for discussion at this meeting. Records of the March 1987 meeting make clear that the industry was not interested in objective research, but only research that served its goals. For example, a public affairs presentation at this joint meeting stated that the industry needed to have a **"systematic programme of research designed to refute the major allegations made against us."** In addition, "Successful PA work on ETS will depend on **the case remaining 'not proven,'** and the need to ask you to keep producing work that challenges the anti-smokers' argument." Participants also agreed that the ETS research needed to utilize "neutral scientists" and the ETS

issue needed to be expanded into overall "ambient air quality." TI00682162-2163 at 2162 (US 21240) (O); 2501458142-8148 at 8142 (US 27951) (O).

616. Charles Green's record of the March 1987 meeting contained the following observation, one that would guide Defendants' research initiatives for years to come:

> **All agreed that the most significant ETS problem facing the industry is the result of epidemiological studies which indicate a low risk related to ETS exposure.** More industry sponsored research is needed to address this issue.

508226799-6804 at 6804 (US 75279) (A) (emphasis added).

(iii) 1977-1991: "Operation Berkshire" and Defendants' Coordinated International Initiatives

617. Defendants' passive smoking concerns were also addressed on an international level from the mid-1970s forward. BATCo held its Chairman's Conference in Hot Springs, Virginia in June 1976, where there was "unanimous agreement" that the social unacceptability issue resulting from evidence that cigarette smoke harmed nonsmokers constituted "a more serious threat to the industry's future than any other aspect of the attack on smoking." 2025025481-5494 at 5481 (US 37220) (O). The issue of passive smoking and "social acceptability" of smoking were "inseparably linked," and presented "a major danger and challenge to the industry." BATCo identified "the industry's need to devise a counter-campaign." 110069860-9875 at 9863 (US 34951*) (O).

618. According to a Philip Morris memorandum dated December 3, 1976, Imperial Tobacco Chairman Tony Garrett called Hugh Cullman, then Executive Vice President of Philip Morris Incorporated and President of Philip Morris International, that day to explore whether several of the world's largest manufacturers, including Philip Morris, BATCo, Reynolds, Reemtsma, and Rothmans "might be prepared to meet discreetly to develop a defensive smoking

and health strategy for major markets such as the UK, Germany, Canada, US and possibly others." 2025025286-5286 (US 20407) (A).

619. The initial objective of Garrett's proposal was "to develop a defensive smoking and health strategy which would include a voluntary agreement that no concessions beyond a certain point would be voluntarily made by the members [of the group] and if further concessions were required by respective governments, that these not be agreed to and that governments be forced to legislate." The stated concern was that "**the companies and countries would be picked off one by one** and that the Domino theory would impact on all of us." 2025025286-5286 (US 20407) (A) (emphasis added).

620. Garrett memorialized the conversation in a December 3, 1976 letter to Cullman in which he reiterated the objective "to form a defensive smoking and health strategy, to avoid our countries and/or companies being picked off one by one, with a resultant domino effect." Garrett also reported that BATCo, Reynolds, Reemtsma, Rothmans, and Imperial were prepared to consider such a unified strategy, and suggested that a meeting take place in April or May 1977 with company representatives and CEOs. 2025025290-5291 (US 22980) (A).

621. According to a February 23, 1977 letter from Cullman to Garrett confirming the participation of Philip Morris, the meeting became known as "Operation Berkshire." 2025025288-5289 (US 20408) (O). Garrett wrote in his March 7, 1977 letter to Philip Morris general counsel Alex Holtzman that "Operation Berkshire" was scheduled to be held on June 2-4, 1977, at an English manor called Shockerwick House near Bath. The goal was to allow executives an opportunity to "have a frank, informal, exchange of views on political strategy in respect of smoking and health." 2025025347-5348 (US 20410) (O).

622. In a March 24 follow-up letter to Holtzman, Garrett emphasized, "There is general

agreement that we should make every effort to maintain tight security over our meeting, but we need to be prepared for the possibility of a leak." To that end, Garrett attached a draft "statement" that could be used if the press learned of the secret meeting. 2025025341-5343 (US 20409) (A).

623. In preparation for the June 1977 "Operation Berkshire" meeting, BATCo and Philip Morris drafted and circulated a confidential "Position Paper" for the companies to discuss at the meeting. BATCo forwarded the "Position Paper" to Garrett under cover letter dated April 28, 1977. The "Position Paper" set out a number of guiding principles relating to smoking and health, as part of the maintaining "controversy" or open question:

> We acknowledge the fact that there is a continuing smoking and health controversy but we do not accept as proven that there is a causal relationship between smoking and various diseases . . . . In our view the issue of causation remains controversial and unresolved. . . .
>
> We believe it is better to speak as an industry with one voice on such matters and that this can be accomplished through national associations of manufacturers.
>
> **We take the view that to date there is no persuasive scientific evidence to support the contention that the non-smoker is harmed by the tobacco smoke of others . . . .**

2501024571-4575 at 4572-4573 (US 21904) (A); 2025025313-5318 (US 23741) (O).

624. Executives of the seven companies met at Shockerwick House in June 1977. Attendees at "Operation Berkshire" included Holtzman from Philip Morris Incorporated, BATCo chairman Patrick Sheehy, BATCo deputy chairman Kit Lockhart, and Reynolds chairman Bill Hobbs. The companies established three "working parties" at the meeting, the first one to address the "social acceptability of smoking." Each of the working groups was tasked to develop an industry "position paper" to serve as a "vehicle to activate Industry Associations throughout

the world." 2025024797-4803 (US 20406) (O). In the words of Reynolds counsel Sam Witt and confirmed in a Philip Morris record of the meeting, the working parties would examine the areas of interest and "develop strategy" to collectively address smoking and health issues. Reynolds was tasked to "spearhead the Social Acceptability Working Party," or SAWP. 502948580-8591 at 8587 (US 21908) (O); 2025025295-5300 (US 75146) (A).

625. To guide the efforts of the "working parties" and coordinate the positions of the companies under an umbrella organization, the seven "Operation Berkshire" participants/companies formed the International Committee on Smoking Issues (ICOSI). 502948580-8591 (US 21908) (O). The executives met again in November 1977 and March 1978, agreeing thereafter "that ICOSI should continue on a permanent basis." 2501020298-0308 at 0299 (US 21903) (O). A $2 million budget for ICOSI, drawing on funding from the participating companies, was quickly established for the group to carry out its mandate. 2501024103-4107 (US 21909) (O).

626. A Philip Morris report on ICOSI dated April 1979 reviewed the history and goals of the organization, stating, "The whole industry, companies and Trade Associations alike, must unite with common targets and common approaches." The report later stated: "ICOSI will thus be more involved in world, or perhaps regional, strategy and in achieving a truly united industry approach on problems affecting or likely to influence several countries." 1003717317-7330 (US 86518) (O); see also Proctor PD, United States v. Philip Morris, 8/27/02, 48:13-49:19, 50:21-52:7.

627. Through BATCO, B&W also participated in ICOSI. B&W general counsel Ernie Pepples reported in an April 12, 1978 memorandum to company leadership that ICOSI had been set up "on a formal basis in Brussels." Pepples recommended that B&W increase its

participation in the organization given that the passive smoking issue had "reached a fever pitch here" in the United States. Pepples cautioned, "The things ICOSI will do or fail to do will have impacts in this market as well as in others." 503143820-4106 at 3909 (US 75974) (A).

628. In October 1977, the ICOSI Social Acceptability Working Party (SAWP) distributed its first report to member companies, largely restating the industry's earlier position on passive smoking expressed at the Operation Berkshire meeting. The first report listed BATCo public relations manager Richard Haddon and representatives from Philip Morris, Rothmans, Gallaher, and Reemtsma among the members of the SAWP, chaired by Reynolds. 501472756-2794 (US 66342) (O).

629. The first report by SAWP to ICOSI also drew an explicit link between the health risks associated with passive smoking and the larger issue of "social acceptability" and warned that the trend in decreasing "social acceptability" had "serious long-term implications for the industry." The group identified the two most important basic influences on social acceptability issues : (1) the health effects to smokers and (2) government regulations of smoking resulting from the health effects of passive smoking. However, the SAWP gave the passive smoking issue "top priority," finding that "passive smoking is the most critical one of the social acceptability issues facing the industry today." To respond to the threat, the group recommended sustained "countermeasures," and emphasized the "need to act, not just react." 501472756-2794 at 2762-2772 (US 66342) (O).

630. The SAWP further concluded that "national trade associations (rather than individual companies) are key vehicles for launching countermeasures on social acceptability issues. Such association countermeasures become even more effective when they carry 'third party' endorsements." 501472756-2794 at 2772-2773 (US 66342) (O).

631. ICOSI continued to function as a means to coordinate the industry's position on passive smoking. In November 1977, the unified position of member companies was reaffirmed at an ICOSI meeting in Lausanne, Switzerland. According to the revised "Position Paper," the member companies continued to adopt the position "that there is no persuasive scientific evidence that the non-smoker is harmed by the tobacco smoke of others." 321795931-5951 at 5936 (US 28675*) (O). The companies thereafter "agreed to adhere to the positions and guidelines contained in the paper," with the goal of "coordinating views and activities related to smoking and health." 2501020298-0308 at 0298, 0305 (US 21903) (O).

632. This position, enunciated at "Operation Berkshire" and through ICOSI, would serve as the industry's, and Defendants' fundamental position on passive smoking for the next 25 years and beyond.

633. The SAWP finalized its second report and forwarded the report to members under a Reynolds cover memorandum dated February 7, 1978. In the second report, the SAWP stated its continued belief that passive smoking must be given "first priority" in resolving the "social acceptability" issues. The group also recommended that future coverage of ICOSI activities be centered on the United States, the United Kingdom, Australia, Belgium, Canada, Ireland, the Netherlands, Switzerland, and Germany. 980037079-7167 at 7082, 7085, 7161 (US 32445) (O).

634. The second report also included a lengthy position paper, or "policy statement on passive smoking" for the ratification of the member companies. The "policy statement" was drafted by a law firm for the use of the companies. The ultimate conclusion of the "policy statement" was that "tobacco smoke in the atmosphere does not cause disease in non-smokers." 980037079-7167 at 7086-7088 (US 32445) (O).

635. A March 1978 BATCo document revealed the true goal of ICOSI was not to

objectively present the scientific record on passive smoking, but to sow doubt in the minds of the public: "The aim of ICOSI is defensive research aimed at throwing up a smoke screen and to throw doubt on smoking research findings which show smoke causes diseases." 321588692-8692 (US 28544) (O).

636. One theme running through the ICOSI passive smoking position papers is the role of lawyers in coordinating the member companies' actions. The lead firms involved were Shook, Hardy & Bacon and Jacob & Medinger, who represented the companies with input from the Tobacco Institute. 2501025100-5100 (US 86516) (O); 2501025098-5099 (US 86515) (O); 2501018326-8327 (US 21505) (O).

637. As part of the worldwide coordination, ICOSI and the SAWP held a major meeting of member company representatives and international industry manufacturer associations on May 20-23, 1979 in Zurich. A Reynolds meeting summary recorded the "agreement that smoking does not pose a health hazard to non-smokers." The ICOSI chairman emphasized to the group that "member companies and associations should speak with one voice." 500876807-6812 at 6808, 6810 (US 24168) (O).

638. The Board of Directors of ICOSI met in Bermuda in October 1980. At this meeting the member companies decided that ICOSI would change its name to the International Tobacco Information Center, or INFOTAB. 503143820-4106 at 3910 (US 75974) (A); 2501017220-7226 (US 45873) (O).

639. INFOTAB, the successor to ICOSI, was formed "to provide a unified forum amongst members of the industry to defend itself in the face of attack." It would monitor public health organizations, prepare unified positions and strategies on a global basis. 300528729-8731 at 8729 (US 46572) (O). The INFOTAB Board of Directors included, at various times, Philip

Morris Executive Vice President Hugh Cullman, Philip Morris general counsel Alex Holtzman, and Reynolds CEO Ed Horrigan, (who was also at the time the chairman of the Tobacco Institute Executive Committee). Don Hoel continued to attend meetings. 2025013308-3308 (US 21585) (O).

640. Defendant B&W produced a "Conspiracy Notebook," a July 17, 1990 binder prepared for the company by outside counsel at Lovell, White, Durrant and King & Spalding. The outside attorneys presumably had complete access to their client's documents. In this binder, the mission of INFOTAB (as well as its predecessor ICOSI) was described by B&W's counsel as follows:

> The American tobacco industry, working with its counterparts in other countries around the world, organised ICOSI, later renamed INFOTAB for the purpose of coordinating the worldwide response of the industry to anti-tobacco activities. **INFOTAB was used to formulate and publish a consensus position on the part of the industry.** It monitored anti-tobacco organizations. It created an information service for the purpose of accumulating and disseminating intelligence on anti-smoking activities. It was used to identify and enlist allies around the world for the tobacco industry, **to perform studies and research whose results would be helpful,** and to rebut data and allegations from anti-smoking forces. **The organization worked closely with TI in carrying out this mission.**

503143820-4106 at 3909 (US 75974) (A) (emphasis added).

641. In fact, members of the Tobacco Institute met and coordinated with members of INFOTAB in furtherance of the Enterprise. The chairman of INFOTAB gave a speech at the Tobacco Institute on November 16, 1981. In his speech, the chairman recalled how the Tobacco Institute provided INFOTAB with its communications plans regarding the Hirayama study linking passive smoking and lung cancer. INFOTAB alerted 28 national associations around the world and as soon as the Tobacco Institute had its press releases prepared, it telexed them to

INFOTAB and INFOTAB transmitted them by telex to the other associations for their use in generating similar press coverage in other countries. 2501029891-9901 at 9898 (US 20557) (O). Don Hoel was recorded in the minutes of the October 1981 meeting as pointing to "passive smoking as an example of where NMAs [national manufacturer associations, such as the Tobacco Institute] in the U.S. and Europe had taken coordinated action." 502738346-8371 (US 24212) (O).

642. INFOTAB members and the Tobacco Institute held a joint meeting in Brussels in October 1984. Hoel - a lawyer - provided an update on ETS science issues. Tobacco Institute vice president Bill Kloepfer made a presentation titled "Ambient Tobacco Smoke - Political Action" to the group; Tobacco Institute president Sam Chilcote spoke on the economic implications of smoking restrictions, and the industry's initiatives to defeat them. Kloepfer's and Chilcote's counterpart at the UK Tobacco Advisory Council (TAC) made a presentation as well. TI12820001-0290 (US 62398) (O); TIOK0029713-9723 (US 86547) (O); TIOK0029724-9734 (US 86548) (O).

643. In 1985, the Secretary General of INFOTAB recommended that INFOTAB play a role "in arranging for publicity material through the TI on passive smoking for use in other areas" and "in encouraging scientific research" on passive smoking. He also sought to improve the industry's position on passive smoking by highlighting symposia concluding that ETS did not pose a hazard to health, and through an increased emphasis on coordination with the members of INFOTAB and the Tobacco Institute and other associations. These industry-managed symposia are described later within these Findings of Fact. See infra US FF § III.A(2)(i); 103366351-6353 (US 26249) (O).

644. On April 8, 1986, INFOTAB's Board of Directors met in London with industry

scientists and lawyers to review the member companies' current and planned passive smoking research, as well as to discuss the industry's "public relations problems relating to environmental tobacco smoke." At this time, the Board of Directors continued to include senior executives from BATCo (Robert Ely), Philip Morris (Hugh Cullman), and Reynolds (Richard Marcotullio). Members of the ETSAG (Green and Osdene) attended and made a presentation on ongoing projects. Hoel and Rupp were present as well. 505347172-7174 at 7172-7173 (US 20739) (A); 2022932502-2506 (US 22828) (A).

645. The 1986 INFOTAB "ETS Action Plan" recognized "the ETS issue as the most serious threat" to the industry and called for a plan "to slow down the wheel that is turning against us." The "General Approach" of the plan directly linked science and public relations to counter the evidence indicting ETS as a health hazard:

> General Approach
>
> This will be to provide a body of authoritative scientific evidence, based on existing and possibly future research programmes, and to use this as the core argument for addressing specific sub-issues with a range of PR and advertising techniques. . . . The PR and advertising techniques can then be used as appropriate to a particular country's position. . . .

100993158-3165 at 3158, 3159, 3161 (US 89556) (O).

646. The influence on INFOTAB from the United States continued. Six months later, Green provided another update of ETSAG projects at the October 15, 1986 INFOTAB workshop in Brussels. Osdene and Kloepfer spoke at the workshop on passive smoking as well. 2501457517-7522 (US 22956) (A); 2021594646-4648 (US 26059) (O); TI06391934-1959 (US 62239) (O).

647. Indeed, the ETSAG, Shook, Hardy & Bacon, and Covington & Burling linked non-INFOTAB members (Lorillard, American, and Liggett) to INFOTAB. Hoel and Rupp

attended meetings of both ETSAG and INFOTAB. Updates of ETSAG projects often included INFOTAB work as well. An August 1986 outline set out Defendants' coordinated efforts to develop industry-friendly science on ETS, including projects managed by the ETSAG, the Tobacco Institute, Shook, Hardy & Bacon, Covington & Burling, and INFOTAB. 86024168-4172 (US 21089) (A); 86024167 (US 56093) (O); 2021002296 (US 36687) (O); 502738346-8371 (US 24212) (O).

648. In 1987, INFOTAB distributed to member companies worldwide a video and "press kit" provided by the Tobacco Institute. The materials related to presentations by industry consultant and ETSAG funding recipient "Gray" Robertson. TI00731591-1593 (US 62090) (A); see infra US FF § III.A(2)(h)(vii).

649. INFOTAB continued to coordinate the companies' positions through a document known at the "ETS Kitset." The "Kitset" identified two key strategy objectives for its members:

> Objective 1 To demonstrate the inconclusive nature of claims that ETS has harmful effects, by bringing to light the scientific controversy over such claims.
>
> Objective 2 To position ETS as just one (and a very minor) factor in a complex atmospheric mix which also includes petrol/diesel fumes, dust, bacteria (particularly in air conditioned environments), pollen, and in industrial situations an enormous variety of chemical fumes and substances.

2501155644-5648 at 5646 (US 45901*) (A).

650. These two objectives would guide many of Defendants' actions in the years that followed, including the formation of public statements, the creation of a worldwide ETS consultancy program, and the management of industry "symposia," as described elsewhere in this section.

651. The INFOTAB "Kitset" also contained "Campaign Resource Materials" that

instructed members on the best ways to run publicity campaigns, and publicity leaflets addressing six "sub-issues" created by INFOTAB for use by recipients, with the aim that the "scientific" presentations therein reach the "target audience." To that end, INFOTAB provided a Public Affairs Guide ("for use with politicians, civil servants, journalists and other opinion-leaders") and a "general leaflet" that addressed "the two major strategic themes of 'demonstrating scientific controversy' and 'ambient air quality.'" 2501155644-5648 at 5648 (US 45901*) (A).

652. At the same time, the "Kitset" introduction made clear the INFOTAB Board's desire to keep its control and influence over the campaign secret:

> This kitset contains two distinct types of document[s]. The leaflets have been written for publication outside the industry and have been scrutinized by industry experts. They are clearly distinguished as printed, two-colour publications, and do not carry either the Infotab name or the ETS campaign logo.
>
> IN CONTRAST, THE INTERNAL PAPERS - OF WHICH THIS INTRODUCTION IS ONE - ARE FOR USE INSIDE THE INDUSTRY ONLY AND SHOULD BE TREATED AS CONFIDENTIAL. FOR THIS REASON, THE INTERNAL PAPERS HAVE BEEN PRODUCED IN A FORM WHICH IS INAPPROPRIATE FOR PUBLIC USE AND ARE CLEARLY MARKED AS CONFIDENTIAL INFOTAB DOCUMENTS.

2501155644-5648 at 5648 (US 45901*) (A) (emphasis in original).

653. INFOTAB remained a focal point of coordinated industry action on ETS throughout the 1980s. At the 1989 INFOTAB worldwide conference in Hong Kong, Tobacco Institute president Sam Chilcote, John Rupp, and Don Hoel made presentations, along with Philip Morris USA president Frank Resnik, who served as INFOTAB chairman. TI12801762-1767 (US 62397) (O); see also TIMN362946-2949 (US 62874) (O) (joint TI/INFOTAB "Global Argumentation Project").

654. INFOTAB was also used in conjunction with the "Whitecoat Project," or ETS

Consultancy Program, in the late 1980s. 2501254704-4708 at 4705 (US 27938) (A).

655. INFOTAB was dissolved in 1991. However, the Tobacco Documentation Centre (TDC) was formed in 1992 to carry forward the information collection and database functions of INFOTAB. Proctor PD, United States v. Philip Morris, 6/12/02, 16:13-18. As described below, the international coordination of Defendants' passive smoking strategy, positions, and research was taken over in 1992 by an industry committee of lawyers and scientists called the International ETS Management Committee, or IEMC. 502601564-1567 at 1565 (US 29570) (O).

(iv) 1987: Operation Downunder

656. As described previously in this section, 1986 was the watershed year in which three major public health authorities concluded that passive exposure to tobacco smoke was a health hazard. In a June 8, 1987 letter, Philip Morris Companies Vice Chairman Bill Murray invited a small group of executives to attend a conference on Hilton Head Island, South Carolina, to assess the ETS problem and formulate solutions. The conference would come to be known as "Operation Downunder." 2023551340-1343 (US 85518) (A).

657. In his June 8, 1987 letter to invitees, Murray emphasized the gravity of the passive smoking problem, and his belief that the problem had to be addressed both as a company and as an industry:

> It will come as no surprise to you that the public policy situation affecting our industry and our company has deteriorated in recent months. This is largely due to the recent Surgeon General's report dealing with environmental tobacco smoke and its alleged harmfulness to nonsmokers. Clearly the climate in which we are now operating requires that we, as a company and as an industry, take action to at a minimum slow down the anti-smoking forces and at best actually reverse some of their advances. . . .
>
> Your personal participation in this vital activity is extremely important. I cannot overemphasize the importance of this activity. . . .

> It is important to point out that we are not embarking on this exercise to simply exchange ideas on the ETS problem. Rather, we have been instructed to examine the problem and to arrive at solutions that can be immediately implemented.

2023551340-1343 (US 85518) (A).

658. Murray, who was involved in Operation Berkshire in 1977, was on the CTR Board of Directors at the time of Downunder. His letter was copied to the Chairman of Philip Morris Companies, Hamish Maxwell. According to the Downunder agenda, the conference began on June 23, 1987, and ended on the afternoon of June 26 with a presentation of a plan to senior management. All attendees were housed in private villas on the island, and all expenses were paid by the Philip Morris. 2024270524-0527 (US 75083) (A).

659. Many details of the four-day meeting are contained in a 33 page Philip Morris document titled "PROJECT DOWNUNDER CONFERENCE NOTES." The morning session on June 24 began with a chronology of passive smoking, including: the 1972 Surgeon General's Report which was the first Report to address ETS, the 1981 Hirayama study, the 1985 Repace/Lowery study, and the 1986 Surgeon General's Report concluding that ETS posed a cancer risk to nonsmokers. 2021502102-2134 at 2102-2105 (US 20346) (A).

660. John Rupp then addressed the group, opening with, "Where we are. In deep shit." He noted the "watershed significance" and "tremendous credibility" of the 1986 Surgeon General's report. He told the conference attendees the industry's position on passive smoking was restricted to "ETS not shown to be health hazard to non-smoker." He cautioned that: "We cannot say ETS is 'safe' and if we do, this is a 'dangerous' statement.'" 2021502102-2134 at 2106 (US 20346) (A).

661. Rupp emphasized that the cigarette manufacturers had little on their side, but had to do something given what was at stake: "Someone has to say ETS is no risk. [This] has to

come from somewhere." 2021502102-2134 at 2107 (US 20346) (A).

662. The magnitude of the problem facing the industry clearly permeated the meeting - corporate profits, indeed corporate existence, was at stake. Conference notes revealed that sales were declining in the United States, and "in U.S., [the] ETS issue will have [a] devastating effect on sales." Philip Morris was very concerned that the industry was "just at the beginning of [the] impact of [the] ETS issue." 2021502102-2134 at 2109-2110 (US 20346) (A).

663. Philip Morris considered passive smoking a problem of perception, and that "perception is everything." The task of altering public perception had to be carried out (1) "in [the] face of overwhelming adverse information and publicity" relating to the harm of passive smoking to nonsmokers; (2) in the absence of "objective science" in favor of the industry's position; and (3) despite the fact that "10 of the 13 [ETS] studies show [an] effect in the direction of harm." 2021502102-2134 at 2110-2112 (US 20346) (A).

664. The conference notes also included admissions that "a scientific battle was lost" with the 1986 Surgeon General's report and that ETS research was historically feared and avoided by the industry partly because of the "risk in doing research where you don't know where it will lead." 2021502102-2134 at 2112, 2115 (US 20346) (A).

665. The conference attendees proposed the following solutions, among many: "Create our own expert," "More research – prove ETS is safe," "Create a bigger monster (AIDS)," "Make it hurt (political risk) to take us on," "Seriously look at TV, print, other media campaigns," "Create science journal," "Create non-science journal," "Infiltrate WHO," "$2-5 million funding for CIAR now," "Sue the bastards," "Undermine Koop," "Defeat Waxman," and "Attack anti-groups where they hurt." The conference notes also stated, "Central to many of our ideas is a third-party conduit." The group debated and rejected a "lie low strategy," choosing instead a

campaign to "take positive action." 2021502102-2134 at 2116-2118, 2123- 2124 (US 20346) (A).

666. The conference attendees later agreed that the industry needed "substantial funding in ETS via CIAR" and needed to "increase [the] number of scientists up to 50 in the U.S. and also throughout world." The "effort should be organized worldwide" and the "science program has to be joint-industry based." 2021502102-2134 at 2130-2132 (US 20346) (A); 2021502679-2683 (US 75077) (A).

667. On June 26, 1987, the final day of "Project Downunder," the conference attendees presented their conclusions and recommendations to Murray. The group recommended a "dramatic increase in scientific activity on ETS." The group additionally recommended what they called an "NRA strategy" of "select[ing] the weakest of our enemies, mak[ing] an active effort to defeat them in the next election, then let[ting] people know what we did and why we did it," in conjunction with the "financial support" of industry friends. The "perception" problem would be worked in the media and in the science community, worldwide. The increased funding of CIAR, the increased recruitment of "consulting scientists," and the establishment of an industry "scientific journal" were to play roles in the industry "solution" as well. 2021502671-2678 (US 22950) (A).

668. The Philip Morris group also stated their intent to bring on the other members of the tobacco industry though discussions "at the highest level":

> We also need to tell the tobacco industry, regarding accommodation strategy, [sic] This is what we are doing, join us. Use TI if helpful to do so. RJR can be expected to buy on. Concept should be introduced to R.J. Reynolds and other majors at the highest level. CEO to CEO, Chairman to Chairman.

2021502671-2678 at 2676 (US 22950) (A).

669. One week later, Rupp took the Philip Morris ETS message out to the other

members of the industry. A document titled "Report on Industry Meeting Concerning ETS" reveals that Rupp met with representatives of Reynolds, Philip Morris, Liggett, Hill & Knowlton, and the Tobacco Institute on July 2, 1987. The report records that Rupp "shared some general objectives which were articulated at a Philip Morris exercise a week earlier." Rupp warned participants that the manufacturers had to act as a unified front on ETS: "Individual companies, he noted, are in a position to take advantage of their commercial resources but should make every effort to do so toward the common goal of the industry as a whole." 87697186-7193 (US 88587) (A).

670. The Philip Morris Companies and Philip Morris USA senior leadership approved the "Downunder" conclusions and recommendations. In a July 14, 1987 letter from Philip Morris Corporate Affairs vice president Guy L. Smith, to Osdene in Richmond, Smith announced:

> It is a great pleasure to inform you that Vice Chairman Murray, after consulting with Chairman Maxwell and President Resnik, asked that the recommendations of the Operation Downunder group proceed immediately. . . .
>
> As we move into the executional elements of Operation Downunder, selected working groups will be established to make certain that the project advances according to plan.

2023551320-1320 (US 23683) (A).

671. A major part of Operation Downunder after the conference was the expansion of the industry's ETS "whitecoat" or international consultancy program. This was set in motion at the direction of Bill Murray. Osdene recorded the following at a meeting of Philip Morris executives in New York on July 8, 1987:

> "Whitecoats"
>
> Bill Murray ----- Where do we have scientific witnesses and how can we increase?

Shook, Hardy & Bacon + Covington & Burling

Comprehensive list
- scheme to expand.

2021001643-1645 (US 75223) (O).

672. On January 4, 1988, the Tobacco Institute's Executive Committee "approved the concept of Operation Downunder." On February 18, 1988, representatives of Reynolds, Lorillard, Liggett, American, the Tobacco Institute, and Covington & Burling were invited by the Tobacco Institute to develop a consensus recommendation for the Executive Committee. Tobacco Institute vice president Roger Mozingo wrote that:

> We have long agreed with many of Downunder's basic goals. . . . Further, the aggressive industry posture evident throughout the plan is needed if we are to stem the tide of legislative and private industry initiatives to ban or severely restrict smoking, as well as deal with other important industry issues.

TIDN0002710-2719 at 2711 (US 65548) (A); 506617595-7596 (US 20760) (A).

673. The details of "Operation Downunder" were also presented to the Tobacco Institute's Communications Committee on February 3, 1988, for implementation by committee chairman and Guy Smith, who had been responsible for coordinating the Downunder conference eight months before. The minutes of the meeting record that Rupp of Covington & Burling and Lee Stanford of Shook, Hardy & Bacon attended along with representatives of the cigarette manufacturer Defendants. Sam Chilcote stated in a June 16, 1988 speech that the Downunder proposals had been discussed at multiple meetings of the State Activities Policy Committee and the Communications Committee through the Spring of 1988. TIDN0005811-5812 at 5811 (US 65558) (A); TIDN0008865-8890 (US 65559) (A).

674. Chilcote told the Executive Committee that they were now tasked to "move forward with an expanded comprehensive effort" to deal with the ETS threat. The "two basic

objectives" in implementing Downunder were "to defeat or lessen all smoking restrictions" and "to slow the decline of the social acceptability of smoking." These goals were to be achieved through, inter alia, funding the Center for Indoor Air Research, "media tours," and "more experts." TIDN0008865-8890 (US 65559) (A).

675. The ETS program that developed from "Operation Downunder" was made part of a larger program via Philip Morris's FTR subsidiary in Neuchatel and Covington & Burling, in order to export and expand the Downunder concepts around the world. Helmut Gaisch, Director of Philip Morris (Europe-FTR) Science & Technology, documented a meeting in his September 1987 Monthly Report on September 10, 1987 between Gaisch, "Drs. Green (RJR - Winston-Salem) and Stuhl (RJR - Cologne) and Dr. Osdene **on coordinating the scientific part of Project Downunder on a worldwide basis.**" This followed a "series of meetings" on September 8th "involving both EEMA and EEC top management, as well as visitors from New York . . . on a wide range of questions including Project Downunder." Gaisch also reported on a "'Downunder' liaison meeting" with Rupp in London on September 23. 2001160764-0780 at 0772, 0774 and 0778 (US 75221) (A) (emphasis added).

676. In an October 8, 1987 memorandum from Helmut Gaisch to Lee Pollak, in-house counsel in New York, Gaisch advised that Operation Downunder was being implemented in Europe with other cigarette companies and Covington & Burling. Gaisch described the link between Downunder and the recruitment of consultants, or "whitecoats," who would work on behalf of the industry throughout the world:

> Within the framework of the scientific part of "Downunder," we are involved in the process of enlisting the assistance of scientific experts on a world-wide basis. As there are other tobacco companies involved, e.g. RJR, John Rupp of C&B has been charged with coordinating this part of the project. . . . I have personally arranged meetings of John Rupp with key "whitecoats"

in a number of European countries.

2501000364-0365 at 0365 (US 45866) (A).

677. On February 17, 1988, Philip Morris and Covington & Burling presented the Downunder recommendations in London to BATCo and other European cigarette manufacturers to bring them on board as part of what would become a complex international program. The chief objective of the "scientific" program was to "keep the controversy alive" via the use of law firms and "independent" consultants. BATCo Scientific Director Sharon Boyse recorded the following from the London meeting:

> Philip Morris presented to the UK industry their global strategy on environmental tobacco smoke. In every major international area (USA, Europe, Australia, Far East, South America, Central America & Spain) they are proposing, in key countries, to set up a team of scientists organised by one national coordinating scientist and American lawyers, to review scientific literature and carry out work on ETS to keep the controversy alive . . .
>
> Because of the heavy financial burden, Philip Morris are [sic] inviting other companies to join them in these activities to whatever extent individual companies deem appropriate. . . .
>
> Dr. Gaisch said that **their strategy on ETS had been established in the USA at a meeting between Philip Morris and Covington & Burling, the lawyers acting for the Tobacco Institute in the USA.** At a later date R.J. Reynolds were also brought in to support some of their US activities, one of these being the Centre for Indoor Air Research."

321140944-0949 (US 20586) (A) (emphasis added).

678. There can be no doubt that the "meeting" described by Gaisch in Boyse's record of the February 17, 1988 London meeting was "Operation Downunder." This is confirmed in a February 21, 1988 report from Helmut Gaisch titled "The European Counterpart to 'Operation Downunder,'" in which Gaisch describes the initiatives, along with Covington & Burling and Shook, Hardy & Bacon, to develop consultants and "scientific events" (conferences) "to disperse

the suspicion" of an "ETS health risk." 2028343858-3860 (US 75086) (A).

679. Boyse's and Gaisch's memoranda not only connect "Operation Downunder" to the massive worldwide initiatives that followed, but also provide a link between the Defendants as members of the enterprise and a link between the ETS program in the United States and ETS initiatives implemented abroad. 321140944-0949 (US 20586) (A); 2028343858-3860 (US 75086) (A).

680. In other words, Defendants' ETS programs continued to be, as with ICOSI/INFOTAB, coordinated and global. Reynolds' Mary Ward wrote the following in a July 8, 1988 memorandum to company general counsel Wayne Juchatz:

> John Rupp invited me to a meeting of European scientists who have been recruited to speak and write about ETS. John has coordinated this effort on behalf of Philip Morris as part of PM's Operation Downunder. Groups similar to IAPAG . . . have been organized in the UK, France, Italy, and the Nordic region.. . . . John and I met with Rich Marcutullio and Peter Van Every to discuss whether and to what extent RJRTI could become involved.

520737744-7745 at 7744 (US 30363) (A).

(v) 1988 - 1999: The Center for Indoor Air Research (CIAR)

681. In 1986, the ETSAG began to study the utility of forming a more formal organization to identify, recommend, and fund industry projects related to ETS or passive smoking. In the words of Reynolds attorney and ETSAG member Mary Ward in a February 9, 1987 memorandum, "Members of the [ETSAG] group began to express the opinion that a more efficient mechanism to search out and supervise such [ETS] research needed to be considered." 87780454 (US 23531) (O).

682. At the May 26, 1987 ETSAG meeting, members decided that a new ETS research coordinating organization for the Defendants should be called the Center for Indoor Air Research

"in order to dissociate it and avoid confusion with the Tobacco Institute." From that point forward, the ETSAG began calling the planned organization the Center for Indoor Air Research, or CIAR. 506300804-0815 (US 20756) (A); 511252621-2626 at 2621 (US 51554) (A); 620002505-2506 (US 53330) (O).

683. CIAR was also an important component of the industry's ETS program established at "Operation Downunder" in June 1987, where Philip Morris executives agreed that the industry needed "substantial funding in ETS via CIAR" as part of the effort to counter the evidence that passive smoking was a health hazard. In fact, CIAR was included in a document titled "Operation Downunder; Science Implementation Plan." 2021502102-2134 at 2130-2132 (US 20346) (A); 2021502679-2683 at 2681 (US 75077) (A); 508221912-1914 at 1912-1913 (US 24738) (A).

684. Throughout 1987, the formation and structure of CIAR was a major topic of discussion by the ETSAG, who formally presented their proposal to the Tobacco Institute Executive Committee on December 10, 1987. CIAR was recommended to the committee, including Liggett general counsel Josiah Murray, as "a formal organization of a research organization to deal with issues relating to indoor air quality." The proposal called for the creation of an organization "with its own staff and an increased research budget" over the ongoing ETSAG projects. At the end of the Executive Committee meeting, "it was agreed that Dr. Osdene and his group would proceed with the hiring of an Executive Director and the preparatory corporate and other steps for the establishment of the CIAR." TIMN0014390-4393 (US 62782) (A).

685. Pursuant to the Tobacco Institute Executive Committee agreement, CIAR was officially incorporated in January 1988 to take over the research responsibilities of the ETSAG,

or Hoel Committee. The charter members, or founders, of CIAR were Philip Morris, Lorillard, and Reynolds, who controlled the activities of the organization through the Board of Directors. 87824558-4562 (US 23564) (O).

686. Brown & Williamson joined CIAR as a voting board member in 1995. Eisenberg WD, 25:14-15. While Liggett was never officially a member of CIAR, it attended at least one meeting of the organization and participated in ETS seminars and meetings organized by Covington & Burling. Dietz PD, United States v. Philip Morris, 7/1/02, 132:1-138:17; 2023053733 (US 86513) (A). BATCo, while not a formal member of CIAR, provided funding for several CIAR "sponsored" projects. See, e.g., discussion of Malmfors/SAS Study, Hazleton Project, and Latin American Project, infra.

687. CIAR stepped into the shoes of the ETSAG with respect to industry ETS projects underway in 1988. A comparison of agendas from both groups, as well as a comparison of meeting minutes from both groups confirms this. Compare 2021001205-1205 (US 25534) (O) (12/7/87 ETSAG meeting agenda) with 2021000945 (US 25532) (O) (3/10/88 CIAR Board of Directors meeting agenda); compare 2021004058-4064 (US 20339) (A) (1986 list of ETSAG-managed projects) with 2021006060-6065 (US 89161) (A) (minutes of 10/25/88 CIAR meeting). Indeed, all of the ETSAG-managed projects ongoing in 1987 were managed through CIAR from 1988 forward. These projects included the Malmfors/SAS airline study, the ORNL air sampler project, an aircraft study by Delbert Eatough, the ETS/asthma project at Tulane, and several critiques of epidemiology by industry ETS consultants. 2021006060-6065 (US 89161) (A); see also 2023054167-4167 (US 75232) (A) (CIAR board member Bob Pages wrote: "CIAR evolved out of an ad hoc ETS advisory group to the Tobacco Institute . . . ."); 86003256-3257 (US 23510) (A) (In requesting Committee of Counsel approval for an ETSAG project, Hoel refers to

CIAR as a "new funding mechanism for ETS projects.").

688. Defendants first offered the job of CIAR Executive Director to outsider Irwin H. Billick. However, when Dr. Billick questioned the independence, objectivity, and credibility of an organization where all research funding decisions were made by the Board of Directors, the offer was withdrawn. 2023555370-5370 (US 22842) (A); 2023553133-3137 (US 22991) (A); 2023555364-5365 (US 22844) (A); 2023553132-3132 (US 22845) (A).

689. Reynolds scientist and ETSAG member Guy Oldaker served as "interim director" in 1987 and throughout much of 1988 until another executive director candidate could be located. TI00682069-2070 at 2069 (US 62088); 508220128 (US 92022) (A). Moreover, until CIAR was set up in its own office, it was administered as a part of the Tobacco Institute. 2023554658-4660 (US 37464) (A).

690. On August 1, 1988, Max Eisenberg was hired by Defendants to be CIAR's first and only executive director. At the time of Eisenberg's hiring, CIAR's Board of Directors was composed of Tom Osdene and Bob Pages from Philip Morris, Charles Green and Gary Burger from Reynolds, and Alexander Spears and Vello Norman from Lorillard. Eisenberg WD, 1:15-22; 3:10-13.

691. CIAR was not an independent research or grantmaking organization. According to the CIAR Bylaws, only a "corporation engaged in the business of manufacturing and marketing of cigarettes that produced two billion or more tax-paid cigarettes during calendar year 1987" was eligible to become a charter member of CIAR. The CIAR Certificate of Incorporation stipulated that only the directors of charter members were entitled to select Board members and vote on what research would be funded. During the entire existence of CIAR (1988 - 1999) only cigarette company executives/scientists sat on the Board of Directors. 86205444-5452 at 5444

(US 21827) (A); 87824558-4562 at 4560 (US 23564) (O); Eisenberg WD, 3:20-4:10.

692. Rupp was appointed general counsel to CIAR, and attorneys Mary Ward and Don Hoel regularly attended Board meetings just as they had attended ETSAG meetings before. Eisenberg WD, 26:3-6.

693. Defendants and CIAR charter members Philip Morris, Reynolds, Lorillard, and (after 1995) Brown & Williamson, paid over $4 million annually to fund ETS projects through CIAR. Funding was determined by market share. 2050764508-4508 (US 20492) (A); 2021006060-6065 at 6060 (US 89161) (A); Ward TT, 11/3/04, 4968:4-19; 2041653307-3385 at 3382-3385 (US 38214) (A).

694. Eisenberg verified that less than one-half of one percent of the operating costs for CIAR projects were provided by "regular" or "associate" members, that is, members who were not cigarette manufacturer charter members. For example, in 1996, the non-cigarette manufacturers (associate members) contributed only $36,000 of CIAR's $7.7 million in funding. In other words, the contribution of the non-cigarette manufacturers was a mere 0.47%. 566943537-3528 (US 92018) (A); Eisenberg TT, 11/8/05, 5444:22-5446:11.

695. Moreover, all "regular" and "associate" members were connected to the tobacco industry, and most were suggested to Eisenberg by members of the CIAR Board of Directors. Using the 1988 and 1996-97 Request for Applications (RFA) as examples, associate members Consolidated Safety Services, ENV Services, and Meckler Engineers Group were all consultants to the Tobacco Institute; Universal Corporation, DIMON International, and Standard Commercial Corporation are the three largest tobacco leaf merchants in the world; Hoechst Celanese is a maker of cigarette filters; Mead Paper, Mundet International, and Ecusta are all paper suppliers to the tobacco industry; and Quest International Flavors is a flavorant supplier to

the industry. 321141105-1144 (US 20588) (A), 2061691882-1913 (US 24012) (A); Eisenberg TT, 11/8/04, 5428:16-5431:10; 5443:7-21; 5453:2-5456:5.

696. Although Eisenberg held the title of executive director and (after 1989) there was a Scientific Advisory Board to review some project proposals, only the CIAR Board of Directors had authority to approve the funding of any CIAR project. Eisenberg WD, 3:20-23, 15:21-16:6.

697. Tobacco Institute executives attended a number of CIAR Board of Directors meetings after Eisenberg established an office in Linthicum, Maryland. In April 1989, Eisenberg, Spears, and Rupp gave a presentation and status update to a meeting of the Tobacco Institute Executive Committee. In 1993, Eisenberg delivered a presentation to foreign cigarette manufacturers as well. Eisenberg WD, 6:8-10; TIMN0014955-4960 (US 62784) (A); 2023053733 (US 86513) (A).

698. On January 19, 1993, Liggett Scientific Issues Manager Dennis Dietz attended a CIAR meeting in London, along with executives from Philip Morris, Lorillard, Reynolds, BATCo, B&W, and several international manufacturers. 2023053733 (US 86513) (A).

699. An examination of the publications and conduct of CIAR establishes that Defendants used CIAR as a seemingly independent funding entity to conceal the true role of the tobacco industry in funding and managing their ETS research sponsored under CIAR's name. The primary CIAR publication to prospective researchers was its "Research Agenda," or "Request for Applications" (RFA). CIAR RFAs were published from 1989 to 1998. The introduction in the 1988 RFA described CIAR as "an independent, non-profit corporation" whose purpose was "to sponsor scientific and technical research" on indoor air issues. 321141105-1144 (US 20588) (A) (1989-1990 RFA); TI01900054-0094 (US 77530) (A) (1991 RFA); 2023523979-4010 (JD-080303) (A) (1992-1993 RFA); 2025471735-1762 (JD-024508) (A)

(1994 RFA); 2057790373-0404 (US 23995) (A) (1995 RFA); 2061691882-1913 (US 24012) (A) (1996-1997 RFA); 86616778-6810 (JD-042662) (A) (1998 RFA).

700. The names of the Charter Members was printed only on one page in an appendix in each of RFAs, on the same page with the names of the seemingly independent "regular" and "associate" members. See, e.g., 321141105-1144 at 1142 (US 20588) (A) and 2061691882-1913 at 1898 (US 24012) (A).

701. None of the CIAR RFAs disclosed that:

- CIAR was almost exclusively funded by major cigarette manufacturers, and that the remainder of the funding (<½ %) was supplied by tobacco leaf vendors and other companies affiliated with the manufacture of cigarettes;
- The affiliations of the CIAR Board of Directors, who had complete control over which projects were funded and who were at all times composed of executives/scientists in the employ of cigarette manufacturers.
- CIAR received significant funding from international cigarette manufacturers, including BATCo, Rothmans, and Imperial Tobacco (see discussion of Malmfors and Hazleton projects, below).
- Although CIAR had a Scientific Advisory Board in place as of early 1989 to review proposals for scientific merit, CIAR funded and managed a large number of projects that never went through the SAB process (see discussion of Applied Projects, below).

702. The other major publication used by CIAR to communicate with the public and with researchers was its quarterly newsletter called "CIAR Currents." Eisenberg and his staff published "CIAR Currents" from 1991 to 1998. Eisenberg TT, 11/9/04, 5486:15 - 5487:2.

703. CIAR published 19 editions of "CIAR Currents." In none of the editions did Defendants disclose that CIAR was controlled and funded by the tobacco industry; nor did the newsletters ever disclose the names and affiliations of the members of its Board of Directors, all executives/scientists in the employ of major cigarette manufacturers. 88803301-3304, 2023055036-5039, 88803309-3312, 2028462984-2987, 2023521998-2001, 87251727-1730,

2028462980-2983, 89273328-3331, 89273324-3327, 89273320-3323, 89273316-3319, 89273312-3315, 89273308-3311, 515952380-2383, 517577679-7682, 2063650763-0767, 517557109-7112, 517557145-7148, 2063835149-5152 (US 92019) (A).

704. In contrast, the CIAR newsletters, like the RFAs, *did* disclose the names and university affiliations of Scientific Advisory Board members. And while the newsletter did announce new additions/replacements to its SAB, it never disclosed the departure or arrival of new members of the cigarette manufacturer Board of Directors. Moreover, while "CIAR Currents" *did* announce when seemingly independent companies joined as minor associate members (such as Dibrell Brothers, International Paper, Somerville Packaging, Standard Commercial Corporation), it never disclosed when new cigarette manufacturers joined as members (such as Brown & Williamson, Japan Tobacco, and Svenska Tobaks (Sweden)). At trial, Eisenberg called this omission an "oversight." (US 92019) (A); Eisenberg TT, 11/9/04, 5499:18-22, 5501:5-11.

705. Eisenberg's testimony at trial disputing that CIAR was established and operated so as to mask the involvement of Defendants in ETS research was contradicted by the documentary evidence and not credible. In addition, it was disclosed that Eisenberg left his $60,000/year job with the State of Maryland in 1988 for the $120,000/year CIAR executive director position. When CIAR was dissolved in 1999, Defendants were paying Eisenberg $210,000 annually and had awarded him a $50,000 bonus. Eisenberg TT,11/09/04, 5645:11-5646:6. Eisenberg received over $1 million as a severance payment upon dissolution of CIAR. 2076950430E-0430 at 0430E (US 93321) (A); 2072060487-0489 at 0488 (US 93313) (A). Philip Morris paid Eisenberg $2,000 per day to appear at trial. Eisenberg TT, 11/9/04, 5646:7-18. Eisenberg continues to work for Philip Morris, now earning over $400,000 to manage the Philip Morris External

Research Program (PMERP). Eisenberg TT, 11/9/04, 5643:19-5644:15.

(aa) CIAR Applied Projects

706. Many documents admitted at trial established that CIAR funded a class of studies called "Applied Projects." Similar to CTR Special Projects, CIAR Applied Projects were those that were approved and directed by the Board of Directors with no review or recommendation by the Scientific Advisory Board. As described below, CIAR Applied Projects were used by Defendants to generate data and conclusions to attack the scientific consensus and support the industry's position on passive smoking.

707. The existence of Applied Projects is disclosed in a number of internal documents. CIAR Board member and Lorillard scientist Vello Norman wrote in his minutes of the February 2, 1989 Board of Directors meeting:

> CIAR funds two kinds of studies:
>
> a. Research - involvement by SAB, peer review, etc.
>
> b. Special Studies - would normally be initiated by the Board, not subject to peer review (airlines, indoor air surveys, reviews, etc.)

87823747-3750 (US 85695) (A).

708. Board member Tom Osdene took notes from the same meeting, recording that "Special Studies" were distinct from CIAR "research," were not peer reviewed, would be initiated by the Board, and were also called "Applied Projects." 2021005961-5969 (US 25580) (O).

709. Fellow Board member and Philip Morris scientist Bob Pages wrote in a September 14, 1990 memorandum that CIAR was a "vehicle to sponsor/conduct special projects (Applied Studies)." Pages also listed a number of the CIAR "Applied Studies," including the Malmfors/SAS project and Rupp's "Asia Project," which are described later in this section.

2023530026-0029 (US 23003) (A).

710. In a May 14, 1992 memorandum to Jim Charles, Pages distinguished "Applied Studies" from CIAR's ordinary research in these terms:

> The SAB recommends proposals for funding after they have been peer reviewed. Proposals can only be funded subsequent to approval by the Board. **A second class of research projects - Applied Studies - are also funded if approved by the Board; such projects are not normally reviewed or recommended by the SAB.**

2023054167-4167 (US 75232) (A) (emphasis added).

711. Once CIAR was in place as a funding mechanism, ETS projects no longer needed to be proposed and funded as CTR Special Projects through the Committee of Counsel, but were instead proposed and funded as Applied Projects through the Board of Directors. A January 17, 1989 memorandum describing CIAR from Brown & Williamson scientist Gil Esterle to general counsel Ernie Pepples and others drew the explicit comparison to CTR Special Projects:

> The SAB will recommend projects to the Center's Board who will approve/not approve for funding. The Center's Board is comprised of six directors, two from each of the participating companies . . . . **The Center seems similar to CTR in structure including an SAB program and a special projects activity.** The 1989 budget remains at $4.5 million.

400975593-5594 (US 92021) (A) (emphasis added).

712. The millions of dollars in funding for Applied Projects, in particular the repetitious exposure studies conducted by Defendants around the world through CIAR, were often billed by CIAR as "Special Assessments" in addition to the yearly market share-based payments of the companies to CIAR. (US 92032) (A).

713. CIAR Applied Projects were used by Defendants to fund studies that were previously approved by the TI-ETSAG, or Hoel Committee, and underway at the time of CIAR's

formation in early 1988. These studies included projects by industry consultants Delbert Eatough, Torbjorn Malmfors, Roger Jenkins, and Gray Robertson.

714. In addition, the CIAR category of Applied Projects was used by Defendants to carry out, under the name of CIAR but with no SAB review, the following projects designed to generate data and conclusions favorable to the industry's position on ETS:

- **James Enstrom ($525,000)**; this study examined the association between spousal smoking and lung cancer using CPS 1 data.

- **Torbjorn Malmfors ($638,806)**; this was a study of air cabin air quality aboard SAS aircraft.

- **Roger Jenkins/ORNL ($920,794)**; three projects purportedly measuring ETS and passive exposure to tobacco smoke in Knoxville; in a restaurant/bar; and in a corporate facility.

- **Roger Jenkins/Michael Guerin/ORNL ($1.7 million)**; this was an ETS exposure study of subjects in 16 cities across the country. (Guerin was a member of the CIAR SAB.)

- **Marvin Kastenbaum ($170,935)**; this was a statistical project to develop certain tables to evaluate indoor air components. (Kastenbaum was a statistician employed by the Tobacco Institute.)

- **Keith Phillips/Hazleton Labs (later called Covance Labs) ($8.0 million)**; these were a number of exposure/measurement studies conducted in foreign cities.

- **ETS "Treatises"** (funding amount unknown); these refer to "textbooks" on ETS and related indoor air topics (See BR2000545-0785 (JD-065024) (A); (no bates) (JD-044893) (A); (no bates) (JD-080699) (A); (no bates) (JD-080700) (A)).

- **Samuel Lehrer ($2.45 million)**; at least three projects assessing ETS and asthma in children and adults, and a project to assess asthmatic responses to perfumes.

- **Alan Hedge ($979,092)**; this study was carried out to probe "the extent to which ETS is related to the perception of comfort and health of office workers in office buildings," as well as ventilation conditions.

- **Genevieve Matanowski ($2.3 million)**; one project ($1.6 million) was a confounders study designed to attack documented associations between ETS and lung cancer; the second project ($679K) investigated lung cancer in non-smokers in South America. (Matanowski was a member of the CIAR SAB.)

- **Ragnar Rylander ($333,031)**; a study using a questionnaire to determine lifestyle differences (confounders) between groups in Sweden and Switzerland.

- **Thomas Platts-Mills ($590,642)**; a project evaluating ventilation, wheezing, and allergens.

- **Milt Meckler ($127,318)**; a project to assess the impact of a ventilation/filtration system on indoor air. (Meckler was a paid Tobacco Institute consultant.)

- **Demetrios Moschandreas/IITRI ($525,312)**; three projects assessing perceptions/reactions of persons to ETS in the air. (Moschandreas was a member of the CIAR SAB.)

- **Antonio Miguel ($72,760)**; a project to test for gas and particle phase substances in indoor air in Brazil.

- **Gray Robertson/HBI ($138,000)**; testing of air samples in office buildings.

- **Robert Tardiff ($466,297)**; a project, using the Jenkins/ORNL data, "to produce distributions of exposure to ETS."

- **Giovanni Viegi ($1.28 million)**; research into ETS confounders, assessing risk factors for cardiovascular and respiratory disease in Italy.

2505442777-2960 (US 25643*) (A); 83205526-5581 (US 92033) (A) (Applied Projects are indicated with the notation "Other").

715. Thus, Defendants funded over $21.5 million in CIAR projects as "Applied Projects." 2505442777-2960 (US 25643*) (A); 83205526-5581 (US 92033) (A).

716. Many internal documents reveal the true purpose of CIAR to control science for the benefit of the industry in litigation and before regulatory bodies. Indeed, the overarching goal of CIAR was to generate data and conclusions to resist smoking restrictions and maintain profits. John Rupp summarized the work of CIAR in 1993 by stating that "a number of CIAR-funded projects have contributed significantly to the industry's ongoing efforts to oppose unwarranted smoking restrictions." Rupp then ticked off the Applied Projects that had proven valuable for Defendants, including the HBI project, the Malmfors/SAS study, his "Asia Project" by Sarah

Liao, the Hazleton Project, and the Jenkins/ORNL projects. Rupp then stated, "What we have learned over the past five years, the period of CIAR's existence, is that CIAR can make - indeed, already has made - an important contribution to the industry's efforts to fight unwarranted smoking restrictions." 87602277-2281 at 2278-2279 (US 23516) (A).

717. Applied Projects eventually assumed a more prominent role in CIAR operations than the SAB-vetted studies as the industry's "needs" for certain types of studies grew. CIAR Board member Bob Pages wrote the following in an August 19, 1992 Philip Morris e-mail to Steve Parrish with respect to the future CIAR budget:

> As I mentioned at our July 1st ETS science meeting, the CIAR board has come up with a plan to refocus CIAR efforts so that we get more research results which will be useful and responsive to our needs: maintain the SAB-related research budget at a (reduced) constant, self-sustaining level; and fund more applied projects which are better targeted to meet our needs.

2023132080-2081 at 2080 (US 92031) (A).

718. CIAR Board of Directors chairman Tom Osdene of PM wrote Sam Chilcote of the Tobacco Institute five years earlier in an April 25, 1988 letter that "the purpose of CIAR" was "to provide ammunition" for the industry on the ETS "battlefield." 2021012384-2388 at 2384 (US 20340) (A)

719. Rupp wrote in a March 1993 letter to Imperial Tobacco: "In sum, while one might wish it otherwise, the value of CIAR depends on the industry's playing an active role (1) in identifying research projects likely to be of value and (2) working to make sure that the findings of funded research are brought to the attention of decision makers in an appropriate and timely manner." 2023053717-3720 at 3719 (US 20373) (A).

720. An August 17, 1988 memorandum, written by former Covington & Burling advisor and current BATCo scientific head Chris Proctor, discussed CIAR and the advantages of

membership to BATCo and Brown & Williamson. Proctor wrote:

> Meetings of the board are held every five weeks in Washington and, in addition to the board members, John Rupp (Covington and Burling), Don Hoel (Shook, Hardy and Bacon), Mary Ward (RJ Reynolds) and a TI representative attend to observe. Rupp and Hoel comment on product liability aspects. **In terms of scientific acceptability, CIAR provides a further buffer between the Company and the third party, yet allows strong control of projects without major in house effort**.

400974598-4600 at 4598, 4600 (US 47526) (A) (emphasis added).

721. Another goal, consistent with concealing the member companies and Board of Director affiliations in the CIAR RFAs and newsletters, was to conceal the management and funding of the projects by the cigarette manufacturers. In an internal PM e-mail April 15, 1991 from Bob Pages to Steve Parrish, Pages recommended against using CIAR to fund what would become the Japanese Spousal Study, but added: "although **there MAY be (I'm not convinced yet) a reason to say it was sponsored by CIAR so as to "hide" industry involvement** (as was done in Rupp's 'Asia project')." 2023544456 (US 22816) (A) (emphasis added).

722. BATCo Scientific Director Sharon Boyse (Blackie) made a similar comment when she observed in a June 19, 1991 memorandum that "the Japanese study could be channeled through an 'independent' organization such as CIAR. No matter how good the science, independence is always preferable, and in fact BAT made the decision to discontinue part of its research on ETS for this very reason." 507974107-4109 at 4108 (US 24730*) (A).

723. In reality, then, CIAR was an industry front. In a March 12, 1991 letter to Boyse, Rupp even bragged about how effective the CIAR structure had proven in concealing the industry source of funding:

> In fact, I am not aware of an instance in which our opponents have been able to dismiss the results of CIAR-funded projects by attacking the funding source. That is, it seems to me, a very real

and important achievement.

87602277-2281 at 2278 (US 23516) (A).

724. Defendants' schemes to use CIAR as a tool to hide their involvement were sometimes complex. For example, in a November 15, 1992 ETS consultancy program status report, Rupp recorded the following plan to use CIAR as a strawman funding "source" to allow project authors to attribute funding to CIAR, and hide the involvement of BATCo's Chilean affiliate Chiletabacos:

> There was substantial discussion of the mechanics of the funding, which resulted in agreement that we should attempt to convince the Center for Indoor Air Research (CIAR) in the United States to be responsible for approximately ten percent of the project's cost, with Chiletabacos making a contribution to CIAR in that amount. The rest of the funding, because of tax considerations, would be contributed by Chiletabacos to the University of Chile while being earmarked for the study.

2503011704-1710 at 1704-1705 (US 22853) (A).

725. Through CIAR, Defendants' could also hide the role of their own employees in the design and execution of the Applied Projects. For example, in a May 3, 1988 Reynolds ETS project update to Charles Green, Guy Oldaker reported that a Washington, DC air sampling study using a Reynolds-designed sampling apparatus (the PASS system) would be "managed" by Lorillard's Dr. Crouse with "technical direction" from Oldaker. 506291779-1780 at 1780 (US 92096) (A).

726. A number of documents demonstrate the role of tobacco industry attorneys, as opposed to scientists, in the funding and approval of CIAR projects. In a June 28, 1988 memorandum to Philip Morris Assistant General Counsel Todd Sollis detailing Shook, Hardy & Bacon's ETS initiatives, Don Hoel wrote:

> SHB is instrumental in developing scientific research in the area of

> ETS. In the United States, much of this development is now undertaken through the Center for Indoor Air Research (CIAR). PM is a member of CIAR and currently chairs its Board of Directors. **Within that organization, SHB represents the interests of PM in evaluating research proposals and in determining which existing projects should be continued.** The firm also monitors ETS Advisory Group projects, which are now being "folded" into CIAR.

2015007199-7207 at 7205 (US 20311) (A) (emphasis added).

727. Indeed, at least one of the industry attorneys (Hoel, Rupp, and Ward) attended every CIAR Board meeting where project proposals were discussed and approved. See, e.g., 2021006342-6347 (US 25581) (A); 2023531016-1018 (US 23674) (A); TIBU34458-4469 (US 65527) (A); TI01900211-0214 (US 21241) (A); 87823743-3746 (US 90011) (A); 87802318-2319 (US 23535) (A); 87823747-3750 (US 85695) (A); 2353587697352-7354 (US 56308) (O); 400974598-4600 (US 47526) (A).

728. As detailed later in this section (see U.S. FF §§ III.A(2)(g)(v)(bb), III.A(2)(g)(vi), and III.A(2)(k)(iii)), Defendants also directed and funded Applied Projects to counter the impact of public health authority actions such as the OSHA indoor air proposed rule and the IARC Multi-Centre Study. 2505443991-4000 at 3996 (US 22202) (A).

729. In Report and Recommendation #151, adopted by the Court in Order #525, the Special Master concluded:

> Plaintiff has offered evidence that could convince a trier of fact that the CIAR was publicly-billed as an independent scientific entity organized to support research projects addressing indoor-air issues, when in fact funding was controlled by the tobacco industry, and projects were sought for the purpose of establishing industry-favorable science and potential expert witnesses. . . . Plaintiff also establishes that CIAR-supported research was sought for litigation purposes, an interest that, for the industry, is not neutral and one not likely to be funded in a disinterested manner. . . . While Lorillard claims that the affiliation of CIAR to the industry was widely known, the Special Master is not

> persuaded in light of the paucity of evidence provided by Lorillard in support of its position, and the fact that it appears from counsel's correspondence that the industry intended to create an entity where the affiliation would not be obvious. Also, while Lorillard claims that the researchers were free to publish the results of their research, the Special Master notes that the fact that the industry exercised final decision-making authority over what projects would be funded established sufficient industry control at the front end of the research to call into question CIAR's true intent, and to potentially manage what final results would occur.

R&R #151 at 110-111 (internal footnote omitted).

(bb) Using CIAR to Hide Defendants' Control and Management of Industry-Funded "Science"

730. Defendants selected and funded Applied Projects in order to counter the impact of mainstream publications and to trivialize ETS exposure, while simultaneously masking industry involvement behind the seemingly "independent" facade of CIAR. The Malmfors/SAS and Enstrom projects funded through CIAR are described elsewhere in this section as examples of scientific fraud. Several other CIAR-sponsored Applied Projects are described below to illustrate how CIAR served the industry's goal of concealing tobacco industry funding and control.

731. The Rylander Confounders Study. From 1994-1996, CIAR sponsored a project by long-time industry consultant Ragnar Rylander, resulting in a 1999 published paper titled "Dietary Habits for Non-Smoking Females Living With Smokers or Non-smokers." The paper highlighted differences between groups, differences that supported the industry's argument that confounders (risk factors other than ETS) explained the association between ETS and disease. 2067224066-4069 (US 85733) (A).

732. Philip Morris funded the project alone 2028381480-1480 (US 26873) (A); 2028381481-1490 (US 26874) (A), and paid for Rylander's project via a "special assessment" from CIAR. 2050764511 (US 92032) (A); Eisenberg WD, 43:16-19. Though the Rylander

study was a Philip Morris project, the published paper stated only that the study was "supported by CIAR." 2067224066-4069 (US 85733) (A).

733. "Rupp's Asia Project." In 1991, industry ETS consultants Sarah Liao and John Bacon-Shone published a paper titled "Factors Influencing Indoor Air Quality in Hong Kong: Measurements in Offices and Shops." The paper concluded that indoor air quality in Asian cities was largely influenced by outdoor air pollutants, and that ETS therefore played only a very minor role in indoor air quality. The paper fails to disclose the source of funding. TLT0500039-0047 (US 65087) (A).

734. Despite the omission of a funding source in the paper and the repeated denial of sponsorship by Eisenberg in Court, numerous documents confirm that CIAR "sponsored" the Liao/Hong Kong project, the project was funded by Defendants, and that the project was closely managed by industry scientists and lawyers.

735. According to John Rupp's September 27, 1989 Asian ETS consultancy "Status Report," the Hong Kong project protocols were designed by BATCo's Chris Proctor and Reynolds' Guy Oldaker for industry ETS consultant Liao to use. 2500048508-8515 at 8509-8510 (US 20549) (A); 300541891-1894 (US 85550) (A). A project proposal from Liao to CIAR was dated March 6, 1990; the introduction in the proposal stated: "The project shall be sponsored by Centre for Indoor Air Research (CIAR) of U.S.A." 2023530411-0428 at 0412 (US 23672) (A). In Tom Osdene's notes of the March 27, 1990 CIAR Board of Directors meeting, he recorded that BATCo's Chris Proctor was working with Liao on a "revised proposal" and that John Rupp "needed the project sponsored by CIAR." 2023530327-0330 at 0329 (US 90023) (A).

736. The Hong Kong project apparently went forward sponsored by CIAR. The July 24, 1990 minutes of the Board of Directors meeting recorded that Eisenberg himself presented an

update on the "current status of the Hong Kong project." 2023530120-0121 at 0121 (US 90025) (A). Proctor presented a progress report on the project at the February 6, 1991 CIAR Board of Directors meeting. 87802318-2319 at 2318 (US 23535) (A). Proctor sent Eisenberg and the Philip Morris and Reynolds directors a draft of the Hong Kong paper under a cover letter dated March 1, 1991. 2023546632 (US 90026) (A). CIAR Board member Bob Pages wrote Steve Parrish on April 15, 1991 that CIAR was used to sponsor the study "so as to 'hide' industry involvement." 2023544456 (US 22816) (A). Rupp himself told Sharon Boyse (Blackie) in a letter dated March 12, 1993 that the Liao/Hong Kong study was one of many CIAR sponsored projects that had proven valuable to the industry. 87602277-2281 at 2278 (US 23516) (A).

737. Finally, in a January 29, 1999 article in the South China Morning Post, Liao admitted that she received approximately $1 million from CIAR to carry out the Hong Kong study with Bacon-Shone. Liao asserted that she was not aware that the source of the CIAR funding was the tobacco industry. 2072522793-2795 at 2793 (US 24607) (A).

738. While the Hong Kong study was "sponsored" by CIAR, several documents reveal that the "Asia Project" was in reality funded by Philip Morris, Reynolds, and BATCo as part of the larger Asian ETS consultancy program run by Rupp. 509591861-1870 at 1869-1870 (US 24741) (A); 2500048976-8998 at 8988-8989 (US 23007) (A). In fact, Liao and Bacon-Shone were both industry ETS consultants recruited by Rupp in 1989. 2500048635-8640 at 8636-8637 (US 20550) (A); 2500048508-8515 at 8510 (US 20549) (A).

739. The value of the study was in its perceived "independence" from the tobacco industry. In his February 14, 1990 Asian ETS consultancy update to Defendants, Rupp stated, "Because the Hong Kong study will be conducted and reported by independent scientists, we expect that the results (however inappropriately) will carry more weight with a variety of target

audiences than have the results of previous studies conducted and reported by industry scientists." 2500048976-8998 at 8989 (US 23007) (A). Proctor distributed the published paper to sponsors from BATCo, Philip Morris, and Reynolds, thanking them for their "commitment to the study." 300541761 (US 23597) (O). The Tobacco Institute cited the paper as seemingly "independent" authority in support of its March 20, 1992 "Comments" to OSHA. TLT1022319-2405 at 2367 (US 87404) (A).

740. At trial, Eisenberg inexplicably denied that CIAR sponsored the Liao/Hong Kong study at all. Eisenberg TT, 11/9/04, 5568:24-5569:3. However, the totality of the evidence relating to the Hong Kong project establishes that CIAR was used by Rupp and Defendants as a front to hide tobacco industry funding and obtain the participation and authorship of "independent" researchers. 2023544456 (US 22816) (A).

741. The Hazleton/Covance Project. At a cost of over $8 million, CIAR sponsored a number of exposure projects carried out by Hazleton Laboratories, which later became Covance Laboratories. The purpose of the Hazleton studies, like the multitude of exposure studies funded and directed by Defendants via CIAR and other means over the years, was to trivialize ETS as only a minor indoor air pollutant in the context of overall air quality, and to generate bias data to attack epidemiological studies showing an association between spousal smoking and lung cancer in nonsmokers. The Hazleton Project resulted in the publication of more than 11 studies. 2505442777- 2960 at 2880-2885 (US 25643*) (A); 2501003237-3242 at 3238-3239 (US 22320) (A).

742. Internal documents detail how CIAR was used by Defendants and other cigarette manufacturers to hide the direct management of the Hazleton Project by industry personnel. The Hazleton Project was also called the "Rothmans Study" because of its origin with British

cigarette manufacturer Rothmans and Rothmans scientist Barry Frost. The project was agreed upon by Defendants and other manufacturers via the IEMC. In a February 5, 1992 e-mail to Matt Winokur, Philip Morris's Bob Pages wrote with respect to the Rothman's project, "I'm in favor of this type of work because it's quick (relatively) and is very likely to generate helpful data." 2023522351-2352B at 2352A, 2352B (US 75127) (A).

743. The Hazleton project was carried out to defuse or at least forestall one epidemiological study in particular: the IARC Multi-Centre Study (see below). Documents written by Philip Morris's Helmut Gaisch and Richard Carchman disclose how Defendants, through the IEMC, agreed to fund Hazleton as part of the industry's broad "Response to the IARC ETS Study." 2505443991-4000 at 3996 (US 22202) (A); 2028363615-3616 (US 37366) (O).

744. Using CIAR to "sponsor" the Hazleton Project permitted the covert funding of the work by ten international cigarette manufacturers and trade associations. According to the Frost's January 1993 presentation to the IEMC, the contributors to the first of the Hazleton studies were Rothmans, Philip Morris, Reynolds, Imperial Tobacco, BATCo, Japan Tobacco, the German Verband (VdC), French manufacturer Seita, Spanish manufacturer Tabacalera, and the Swedish tobacco organization Reserca. 2021520163-0180 at 0167 (US 26738) (A).

745. Using CIAR also allowed Defendants to hide the fact that Frost managed the project and may have participated in the writing of the first of the resulting papers. Two Philip Morris records of the May 18, 1993 IEMC meeting recorded that "Hazleton or Barry Frost will write the paper" on the United Kingdom study. 2501003237-3242 at 3239 (US 22320) (A); 2028372583-2596 at 2595 (US 22926) (A).

746. The Hazleton Project resulted in numerous publications, some of which appeared

in the tobacco industry's journal *Indoor and Built Environment*. 2505442777-2960 at 2883-2885 (US 25643*) (A).

747. The Latin American Project. In 1995, Antonio Miguel published a paper titled "Characterization of Indoor Air Quality in the Cities of Sao Paolo and Rio de Janiero, Brazil" in the journal *Environmental Science & Technology*. The paper concluded from the data collected that ETS was only a minor part of indoor air particulate matter in the restaurants and offices tested. The paper included an acknowledgment at the close stating that the study was funded in part by CIAR. 89273967-3974 (US 92023) (A).

748. The Miguel paper was part of the Latin American Project funded directly by the CIAR Board of Directors as an Applied Project. Under cover letter dated September 30, 1992, Covington & Burling analyst Chris Proctor forwarded two project proposals directly to Eisenberg and the CIAR Board of Directors for funding. The purpose of the projects, the first by Miguel the second by Maria Calfaro, was to gather data on indoor air in restaurants and offices in Brazil, Costa Rica, and other Latin American countries. The cost of the projects as proposed was $72,760 and $76,820, respectively. 2023591432-1459 (US 26794) (A).

749. Proctor wrote in his letter that funding the projects through CIAR would have "no direct implications for CIAR's budget." This was because, according to notes written by CIAR Board member Bob Pages on Proctor's cover letter, the projects were not funded by CIAR, but directly by Philip Morris (40%) and BATCo (60%). Moreover, Proctor's expenses in managing the projects were to come out of the "ongoing consultant program," and John Rupp would "pick up out of pocket CIAR expenses." Thus, CIAR was used for sponsorship only, to avoid having to name Philip Morris and BATCo as sponsors in the published paper. 2023591432-1459 (US 26794) (A).

750. Other documents shed light on important aspects of the projects. A November 23, 1992 update from Rupp reported that the funding of the Alfaro study, although "conducted under the auspices of CIAR" would be split among Philip Morris and BAT Group companies in Guatemala, Panama, El Salvador, Nicaragua, Honduras, and Costa Rica. 300543217-3227 at 3218-3219 (US 28139) (A). An October 2, 1992 letter from Covington & Burling attorney Patrick Davies to Souza Cruz, the Brazilian affiliate of BATCo, advised that Rupp had asked him to respond to "questions to Sharon [Boyse] about billing for the Brazilian field study" and that Covington & Burling had set up a checking account in Sao Paolo to receive payments from BAT companies and disburse payments to the researchers. Davies also wrote that Proctor would be "returning to Brazil to oversee the field study." 300543295 (US 92025) (A); see also 300543259-3260 at 3259 (US 28145) (A) (11/29/92 letter from Davies acknowledging CIAR sponsorship of Central American study.)

751. A Philip Morris record of an August 14, 1992 ETS meeting confirms that CIAR was chosen as a cover for the two projects to avoid disclosure of cigarette company involvement:

> MW [Philip Morris's Matt Winokur] or J. Rupp to meet with A. Gonzalez / C. Rodriguez concerning **how best to handle disclosure issue** concerning Brazil and Central America projects (**CIAR was suggested as the best way to handle the projects**).

2051810375-0377 at 0376 (US 92066) (A) (emphasis added).

752. In 1995, CIAR billed Philip Morris a "special assessment" of $1 million for "Latin America / Asia exposure studies." 2050764531 (US 92032) (A).

753. Eisenberg did not deny that CIAR sponsored the Brazilian study. However, while a November 19, 1992 letter from Davies and the November 23, 1992 Rupp update described above both stated that CIAR sponsored the Central American study, Eisenberg denied CIAR sponsorship at trial. 300543259-3260 at 3259 (US 28145) (A); 300543217-3227 at 3218-3219

(US 28139) (A); Eisenberg TT, 11/9/04, 5592:7-9; 5611:14-21.

754. The 16 Cities Study. One of the more expensive studies funded through CIAR as another Applied Project was the ORNL project published as the 1996 paper "Exposure to Environmental Tobacco Smoke In Sixteen Cities In The United States Determined By Personal Breathing Zone Air Sampling." (JD-044272) (A); Ogden WD, 6:1-11; Ogden TT, 3/17/05, 15948:15-15949:8.

755. Defendants undertook what was known as the 16 Cities Study in response to a workplace indoor air rule proposed by OSHA in September 1991. 2023859480-9486 (JD-080318) (A). Defeating the proposed OSHA rule was critical to Defendants. In fact, according to an October 8, 1992 Philip Morris e-mail from CIAR Board member Bob Pages to Steve Parrish, Reynolds CEO Jim Johnston conditioned his company's continued funding of CIAR on the initiation of projects that would help the industry oppose the OSHA: "CIAR must use all of its resources in support of projects/activities that will help us with OSHA." In the same e-mail, Pages stated that fellow CIAR Board member and Reynolds scientist Charles Green told him that "the prevailing attitude around Winston-Salem is that 'if we lose with OSHA, it's all over.'" 2028472657A-2028472658 (US 75169) (A); Ogden TT, 3/17/05, 15947:6-9.

756. For the many reasons that follow, the 16-Cities Study was not objective, neutral research. The project was planned in early 1993 with Reynolds, ORNL, and Reynolds' long-time marketing research firm, Bellomy Research. 508692972-2972 (US 92102) (A). Bellomy was responsible for proposing the cities in the study, locating marketing research firms in those cities, and overseeing the entire process of obtaining the questionnaire data from participants. Ogden TT, 3/17/05, 15951:23-15953:6; Ward TT, 11/3/04, 4990:6-4991:24. Bellomy and Reynolds created the questionnaire given to participants. Ogden TT, 3/17/05, at 15955:4-14. CIAR

funding was split between ORNL and Reynolds, who received over $500,000 to "assist" ORNL in the study. 522057702-7708 at 7702 (US 93165) (A); Ogden TT, 3/17/05, 15967:23-15968:5.

757. All of the laboratory testing of body fluids and air samples for metabolites of nicotine was carried out at the Reynolds laboratories in Winston-Salem. Ward TT, 11/3/04, 4987:17-24; (JD-044272 at 483) (A) ("ETS and saliva samples were shipped to the RJR/RD analytical laboratories. . . ."); 522057702-7708 at 7702 (US 93165) (A). The use of Reynolds' labs, as opposed to an outside, independent testing laboratory, was requested by CIAR, not ORNL. Ward TT, 11/3/04, 4987:25-4989:17.

758. The 16-Cities Study was a large scale version of exposure studies that Reynolds had previously conducted, studies that Reynolds had used to generate favorable results that the industry could rely on in submissions to legislative and regulatory bodies in opposing smoking restrictions. Ogden TT, 3/17/05, 15960:25-15962:14; JD-023787 (A).

759. According to performance documents for Reynolds scientist Mike Ogden and his testimony in this case, Ogden (1) "designed and executed" the 16 Cities Study; (2) was responsible for completing all the analysis of the body fluid samples in the study; (3) authored 17 Reynolds Research & Development Memoranda (R&DMs) on the project; and (4) could have been listed as an author on the published paper. 510781780-1782 at 1780 (US 30001) (A); 522057702-7708 (US 93165) (A); 519274420-4426 at 4422 (US 30351) (A); Ogden TT, 3/17/05, 15967:10-22.

760. Jenkins and ORNL had been recipients of major tobacco industry funding in the 1980s through the ETSAG. 2021004058-4064 (US 20339) (A); 507734379-4380 (US 29905) (O). The lead researchers at ORNL were Roger Jenkins and Michael Guerin; Guerin served Defendants as a member of the CIAR SAB at the time the 16-Cities Study was carried out.

2025471735-1762 at 1736 (JD-024508) (A); 2057790373-0404 at 0375 (US 23995) (A).

761. The results of the 16-Cities Study, predictably, were favorable to the industry in disputing the basis for the proposed OSHA rule: the study concluded that exposure to ETS in the workplace was only a fraction of what was estimated by OSHA in the proposed rule. (JD-023787) (A) at II-48 - II-72 ("The ORNL Study is the best evidence in the record concerning workplace exposure to ETS.") Through this CIAR managed and funded study, Defendants were able to obtain favorable data while concealing that (1) the study was designed and largely executed by a Reynolds scientist; (2) the study was never staffed through the CIAR Scientific Advisory Board or peer reviewed; (3) the marketing research firm who was responsible for gathering and compiling questionnaire data was the long-time marketing research agency for Reynolds; (5) the listed author (Jenkins/ORNL) had a preexisting long-term relationship with the tobacco industry; and (6) the project was carried out by a group of cigarette manufacturers with the specific intent to resist the proposed OSHA indoor air rule. (JD-044272) (A).

762. Jenkins has testified for Defendants as an expert witness in two smoking and health cases since appearing as an author on the published 16 Cities paper in 1996. Ward TT, 11/03/04, 4986:7-21. However, in 1997, Jenkins was barred by the court in Broin v. Philip Morris Companies, Inc. (Broin I) from testifying about the results of the 16 Cities study because of the close connection between Defendant Reynolds and the ORNL research itself. Ward TT, 11/3/04, 4991:25-4992:4.

763. Jenkins was named in this case as an expert witness, then as a fact witness; Defendants then elected to submit designations from his deposition. See Jt. Defs.' 5/4/04 Witness List at 17; Jt. Defs.' 4/11/05 Notice of Designations of Prior Testimony and Related Exhibits for Dr. Roger Jenkins.

(cc) The Demise of CIAR

764. The projects carried out through CIAR were coordinated with industry ETS projects carried out by other companies and industry organizations abroad. For example, Don Hoel convened a joint industry meeting on June 17, 1988, in London for industry executives, scientists, and lawyers to discuss scientific research and strategies on ETS and how these relate globally." CIAR Board member Tom Osdene and CIAR counsel John Rupp made presentations to the group, which included industry representatives from the United Kingdom, Germany, Canada, and Japan. 401033458-3465 (US 85530) (A); 2021548222-8235 (US 20349) (O).

765. A series of slides from a 1995 Reynolds presentation, entitled "ETS: a global offensive and defensive strategy" and produced from BATCo's files, reveals that the two Defendant Cigarette Companies coordinated their efforts to use CIAR to preempt the upcoming IARC study, which was to be the largest epidemiological study of ETS. These slides stated, in part:

> ETS Objectives: Pre-empt IARC with CIAR exposure studies . . . Counter directly with misclassification & confounder data . . . Build positive approach on IAQ – ventilation/ accommodation.
>
> ETS key messages: Threats related to ETS exposure grossly exaggerated . . . Adults have the right to be properly informed about smoking . . . Consumers favor separation and accommodation, not total bans . . . Tobacco industry will take lead on encouraging 'equal' accommodation.

502558482-8497 at 8489, 8491, 8493, 8496 (US 29562) (O).

766. The MSA, signed by the parties in November 1998, required that Defendants shut down and disband CIAR within 45 days of "Final Approval." Although the MSA was signed by the parties in November 1998, "Final Approval" by the settling States did not take place until approximately one year later. (no bates at 32-33) (JD-045158) (A).

767. The CIAR Board of Directors voted to dissolve CIAR on October 7, 1999, and Eisenberg formally dissolved the organization on December 6, 1999. 86205205-5206 (US 21091) (O).

768. Between the MSA signing in November 1998 and CIAR dissolution in December 1999, Defendants continued to fund millions of dollars of new and continuing research. In fact, in February 1999 alone the CIAR Board of Directors voted to fund over $3.5 million in new research. 2063908736-8736 (US 20514) (A); 83205163-83205165 (US 23493) (A).

769. The effects of CIAR-funded projects continued to be felt after the organization was disbanded. For example, in 2000, the second edition of the CIAR text by ETS consultant Roger Jenkins was published, with Max Eisenberg listed as editor. The publication, titled, "The Chemistry of Environmental Tobacco Smoke: Composition and Measurement" continues to parrot Defendants' practices of disputing the known health effects of passive smoking and trivializing its role as an indoor air pollutant. According to Jenkins's introduction to his book: (1) "The degree to which ETS exposure represents a health hazard remains a point of contention"; and (2) "The contribution of ETS to the concentration of indoor air contaminants in commonly encountered environments is much less than is implied by the extreme values included in many tabulations of ranges observed." BR2000545-0785 at 0553 (JD-065024) (A).

(vi) Post-1991: The Continuation of the International Conspiracy Through the IEMC

770. After INFOTAB was dissolved in 1991, Defendants' global coordination to attack and distort the evidence of the health effects of passive smoking continued by other means. In March 1991, executives and lawyers representing several Defendants and other cigarette manufacturers formed the International ETS Management Committee (IEMC) as yet another vehicle for the enterprise (1) to fund and manage research to maintain an ETS scientific

"controversy" and (2) to coordinate the industry's strategy and position on passive smoking.

771. A May 1991 Philip Morris document stated that the IEMC was established to insure that:

> 1. Common position statements and policies are developed and adopted worldwide;
>
> 2. Major potential threats of smoking restrictions and bans are identified;
>
> 3. Strategies are developed to deal with them;
>
> 4. The necessary resources are made available to the staff in the markets and regions; and,
>
> 5. Finally, that optimal coordination and cooperation across the companies is promoted to ensure the best application of those resources.

2500061112-1113 (US 22821) (A).

772. The executives and lawyers of the IEMC represented BATCo, Reynolds, Philip Morris, American Brands/Gallahers, Imperial Tobacco, Reemstma, and Rothmans, and was intended to work with a larger European industry organization called the Confederation of European Community Cigarette Manufacturers, or CECCM. 2500061112-1113 (US 22821) (A); 507782317-2318 (US 20788) (A).

773. According to a 1991 memorandum by BATCo's IEMC representative Sharon Boyse (Blackie), the IEMC was established "following the AFCO judgment in Australia" when "a group of international industry lawyers met in London to consider the implications for the industry." This group became the IEMC. 300522762-2767 at 2763 (US 22223) (A).

774. A brief summary of the AFCO case is necessary to understand how the AFCO decision spurred Defendants and other international cigarette manufacturers to create the IEMC in the wake of INFOTAB's demise.

775. The AFCO case arose from a July 1986 advertisement by the Tobacco Institute of Australia, published in Australian newspapers to dispute the health effects of passive smoking. The advertisement claimed:

> Lately, however, many non-smokers have been led to believe that cigarette smoke in the air can actually cause disease.
>
> **There is little evidence, and nothing which proves scientifically that cigarette smoke causes disease in nonsmokers.**

AFCO v. Tobacco Institute (Aust) (1991) 27 FCR 149 (emphasis added).

776. The Australian Federation of Consumer Organizations (AFCO) brought suit against the Tobacco Institute, alleging that the advertisement was deceptive under the Australian Trade Practices Act. AFCO v. Tobacco Institute (Aust) (1991) 27 FCR 149.

777. After a full trial on the merits involving scientific witnesses and a number of the industry's ETS consultants, the trial court found in favor of AFCO. In its February 1991 decision, the court held that the Tobacco Institute's advertisement was misleading and deceptive with respect to the scientific evidence that passive smoking caused lung cancer, respiratory diseases in children, asthma attacks, and middle ear disease. With respect to lung cancer, the Australian court held:

> In relation to the disease of cancer, the statement was erroneous and was misleading and deceptive both in 1986 and to date because: (a) far from there being little evidence that cigarette smoke caused disease in nonsmokers, there was much evidence to that effect, irrespective of whether the primary articles alone were regarded as evidence for the purposes of the advertisement, or regard was also had to the major reviews; and (b) a review of the totality of the available data leads to the conclusion that there was scientific proof in the sense that there was compelling scientific evidence that cigarette smoke caused lung cancer in nonsmokers.

AFCO v. Tobacco Institute (Aust) (1991) 27 FCR 149.

778. The trial court's findings that the Tobacco Institute's advertisement was

misleading and deceptive were upheld on appeal. Tobacco Institute (Aust) v. AFCO (1992) 38 FCR 1; Tobacco institute (Aust) v. AFCO (1993) 41 FCR 89.

779. The AFCO outcome provides context for Boyse's July 24, 1991 memorandum linking the AFCO decision to the formation of the IEMC. The industry realized after AFCO that it could be liable for and embarrassed by statements that cigarette manufacturers or their trade associations (such as the Tobacco Institute) made denying the health effects of ETS. Therefore, if the companies wanted to continue their attempts to maintain a scientific and public "controversy," they would have to (1) use terms other than "little evidence" and "no scientific proof"; or (2) if the companies wanted to deny the health risks in a way that might lead to liability, they had to do so covertly through their use of "independent" consultants:

> One conclusion that was very clear from the industry lawyers was that we had to further develop our resources of independent spokespersons who were not directly associated with the tobacco industry, in order to minimize situations in which we respond as an industry and so potentially lay ourselves open to legal claims.

300522762-2767 at 2763 (US 22223) (A).

780. One major role of the IEMC was to formulate a common position for the Enterprise to deny the health risks of passive smoking. In furtherance of the Enterprise's effort to ensure that public statements concerning ETS exposure were uniform, Covington & Burling prepared a position paper, the "ETS White Paper," for the IEMC and CECCM. The conclusions of the paper, and therefore the uniform positions of the companies, were that (1) knowledge of the chemical composition of mainstream and sidestream smoke is not relevant to the composition of ETS; (2) knowledge of the health effects of active smoking is equally irrelevant; (3) ETS is only a very minor source of indoor air contaminants, and can be addressed via ventilation; and (4) the "pertinent evidence" did not support any claim that exposure to ETS was a cause of any

disease or any adverse health effects in children or adults. 2023581802-1841 at 1808-1812, 1827, 1831, 1838 (US 88467) (O).

781. This echoed the ICOSI role in the late 1970s to formulate a common position on passive smoking to guide the companies' statements to the public, the media, and government officials. According to 1992 company memoranda from Philip Morris's Matt Winokur and BATCo's Sharon Boyse (Blackie) to their respective company executives worldwide, including Steve Parrish, the Covington & Burling position paper had been "approved and adopted for use by all the IEMC member companies" for public use. 2023581801-1801 (US 20392) (A); 300528914-8914 (US 46573) (A).

782. The 1992 "ETS White Paper" was also forwarded to CECCM, the Tobacco Document Center (TDC) and all company representatives. 300543969-3970 (US 88468) (A); 300543940-3942 (US 88469) (A). Covington & Burling revised the "white paper" in 1993 and distributed it to IEMC and CECCM members for comments and approval. 500874371-4371 (US 88470) (A); 300544202-4208 at 4206 (US 88471) (A); 2025495368-5373 at 5370 (US 37270) (A).

783. One of the 1993 industry position papers approved through the IEMC and CECCM, titled "Environmental Tobacco Smoke: Science or Politics," concluded that government agencies, and specifically the EPA, had "ignored or manipulated" the "pertinent science" on ETS to serve "political goals." 700547265-7291 at 7290 (US 54554) (A); Blackie WD, 158:3-7. Blackie stated at trial that one of the roles of the IEMC and CECCM was to coordinate the industry's position with respect to the EPA. Blackie WD, 143:18-144:4. CECCM members at that time included BATCo, Philip Morris, Rothmans, R.J. Reynolds, Reemtsma, Gallahers and Imperial. 502601564-1567 at 1565 (US 29570) (O).

784. CECCM worked with the IEMC and approved the IEMC position papers for use by all of its cigarette manufacturer members both with the media and with government officials. 300545701-5705 (US 88464) (A); 300543440-3445 at 3443 (US 88465) (A); 2504088209-8210 at 8209 (US 20571) (A). In the words of the Rothmans representative to the IEMC: "It was eventually resolved: IEMC will *develop* the messages (globally); CECCM will *deliver* these message (in Europe)." (emphasis in original) 900006204 (US 88482) (A); 900006205-6209 (US 88483) (O). Building on the IEMC/CECCM position papers, an "ETS Communications Manual" was compiled and distributed to all IEMC and CECCM members. 900006078-6080 (US 88485) (O); 2072418746-8749 at 8746 (US 89141) (A).

785. The IEMC also played a central role in coordinating the industry's attack on science. In the 1990s, IARC undertook a study in multiple cities to assess the health effects of passive smoking. Defendants used the IEMC as a platform to monitor, influence, and attack the study as it progressed. Boyse wrote the following in a December 1, 1993 memorandum to BATCo executives:

> IARC is to publish, in 1994 or 1995, the largest epidemiological study of ETS ever carried out, covering eleven Centre in Europe, North America, and Asia. We believe it likely that on the basis of this study, IARC will classify ETS as carcinogenic, which would lead to a situation not dissimilar to that with the EPA in the USA . . . .
>
> Through the International ETS Management Committee (BAT, PM, RJR, Rothmans, Imperial UK and Reemtsma) we are developing a strategy, both scientific and media-related, to cope with this study.

500844318-4319 (US 48464) (A).

786. A September 2, 1993 Philip Morris memorandum discussing the IARC study warned that: "The results are anticipated to have significant credibility both because this study

consists of original research and because IARC itself has a solid reputation. **Preliminary indications suggest that the study may find a very weak, but positive link between ETS exposure and lung cancer in non-smokers.**" 2501117793-7797 at 7793 (US 27932) (O) (emphasis added).

787. According to several Philip Morris documents, industry objectives in 1993 included: (1) "delay the progress and/or release of the study"; (2) taking steps to "neutralise the possible negative results of the study"; and (3) making efforts "to get the study shelved altogether." However, these objectives were to be executed as part of "one global strategy." 2501117793-7797 at 7794 (US 27932) (O); 2501348679-8683 (US 88474) (O).

788. Philip Morris had planted a number of "moles" to track the study's progress, and had engaged Covington & Burling to use industry ETS consultants to "try to uncover as much information as possible on the current status, etc., of the IARC study." 2025493295A-3296 at 3295A (US 26839) (O); 2029231774-1782 at 1774 (US 88102) (A).

789. The industry even asked: "Can we kill the credibility of the research up front, before publication?" 2500156109-6110 at 6109 (US 88473) (O); 2025493279-3283 (US 88111) (O).

790. An updated 1993 plan was presented by Philip Morris's David Greenberg to Philip Morris Companies President and COO Bill Murray in September 1993. Objectives continued to include delaying the progress and release of the IARC study, as well as neutralising its results. Greenberg proposed setting up a Philip Morris IARC team - composed of Philip Morris employees and attorneys from Shook, Hardy & Bacon and Covington & Burling - to insure that the strategies were "implemented globally." 2021184116-4116 (US 26730) (A); 2021184117-4121 at 4118-4119 (US 36718) (O).

791. There was great concern among the tobacco industry because: "IARC is credible, the study is a REAL one, and its results will have MAJOR impact, and there needs to be a serious multi-country strategy that encompasses all 16 IARC member nations," including the United States, a member of IARC. 2025493295-3296 at 3296 (US 26839) (O). Greenberg wrote Murray in New York that, "Indeed our scientists go as far as to state that **IARC is virtually unassailable**." 2021184117-4121 at 4117 (US 36718) (O) (emphasis added).

792. Philip Morris's IARC planning involved executives and scientists from Philip Morris USA and Philip Morris Europe (FTR), in conjunction with the outside lawyers. Philip Morris (FTR) Scientific Director Helmut Reif was to take the lead in organizing and coordinating all of the inter-industry scientific efforts. These efforts included preemptive assessment of the questionnaire to expose weaknesses; organizing with the law firms a team to identify and mobilize consultants, and offering IARC industry funded study results and protocols through Max Eisenberg at CIAR. Philip Morris USA's Matt Winokur wrote to Philip Morris USA's general counsel Steve Parrish in a January 24, 1994 e-mail: "I agree that S & T (Richmond and Neuchatel) must be involved with all phases - scientific, political and communications - that come together when developing the industry's response to the IARC study. And already this is happening." 2029174855-4855 (US 88475) (O); 2024104538-4538 (US 88476) (A).

793. Philip Morris's IARC plan formed the basis of a coordinated industry plan implemented through the IEMC to counter the IARC threat. 2024104596-4596 (US 88735) (A); 2023693108-3108 (US 88477) (A); 2501355932-5944 at 5944 (US 88104) (O).

794. From 1994 forward, a plan to counter IARC was carried out through a "subgroup" or "task force" of the IEMC representatives. In addition, CECCM had its own "IARC Working Group" whose membership included many members of the IEMC "subgroup." The subgroup

met to formulate the industry's comments and responses (called "ETS messages") to the IARC study both before and after publication; these "messages" were then be forwarded to CECCM and IEMC member companies to insure unified positions. 900006185-6185 (US 88480) (A); 2028361781-1781 (US 88478) (O); 2078742949-2949 (US 27722) (A).

795. In a January 17, 1994 memorandum to David Greenberg, Matt Winokur summarized how the "IARC task force" had been set up "to coordinate plans and resources among the companies and in conjunction with National Manufacturers Associations." These plans included IARC "intelligence gathering" and the development of a "global communications . . . to address the impact of the study." 2025493459-3460 at 3459 (US 26843) (O).

796. BATCo produced in this case a 1995 Reynolds Powerpoint presentation entitled "ETS: a global offensive and defensive strategy". The Reynolds presentation focused on the ongoing IARC study, calling IARC a "manageable threat" that could be "globalized" and countered by CIAR and other industry passive smoking initiatives. The "Target Audiences" were broad, including consumers, government officials, and the scientific community. 502558482-8497 at 8483, 8488, 8489, 8492 (US 29562) (O).

797. The industry's coordinated "IARC Release Plan," as written in 1996, involved many players. The plan was presented to IEMC and CECCM, ostensibly for their approval. Rupp was tasked with writing various white papers that would be included in the National Manufacturer's Association manual. Shook, Hardy & Bacon would provide legal clearance. Peter Lee would review IARC’s ETS position and past practices to allow corporate affairs to identify weaknesses in the IARC methodology. There was a "Response Coordination Team" of executives from the member companies, including David Greenberg and Ruth Dempsey of Philip Morris, Chris Proctor of BATCo, and Steven Sears of Reynolds. More than a dozen other

company executives and scientists served in other roles for the "Coordination Team." 2048381563-1574 (US 88131) (O).

798. The "IARC Industry Release Plan" was coordinated through CECCM. The minutes of the January 28, 1997 CECCM corporate member meeting recorded that Philip Morris gave a status update on the IARC study, and the members agreed that CECCM would update the manufacturer associations (NMAs) at the next meeting in February 1997. The "IARC Industry Release Plan" involved the cigarette manufacturer members, the NMAs, and public relations firm Burson Marsteller. 2072417681-7682 (US 89132) (A).

799. One strategy to counter the anticipated IARC study was to create and convince scientific groups to adopt industry-favorable epidemiology standards, dubbed "Good Epidemiology Practices" or GEPs. 2501347174-7176 at 7175 (US 45951) (O); 2029260524-0539 (US 26895) (O); 2025493020-3030 (US 88108) (O); 2028381627-1627 (US 26885) (O).

800. Through the use of its "GEPs," Philip Morris created and pushed a standard under which relative risks of less than two would be ignored, and would be per se insufficient to establish causation. This "standard" was attractive to Defendants because, with respect to passive smoking, the majority of the relative risks of harm, although consistently elevated, were less than two. Parrish WD, 86:1-88:9.

801. Defendants were unable to convince any organization to adopt their version of "good" epidemiological practices. In an April 3, 1998 Philip Morris e-mail from Ted Sanders to Cathy Ellis in Richmond, Sanders summarized the 1994 GEP initiative as follows:

> Approximately three years ago, the concept of GEPs was discussed in considerable detail in PM. Corporate Affairs thought it was a wonderful idea, because at first they. . . felt that part of a code for Good Epidemiological Practices would state that any relative risk of less than 2 would be ignored. **This is of course not the case. No epidemiological organization would agree to this, and even**

> **Corporate Affairs realizes this now.** A number of initiatives were attempted, but the one initiative which continues in Europe is currently under the auspices of John Rupp.

2060566164-6165 (US 20505) (A) (emphasis added). See also discussion of relative risk above at US FF §III.A(2)(b)(ii).

802. In early 1998, IARC published a summary update of its ongoing Multi-Center ETS study in its 1996/1997 Biennial Report. 2063594009-4009 (US 39763) (O). In this Report, the researchers reported a relative risk of lung cancer of 1.16 for spousal exposure (CI = 0.93-1.44) and 1.17 for workplace exposure (CI = 0.94 - 1.45). Researchers also reported that "several quantitative indicators of ETS showed a dose-response relationship with lung cancer risk." 770007956-8214 at 8018, 8177-8178 US 88132; (no bates at 9) (JD 023241) (A).

803. Despite the findings in the IARC study of raised relative risks and a dose-response relationship, Defendants publicly distorted and misrepresented the evidence. IEMC representative and BATCo scientist Chris Proctor was quoted in a March 8, 1998 BATCo press release:

> Europe's Largest Ever Passive Smoking Study Has Failed to Establish a Meaningful Risk of Lung Cancer to Non-Smokers
>
> **The ten year study**, which was commissioned by the World Health Organisation and involved twelve centre in seven countries, **has cast further doubt on the status of passive smoking as a cause of disease.**
>
> Dr. Chris Proctor, Head of Science for British American Tobacco said: "New scientific research from the World Health Organisation has shown the risk of lung cancer from environmental tobacco smoke to be either non-existent or too small to be measured at a meaningful level. . . **If this study cannot find any statistically valid risk, you have to ask whether there can be any risk at all.**"

2063594018-4018 (US 39764) (A) (emphasis added).

804. The March 9, 1998 B&W press release went beyond distorting the evidence. The B&W headline, and in particular the quote from Sharon Boyse (Blackie), was false. Clearly the IARC study did find an elevated risk of lung cancer associated with spousal and workplace smoking. That the lower end of the confidence interval was below 1, therefore rendering the result not statistically significant to statisticians, did not change this fact. Nonetheless, B&W claimed in its press release:

> **MAJOR ENVIRONMENTAL TOBACCO SMOKE STUDY FINDS NO RISK**
>
> New research from one of the world's premier health organizations is out on environmental tobacco smoke.
>
> In the largest study of its kind ever performed in Europe, research by the World Health Organization's International Agency for Research on Cancer (IARC) has found no meaningful increase in lung cancer risk to non-smokers exposed to environmental tobacco smoke.
>
> "This is good news for smokers and non-smokers," said Sharon Boyse, director of scientific communication at Brown & Williamson Tobacco Corporation. **We welcome this new study which confirms what we and many other scientists have long believed, that while smoke in the air may annoy some non-smokers, the science overall does not show that being around a smoker is a lung cancer risk,**" she said.

DXA0680223-0233 at 0233 (US 79025) (A).

805. For their part, the WHO and IARC attempted to correct the misrepresentations and distortions of the IARC study by Defendants. A March 1998 WHO press release stated:

> PASSIVE SMOKING DOES CAUSE LUNG CANCER; DO NOT LET THEM FOOL YOU
>
> * * *
>
> The results of this study, which have been completely misrepresented in recent news reports, are very much in line with the results of similar studies both in Europe and elsewhere: *passive*

smoking causes lung cancer in non-smokers.

> The study found that there was an estimated 16% increased risk of lung cancer among non-smoking spouses of smokers. For workplace exposure the estimated increase was 17%. However, due to the small sample size, neither increased risk was statistically significant.

224460-4461 (US 79174) (A). See also discussion of statistical significance above at US FF § III.A(2)(b)(ii).

806. Another major purpose and function of the IEMC was to select and fund scientific studies to generate findings favorable to the industry's position that ETS was not a proven health hazard. For example, the Hazleton exposure studies described above and funded by Defendants through CIAR were directed by the IEMC. 2023522351-2352B at 2352B (US 75127) (A). The 1995 Reynolds Powerpoint presentation discussed above stated outright that one of the industry's "ETS Objectives" was to "pre-empt IARC with the CIAR exposure studies," confirming that the CIAR research was neither neutral nor objective. 502558482-8497 at 8489 (US 29562) (O).

807. The Japanese Spousal Study conducted by BATCO's Proctor and industry consultant Peter Lee is another example of an IEMC directed study funded to obtain industry-favorable results. 300512244-2245 at 2245 (US 67752) (A); see discussion of study above at US FF § III.A(2)(k)(i).

808. A June 8, 1994 presentation by Philip Morris USA's Richard Carchman to the IEMC records how the IEMC/CIAR research would be used to counter the IARC study. Carchman stated that IEMC-proposed exposure and confounder studies were to "be organized by and funded through CIAR." Carchman described four studies: two confounder studies by CIAR SAB member Genevieve Matanowski, the Hazleton project, and the ORNL16-Cities Study. The objective of the projects was to generate data for use with both scientists and policymakers in

1994 and 1995. In fact, Carchman had already planned for "promotion" of the studies, suggesting he knew that the outcome of the yet-to-be-performed studies would be favorable to the industry. 2505443991-4000 (US 22202) (A).

809. CIAR's role in the industry's IARC initiatives makes clear that CIAR was a tool of the industry and part of the industry's IARC team. In fact, CIAR director Max Eisenberg took part in an IARC planning meeting held at Philip Morris on June 15, 1994. The following is listed as the second "Meeting Outcome":

> Strategic plan for contacts, roles and responsibilities of CIAR, Scientific Affairs, World Regulatory Affairs, Science and Technology, and CRC [Contract Research Center, a Philip Morris laboratory in Belgium].

2050751946-1950 at 1946 (US 88100) (A).

810. The IEMC arranged for the funding of ETS studies through the CIAR which were conducted at Hazleton Laboratories. After an initial project cost of about $200,000 for the United Kingdom phase of the project, these industry-funded ETS studies cost the industry $7.28 million. 2021520163-0180 at 0167 (US 26738) (A); 25054422777-2960 (US 25643*) (A). To perpetuate the appearance of "independence," the task of publicizing the Hazleton results was assigned to outside public relations agency Spring O'Brien. According to an August 10, 1995 CECCM meeting :

> It was acknowledged that Spring O'Brien had already been appointed by the Corporate Members as the central agency dealing with PR activities on the Hazleton studies.

2046546263-6265 at 6263 (US 88101) (O).

Later in the same meeting minutes, the group acknowledged that they would conceal the tobacco industry source of the funding as much as possible to create a perception of "independent" science:

> It was stressed that it is important to tell the truth about the funding of the Hazleton Studies - if asked. (CIAR is sponsored in the US by the chemical and tobacco industries).

2046546263-6265 at 6265 (US 88101) (O).

811. The IEMC agreed that once the Hazleton Project and the Japanese Spousal Study were completed, industry ETS consultants would be tasked by Covington & Burling "to spread the scientific word on the new scientific info" from the two projects. In so doing, the industry could avoid attribution. The IEMC issue was "How to best market the results of these studies in order to influence public policy and merchandise the 'positive' progress in epidemiology." 2501003237-3242 at 3242 (US 22320) (A); 2501003235-3235 (US 22322) (O).

812. After the IARC study was published in October 1998, Brown & Williamson issued a press release dated October 7, 1998, largely reiterating the March 1998 press release and stating that study found only a "minimal risk posed by environmental tobacco smoke." 321926036-6037 at 6036 (US 88134) (A). The BATCo press release in October 1998 claimed that the IARC study showed: "[I]f there is any risk at all of lung cancer for living, working, or growing up with a smoker, it is too small to measure at a meaningful level." 2505445804-5804 (US 88133) (O).

813. One of Defendants' most prolific paid ETS consultants, Peter Lee, played a role in distorting and attacking the 1998 published IARC study as well, through letters to editors of journals and newspapers. 321557020-7021 (US 88135) (O); 321560600-0616 (US 88137) (O).

814. The Lee letter to the *Journal of the National Cancer Institute* criticizing the IARC report asserted that he was not paid by the industry for writing the letter. 321557020-7021 (US 88135) (O). However, an August 1998 letter from the head of the U.K. Tobacco Manufacturers' Association (TMA) stated that Lee had been paid over £50,000 by the TMA for the first eight

months of 1998 alone; a September 1998 TMA ETS Working Group meeting agenda attached the "P N Lee Consultancy Agreement 1998/1999." These documents suggest that Lee was in fact compensated by the tobacco industry for his efforts to attack the IARC study published in 1998, but concealed the funding in order to create an appearance of independence. 321556233-6234 (US 88145) (O); 321556235-6235 (US 88146) (O).

815. A July 2000 report authored by a committee of experts including Dr. David Kessler, former FDA Commissioner, to the Director General of the World Health Organization was titled "Tobacco Company Strategies to Undermine Tobacco Control Activities of the World Health Organization." The report documented a number of strategies and tactics employed by the tobacco industry to counter tobacco-related efforts by the WHO. The report stated, "Although these strategies and tactics were frequently devised at the highest levels of the tobacco companies, the role of tobacco industry officials in carrying out these strategies was often concealed." The Report also found that there was evidence in formerly confidential tobacco company documents that the tobacco companies had made "efforts to prevent implementation of healthy public policy and efforts to reduce funding of tobacco control within UN organizations." 770007956-8214 at 7958 (US 88132) (A).

816. According to the WHO expert report, the tobacco companies' communications strategy was the most successful element of its attempt to undermine the IARC study. By distorting the statistical underpinnings of the study results, tobacco industry officials managed to convince journalists around the world to write news stories that the study showed no increased risk of lung cancer from ETS exposure in non-smokers. According to the WHO report, the tobacco companies' distortion of the study results continues to be repeated in media accounts and in tobacco company presentations to regulatory authorities. 770007956-8214 at 7969 (US

88132) (A).

817. The industry has also distorted the IARC study results when addressing regulatory authorities. For example, Philip Morris's testimony before the National Toxicology Program (NTP) sought to use its misrepresentation of the IARC ETS study as the basis for its argument that the NTP lacked sufficient evidence to classify ETS as a carcinogen. 770007956-8214 at 8179 (US 88132) (A) (citing 2063594507-4508 (US 27115) (O)).

818. On November 2, 2000, and in the wake of the WHO report, CECCM met in an "Extraordinary Meeting" where Philip Morris voiced "serious reservations on CECCM representing the industry publicly." Philip Morris "fear[ed] exposure from a legal and credibility perspective," and even vetoed the proposal to place the WHO on the CECCM Agenda going forward. However, Philip Morris acknowledged that CECCM was still useful for exchanging views and "coordinating policy with the National Manufacturing Associations." 325128572-8573 (US 89143) (A).

(h) Defendants' Global ETS Consultancy Program

819. One of the more far reaching and complex of Defendants' passive smoking initiatives was the creation of a worldwide network of seemingly "independent" consultants who could covertly speak on behalf of the industry to influence the public, government officials, and scientists. As described below, the ETS Consultancy Program was a global, multi-company endeavor that created and utilized seemingly independent consultants and front organizations to make statements and publish papers disputing the scientific consensus and underlying evidence that passive smoking was a health hazard. The consultants and the "controversy" they created were then seized upon and touted by Defendants to resist smoking restrictions and sway public opinion, serving the ultimate business goal of maximizing sales.

(i) Establishment and Goals of the ETS Consultancy Program

820. As described previously in this section, Defendants publicly promised to fund objective scientific research with respect to passive smoking (see US FF § III.C(2)(d)); however, the work funded by Defendants through their web of ETS consultants was neither objective nor interested in finding answers. Numerous internal documents state that the objective in hiring consultants was simply to "keep the controversy alive" by attacking the scientific consensus that ETS was a health hazard. 321140944-0949 at 0944 (US 20586) (A); 2021181803-1812 at 1803 (US 22155) (A) (goal to "maintain the controversy"); 2047720166-0173 at 0169; (US 23966) (A) (1992 objective to "keep the controversy alive"); 321091680-1729 at 1685 (US 28271) (O) ("promote the 'no consensus' argument" to "maintain doubt").

821. Defendants also recognized that creating and maintaining a controversy in the media and in the scientific literature would allow them to continue making the argument that ETS was not a proven health hazard. Director of Science & Technology Helmut Gaisch explained in an April 19, 1988 Philip Morris document titled "ETS Plan and Budget for the years 1988, 1989, 1990, and 1991" how the consultants would serve this aim:

> Objective for S&T [Science and Technology]:
>
> To organise and support scientific work on a continuous basis leading to results which are published in the scientific literature and reported at public scientific events. . . . **This will enable the continued use of the argument: there is no convincing scientific evidence that ETS is a health risk for non-smokers.**
>
> Scope: Management of experts as scientific spokespersons
> Management of extramural research projects
> Support of international scientific events

2501152297-2300 at 2297 (US 89558) (O).

822. In the same document, Gaisch wrote under the heading "MODUS OPERANDI"

that the objective was: "The generation of data and their publication in the primary scientific literature." 2501152297-2300 at 2298 (US 89558) (O). In other words, Defendants' goal was the covert contamination of the scientific record to allow them to make an argument that they knew the existing scientific record did not support.

823. Starting in the mid-1980s, the Tobacco Institute, with the assistance of outside attorneys at Shook, Hardy & Bacon and Covington & Burling, began the consultancy program in the United States. 2081369202-9220 (US 27796) (A); TIMN435220-5272 (US 21734) (O); TIDN0019217-9268 (US 85597) (A); TI01140124-0133 at 0129 (US 62100) (A); see discussion of IAPAG and HBI/ACVA above at US FF §§ III.A(2)(h)(iii), (vii).

824. Sharon Boyse (Blackie) described in a July 1991 review and summary of the consultancy program the scope of the effort:

> The industry in the US . . . has had a huge programme to develop independent witnesses or consultants on ETS-related issues, for media as well as for legal and scientific purposes. It is believed by the US industry that this wide availability of independent witnesses has been critical in their track record to date of defeating approximately 90% of all state initiatives to legislate on smoking restrictions.

300522762-2767 at 2762 (US 22223) (A).

825. After the June 1987 "Operation Downunder" meeting, Defendants expanded their consultancy program to train and deploy industry-friendly scientists worldwide. 2028343858-3860 at 3858 (US 75086) (A). Defendants referred to these efforts in the United States and globally as, *inter alia,* the ETS Consultancy Program, and continued well into the 1990s. See 2500048635-8640 at 8639 (US 20550) (A); 2071027438-7442 (US 40371) (A) (1992-93); 2078462906-2909 at 2906 (US 75367) (A) (1998-99).

826. The ETS Consultancy Program, also called the "Whitecoat" project in many

documents, ultimately sought to "resist and roll back smoking restrictions" and "restore smoker confidence" in all of Defendants' markets. 2501254705-4708 (US 75267) (A). To do this, the industry had to reverse the scientific evidence and restore the social acceptability of smoking. 2023542519-2522 at 2519 (US 23677) (A); 2501474253-4259 at 4253 (US 22017) (A).

827. Many internal documents lay out the collaborative and global activities of the various tobacco companies to locate consultants to perpetuate a "debate" on the health effects of secondhand smoke. It is also clear that some within the industry wanted to even "establish affirmatively that ETS presents no significant health risk to non-smokers." 2501474253-4259 at 4254 (US 22017) (A); 2028343858-3860 at 3858 (US 75086) (A). To achieve these objectives, the tobacco industry had a strategy "that relie[d] on deception and creating controversy as a 'smoke screen.'" Schwartz WD, 21:15-16.

828. The description of the ETS Consultancy Program in a February 17, 1988 memo from BAT scientist Sharon Boyse revealed its scale and focus. Through a global program, Defendants identified, educated and paid scientists in every market to present papers, pen letters to scientific journals, plan and attend conferences, generate research results, and publicly speak on behalf of the cigarette companies:

> In every major international area (USA, Europe, Australia, Far East, South America, Central America & Spain) they are proposing, in key countries, to set up a team of scientists organized by one national coordinating scientist and American lawyers, to review scientific literature or carry out work on ETS to keep the controversy alive. They are spending vast sums of money to do so, and on the European front Covington & Burling, lawyers for the Tobacco Institute in the USA, are proposing to set up a London office from March 1988 to coordinate these activities.

321140944-0949 at 0944 (US 20586) (A).

829. Defendants' intent was to influence "three audiences": "the scientific community,

regulatory authorities, and the general public." 2501474253-4259 at 4258 (US 22017) (A).

(ii) Defendants' Execution of the ETS Consultancy Program: Recruiting, Training, and Educating the Consultants

830. Defendants and their lawyers created and trained a network of consultants to attack research finding or suggesting that secondhand smoke caused adverse health effects, and to divert attention away from ETS to the issues of indoor air quality and ventilation.

831. A Helmut Gaisch memo entitled "Proposal for the Organisation of the Whitecoat Project" described how the program was intended to be pro-industry in its goals:

> Pro-active element: a) to generate a body of scientific and technical knowledge in the field of ETS within the PM EEMA and EEC markets. The Project's activities and programmes will include fundamental research, IAQ and IAQ studies. These will be undertaken by whitecoats, contract laboratories and commercial organisations such as ACVA.
>
> b) to disseminate and exploit such knowledge within specific communications programmes in these markets.

2501254705-4708 at 4705 (US 75267) (A).

832. Thus, the ETS Consultancy Program required lawyers to covertly identify and recruit "whitecoat" consultants who could then be called on to do and say publicly what Defendants wanted. At the same time, the lawyers had to quietly filter out any recruits whose views did not support the industry. Boyse summarized the recruiting process in her February 1988 memorandum in these terms:

> The consultants should, ideally, according to Philip Morris, be European scientists who have had no previous connection with tobacco companies and who have no previous record on the primary issue [active smoking] which might, according to [Covington & Burling attorney David] Remes, lead to problems of attribution. **The mechanism by which they identify their consultants is as follows: they ask a couple of scientists in each country. . . to produce a list of potential consultants. The scientists are then contacted by these coordinators or by the**

> **lawyers and asked if they are interested in problems of Indoor Air Quality: tobacco is not mentioned at this stage. CVs are obtained and obvious "anti-smokers" or those with "unsuitable backgrounds" are filtered out.** The remaining scientists are sent a literature pack . . . . They are asked for a genuine opinion as independent consultants, and if they indicate an interest in proceeding further, a Philip Morris scientist makes contact.
>
> Philip Morris then expect the group of scientists to operate within the confines of decisions taken by PM scientists . . . .

321140944-0949 at 0944 (US 20586) (A); see also 300538976-8999 (US 88778) (A).

833. The key was to find consultants with a clean slate on smoking and health issues who could be trained to adopt, believe, and parrot the industry's positions on passive smoking. In the words of David Remes, the lawyers were entrusted to locate a "corps of scientific consultants and engineers in each market" around the world. Covington & Burling and consultants in the United States were given the task of "weeding out unsuitable candidates." A particular problem was consultants who had ever expressed an adverse opinion on active smoking:

> Candidates who have made public statements adverse to the industry on the primary health issue generally are avoided, lest those statements be attributed to the industry if those candidates were retained as consultants on the ETS issue.

2501474253-4259 at 4256 (US 22017) (A).

834. In a February 4, 1987 memorandum from Mary Pottorff, the recruiting method was outlined to Philip Morris Companies Vice Chairman Bill Murray, who, according to a Remes memorandum, was the source of the Philip Morris funding for the program. 2501152342-2344 at 2342 (US 75263) (A); 2501474253-4259 at 4255 (US 22017) (A).

835. A January 25, 1988 letter from Rupp to Philip Morris executives again explained how the Covington & Burling "recruiting" followed "strict clearance procedures" and how multiple meetings with prospective consultants were held before candidates were told that their

consultancy would relate to ETS on behalf of the tobacco industry. 2501474296-4301 at 4300-4301 (US 27955) (A).

836. An important aspect of the program was that Defendants intentionally targeted consultant "recruits" who had very little or no expertise in smoking and health issues, much less the health effects of secondhand smoke. In this way, the consultants would be more malleable to serve Defendants' purposes. The only downside was that Defendants had to thoroughly "educate" and train consultants before they could be deployed.

837. Numerous documents reveal the extent of the "training" and "education" that the consultants received in order to become effective, yet covert, spokesmen for Defendants. For example, a March 9, 1987 Philip Morris memorandum from Arjuna Kannangara to Mary Pottorff provided an update of recruiting efforts in Finland, Sweden, and Switzerland. Kannangara wrote that in order "to influence expert opinion" and "popular attitudes," the "strategy" was to:

> **[R]ecruit and educate "consultants" to operate as credible third-party spokesmen** in environmental toxicology and ETS (comparable to John Rupp/Indoor Air Pollution Advisory Group - IAPAG)

2023541666-1668 (US 23675) (A) (emphasis added).

838. A later, undated Philip Morris proposal acknowledged that: "The worldwide consultants program was initially designed and funded as an effort to **identify and educate consultants** on the ETS issue." The proposal also stated that the European program had been "successful in establishing a core group" of consultants. 2023590685-0687 at 0685 (US 37027) (O); 2023590786-0788 (US 85525) (A) (emphasis added).

839. A January 25, 1988 letter from Rupp to Gaisch and Philip Morris Europe counsel Bradley Brooks referred to consultants obtained by the industry in the ETS Consultancy Program as "'whitecoat' recruits." Rupp also described a March 1988 meeting of the Nordic consultants

for "training and further orientation" of the new "recruits." Rupp stated: "Our goal is to leave the March training/orientation session with seven scientists . . . completely cognizant concerning the science of environmental tobacco smoke and prepared to share that knowledge with others at the industry's request." 2501474296-4301 at 4296-4297 (US 27955) (A).

840. The Asia ETS Consultancy Program was set in motion in 1989, based on the model already in place in the United States and Europe. A study of documents, particularly those authored by Covington & Burling attorneys, reveals how Defendants in Asia once again covertly "recruited," "trained," and "educated" a group of consultants to influence scientific and public opinion. 2500048655-8662 (US 27900) (A); 2500048643-8654 (US 22857) (A); 2500048508-8515 (US 20549) (A); 2500048976-8998(US 23007) (A). For example, the February 29, 1989 Asia Covington & Burling program status report detailed the covert contact with prospective consultants ("this is critical if we are to avoid compromising the project"); yet not one had expertise in ETS. 2500048655-8662 (US 27900) (A).

841. The April 10, 1989 Asia program status report detailed "selections" of consultants in Asia on the basis of convincing them to adopt the industry's position on passive smoking. The document described how the Covington & Burling attorneys would make contact with a potential consultant, but withhold their affiliation with the tobacco companies. The attorneys would then give him or her a "packet" of ETS materials for review and comments. The researcher's potential as a consultant was then determined by these comments. Nonetheless, the report noted that at least one promising consultant (Roh) needed "educating" on the industry's "misclassification" argument. Another consultant (Liao) would serve as a "buffer" between a high-visibility consultant (Koo) and Covington & Burling to provide a further layer of insulation from the industry. A two-day training session to educate and indoctrinate the consultants on the relevant

literature (provided by Covington & Burling) was scheduled for June 1989 in Bangkok. 2500048643-8654 (US 22857) (A).

842. In Rupp's September 27, 1989 Asia program status report, he emphasized how the consultants' participation in the upcoming McGill "symposium" would further the creation and training of ETS "experts" by getting the consultants' names into the scientific literature:

> We have not asked any of our Asian consultants to act as presenters but instead have requested that some of them participate in selected panel discussions. The symposium presents an ideal opportunity to expose the Asian consultants to the full range of issues and the most advanced current thinking on ETS and should bolster their confidence substantially. **As the panel discussions will be transcribed and published alongside the keynote presentations, McGill will mark their first appearance in the scientific literature on ETS.**

2500048508-8515 at 8509 (US 20549) (A).

843. Finally, Rupp's February 14, 1990 Asia program status report stated that "much of the project's first year was consumed with the recruitment and orientation of consultants." With the consultants sufficiently "oriented," Rupp planned in 1990 to focus on "deployment of the consultants within the Asian markets of interest to the supporting companies." Rupp identified the companies as Reynolds, Philip Morris, BATCo, and B&W. 2500048976-8998 at 8976 (US 23007) (A).

844. Later in the February 1990 status report, Rupp reiterated: "One key objective of the project has been to recruit and educate scientists who would then be available to testify on ETS in legislative, regulatory, or litigation proceedings in Asia or elsewhere." Rupp acknowledged that the need to "educate" the scientists was the result of "essentially no local scientists with a background in ETS issues." Rupp then listed the various activities already undertaken by the Asia consultants on behalf of the industry, including distributing the McGill

"symposium" proceedings, participation in scientific conferences, infiltrating a public health committee, serving on the IAI journal board (see infra), carrying out research (the Rupp/Liao Hong Kong "Asia Project" discussed under CIAR, supra), and various media appearances. 2500048976-8998 (US 23007) (A).

845. The ETS Consultancy Program was subsequently exported to Latin America in 1991, with joint funding by Philip Morris (40%) and BATCo (60%). In the proposal from Sharon Boyse (Blackie) to Rupp dated January 2, 1991, Boyse summarized what had already taken place in Asia, emphasizing that the funding companies there (RJR, Philip Morris, BATCo, and Japan Tobacco) had created ETS "experts" out of whole cloth:

> The tobacco industry in Asia (BAT, PM, RJR and Japan Tobacco) has, for the past couple of years, been supporting a project to establish a consultancy group on ETS and related issues in the region.
>
> In each country . . . one or more scientists have been identified whose background enables them to take a scientific interest in the issues surrounding debate on ETS. . . . **The consultants meet regularly to discuss ideas and learn about ETS issues, and have the background to become experts on ETS in their country**, and to carry out research if required. Many are influential members of the scientific community . . .
>
> **As a result of the project, local experts on ETS are now available** to provide consultancy services and to organize events and research. In many countries, positive media coverage of the issues has occurred, resulting in a decreased emphasis on ETS and increased attention to other environmental and indoor air pollution problems.
>
> **In order to ensure independence from the tobacco industry, the programme is managed by John Rupp of Covington & Burling**, a Washington-based law firm. All funding arrangements and contact with scientists is arranged through this firm.

321673508-3525 at 3509 (US 28585) (A) (emphasis added).

846. Boyse then proposed to Rupp that an identical program be set up in Latin America

to identify, recruit, and indoctrinate consultants there to become industry-controlled "experts" on ETS. The project was projected to cost BATCo and Philip Morris $340,000 in the first year to "recruit and train" 14 consultants in five Latin and South American countries. Boyse wrote:

> It is proposed to develop a similar programme in Latin America. . .
> .
>
> The programme would be managed by Covington & Burling. **Overall manager of the project would be the responsibility of Mr. John Rupp, with associates such as Mr. Chris Proctor contributing to the recruiting and training of the scientists**. . . .
>
> Covington & Burling and Philip Morris already have scientific contacts in South America who could be used as starting points for recruitment. . . . **Once scientists have been recruited, training in ETS issues would take place at orientation sessions held at regular intervals with the participation of Covington & Burling**. . . . Once scientists have some training, a programme of activities would be put together. . .

321673508-3525 at 3510 (US 28585) (A) (emphasis added).

847. Indeed, Defendants and their law firms sought only consultants who would further the goal of maintaining an ETS controversy, regardless of the scientific consensus that ETS was harmful. A July 24, 1991 document that listed consultant "selections" by Covington & Burling, titled "Latin American Candidate Recommendations," showed how the industry only used scientists who were willing to toe the industry line, dispute the health risks associated with secondhand smoke, and generate the necessary "controversy." In this document, Covington & Burling provided the details and qualifications of many scientists, but recommended only those who whose pro-Industry views had been verified. For example, Carlos Alvarez from Buenos Aires had "already consulted for the companies in lawsuits involving cardiovascular disease from ETS exposure. Clearly, he shares the industry view on this issue." Eduardo Gros not only smoked, but had previously worked with BATCo scientist Chris Proctor. Covington & Burling

had verified that Osvaldo Fustinoni of Argentina "does not believe that ETS poses a major health risk." These types of persons were recruited into the program. 2503001504-1519 (US 85542) (A).

848. On the other side, Morton Schienberg of Brazil was rejected because he and his wife "despise cigarettes and do not let anyone smoke in their house or around them." Covington & Burling rejected Dr. Rodrigo Villalba, a smoker, because he would not smoke "in front of his children or his patients because he believes ETS poses a hazard to them." Dr. Oscar Aldrey was not selected because he "believes that ETS is worse than mainstream smoke because it is not diluted by a filter." 2503001504-1519 at 1517, 1519 (US 85542) (A).

849. Like Covington & Burling, Shook, Hardy & Bacon attorneys also made certain that the lawyers served as intermediaries between the scientists and the companies, that only pro-industry scientific consultants were recruited, and that the companies worked in concert. In a letter dated June 28, 1988 from Hoel to Todd Sollis of Philip Morris, Hoel wrote:

> One of the most important roles assumed by SHB in the scientific development of the ETS issue is that of liaison between the researchers and sponsoring members of the tobacco industry. By facilitating communication among all parties involved, maximum cooperation can be achieved. This helps assure PM of a ready source of scientists prepared to address the ETS issue at public hearings and scientific conferences as needed.

2015007199-7207 at 7206 (US 20311) (A).

850. Of course, Defendants were continuing to "recruit and train" consultants in the United States as well. Rupp wrote a letter to Philip Morris's John Dollison dated May 25, 1989 justifying the cost of the Asian ETS Consultancy Program. According to Rupp, "The Tobacco Institute Executive Committee approved at its last meeting $1.4 million in additional 1989 funding to permit us [Covington & Burling] to recruit, train, and deploy - on behalf of the U.S.

industry - a total of ten new ETS consultants in the United States." 2500048635-8640 at 8639 (US 20550) (A).

851. Reynolds chairman and Tobacco Institute Executive Committee chairman Jim Johnston delivered a speech to the committee on September 27, 1989, in which he described the Tobacco Institute's ongoing "efforts to identify, recruit, and deploy academic scientists." TIDN0022706-2739 at 2717 (US 65557) (A).

852. An April 1990 Tobacco Institute "Management Plan Progress Report" documented that the Tobacco Institute continued to "identify and recruit academic researchers for the scientific witness program," another name for the consultancy program. TIMN194351-4398 at 4363 (US 87418) (O). The Tobacco Institute's public relations people and their attorneys ensured that the tobacco industry's consultants were fully aware of the scientific positions taken by the Tobacco Institute regarding secondhand smoke issues. Schwartz WD, 6:17-21.

853. Part of the tobacco industry's consultant strategy involved diverting the public's attention to "the broader issue of indoor air quality and the need for improved ventilation systems or more efficient use of existing systems." TIDN0011770-1784 at 1771 (US 85683) (O); see also 2028404047-4049 (US 85610) (O).

(iii) The Indoor Air Pollution Advisory Group (IAPAG)

854. The Tobacco Institute was the primary center of the domestic consultancy program that it used to dispute the science establishing the harms of ETS. One component of the Tobacco Institute's program was a group set up by Covington & Burling and several U.S. consultants called the Indoor Air Pollution Advisory Group (IAPAG). Schwartz WD, 7:6-21.

855. IAPAG activities were billed through the Center for Environmental Health and Human Toxicology (CEHHT), a consulting firm founded by consultants Sorell Schwartz and

Philip Witorsch in late 1982 to enable the professors to perform consulting work beyond the 20 percent time limit imposed by Schwartz's employer, Georgetown University. Schwartz WD, 2:25-3:9. Schwartz and Witorsch did their tobacco industry-related consulting work through CEHHT, and the Tobacco Institute covered CEHHT's basic operating costs. 2026335488-5492 at 5489 (US 26860) (A).

856. IAPAG consultants traveled throughout the country testifying at public hearings and other events. IAPAG consultants also performed the following tasks for the Tobacco Institute: "reviewed, evaluated and critiqued scientific literature updated the database, educated and prepared scientific witnesses at direction of the Tobacco Institute, coordinated their interaction with the EPA, prepared scientific papers, participated in meetings." Schwartz WD, 5:7-9; see also TIDN0007373-7378 (US 77020) (A); 2023542584-2586 at 2584 (US 87329) (A); TI07560820-0821 at 0820 (US 65475) (A).

857. The purpose of the Tobacco Institute's use of IAPAG was clear – to rebut science implicating ETS as a health hazard. Tobacco Institute vice president Walter Woodson wrote an internal memo dated January 15, 1988, warning about the impact of new epidemiological studies confirming the association between ETS and lung cancer:

> I would like to know IAPAG's plans for dealing with new studies. For example, Balter mentioned three new cancer/ETS publications from late 1987, but it was unclear – to me, at least – what, if anything, they are doing to rebut new work in this and other ETS areas. Also, I'd like to know if IAPAG papers are underway for publication in peer-review journals. Such articles are a key reason for IAPAG existence, in my view.

TIOK0023599-3602 at 3600 (US 65701) (A).

858. The billing scheme and contacts between IAPAG consultants and the cigarette manufacturers was managed so as to hide ties between the two. The billing for IAPAG's

activities was done through CEHHT. See e.g., TI42550751-0754 (JD 54135) (A). Rupp served as a buffer between Schwartz and the Tobacco Institute. Schwartz billed Covington & Burling. Rupp kept the Tobacco Institute informed of IAPAG's activities. Money originated from the Tobacco Institute, but checks to IAPAG and CEHHT were from Covington & Burling. The Tobacco Institute determined where to send the consultants to make statements. Schwartz WD, 3, 8; TI07560615-0619 at 0618 (US 65472) (A).

859. During the 1980s and 1990s, CEHHT billed the tobacco industry millions of dollars for their services. The Tobacco Institute often spent tens of thousands per month on CEHHT fees. In 1986 alone, Schwartz's consulting firm received $1,032,000 from the Tobacco Institute. TI07560820-0821 at 0820 (US 65475) (A); 87824794-4797 (US 32070) (A); 87824798-4801 (US 32071) (A); TI42550751-0754 (JD 54135) (A); TI42550732-0740 (JD 54140) (A); TI43990461-0455 (JD 54155) (A); TI44110204-0205 (JD 54157) (A); TI44110160-0162 (JD 54167) (A); TI43370130-0132 (JD 54170) (A); TI43370125-0127 (JD 54173) (A); TIMN431124-1124 (US 62974) (A); TI10160667 (US 65485) (A).

860. Philip Morris also gave significant sums to Schwartz's firm for other work. Schwartz TT, 10/25/04, 3636:10-19; TI15330633-0633 (JD 54229) (A); 2023856259-6287 at 6262, 6263, 6264, 6266, 6269, 6283 (US 87394) (A).

861. Schwartz's public appearances and the public relations aspect of his alliance with Defendants was discontinued in 1988 after he became uncomfortable providing the "unabashed advocacy" urged by the industry. Schwartz also became uncomfortable with the stand that the industry wanted him to take, namely to cast doubt on the scientific conclusion that ETS was a health hazard. Schwartz 12:22-26, 14:27-16:17. TI07560744-0746 at 0744 (US 62246) (A); TI07560611-0614 at 0611, 0613 (US 65471) (A); TI07562260-2261 (US 62247) (A).

862. With the role of IAPAG moving into the background, Defendants' domestic consultancy program began to rely more and more on newly-recruited consultants to dispute the scientific consensus via public statements, letters to the editor, and submissions to regulatory bodies. See, e.g., TIDN0019217-9268 (US 85597) (A); TIMN0435220-5272 (US 21734) (O).

(iv) The Appearance of "Independence"

863. Through their "recruiting" and "education" process of consultants around the world, Defendants created an arsenal of seemingly independent consultants to support the industry's position on secondhand smoke. This was intended to create an illusion that a legitimate "controversy" existed among "independent" scientists. The global effort to create and manage this illusion by masking the ties between the consultants and the Cigarette Company Defendants spanned years and required intense coordination among the companies and their counsel.

864. The need for "independent" consultants emanated in part from an internal recognition that the industry had no credibility among the public and among regulatory bodies. As stated in a July 24, 1991 BATCo summary of the program:

> It has been apparent to the industry for some time that **we do not have sufficient credibility to put forward a position on ETS** (or any other issue for that matter) unless we can identify independent scientists who are saying the same thing. **If independent scientists back up our position, it becomes more credible, not only to the general public and the media, but to politicians and other decision-makers**. . . .
>
> Although it is essential for the industry to speak up about it positions, there are some things that are better left to independent scientists to express.

300522762-2767 at 2762 (US 22223) (A) (emphasis added).

865. The industry also realized that only consultants who appeared "independent"

could create the appearance of a legitimate scientific controversy. On July 15, 1988, company representatives from Philip Morris, Reynolds, BATCo and others, along with Covington & Burling and Shook, Hardy & Bacon lawyers attended a "Joint Meeting on ETS" at which they plotted the continuing industry ETS strategy of generating "marketable science" to use for public relations purposes. As one company representative told the group, "In providing this [ETS] information, **the industry must be inconspicuous**. Otherwise, he argued, the public will suspect the authenticity of the information." He recommended the use of third parties to convey Defendants' message. 2021548222-8235 at 8234 (US 20349) (O) (emphasis added).

866. Defendants sometimes used proven loyal consultants, such as George Leslie and Francis Roe, to carry out recruiting and training tasks, so as to add more distance between the consultants and the tobacco industry. In fact, Leslie and Roe assisted Rupp in identifying and recruiting additional industry ETS consultants in both Europe and Asia. 2500048598-8600 (US 75372) (A); 300541877-1877 (US 85568) (A); 2501474253-4259 at 4256-4257 (US 22017) (A).

867. The consultants would bill Covington & Burling for their work, then Covington & Burling would bill the companies, to avoid direct payments from the companies themselves. See e.g., 2023856341 (US 23713) (A); 2023856342 (US 23714) (A); 2023856343 (US 23715) (A); 2023856344 (US 23716) (A); 2023856345 (US 23717) (A); 2023856346 (US 23718) (A); 2023856348-6349 (US 23719*) (O).

868. The need to use a law firm "buffer" to maintain "independence" was clear to Defendants. In a memorandum dated December 12, 1988 from Philip Morris's Stig Carlson to Covington & Burling attorney Charles Lister, Carlson listed some specific industry ETS initiatives in Scandinavia, emphasizing the need to use different "contact" points to "avoid the infamous 'fingerprints'" of the cigarette companies. 2501255446-5447 at 5446 (US 85562) (A).

869. Once on board, the consultants were instructed to keep their ties to the tobacco industry hidden as well. For example, Rupp wrote in a July 5, 1989 letter to U.K. industry consultant George Leslie, whom Rupp had been sent to a number of Asian countries to recruit and train new consultants, that: "You have agreed to send a note to each of our Asian consultants **confirming the importance of discretion** in any discussions of the Asia ETS project." 2500048598-8600 (US 75372) (A) (emphasis added).

870. Defendants intended the lawyers to mask the industry's support and involvement with their paid consultants. In Boyse's July 1991 review and summary of the program, she wrote:

> It was agreed that the kind of program that had been going on in the Far East and was being developed in Latin America was ideal, because the scientists were of good quality, were largely prepared to enter a more public arena than scientists normally would, and **the programme was handled in such a way thanks to Covington & Burling that there was no direct association between the scientists and the tobacco industry**. . . .
>
> For this type of programme **it is absolutely essential to ensure that administration of the programme and contact with consultants is made quite independently of the tobacco industry, and that no tobacco industry executives have contact with them.**

300522762-2767 at 2763, 2767 (US 22223) (A) (emphasis added).

(v) Deploying the Consultants

871. Boyse's summary of the February 1988 industry meeting in London stated that Philip Morris had prepared a list of prospective scientific consultants in several European countries. By then, the consultancy program was already up and running in the United States via Covington & Burling and Shook, Hardy & Bacon. 321140944-0949 at 0944 (US 20586) (A).

872. The program would only grow in numbers of consultants and initiatives. Through the consultancy program, the tobacco industry was successful in reaching "public, scientific and

governmental audiences." 2500048956-8969 at 8967 (US 27901) (A). This was because, in the words of B&W counsel Kendrick Wells: "The consultants groups' operation is essentially a public relations program, not a scientific operation." 401033325-3328 (US 24099) (A).

873. In July 1989, after less than two years of participating in the program, Philip Morris vice president Andrew Whist reported to Philip Morris International president Geoffrey Bible (who later became CEO of Philip Morris Companies) that:

> Several hundred specific activities or events have been completed. These have included numerous press briefings, repeated briefings of important government officials, the publication of a number of review articles on the science of ETS, several air quality monitoring studies, convening of a number of scientific conferences, submission of comments on smoking restriction proposals being considered in a number of countries, testimony before a variety of legislative bodies, preparation and submission of affidavits and offers of proof in cases involving claims concerning ETS, publication of a book ("Clearing the Air") that seeks to put ETS into proper perspective, drafting of two additional books on ETS and indoor air quality issues, and approximately 100 separate presentations at major international scientific meetings challenging the unwarranted health claims that have been made concerning ETS.

2023034623-4632 at 4623 (US 26775) (O).

874. This July 1989 overview of the ETS Consultancy Program provides a snapshot of the size and complexity of the program. Whist stated further that some 70 scientists had been recruited in Europe, Asia, Australia, and Canada. This number included 49 scientists who were university-affiliated and 21 who were private. The consultants were sent to 36 scientific conferences in 1989, published some 43 papers, published three books in seven languages, delivered over 70 scientific and political briefings, gave over 1100 media interviews, and signed ten affidavits in an Australian AFCO lawsuit. According to the memorandum, this effort was managed by some 30 attorneys and cost approximately $3.5 million in consultant and legal fees

in 1989. 2500048772-8781 (US 85527) (A). This was *before* Defendants expanded the consultancy program into Latin America and additional Asian countries.

875. A sample of Defendants' uses of the multifaceted ETS Consultancy Program are also contained in a Philip Morris January 31, 1989 report titled "Boca Raton Action Plan." In this report, the company details its worldwide ETS initiatives, including placing consultants in scientific seminars, using consultants to resist aircraft smoking bans, using consultants to oppose restaurant smoking restrictions, the creation of Burson-Marsteller 'News Bureau" programs in Europe for media distribution, and the coordination with other industry groups such as INFOTAB and CORESTA. All of these initiatives helped create the illusion of an ETS controversy. 2021595753-5910 (US 85541) (O). A September 1989 Philip Morris report also titled "Boca Raton Action Plan" updated the progress of the consultants in influencing the WHO and public opinion generally via "News Bureau" articles in the media. 2501204997-5021 (US 22858) (O).

876. Similarly, an October 1989 report from Covington & Burling provided Defendants a nine-page list of "conferences attended by consultants, recent publications, and ongoing projects" in Europe. 2500019903-9911 (US 25337) (A). The program was obviously bearing fruit.

877. The Tobacco Institute played a pivotal role. In a 1990 summary report titled "Consulting Scientists on ETS and Indoor Air Quality," the Tobacco Institute updated its role and progress in the retaining of American and foreign consultants domestically:

> Scientific Witness Team. TI now has 23 consulting scientists whose businesses are to market their scientific expertise. Their principal mission is to testify before state and local legislative bodies on ETS and indoor air quality issues. They also respond to adverse articles in scientific technical, and general audience publications by submitting letters to editors. They attend and

> report on meetings of scientific organizations. . . . Members of the scientific witness team have made 48 legislative appearances and conducted 30 media tours to date this year. . . .
>
> Foreign Scientists. This strategy is to bring a "foreign" perspective on ETS science to U.S. journalists through the use of the industry's overseas consulting scientists. Through editorial board briefings and interviews with science and health reporters, these scientists will suggest that the U.S. understanding of ETS science is skewed by anti-smoker media hype, and that the U.S. response to ETS science is out of step with the rest of the world. . . . Next year we anticipate foreign scientists conducting at least one media tour per month in connection with attendance at scientific meetings.

TIDN0004239-4248 at 4239-4240 (US 75287) (O).

878. Through the domestic consultancy program alone, Defendants were able to manage a seemingly "independent" attack on any adverse ETS research or proposed legislation. TI01140124-0133 (US 62100) (A). The Tobacco Institute paid consultants to attack any scientific studies that identified ETS as a health hazard. For example:

> •The Tobacco Institute paid consultant Gio Gori $3,555 to write a letter to the editor of the *Journal of the National Cancer Institute* ("*JNCI*") captioned: "Environmental Tobacco Smoke: The Price of Scientific Uncertainty." The letter appear in the journal on January 6, 1993. The Tobacco Institute paid Gori another $4,137.50 to write an Op-Ed newspaper submission on the Environmental Protection Agency's Risk Assessment for the *Wall Street Journal*. TIMN0435220-5272 at 5225, 5226 (US 21734) (O).
>
> •The Tobacco Institute paid Peter Lee $4,000 to write a response to letters to the editor of *Environment International* that appeared on January 29, 1993, disputing the conclusion that ETS exposure caused lung cancer and mortality. TIMN0435220-5272 at 5253 (US 21734) (O).
>
> •On April 10, 1993, the Tobacco Institute paid Gio Gori $4,000 to write a letter to *Lancet*, disputing an editorial that had found the Environmental Protection Agency's Risk Assessment provided a firm regulatory basis for increased social action to minimize the public's exposure to ETS. TIMN0435220-5272 at 5231 (US 21734) (O).
>
> •In June 1993, the Tobacco Institute paid Peter Lee $5,000 to write a letter to the editor of *Journal of the National Cancer Institute* disputing results of an ETS study by Stockwell that post-dated the Risk Assessment and found a link between

> ETS exposure and lung cancer in nonsmoking women. The letter was published along with two other letters from Tobacco Institute consultants Paul Switzer and Max Layard. All were critical of the Stockwell study. None of letters disclosed that tobacco industry money had funded the letters. TIMN0435220-5272 at 5247 (US 21734) (O); 2046342683-2686 (US 20469) (O).

(vi) ARIA and IAI: Leveraging the Deception Through Industry-Created "Scientific" Organizations

879. The tobacco industry used its consultants to create larger organizations as well. Through these front organizations, the industry's ETS consultants arranged seemingly independent conferences, infiltrated legitimate conferences, and published pro-industry papers to get the industry's position on passive smoking into the scientific literature. 2500019903-9911 (US 25337) (A); 2500048956-8969 (US 27901) (A).

880. The industry's ETS consultants in the United Kingdom, along with Covington & Burling, formed a group called Association for Research on Indoor Air ("ARIA") in 1988. 2500048956-8969 at 8960 (US 27901) (A); 300538942-8943 (US 85552) (A). According to Chris Proctor's record of an October 25, 1988 meeting in London, Philip Morris and Covington & Burling, along with the three ARIA founding consultants Francis Roe, George Leslie, and Frank Lunau, presented the ARIA group to Reynolds, BATCo, and other British manufacturers. 400974548-4550 (US 47525) (A).

881. ARIA was presented as a "Philip Morris initiative" set up in order to create a "group of scientists in the UK that will comment on ETS issues." Roe emphasized the value of ARIA's perceived independence to the other manufacturers and the industry, although the consultants were aware of the funding source:

> He stressed at length that the 16 individuals currently operating for ARIA were **totally independent** and that there was to be no formal contact between the individuals (not to be termed consultants) and the industry. . . .

> It was suggested that **the position of Covington & Burling allows the members of each group to remain independent of the industry, though all know that it is tobacco money that is funding the exercise.**

400974548-4550 at 4548-4549 (US 47525) (A) (emphasis added).

882. Proctor drew a line diagram in his record of the meeting, showing how ARIA fit into the industry's program. At the top of his diagram was "Industry," with a line down to "Covington & Burling." From there, a line went to the individual consultant groups: Nordic, CEEHT, ARIA, Canada, France, and "Others to be organised." 400974548-4550 at 4549 (US 47525) (A).

883. In a memorandum dated October 10, 1988, B&W in-house counsel Kendrick Wells wrote Nick Cannar at BATCo that the industry also retained a public relations firm in London to generate material for distribution that was "intended to 'leverage' the statements" made by ARIA and its members. 401033325-3328 at 3325 (US 24099) (A).

884. Internal documents reveal that the public relations firm was in fact the London office of Burson-Marsteller, who tactically and proactively placed consultant statements in the European media through a contrived "News Bureau." Burson-Marsteller coordinated their media activities with Philip Morris and Covington & Burling. In particular, Covington & Burling attorneys often assisted Burson-Marsteller with its generation of pro-industry videos and other projects, from at least 1989 through 1991. 2500048951-8955 (US 85571) (A); 2500048939-8941 (US 85572) (A); 2500048926-8929 (US 85573) (A); 2500048846-8847 (US 85574) (A); 2500048931-8932 (US 85554) (A).

885. Covington & Burling organized, monitored, and funded the ARIA organization. 2500048956-8969 at 8960 (US 27901) (A); 300538945-8954 (US 85549) (A); 300541877-1877 (US 85568) (A); 300538976-8979 (US 88778) (A); 2501474253-4259 at 4256-4257 (US 22017)

(A); 2023856337-6349 (US 23712) (A).

886. In turn, ARIA gave birth to an organization called Indoor Air International (IAI) in late 1989. IAI was intended to function as a "learned society" to address scientific issues related to indoor air quality around the world. Rupp boasted in a memorandum on the European Consultancy Program:

> **Our consultants have created the world's only learned scientific society addressing questions of indoor air quality.** The society (Indoor Air International) is seeking memberships from all those interested in IAQ issues throughout the world. It will soon have its own periodic newsletter . . . . its own scientific journal . . . The society will sponsor meetings and conferences . . . . and **thus can serve as an independent and accepted source of ideas and research** regarding IAQ to the public and the scientific community. . . . **We are of course including Asian and American consultants in the society, so as to provide worldwide coverage on IAQ issues.**

2500048956-8969 at 8960 (US 27901) (A).

887. IAI was also founded to enable Defendants' paid consultants another means to conceal their tobacco industry affiliation and remain "independent." Helmut Gaisch wrote in October 1989:

> The purpose of the creation of [IAI] is to provide a scientific `home' for the wide range of disciplines involved in IAQ in order to make sure that independent scientists can identify with a professional organization and do not have to resort to giving vague explanations as to whom they are associated with.

2028440936-0950 at 0940 (US 75243) (A).

888. IAI was founded at an ARIA meeting in October 1989 exclusively by Defendants' paid European ETS consultants, notably Francis Roe, Frank Lunau, George Leslie, and Max Weetman. Most of the key members of ARIA were close friends of Roe. Covington & Burling managed the creation of IAI, publicly presented it as an "international learned society," and

drafted the organization's bylaws. 2021598978-8991 at 8981, 8986 (US 23604) (A); 2028440936-0950 at 0940 (US 75243) (A); 300538942-8943 at 8942 (US 85552) (A).

889. Rupp stated in his February 14, 1990 Asia consultancy program update that IAI intended to begin publishing a journal the next year. Rupp reported that Asia industry consultants were preparing to write articles for the journal, and several consultants were serving on the journal's editorial board. 2500048976-8998 at 8987-8988 (US 23007) (A).

890. In May 1990, the executive director of the U.K. Tobacco Advisory Council (TAC) (the counterpart to the Tobacco Institute) announced the formation of IAI to TAC members, and forwarded an "earnest plea" to the companies "to steer papers for publication in the direction" of "Indoor Air" for publication in the "ambitious" IAI journal. 2028467016-7019 (US 85558) (O).

891. IAI's publications and newsletters omitted any connection to the tobacco industry or tobacco law firms, both with respect to its inception and to its upcoming programs. Instead, its publications stated that the organization was merely a "learned society" dedicated to "promoting indoor air quality." 2028467035-7042 (US 85559) (A); 2028467029-7034 (US 85560) (A); 2023545366-5369 (US 23680) (A); 325297289-7360 (US 85561) (A).

892. IAI to some extent took over the law firm role of organizing and managing scientific conferences. According to a June 6, 1990 memorandum from Jim Newsom at Shook, Hardy & Bacon to other Shook, Hardy attorneys, the firm had a May 1990 meeting with Philip Morris's Steve Parrish to discuss ETS initiatives going forward. One topic was the industry's continuing use of IAI:

> We also briefly discussed whether we should be organizing conferences. Don [Hoel] had been responsible for these projects in the past. The newly-formed organization, IAI (Indoor Air International), plans to hold one indoor air conference each year. We told Steve [Parrish] that we would be willing to organize conference depending on his views on how many conferences are

needed , etc.

2023239673- 9695 at 9690 (US 26781) (A); see also 2028467016-7019 at 7018 (US 85558) (O).

893. The management and support of IAI through Covington & Burling and the cigarette companies was intended to remain secret. On September 5, 1991, Anthony Andrade wrote Mary Pottorff to voice his concern that Philip Morris should avoid direct involvement with IAI consultants:

> C&B should not recruit as consultants any scientists actively working for S&T. . . . **There is a grave risk that IAI members may be compromised if they have a direct relationship with Philip Morris S&T.** The best example would be Dr. Weetman. Dr. Weetman is obviously a critical leader in the C&B consultant program and IAI, and his potential usefulness could be jeopardized by his direct consulting relationship with PM S&T. Dr. Skrabanek is a second example.

2023856321-6328 at 6321-6322 (US 22037) (A) (emphasis added).

894. Pottorff agreed, stating in a memorandum dated September 24, 1991: "Weetman's project should be paid from C&B. He is a critical leader in the C&B consultant program and IAI and should not be compromised by being paid from S&T." 2023856259-6287 at 6264 (US 87394) (A).

895. Geoffrey Bible in New York was kept informed as to the progress and achievements of the ETS Consultancy Program, and specifically ARIA and IAI. In 1991 Helmut Gaisch provided Bible an update, emphasizing the ability of industry ETS consultants and their front groups to appear "independent" of the industry:

> **ARIA, an informal group, and IAI, a registered association, have made quite some progress during the recent months. It should be stressed that most act independently and are seen to be independent of us.** IAI, Indoor Air International, who deal with the broad topic of the indoor environment, have a newsletter and a learned journal published by the respected Swiss scientific publishing house Karger. IAI have conducted large and successful

> international meetings in Lisbon and Montreux. IAI will jointly sponsor meetings in the near future with universities, government agencies and independent societies in Paris, Pavia, Perogia, Budapest, Prague, Bangkok, Bratislava, Athens and Rotterdam. . . . IAI members have met with governmental ministers and officials in several countries. . . . In all, no other resource gives the industry any similar access to the scientific community, government and those who make decisions about IAQ issues and standards. **The key to this success is that an institution of growing professional authority was created, an institution that has developed an identity of its own.**

2023856111A-6112 at 6111A-6112 (US 23708*) (A) (emphasis added).

896. In 1995, the IAI changed its name to the International Society of the Built Environment ("ISBE") and the IAI journal title was changed to "Indoor+Built Environment." The ISBE is still in existence today, continues to publish its journal and hold conferences, and is still run by industry ETS consultants. TLT0500003-0006 at 0005 (US 65083) (A); 2063651094-1096 (US 75250) (A).

897. IAI was originally funded by Philip Morris until other industry funding/companies could be located. BATCo later participated in the funding of IAI's ETS activities. All billing was through Covington & Burling to avoid any direct connection to the industry. 300538942-8943 (US 85552) (A); 300511564-1568 (US 85553) (A); 2500048951-8955 (US 85571) (A); 2500048931-8932 (US 85554) (A); 2500049060-9062 (US 85555) (A); TI43370125-0127 at 0125 (JD 54173) (A).

898. Through ARIA, IAI and other industry groups, additional layers were erected between the companies and the consultants to hide the tobacco connection. Thus, as an example, the consultant would bill ARIA, ARIA would bill Covington & Burling, Covington & Burling would bill the Tobacco Institute, and Defendants would make contributions to the Tobacco Institute to fund its payments to the consultants. 2023592986-2998 (US 85548) (A);

2023592793-2797 (US 20394) (A); 2063780058-0058 (US 22863) (A); 2500048956-8969 (US 27901) (A); 2023592502-2502 (US 23701) (A); 2023592502 (US 75236) (A); 2001208997-9010 at 9003 (US 85598) (A); 2022889540-9543 at 9540 (US 26767) (A).

(vii) "Gray" Robertson and the ACVA/HBI

899. In June 1985, on the recommendation of the ETSAG, Defendants recruited John Graham "Gray" Robertson, owner of a small ventilation inspection firm called ACVA and later renamed Healthy Buildings International (HBI), to test air samples from homes in Boston and Florida. Robertson WD, 12:19-14:16; TLT0270555-0555 (US 85619)(A); 504221588-1593 at 1591 (US 85620) (A); 521028861-8861(US 52692*) (O); TIDN0011695-1704 at 1695 (US 62594) (A). Defendants funded the ACVA home testing as a CTR Special Project. Robertson WD, 15:7-11.

900. Although not a scientist, by January 1986 Robertson had become associated with the Indoor Air Pollution Advisory Group (IAPAG). Robertson WD, 18:13-20, 20:5-21:4 and 21:12-22:13; Schwartz TT, 10/25/04, 3580:11-21. Robertson would go on to become one the industry's most traveled ETS consultants.

901. Defendants paid Robertson to make statements at legislative and regulatory hearings on indoor smoking bans and to initiate pilot projects and studies that questioned the adverse health effects of secondhand smoke. TIDN0002692-2701 at 2695-2697 (US 85605) (A); TIDN0007373-7378 (US 77020) (A); TIDN0016039-6045 at 6041-6042 (US 75289) (A); Robertson WD, 12:19-14:16 (1985 home study); 51:8-53:13 (New York City study); 36:10-37:7 (1987 Tokyo Conference); 38:2-40:12 and 103:3-19 (1988 Swiss study for Philip Morris); 41:6-14 (1988 London Conference); 41:15-42:12 (1989 Brussels Conference proceedings paper); 45:5-46:11, 46:13-16, 48:5-50:13 (1989 CIAR-funded 585 Building Study); 62:14-64:4 (1989

McGill "symposium"); 61:3-9 (1989 Building Council on Indoor Air position paper); and 87:5-10 (1992 Athens Conference).

902. Defendants identified "Robertson and his colleagues at HBI" as "our foremost resources in our indoor air quality strategy." TI01140124-0133 at 0128 (US 62100) (A). Defendants hired and promoted Robertson as a "building doctor" and an expert in "sick building syndrome." TLT0880001- 0024 at 0004 (US 87336) (A). This was part of Defendants' effort to trivialize ETS exposure, promote ventilation as the solution, and to convince the public that banning indoor smoking would not have any impact on improving indoor air quality. TI01262206-2209 (US 62105) (A); TI12990109-0118 (JD-080482)(A).

903. Although they externally promoted Robertson and HBI as "experts," Defendants knew internally that Robertson's testing methods did not withstand scientific scrutiny and that his data were flawed. In a confidential note to BATCo and B&W, Sharon Boyse (Blackie) summarized a meeting with Reynolds on January 29, 1988. Boyse wrote: "RJR pointed out that **although the abilities of Gray Robertson . . .as a presenter are undeniable, this is not the case for his scientific abilities.** They felt, in particular, that **his methodology could not stand up to scientific scrutiny, and that some of his data was questionable**." BWBU242341-2343 at 2343 (US 21136) (A) (emphasis added). Project coordinator Michael Michaelson at Covington and Burling made a similar observation of Robertson's methods in 1985: "In summary, the data generated by the ACVA home study in Boston are deeply flawed and not subject to meaningful interpretation." 80406377-6385 at 6385 (US 23476) (A); 504933703-3707 at 3704 (US 24220) (O).

904. Other comments disparaging HBI's methods were made by senior tobacco company scientists in 1991 in reviewing a proposal eventually rejected for CIAR funding.

87776361-6362 (US 56325)(A); 87776358-6359 (US 56324) (A).

905. Robertson admitted at trial that smoking was prohibited in many of the buildings in which he took air samples for Defendants; thus, he took samples in buildings and rooms where there was no smoking, and his work was wholly irrelevant to whether persons in those buildings were exposed to ETS, much less to providing a measure of ETS exposure. Robertson WD, 62:14-63:10.

906. Robertson was, however, a gifted speaker and salesman. Robertson's true value to Defendants was not as a researcher, but as a perceived independent expert in public appearances around the world. TI07560609-0610 (US 85603) (A); 2061692011-2012 (US 85631) (A).

907. For this reason, Defendants took care to maintain the perception of an arm's length relationship with Robertson and HBI. Defendants warned that HBI must "be perceived to be at arm's length from the industry, including in media briefings. Its role at most should seem as yet another third party expert amongst others." 2046754737-4740 at 4739 (US 21646) (A). Robertson even bragged to Philip Morris vice president Guy Smith: "[O]ur greatest attribute is the fact that we are an independent company whose views occasionally and coincidentally coincide with the tobacco industry views." 2061692011-2012 at 2012 (US 85631) (A); 304058260-8263 at 8260 (US 85632) (A).

908. As a result of the perception of independence and expertise that was fostered by the industry, by 1994 Robertson and other HBI spokesmen had made over 125 legislative appearances and given over 700 media interviews. TLT0600106-0120 (US 65099)(A); TLT0860022-0022 (US 87367) (A); TLT0860023-0023 (US 87368) (A); TIDN0010792-0792 (US 85637) (A); TIDN0012371-2373 at 2372 (US 85638)(A).

909. Since beginning work for the Tobacco Institute in 1985, HBI and Robertson have

never been "independent" of the tobacco industry. Not only did Defendants create and sustain Robertson's public persona, Defendants also supported Robertson and HBI financially. Philip Morris, Reynolds and the Tobacco Institute assisted HBI in procuring private and public contracts for building inspections in the United States and overseas, including buildings owned by Defendants. See, e.g., Simmons WD 3:12-4:10; Robertson WD 26:7-13, 38:6-12, 62:8-13; TIILBC003774-3775 (US 85606) (A); TIDN0022522-2522 (US 85607) (O); TIDN0016673-6673 (US 62603) (A); TLT0600046-0052 (US 65096) (A). Defendants even paid 75% of Robertson's legal fees in the 1990s when he was investigated for scientific fraud. When Robertson objected to paying even the 25%, Philip Morris counsel Tony Andrade stated that Robertson could "recoup" the 25% from all the "legitimate business" that Philip Morris was steering to HBI. 2071977528-7528 (US 85629) (A). At trial in this case, Robertson still expected his legal fees to be reimbursed by Defendants. Robertson TT, 10/21/04, 3319:15-19.

910. By 1987, HBI was on monthly retainer to the Tobacco Institute and receiving payments for expenses, including the costs incurred for services that were provided by Fleishman Hillard, the Tobacco Institute's public relations firm. Robertson WD 42:13-43:1, 26:14-16, and 30:14-15; TIDN0004200-4235 at 4202 (US 77018) (A); TIDN0020081-0085 at 0082 (US 85612) (A); TIDN0023739-3740 at 3740 (US 85613) (A); TIDN0008801-8801(US 85614) (A); TIDN0025605-5612 at 5606 (US 85615) (A); TI10160671-0671 (US 65486) (A).

911. Through Robertson's work for Defendants, HBI went national, and eventually global. HBI grew from a small time ventilation duct inspection outfit with an annual revenue of about $250,000 to a multi-national business with over $2.5 million in annual revenue; Robertson became an indoor air quality "expert" in forums around the world. Robertson TT, 10/21/04, 3332:4-3339:15, 3406:1-3409:16; Robertson WD 3:11-4:8, 5:1-6:3, 64:5-65:16, and 73:4-74:11;

see also TLT0860122-0129 (US 87341) (A); 2501026750-6761 at 6753 (US 85609) (A); 2029370437-0437 (US 26896) (A). In 1990, at Fleishman Hillard's suggestion, the Tobacco Institute paid for HBI to expand by opening regional offices in the United States and abroad. Robertson WD 56:16-58:13, 64:5-65:16; TIDN0010085-0093 (US 85617*) (A).

912. Philip Morris, through Covington & Burling in order to maintain "independence," reimbursed costs incurred by HBI. Expenses included hundreds of thousands of dollars associated with Healthy Buildings International Magazine. 2063935035-5035 (US 39877) (A); Robertson WD 66:15-72:12; 2023590035-0036 (US 85621) (A); TIDN0010768-0769 (US 85622) (A); TIDN0011756 (US 85623) (A); 2029370155-0160 (US 87343) (A); 2029370138-0139 (US 87355) (A); 2503001929 (US 85611) (A); TIDN0021382-1383 at 1382 (US 85626) (A); 2043709159A-9159A (US 46241) (A); 2029370153-0161 (US 87356) (A); 2029372111-2112 (US 87357) (A); 2503001929-1929 (US 87359) (O). The full color, bi-monthly magazine presented Defendants' views to a wide range of recipients around the globe. TLT0860028-0039 (US 87344) (A). At least seven issues of "Healthy Buildings" were published between in 1990 and 1991. See, e.g., TLT0850001-0008 (US 87346) (A); TLT0850073-0084 (US 87352) (A).

913. In return, HBI provided testimony and made media appearances that downplayed the adverse health effects of secondhand smoke and promoted "sick building syndrome" as the real problem. Simmons WD 5:3-10; TIOK0023878-3878 (US 77107) (A); TIDN0002692-2701 at 2695-2696 (US 85605) (A); 87780965-0967 (US 85589) (A). For Defendants, HBI acted as "a third-party presenting a message through briefings and publications which is complementary to our position on IAQ and thus worthy of financial support vis-a-vis certain projects." 2063935035-5035 (US 39877) (A).

(viii) The Illusion of Independent Science in Print: The Industry's ETS Consultants Cited and/or Published Without Disclosure

of Tobacco Industry Ties

914. The illusion of "independent" scientists disputing the health risks attributable to ETS was played by the industry in the press throughout the world. For example, articles in the Hong Kong Standard and South China Morning Post identified British ETS consultant and ARIA president George Leslie simply as the "head of Associates for Research on Indoor Air UK," and identified Rupp only as "a senior US scientific adviser and member of the American Civil Liberties Union." The writer of the article was apparently never informed that Leslie and ARIA were part of the industry-financed ETS consultancy program, or that Rupp was a paid tobacco attorney. 2501204903-4903 (US 85577) (A); 2501204902-4902 (US 85544) (A); 87780965-0967 (US 85589) (A).

915. There are many other examples of newspaper and journal articles where consultants were quoted without disclosure of tobacco industry funding. See, e.g., 2501205177-5179 at 5178 (US 85579) (O); 2048551288-1289 at 1288 (US 85581) (O); TOMN343061-3061 (US 85582) (A); 86022880-2880 (US 85583) (A); 86022881-2881 (US 85584) (A); 2505533679-3705 (US 22898) (A); 2026127628-7634 (US 85564) (O).

916. In 1991, the book "Other People's Tobacco Smoke", a compilation of articles, all written by tobacco industry consultants, was published. The book was edited by A.K. Armitage, paid industry consultant and member of ARIA, who discussed with scientific strategies with Philip Morris. All of the articles furthered the tobacco industry's goal to cast doubt on the science finding ETS harmful to human health and to divert attention from ETS to indoor air quality. Despite the fact that the entire book was comprised of work by industry-funded consultants, the only mention of industry involvement was a half of a sentence by the editors at the end of a brief "Acknowledgments" paragraph thanking both their wives and Philip Morris

International for their "cooperation and assistance." 2051809899-10096 at 9908 (US 87373) (A); 2501152077-2091 (US 25597) (A); 2081369203-9220 (US 27796) (A); 2023034933-4946 (US 87334) (A); 2500019903-9911 (US 25337) (A); 2023592986-2998 at 2991 (US 85548) (A); TIDN0019217-9268, at 9236, 9238, 9239, 9244 (US 85597) (A); TIDN0011870-1870 (85635) (A); 2501474296-4301 at 4299-4300 (US 27955) (A); 2023591657-1659 (US 23692*) (A); 2023591835-1837 (US 23695) (A); 2023591891-1894 (US 23696) (A); 2023591915-1918 (US 23698) (A); 2023591962-1965 (US 23699) (A); 2023591985-1988 (US 23700) (A).

917. The illusion of independence was also peddled by the Tobacco Institute in its press releases and other publications attacking research and conclusions implicating ETS as a cause of disease. These press releases, distributed over the course of years, referred to industry-funded and managed consultants and conferences without reference to their tobacco industry source. Rather, the Tobacco Institute quoted favorable opinions from:

- "independent scientific teams" (referring to IT Corporation, a Special Account 4 recipient) 92756893-6894 at 6893 (US 85585) (A); 86002410-2413 (US 85716) (A); 86002393-2396 (US 86359) (A)

- "an expert on substances in indoor air" (referring to David Weeks, a paid industry ETS consultant) 92756893-6894 at 6893 (US 85585) (A); TITX0025965-5968 at 5968 (US 85522) (A); TIDN0019217-9268 at 9232-9233 (US 85597) (A)

- "a prestigious panel of scientists at an international symposium" (referring to the industry's hand-picked ETS consultants at the McGill Symposium) 87697659-7664 at 7660 (US 85586) (A)

- "a US lawyer specializing in antitrust and trade regulation law" (referring to John Rupp) 87780965-0967 at 0965 (US 85589) (A)

- "Maurice LeVois, Peter Lee, and Joseph Fleiss," who all provided an "objective review" 87697701-7772 at 7701-7702 (US 85587) (A); TIDN0019217-9268 at 9220, 9226-9227 (US 85597) (A)

- "independent scientists" Flamm and LeVois (noting ties to Federal Government including FDA, CDC, VA, but failing to disclose ties to tobacco industry) 91806529-6529 (US 88597) (A); 87698341-8342 (US 85588) (A);

TIDN0019217-9268 at 9220, 9226-9227 (US 85597) (A)

> •"[a]n independent analysis of more than 300 major private and public buildings by ACVA Atlantic, Inc., an indoor air quality analysis firm, identified tobacco smoke as a major contributing factor to air quality complaints in only four percent–twelve buildings." TLT0961875-1888 at 1881 (US 85591) (O).

918. Another aspect of the consultancy program was always hidden: the fact that the consultants' articles, letters, and submissions to regulatory bodies were reviewed and edited prior to publication. TIMN0435220-5272 (US 21734) (O); TI00581616-1629 (US 62969) (A); Dawson WD, 114:15-116:4; 680707970-7973 at 7970 (US 92065) (A); Parrish TT, 1/27/05, 11387:25-11393:1.

919. For example, written responses by industry ETS Consultant Peter Lee to James Repace and Judson Wells were revised by both Shook, Hardy & Bacon and Covington & Burling prior to submission to a journal. Similarly, Covington & Burling made revisions prior to submission to an article criticizing the EPA risk assessment by industry ETS consultants Flamm and Todhunter, and a letter to the editor by ETS Consultant Gio Gori criticizing an adverse study by Brownson. TIMN435220-5272 at 5222, 5223 (US 21734) (O).

920. Hiding attribution was large scale and intentional, and was continued even after some within Philip Morris began to question the practice. For example, a January 1993 memorandum described an ETS Consultancy Program meeting where Rupp and fellow Covington & Burling attorney Patrick Davies met with representatives from BATCo and Philip Morris participating in the ETS program to plan initiatives for 1993. A new Philip Morris "policy" requiring attribution was discussed:

> Disclosure. The Philip Morris policy was again discussed. **John Rupp assured everyone that the policy would not impair the effectiveness of the program in any way since there are ways of getting around it** and still comply with the requirements. . . .

> Company Contacts with Consultants. At our request the issue was raised. **John Rupp however insisted that contact between consultants and the companies should be kept to an absolute minimum.**

2503007280-7285 (US 45996) (A) (emphasis added) .

(ix) The Law Firm Shield: Abusing Privilege to Hide the Industry Control of ETS Consultants

921. Lawyers played a central role in Defendants' ETS Consultancy Program. Defendants utilized the services of its outside law firms to recruit and educate "independent" consultants, generate publications, and exploit the "science" through public relations activities. However, the use of law firms as a "legal buffer" also permitted Defendants to hide their actions behind attorney-client privilege. This latter use of the law firms is discussed here.

922. In 1988, both Covington & Burling and Shook, Hardy & Bacon played central roles in the organization and management of the international consultancy program:

> The [ETS Consultancy] Programme is divided geographically into two parts:
>
> (a) Europe, Middle East - organized by Helmut Gaisch (Neuchatel) and John Rupp (Covington & Burling)
>
> (b) Rest of World - organized by Don Hoel (Shook, Hardy & Bacon).

300538976-8999 at 8976 (US 88778) (A).

923. One long time industry consultant, Sorell Schwartz, testified that Hoel was a "major player in the ETS issue"and further stated that Hoel "seemed to be in charge of the entire industry, not just the Tobacco Institute." Schwartz WD, 18:28-30.

924. As described above, as the consultancy program expanded into Asia and Latin America, Covington & Burling assumed more of a lead role in the program internationally, and shared the coordination with Shook, Hardy & Bacon in the United States.

925. This was no accident. Law firms were used as a "buffer" between the ETS consultants and Defendants in order to prevent disclosure of documents showing the true connection between the industry and the consultants: all communications between the law firms and the ETS consultants they recruited and managed for Defendants are housed, if they still exist, in the law firms. Moreover, even if the production of documents were ever ordered by a Court, Defendants could assert privilege to avoid disclosure.

926. The role of law firms in the ETS program in order to hide documents was raised as far back as 1987. On May 12, 1987, Rupp met with several Philip Morris executives from New York and Europe in Lausanne. The meeting was held to discuss steps to avoid attribution of ETS consultants' statements to Philip Morris and to avoid discovery of documents; one step was to hide the contacts with consultants behind privilege. A memorandum of the meeting written by Philip Morris counsel Frederick Dulles recorded that:

> John Rupp believes that the only way to keep studies, documents, and correspondence between external experts and the company from being "discoverable" (available to opposing parties and eventually subject to submission in court) in litigation, through the use of the "attorney-client privilege," would be to have a lawyer or law firm act as an intermediary. This would preferably be a lawyer admitted to the bar in the United States.
>
> In the U.S., Covington & Burling pays the invoices for independent experts on ETS and rebills the U.S. Tobacco Institute.

Rupp TT, 10/27/04, 4142:9-4143:16.

927. Gaisch at Philip Morris also emphasized the role of attorneys as intermediaries: "S&T PME will systematically **use C&B as legal intermediates** [sic] with scientists and testing laboratories . . . . S&T PME **uses SH&B as legal intermediate** [sic] for the organisation of scientific events." 2028343858-3860 at 3859 (US 75086) (A) (emphasis added).

928. BATCo's Sharon Boyse (Blackie) wrote in a memorandum dated July 24, 1991

that the opportunity to hide communications with consultants behind privilege was one of the selling points for using Covington & Burling to manage the consultancy program. Boyse wrote: "We also benefit from the added protection of legal advice and privileged communications." 300522762-2767 at 2767 (US 22223) (A).

929. The participating companies knew that the law firms had injected themselves between the scientists and the companies to "horse-shed" the consultants and to serve as a buffer to hide behind privilege. In October 1988, B&W counsel Kendrick Wells wrote Nick Cannar at BATCo to report a conversation with Rupp about the consultancy program:

> I asked John why the U.K. industry should rely on a U.S. law firm to develop scientific consultants who would be active in Europe. John said it is important to have a law firm play the role of organizing because the firm can, in the process of organization and horse-shedding individual scientists, avoid product liability problems. **The law firm also can serve as a buffer between the companies and the consulting scientists, providing both distance and some opportunities for work product protection.**

401033325-3328 at 3326 (US 24099) (A).

930. By using the law firms to make all the contacts and arrangements with the consultants, Defendants have been able to conceal all consultant contracts, most billing statements, and most if not all correspondence with the consultants around the world. The documents are technically not in the possession of a Defendant; secondarily, the documents could potentially be withheld as privileged. In this case, because Covington & Burling and Shook, Hardy & Bacon were not required to produce any documents, the role of Defendants, their lawyers, and their consultants in fraudulently distorting the scientific record is not fully known. Rupp TT, 10/27/04, 4145:25-4146:19.

(x) Defendants Maintained Control and Oversight

931. Although the law firms had the direct contact with the industry's scientific

consultants to maintain a "buffer," the companies reviewed the consultants' progress and provided their input to the law firms. For example, a July 25, 1991 letter from Philip Morris's Aurora Gonzalez to Patrick Davies at Covington & Burling showed how Philip Morris would "review" the firm's recommendations before the firm would begin work on a "training seminar" for new consultant "recruits." 2503001506-1507 at 1506 (US 85566) (A).

932. Tobacco company control and Covington & Burling updates of the program status is also evident in a March 14, 1990 "SECRET" document from Sharon Boyse titled "Far East ETS Project Update." Boyse recalled that the consultancy program was truly a collective effort:

> The priorities and budget for the programme were subsequently discussed at a meeting of representatives from supporting companies (BAT/B&W, Philip Morris, R J Reynolds, Rothmans, and JTI) in Hong Kong on March 7th. Details of that meeting are now reported. . . . **It was agreed that regular meetings of representatives from the five major supporting companies (BAT/B&W, PM, RJR, Rothmans, JTI)** will be essential now that there are so many companies and countries involved. Setting of priorities and evaluating progress will of necessity be an ongoing process throughout the year. **Meetings will therefore be held every 2-3 months in Hong Kong. Covington & Burling will continue to produce regular written reports.**

300541874-1876 at 1874 (US 85567) (A) (emphasis added).

933. The Tobacco Institute monitored the domestic ETS Consultancy Program. The Tobacco Institute members spent millions of dollars in this effort. TIMN435220-5272 (US 21734) (O); TIDN0004200-04235 (US 77018) (A); 87780455-0463 at 0461 (US 56327) (A); TI09911543-1580 at 1552, 1555 (US 62251) (A); TI09911885-1920 at 1894 & 1896 (US 62255) (A); TIMN366674-6895 at 6678, 6700, 6877, 6879 (US 86120) (A); TIMN345741-5777 at 5750 (US 77093) (A); TIMN 345630-5665 at 5639 (US 77092) (A); TI09911997-2033 at 2008-2012 (US 22367) (A); TIMN344059-4096 at 4061, 4069 (US 65673) (O); TIMN344237-4271 at 4243-4244 (US 65674) (O); TIMN194351-4398 at 4364-4365 (US 87418) (O).

934. The direction of the ETS Consultancy Program was monitored by the Cigarette Company Defendants, both individually and collectively (e.g., through the Tobacco Institute). For example, to insure that proper resources were spent in countries where the tobacco industry was experiencing "problems," Anthony Andrade at Philip Morris emphasized industry control over the consultant projects in a September 1991 memorandum:

> I believe we should recommend formal quarterly or semi-annual reviews of the Covington & Burling consultant program to ensure that resources are being appropriately allocated. For example, we need to be in a position to direct C&B to expend more of its resources on Eastern European matters if the problems in that area take a higher priority than ETS issues within the European Community nations.

2023856321-6328 at 6328 (US 22037) (A).

935. Defendants shared the costs of the consultant program through the Tobacco Institute and through the law firms. Consultants would bill their services through Covington & Burling and Shook, Hardy & Bacon; the law firms would then bill the Tobacco Institute or other Defendant, who would pay the law firms with the funding from the participating companies. Using this scheme, the Cigarette Company Defendants were able to avoid direct payments to the ETS consultants and create an attorney wall between them and the ETS consultants. See, e.g., 2029378142 (US 87358) (O); 2503001929 (US 87359) (O); 2023591631-1634 (US 23690*) (A); 2023591657-1659 (US 23692*) (A); 2023591792-1794 (US 22161) (A); 2023591606-1608 (US 23689) (A); 2023591835-1837 (US 23695) (A); 2023591891-1894 (US 23696) (A); 2023591915-1918 (US 23698) (A); 2023591985-1988 (US 23700) (A); 2023591962-1965 (US 23699) (A); 2023591599-1603 (US 75424) (A); TIMN435220-5220 (US 21734) (O); Rupp WD, 69:1-8.

936. The Latin American ETS Consultancy Program, also run by Covington & Burling,

had a "central budget" as well as a "country-specific component" to fund its recruitment and use of scientists. The program had an annual total budget of over $600,000. 2023591264A-1270 (US 85536) (A); 2023590386 (US 85537) (A); 500874585 (US 85539) (A); 500874587-4590 (US 85540) (A).

937. Covington & Burling billed Philip Morris USA for a substantial portion of the Philip Morris cost of the ETS Consultancy Program. For example, Rupp attached a $300,000 bill for the Asia consultancy program under cover letter dated September 18, 1991 to Steve Parrish, then Philip Morris USA general counsel. A completed payment voucher shows that PMUSA paid the bill. 2071412978-3143 at 2982-2985 (US 23061*) (A).

938. A July 2, 1992 internal Philip Morris report revealed that consultancy program expenses were spread among Philip Morris International, Philip Morris USA, and Philip Morris Companies. 2023591481-1486 (US 92008) (A).

939. The European ETS Consultancy Program had a 1988 budget of $2.5 million from Philip Morris alone. 2501474253-4259 at 4255 (US 22017) (A). According to Rupp, the ETS Consultancy Program had a 1990 budget of $800,000 in Asia. 2500048999-9000 (US 85535) (A).

940. A November 1992 document titled "Revised 1993 Budget: European Consultant Program" lists a budget of $1.6 million, apparently for Philip Morris's share of the program costs. 2071027438-7442 (US 40371) (A).

941. While the total cost of the worldwide ETS program has not been ascertained, the 1993 annual budget for the European, Asian, and Latin American programs alone was $3 million, a sum described as a "substantial decrease" from 1992. Financial responsibility for program was shared among Philip Morris, BATCo, Reynolds, B&W, Japan Tobacco, and Rothmans, drawing

"funds from a central budget (shared by all participants)." 2023590685-0687 at 0685 (US 37027) (O); 2023590464-0466 (US 85529) (O) ($3.4 million projected for program in 1992).

(i) The Contamination of Science Continues: Defendants' ETS "Symposia"

942. As another means Defendants invented to undermine the scientific consensus as to the health risks of passive smoking, Defendants sponsored and planned various ETS conferences, sometimes dubbed "workshops" or "symposia," to generate favorable and seemingly independent scientific conclusions in the press and in the scientific literature. These conferences, held abroad to avoid scrutiny, included a 1974 Bermuda conference, a 1983 Geneva workshop, a 1984 Vienna conference, a 1987 Tokyo conference, the 1989 McGill "symposium," and others. The industry-planned conferences were a major tool whose conclusions and presentations were held out and publicized in the United States by Defendants as examples of "independent" scientific statements in support of the industry's position that ETS was not a proven health hazard.

(i) The 1974 Bermuda (Rylander) "Workshop"

943. The concept of covertly planning and managing conferences or "symposia" to generate published scientific conclusions favoring the industry's position on passive smoking traces back to at least 1974, when Defendants carefully used Swedish professor Ragnar Rylander to stage a passive smoking conference in Bermuda.

944. As stated previously, Rylander and Philip Morris signed a consultant agreement in December 1972 in which Rylander agreed to be the Philip Morris "representative" to INBIFO, a Philip Morris-owned research facility in Cologne, Germany. 2063590583-0586 (US 85704) (A). In this capacity, Rylander proposed to Philip Morris in July 1973 a "workshop" on the effects of passive smoking on nonsmokers. 1000259865-9865 (US 85708) (O); 1000259799-9803 (US 85709) (O).

945. The purpose of the workshop was to generate findings favorable to the industry's position opposing smoking restrictions. In July 1973, Philip Morris's Helmut Wakeham strongly recommended industry financing of the workshop to the Philip Morris leadership as a means to "put[] the facts in proper perspective" and to counteract smoking legislation. 1000053116-3116 (US 85707) (O). In a February 26, 1974 letter to Imperial Tobacco, Wakeham summarized the workshop as follows:

> We are looking forward to the report of this workshop. We hope it will provide us with a document we can use to quiet some of the hysteria on the subject. Our main concern is the legislation restricting smokers now being passed in some of the local governments in the U.S.A. A copy of the workshop outline is enclosed for your information.

2015035555-5556 (US 87376) (O).

946. The workshop was held in Bermuda on March 27-29, 1974. The proceedings of the workshop were published as a book. The only attribution to Defendants was in the preface: "The Workshop was supported by Geneva University through a grant from "Fabriques de Tabac Reunies." The proceedings did not disclose that FTR was and is the Philip Morris subsidiary in Neuchatel, Switzerland. 690019211-9302 at 9216 (US 88462) (A).

947. In addition, the role of Philip Morris in Rylander's Bermuda workshop was far more than mere funding through its European subsidiary. Several documents reveal that Rylander planned the workshop and the publication of the workshop proceedings with Helmut Wakeham of Philip Morris and Don Hoel of Shook, Hardy & Bacon. 2015035615-5615 (US 85710) (A); 2015035611-5611 (US 89406) (O); 1000259703-9703 (US 85713) (A); 1000260272-0272 (US 85714) (O); 1000259790-9790 (US 87036) (O). Hoel even collaborated on the list of conference participants. 1000259784-9784 (US 85717) (O); 2015035615-5615 (US 85710) (A).

948. In August 1974, the first summary of the workshop was "ghostwritten" by Philip Morris and "intended to be published over the name of Ragnar Rylander" in the magazine *Science*. 1000260242-0242A (US 89408) (O). However, there is no evidence that *Science* ever published the summary.

949. Later, Rylander also submitted drafts of the workshop proceedings to Philip Morris for review and comment before submitting the document for publication in the *Scandinavian Journal of Respiratory Disease*. 1000259693-9693 (US 86613) (O); 1000259703-9703 (US 85713) (A); 1000260272-0272 (US 85714) (O). Philip Morris's suggested "corrections," including those from Hoel, were sent to Rylander in August 1974. 1000260253-0253 (US 89407) (O).

950. Wakeham later called the published workshop proceedings a "very convenient piece of paper" when he presented it to members of the "Industry Technical Committee," a group composed of industry scientists. ATX300000015-0017 at 0017 (US 21129) (O). In a June 28, 1988 memorandum from Hoel to Philip Morris's Todd Sollis describing Shook, Hardy & Bacon's ETS efforts for the industry, Hoel bragged:

> Since 1974, SHB has been actively engaged in the organization and development of ETS conferences and symposia. . . . Once the proceedings from these conferences are published, they provide information that is useful in dealing with the attacks of anti-smoking activists.

2015007199-7207 at 7206 (US 20311) (A).

951. The 1974 Bermuda conference was also incorporated into a broad industry "Position Paper" on passive/public smoking distributed to Defendants as part of the operations of the international tobacco industry group called ICOSI. ICOSI distributed their "Position Papers" to coordinate the responses of the manufacturers on a number of smoking and health issues.

With respect to passive smoking, the companies were to say that:

> In 1974, a workshop (organized by, among others, Dr. Rylander of the Universities of Geneva and Gothenburg) was attended by scientists from all over the world to consider the health consequences of atmospheric tobacco smoke. These scientists were unable to conclude that cigarette smoking is a hazard to non-smokers.

513886735-6773 at 6737-6738 (US 87377) (O); 500876807-6812 (US 87378) (O).

952. The 1974 conference also gave rise to a financial relationship between Rylander and all company Defendants, acting in concert through the industry's Special Account 4 from 1975 to 1989. 1005122219-2222 (US 20214) (A); 507875857-5859 (US 20795) (O); 507876993-6994 (US 20799) (O); 86002454-2457(US 85776) (A); 86002410-2413 (US 85716) (A); 86002393-2396 (US 86359) (A); ATX140000938-0939 (US 21122) (A). Rylander's relationship with Defendants also continued as a consultant to Philip Morris and as a CIAR Applied Projects researcher through 1999. 2063590583-0586 (US 85704) (A); 2505442777-2960, 2905-2907 (US 25643*) (A).

(ii) The Geneva (Rylander) Conference

953. In 1981, epidemiological studies were published suggesting that passive smoking posed an increased risk of lung cancer in nonsmoking spouses married to smokers. As described elsewhere in this section, the studies, particularly those authored by Hirayama and Trichopoulos, were perceived by Defendants as major threats to both the social acceptability of smoking and to the freedom of smokers to smoke in public.

954. The 1982 Surgeon General's Report was the first to consider the epidemiological evidence. While not finding that passive smoking was a cause of disease, the Report (1) recommended that "nonsmokers avoid exposure to second-hand tobacco smoke to the extent possible" and (2) concluded that "the evidence does raise concern about a possible serious public

health problem." TLT0242222-2551 at 2228, 2481 (US 60598) (A).

955. To contest this new evidence and to dispute the ominous conclusion in the 1982 Report, Defendants covertly staged further passive smoking conferences to generate favorable evidence that they could use in public statements and regulatory submissions. The first of these conferences was held in 1983 and was planned by Defendants once again using Ragnar Rylander and the law firm of Shook, Hardy & Bacon.

956. The discussion and planning of a second Rylander conference can be traced back to August - October 1981, when Defendants, through the Tobacco Institute Executive Committee, the Committee of Counsel, and Shook, Hardy & Bacon, enlisted Rylander to assess the utility of another conference. 03554255-4255 (US 85641) (A). An August 1981 memorandum from Don Hoel recorded his meeting with Rylander at Shook, Hardy & Bacon. According to this memorandum, Rylander acknowledged that neither he nor a conference could give ETS a "clean bill of health"; however, Rylander did believe that "he could bring a healthy skepticism" to the conference and to claims against ETS. Hoel and other Shook, Hardy attorneys reviewed Rylander's proposed list of invitees. 680542957-2962 at 2958 (US 85718) (A).

957. Rylander's actions were carefully controlled by Defendants through Hoel. Defendants' plan called for Rylander's overview paper used to introduce the conference, as well as the discussion papers presented at the conference, to be provided to Defendants for review and input prior to Rylander's use at the conference and prior to publishing the materials. 680542957-2962 at 2958 (US 85718) (A).

958. On March 18, 1982 the Committee of Counsel asked Hoel and fellow industry attorney Tim Finnegan to present a specific proposal regarding a Rylander symposium for both the Committee of Counsel and the Tobacco Institute Executive Committee. 01330613-0613 (US

26461) (A). The proposal was approved by the Committee of Counsel in April 1982 and reported to the Executive Committee. According to Arthur Stevens' memorandum updating Lorillard's Curtis Judge and Alexander Spears, "The project will probably be conducted through the University of Geneva - and Don Hoel will propose a budget and more specific details after further consultation with Dr. Rylander." 01330467-0467 (US 26460) (A); 01330468-0469 (US 85719) (A).

959. Defendants chose Geneva as a "neutral ground" in order to minimize attention to the involvement of the United States tobacco industry in the conference. 680542957-2962 at 2960 (US 85718) (A). The conference was estimated to cost the industry between $65,000 and $80,000. 502122726-2727 (US 29551) (A). A later memorandum from Brown & Williamson in-house counsel J. Kendrick Wells put the cost to Defendants at $70,000. 401033325-3328 at 3327 (US 24099) (A).

960. The Geneva conference was organized by Rylander and Hoel and held in Geneva in March 1983. The conference proceedings were then published in a book titled "ETS-Environmental Tobacco Smoke, Report from a Workshop on Effects and Exposure Levels." The only attribution to Defendants in this publication is a statement within the preface that "It was supported by a grant from the Tobacco Institute, Washington, D.C., to the University of Geneva. 301153900-4051 at 3905 (US 85645) (O).

961. Rylander's workshop summary, printed in a section titled "Workshop Perspectives" at the close of the published conference proceedings, could not have been more favorable to Defendants. Rylander wrote that (1) the evidence linking ETS to any disease was "not considered conclusive"; (2) no passive smoking conclusions could be drawn from the data linking active smoking to disease; (3) the evidence of passive smoking causing child effects was

"contradictory"; carbon monoxide was "not important from a health point of view"; and the only proven effects of ETS were "irritation and annoyance." 301153900-4051 at 4042-4043 (US 85645) (O).

962. After the workshop, a Tobacco Institute update reported that Rylander told Hoel that the event "went very well" because the "consensus" of the participants was that there was no evidence that environmental tobacco smoke causes lung cancer. TIMN269624-9624 (US 85643) (O). The Tobacco Institute report also recorded that Hoel would review the written proceedings prior to publication. The industry-favorable conference "consensus" was predictable given that most of the participants were paid industry consultants at the time of the Geneva conference and that the event was chaired by Rylander.

963. Rylander's intimate links to Defendants, both as Special Account 4 recipient and Philip Morris consultant, are described above in relation to the 1974 Bermuda conference. Rylander was a Special Account 4 recipient at the time of the Workshop. 03746173-6182 (US 46500) (A); 1005122219-2222 (US 20214) (A); 507875857-5859 (US 20795) (O); 507876993-6994 (US 20799) (O). At the same time, he was a paid Philip Morris consultant. 2063590583-0586 (US 85704) (A). Although Defendants did at times admit to an undefined "grant" from the Tobacco Institute, Rylander's links to the industry and the involvement of Shook, Hardy & Bacon in planning the conference were not disclosed in either the conference proceedings or any of the industry statements citing the conference "conclusions." 301153900-4051 (US 85645) (O); 2025364951-5007 (US 22173) (A); 500642763-2772 (US 85644) (O).

964. Rylander invited a number of other Special Account 4 and CTR Special Project (see supra US FF §§ I.D(2), (3), supra) recipients; several even gave presentations at the

symposium on work they had performed on behalf of the tobacco industry. These participants included Domingo Aviado, Anthony Cosentino, Melvin First, Roger Jenkins, and Theodor Sterling. None of these relationships were disclosed in the published proceedings of the Geneva conference. 301153900-4051 (US 85645) (O).

965. For example, Melvin First was paid via Special Account 4 for work that he performed in early 1983 under the title "Methods for Environmental Tobacco Smoke Measurement," the subject of First's presentation at the Geneva conference. 1005125153-5154 (US 36085) (A); 03746173-6182 at 6179 (US 46500) (A). Theodor Sterling received hundreds of thousands of dollars in CTR Special Project funds in 1982 and 1983 for work related to his Geneva conference topic. 03746173-6182 (US 46500) (A). In addition, Sterling's financial ties to Defendants via CTR Special Project funding date back to the early 1970s and continued into the 1990s. 2024699783-9808 (US 85647) (A); 92613920-4198 (US 32132) (O); 2015006938-6940 (US 85764) (A). Domingo Aviado was also a long-time recipient of industry Special Project and Special Account funds at the time of the Geneva Conference. 92613920-4198 at 4107 (US 32132) (O); 03638980-8982 (US 85649) (A); 2015029462-9463 (US 85652) (A); 682070007-0008 (US 87369) (A); 682070001-0002 (US 36081) (A); 682069976-9997 (US 85654) (A); 682069978-9979 (US 85656) (A); 682069972-9973 (US 85657) (A); 682069965-9967 (US 85658) (A); 682069960-9961 (US 85659) (A); 682069953-9954 (US 85660) (A); 682069938-9940 (US 85661) (A); 507875841-5843 (US 85662) (A); 507875857-5859 (US 20795) (O); 507876993-6994 (US 20799) (O); 507875832-5834 (US 20794) (O); 507876986-6987 (US 20798) (O); 507875698-5700 (US 22953) (A); 86002454-2457 (US 85776) (A).

966. The Tobacco Institute quickly sent a report of the 1983 Geneva conclusions to the

U.S. Health and Human Services Secretary and Assistant Secretary, and to the Surgeon General. Moreover, the Tobacco Institute circulated a press release on the conference to medical and health publications, medical schools, members of Congress, newspapers, journalists and state health officials. TI12882975-2977 (US 62400) (O).

967. Rylander submitted comments to EPA in 1990 on the draft Risk Assessment stating: "I am sorry to see our own workshops from 1974 [Bermuda] and 1984 [Geneva] are not cited, particularly as the former was the first to apply the terms environmental tobacco smoke (ETS)." 2026127784-7790 (US 92064) (A).

968. Defendants went on to cite the conference as seemingly independent authority in advertisements, brochures, news releases, and submissions to Congress, OSHA, and EPA in support and furtherance of their effort to deny and distort the health effects of secondhand smoke and to promote cigarette sales. None of these materials informed readers that the conference was planned by an industry consultant (Rylander) and lawyer (Hoel) in order to generate industry-favorable "conclusions." 520911538-1542 (US 85593) (O); 500642763-2772 (US 85644) (O); 2025364951-5007 (US 22173) (A); TINY0020573-0577 at 0575-0576 (US 88600) (O); TIFL0055129-5139 at 5131-5132 (US 88601) (A); TIMN0120782-0785 at 0784-0785 (US 88602) (O); 517001328-1330 (US 88603) (O); 2070140494-0630 at 0595-0596 (US 88604) (O).

969. A May 1984 Tobacco Institute publication titled "Environmental Tobacco Smoke Workshops 1983 - 1984" is a noteworthy example of how Defendants hid the truth about the Rylander Geneva conference. This brochure proclaimed: "Three times since March 1983, participating researchers and other medical experts have declared, **forthrightly and independently**, that no conclusion can be drawn about whether ETS has any chronic health effects on the nonsmoker. . . Another physician-researcher organized an ETS workshop in

Geneva in March 1983 as follow-up to a similar conference in 1974. He concluded afterward that "irritation and annoyance must still be considered to be the most prevalent effects ascertained from exposure to ETS.'" 500642763-2779 at 2765-2766 (US 85644) (O) (emphasis added).

(iii) The Vienna Conference

970. Defendants covertly organized another symposium addressing passive smoking and health in Vienna, Austria, from April 9-12, 1984. The industry planning for the Vienna Conference can be traced back to 1981, on the heels of the first two passive smoking epidemiological studies (Hirayama and Trichopoulos) linking lung cancer in non-smoking spouses to smoking husbands.

971. A September 17, 1981 Reynolds "SECRET" memorandum from Associate Scientific Director Frank Colby to in-house counsel Samuel Witt, with copies to Hoel and others, detailed the industry's plans to hold a conference/workshop on passive smoking. The conference would be planned by Hoel and Colby, and would be chaired by Professors Helmut Valentin and Ernst Wynder, with the "thrust and intent" to convince German and American scientists "that there is no real controversy, and that the facts on the [passive smoking] problem are all on our side." To this end, the conference would be a "completely closed meeting by invitation only." 500534168-4169 (US 89428) (O). The conference described in this memorandum, chaired by Valentin and Wynder, was eventually held in Vienna in April 1984. 04211608-1610 (US 22131*) (O).

972. Valentin was a former recipient of industry funding via the Special Account 4. 1005045370-5383 (US 85777) (A) and 1005122262-2265 (US 20218) (A). The relationship between Wynder and the tobacco industry is described later in this section.

973. The covert funding mechanism chosen by the industry for its Vienna conference was the German Verband, the German cigarette manufacturer association with representatives of Philip Morris, BATCo, and Reynolds. According to a December 1, 1983 internal memorandum from Philip Morris (FTR) scientist Walter Fink to Tom Osdene at Philip Morris USA recording the minutes of a November 1983 Verband meeting, "DM 150,000 were approved for the Meeting on Passive Smoking to be held in Vienna in April 1984." 2028524616-4618 at 4618 (US 89162) (A).

974. Following the Vienna conference, Wynder and Valentin issued a press release announcing the conference "conclusions" that there was no link between passive smoking and any disease and "[s]hould lawmakers wish to take legislative measures with regard to passive smoking, they will, for the present, not be able to base their efforts on a demonstrated health hazard from passive smoking." The press release omitted any attribution to Defendants, the Verband, or the industry. 04211608-1610 (US 22131*) (O); 2024967092-7093 (US 87372) (O). The translated press release was quickly circulated by Don Hoel to the Committee of Counsel for Defendants' use and information. 2024967085-7085 (US 89431) (O).

975. In 1986, the Vienna conference was turned into published proceedings (*Medical Perspectives on Passive Smoking*) containing a summary preface and the presentations made by the industry-selected scientists. According to the book's preface, Dr. Hirayama was invited to attend the conference; not surprisingly, however, the preface reported that "[w]ith the exception of Dr. Hirayama, all the participants agreed that so far there was no definite proof of a causal relationship between passive smoking and the risk of lung cancer." While the conference was closed to a selected group of scientists in order to guarantee an industry-favorable consensus, the preface also made the claim that the conference proceedings "provide the interested reader with

an overview of **the present status of the scientific discussion of passive smoking**." TI12871546-1582 (US 87370) (O) (emphasis added).

976. Defendants' not only omitted any connection to the tobacco industry in their use of the Vienna conference in public statements (see below), but also affirmatively misrepresented that the conference was sponsored by or held "in cooperation with" the World Health Organization. See e.g., 500642763-2779 at 2767 (US 85644) (O); 04211608-1610 at 1608 (US 22131*) (O). The misrepresentation was stopped only after the WHO protested in writing that it "ha[d] not granted the workshop any kind of sponsorship or support." TI00681815-1818 (US 62083) (A); TI00681800-1803 (US 88606) (O).

977. It was important to Defendants that the Vienna conference appear to be wholly independent of the tobacco industry. Both Hoel and Covington & Burling's John Rupp would later even deny to industry consultants Sorell Schwartz and Nancy Balter that the Vienna symposium was a tobacco-sponsored event, a denial that Philip Morris's Mary Pottorff later set straight:

> At some point later, Nancy and I were sitting in Rupp's office and she brought [the Vienna conference] up again, emphasizing the importance of the question, our having relied on the conference proceedings as a neutral source. Rupp picked up his phone, dialed Don Hoel, put him on speaker, and said to Hoel: I have Sorell and Nancy here with me and they want to know if the Vienna conference was surreptitiously sponsored by the tobacco industry. Hoel's response - absolutely not. A year or two later, I attended a meeting in Europe on indoor air pollution. Mary Pottorff of Philip Morris was also there, and we were talking. I mentioned this Vienna story to her. She laughed and said to me, "You have got to be kidding, Don Hoel organized that symposium."

Schwartz WD, 19:29-38.

978. Like the Geneva conference, Defendants publicly and repeatedly exploited the Vienna "conclusions" finding no connection between passive smoking and disease. A May 1984

Tobacco Institute publication titled "Environmental Tobacco Smoke Workshops 1983 - 1984" claimed the Vienna conclusion that "a health hazard from ETS has not been demonstrated" was reached "forthrightly and independently." 500642763-2779 at 2765-2766 (US 85644) (O). The conference was also cited to at length by Defendants in the 1986 Tobacco Institute booklet aptly titled "Tobacco Smoke and the Nonsmoker: Scientific Integrity at Crossroads," in which the Tobacco Institute claimed that Hirayama "stood alone" in his finding that passive smoking was linked to lung cancer. 2025364951-5007 at 4957-4958, 4961 (US 22173) (A).

979. In 1987, the Tobacco Institute published a booklet titled "Smoking Restrictions: The Hidden Threat to Public Health," in which it declared that ETS had not been shown to be a health hazard to nonsmokers and that more research was needed. The booklet quoted statements made by organizers of the 1983 Geneva and the 1984 Vienna conferences, with no disclosure that the conferences were conducted by the tobacco industry. TI05540699-0705 at 0702 (US 21246) (A).

980. Defendants made similar statements in other public statements and submissions as well, implying or stating that the Vienna conclusions were independent. TINY0020573-0577 (US 88600) (O); 300551794-1823 at 1799 (US 88608) (O); 93766027-6051 at 6029 (US 85675*) (O).

(iv) The 1987 Tokyo Conference

981. In 1986 Defendants and their lawyers began planning another ETS "symposium," this time in Tokyo, and this time financed through Japan Tobacco Inc. (JTI). Once again, Defendants turned to Don Hoel and Shook, Hardy & Bacon to insure that the conclusions and resulting publication from the conference were favorable to the industry as well as amenable to being cited by Defendants in public and in submissions to regulatory bodies.

982. The 1987 Tokyo Conference was planned and managed by Defendants through the Tobacco Institute ETS Advisory Group (ETSAG), a group of company representatives and lawyers who met frequently between 1984 and 1988 to steer the industry's position and activities relating to passive smoking. See supra US FF § III.A(2)(g)(ii). Several ETSAG meeting agendas and summaries provide glimpses of Defendants' work to take the Tokyo conference from a "project proposal" to a reality. 506330874-0879 (US 50834) (O); 505491315-1320 (US 24227) (O); TIBU30330-0331 (US 62566) (O); 511252621-2626 (US 51554) (A).

983. The plan was for JTI to pay for and stage the conference to counter the 6th World Conference on Smoking and Health, an annual event slated to be held in Japan in November 1987. A December 9, 1986 Reynolds memorandum from Charles Green to Alan Rodgman reported on a "TI-ETS Advisory Committee Trip to Tokyo," where Hoel, Osdene and Green met with JTI representatives to begin planning the conference. 505491406-1410 at 1409 (US 75275) (A).

984. The conference was agreed upon by Defendants and JTI after several meetings between ETSAG and JTI representatives in late 1986 and early 1987. 506330874-0879 (US 50834) (O); 505491315-1320 (US 24227) (O); 512252621-2626 (US 51554) (A).

985. A February 4, 1987 internal Philip Morris ETS "Action Items" update memorandum from Mary Pottorff to Bill Murray reported the following under the heading "PMI Action on ETS":

> Tokyo University ETS Conference
>
> Don Hoel has informed us that this **PMI requested conference** will take place two weeks prior to 6th World Conference, pending confirmation from JTI.

2501152342-2344 (US 20017) (A) (emphasis added).

986. A draft summary of the May 26, 1987 ETSAG meeting documented that JTI paid

for the "symposium." While Defendants intended to admit the funding source if asked, "the plan [was] not to publicize the fact." 506300804-0814 at 0807 (US 20756) (A).

987. Professor Hitoshi Kasuga was tapped to chair the conference for JTI and Defendants. Kasuga was a Japanese scientist who was conducting research for JTI at the time the conference was planned. 508226799-6804 at 6801 (US 75279) (A). Defendants supplied names of American industry ETS consultants who would attend; the consultants' fees, along with their travel, food, and lodging expenses would be paid by JTI and Defendants. TI0068-2069-2070 (US 62088) (O).

988. The ETS conference, titled "International Conference on Indoor Air Quality," was held in Tokyo on November 4-6, 1987. The list of attendees disclosed that many of Defendants' American and European consultants were in attendance and in some cases presented papers. These consultants included Theodor Sterling, Franz Adlkofer, Karl Ueberla, Linda Koo, Ragnar Rylander, Peter Lee, Roger Perry, Domingo Aviado, Sal DiNardi, Melvin First, James Kilpatrick, Michael Lebowitz, Nathan Mantel, Gray Robertson, Sorrell Schwartz, and Ernst Wynder. Neither the list of attendees or conference program disclosed that the conference was funded through JTI and planned by both JTI and Defendants. 321091730-1825 (US 22892) (O).

989. The Tokyo Conference proceedings were published in 1990 as a book titled *Indoor Air Quality*. Kasuga's preface emphasized the existing ETS "controversy," and stated that none of the preceding conferences and "symposia," including Rylander's Geneva and Vienna conferences, had "established a definite causal relationship between ETS and lung cancer." Industry-favorable papers authored by Defendants' consultants Rylander, Lee, Perry, Adlkofer, Sterling, and others were published in *Indoor Air Quality*. The book even published attribution-free papers by BATCo scientist Chris Proctor and Reynolds scientist Guy Oldaker.

Kasuga summarized the conference in an "Outline" section at the conclusion of the book, where he stated that any number of factors in the air may have adverse effects on health, and ETS is merely one among many that should be studied. TLT0990809-1076 at 0812-0813, 1073-1074 (US 87398) (A).

990. None of the papers published in *Indoor Air Quality*, nor the book itself, disclosed that the conference was funded through JTI and planned by both JTI and Defendants. TLT0990809-1076 (US 87398) (A).

991. Defendants then cited the Tokyo Conference and papers published in *Indoor Air Quality* as objective scientific authority in support of their position that an ETS "controversy" existed, and that passive smoking was not a proven health hazard to nonsmokers. TI11951245-1685 at 1374 (US 85699) (A); 87654420-4485 at 4481, 4485 (US 87385) (O); 2024706618-6698 at 6687 (US 87405) (O).

992. Ernst Wynder, founder of American Health Foundation ("AHF"), was one of the organizers of the 1984 Vienna conference and the primary speaker at the 1987 Tokyo conference. Wynder had a long history with Philip Morris that also was not publicly disclosed. This relationship seemed to materialize around 1969, at which time Wynder described himself as one of the "best friends the cigaret [sic] industry has." 1000321438-1438 (US 85666) (A). Between 1976 and 1990, Philip Morris provided AHF with millions of dollars in research grants. 2021630792-0794 at 0793 (US 92067) (A); 2001202325-2325 (US 85724) (O); 1003710362-0363 (US 85669) (O); 2021636204-6204 (US 85671) (O); 2021594926-4930 at 4929 (US 85672*) (O).

993. In 1991, Kraft General Foods, a subsidiary of Philip Morris Companies (now Altria), continued the Philip Morris support of AHF. That year, Kraft sent AHF $657,500 toward

its five year commitment of nearly $2 million for a research and education program to be conducted from 1991 to 1995. This program studied the correlation between lifestyle and environmental exposures and major chronic illnesses, and the role of diet in cancers of the lung, oral cavity and bladder. 2046988683-8683 (US 85673) (O); 2021630974-0975 (US 87371) (O); 2046988682-8682 (US 85674) (A).

(v) The 1989 McGill "Symposium"

994. Continuing their pattern of covertly generating industry-favorable scientific publications to undermine the scientific consensus on passive smoking, Defendants and their lawyers planned and executed a "symposium" of industry-selected consultants to convene at McGill University in Montreal in November 1989. This event, and the published "symposium" proceedings that followed, provide perhaps the best example of Defendants' motives in fraudulently distorting the scientific record.

995. Defendants' true role, and specifically the role of Defendants' law firm Covington & Burling, in the planning and management of the McGill "symposium" was only revealed in documents formerly withheld by Defendants as privileged. As described below, the McGill "symposium" appears to have been the brainchild of Philip Morris and Covington & Burling, although funding and use of the "symposium findings" would later be shared among the companies.

996. McGill "symposium" planning began at the highest levels of Philip Morris. In an August 8, 1989 "Strictly Confidential" memorandum from Philip Morris International's Andrew Whist to Philip Morris Companies' Vice Chairman Bill Murray, with copies to Geoffrey Bible and others, Mr. Whist wrote:

> This memorandum summarizes our earlier conversation concerning the ETS symposium at McGill University.

> What we have been planning over the past several days is a major international **symposium which would be both closed and private** until the release, shortly after the symposium, of a monograph summarizing the proceedings. **Our goal, of course, is to produce an impressive document that would have the potential of neutralizing two reports that are scheduled to be released near the end of this year** - an ETS risk assessment that is being prepared by EPA and a detailed assessment of ETS health effects under preparation, at Rockefeller University, supervised by Professor Spitzer (an avowed anti-smoker). **The EPA and Spitzer reports would cause substantial damage unless they are somehow countered**.

2023034633-4637 (US 22932) (A) (emphasis added).

997. Whist continued that the plan was to use an established industry ETS consultant, Donald Ecobichon at McGill, to host the "symposium." To control exactly what was included in the published proceedings, Philip Morris would not only choose who would attend, but would also "transcribe and edit the panel discussions for inclusion in the monograph which will be published immediately following the symposium." Numerous Covington & Burling attorneys were to participate in the execution of the event on behalf of the industry. Whist recommended that Philip Morris, Reynolds, and the Tobacco Institute share the costs of the "symposium" evenly. Whist's closing paragraph to Murray and Bible noted that "security is vital." 2023034633-4637 (US 22932) (A).

998. A September 19, 1989 report of the industry "ETS Coordinating Committee," written by Reynolds attorney Mary Ward, recorded Rupp's McGill presentation to the committee. Rupp told the group that the published "monograph" (Ward refers to this as a "big, fat book") could be used by the companies to oppose the EPA. 515541696-1701 at 1700 (US 30103) (A). Representatives of the Tobacco Institute and its member companies sat on the ETS Coordinating Committee. 511514101-4102 (US 24746) (A).

999. A September 27, 1989 "Status Report" from Covington & Burling attorney John

Rupp echoed much of what Whist had stated in his August 1989 memorandum. The McGill event was conceived as a carefully orchestrated means to "neutralize" two ETS reports that were on the horizon, reports that the industry knew would indict passive smoking as a cause of disease:

> ETS Symposium at McGill University
>
> On November 3 and 4, 1989, approximately 60 of our consultant scientists from the United States, Canada, Asia, and Western Europe will convene for a private symposium devoted to ETS and risk assessment. The purpose of the symposium is to produce an authoritative monograph that will serve to neutralize two reports that are scheduled to be released near the end of this year - an ETS risk assessment that is being prepared by the U.S. Environmental Protection Agency and a detailed assessment of ETS health effects that is being prepared in Canada under Professor Spitzer's supervision.

2500048508-8515 (US 20549) (A).

1000. Another Covington & Burling "Status Report," dated February 14, 1990, told that the "symposium" went off as planned, but with 80 industry ETS consultants. 2500048976-8998 at 8984 (US 23007) (A). As intended by Defendants, the "symposium" was a wholly one-sided presentation of the industry's position on passive smoking. Chris Collett, an employee of industry consultant Theodor Sterling and an attendee at the "symposium," wrote in an internal review of the conference that:

> Other comments I overheard concerned the absence of criticism or disagreement between the attendees. **The presentations and panel discussions were sessions of "preaching to the converted."**

94348745-8752 at 8752 (US 85688) (A) (emphasis added) .

1001. In January 1990, the McGill proceedings were published by Lexington Books, along with a press release, and press kits for distribution by the Tobacco Institute with the

assistance of public relations firms Ogilvy & Meyer and Burson Marsteller. Through the published proceedings, Defendants were able to circumvent any peer review process and get favorable "scientific" conclusions into the published literature. 2023546229-6233 (JD-080524) (A).

1002. Covington & Burling sent the Tobacco Institute an itemized statement of McGill "symposium" expenses under cover letter dated January 19, 1990. The expense statement is a listing of many of the attendees, all industry ETS consultants, as well as industry-financed groups such as ARIA and HBI. The expenses and fees on this one statement, all for the production of the McGill "symposium," totaled over $800,000. TIDN 0021302-1305 (US 22731) (A).

1003. An examination of the published McGill "symposium" proceedings reveals that the controlling role of Defendants was not disclosed beyond a generic "tobacco industry grant." Moreover, the integral role of industry law firm Covington & Burling was entirely concealed. TLT0150001-0390 (US 65706) (A).

1004. The sole reference to the tobacco industry was contained in the preface, which stated only that the "symposium . . . was made possible by a tobacco industry grant and by grants and other support from the following co-sponsors." TLT0150001-0390 (US 65706) (A). The preface then listed 11 independent-appearing "co-sponsors." 2501474253-4259 (US 22017) (A). Several of the "co-sponsors" were merely the institutions where a number of attending industry ETS consultants worked; others had preexisting links to Defendants. TIDN0019217-9268 at 9219, 9234 (US 85597) (A) (Ecobichon/McGill University and Healthy Buildings International); 2501474253-4259 at 4255 (US 22017) (A) (Institut Fresenius); 2500048643-8654 (US 22857) (A) (Kim/Hanyang University); TIDN 0002692-2701 at 2695 (US 85605) (A) and TIMN0435220-5272 at 5264 (US 21734) (O) (National Energy Management Institute);

87697701-7772 (US 85587) (A) (National Federation of Independent Business);

2023592986-2998 at 2993 (US 85548) (A) (Allen/RCC Research and Consulting);

2023856321-6328 at 6322 (US 22037) (A) (Weetman/Sunderland Polytechnic).

1005. The proceedings also failed to disclose the following material facts:

- The "symposium" chairs (Ecobichon and Wu) were industry ETS consultants TIDN0019217-9268 at 9219, 9234 (US 85597) (A)

- The conference participants were all industry ETS consultants who had been selected by the industry and Covington & Burling. 2500048976-8998 at 8984 (US 23007) (A).

- The pre-selection of only industry consultants guaranteed that the unopposed "symposium" conclusions and "published" papers would be favorable to Defendants.

- Several of the "co-sponsors" did not sponsor the event at all; for example, the Covington & Burling list of expenses shows that McGill University, HBI and the Institute for International Health and Development were actually *paid* by Defendants. TIDN 0021302-1305 (US 22731) (A).

1006. On July 23, 1990, Brennan Dawson reported to Betsy Annese from R.J. Reynolds and Steve Parrish from Philip Morris that the Tobacco Institute would mail out packages of materials on the McGill symposium to over 200 science and health writers the next day. TI13341775-1775 (US 62415) (A).

1007. The McGill "symposium" was cited by Defendants in numerous public statements in press releases, legislative submissions, and letters to the editor in major newspapers. It is significant that attribution to Defendants was concealed in all of these submissions. The following are some highlights of Defendants' use of the McGill publication:

- Defendants coordinated nationwide "media activity" drawing attention to McGill through the Tobacco Institute's Public Affairs Division, but using ETS consultant interviews arranged by industry public relations firm Ogilvy & Mather. TIOK0017415-7416 (US 85698) (A).

- The October 1, 1990 "Comments of The Tobacco Institute on Health Effects of

Passive Smoking: Assessment of Lung Cancer in Adults and Respiratory Disorders in Children" repeatedly cited the McGill "symposium," characterizing the event only as an "international symposium on ETS" that generated "the consensus views of 80 eminent scientists." 87653565-6820 at 3941- 3998 (at 3958) (US 88596) (O).

- In its March 20, 1992 "Comments" in response to the OSHA Request for Information, the Tobacco Institute cited the proceedings and several individual "papers" presented at McGill. TLT1022319-2405 at 2324-2328 (US 87404) (A).

- The February 5, 1990 Tobacco Institute comments to the EPA on the draft Risk Assessment attached the McGill proceedings and described the event simply as a "a thorough, up-to-date discussion of the relevant literature" which concluded that "ETS has not been shown to present a health hazard to nonsmokers." TI11951245-1685 at 1254 (US 85699) (A).

- Philip Morris's September 28, 1990 "Comments" to the EPA on its draft Risk Assessment cited McGill in a lengthy section summarizing industry-favorable conclusions of "scientific symposia." 2070140494-0630 at 0598 (US 88604) (O).

- A June 25, 1990 Tobacco Institute press release titled "Draft Risk Assessment Described as Speculation" described McGill as a "prestigious panel of scientists at an international symposium on ETS held at McGill University in Montreal, Canada." 87697659-7664 (US 85586) (A).

- Tobacco Institute consultant letters to the editor appeared in newspapers such as the Chicago Sun-Times, Detroit News, Las Vegas Sun, and Salt lake Tribune drawing attention to the McGill "conclusions." TI09911997-2033 (US 22367) (A).

- Letters to the editor published in the Chicago Sun-Times, Las Vegas Sun and the Salt Lake Tribune under the name of industry consultant Jack Peterson, and in the Richmond-Times Dispatch on August 26, 1990, under the name of industry consultant David Weeks are typical examples in which the McGill "symposium" conclusions were communicated to the public with no industry attribution. Dawson WD, 134:13-135:13; TI12201464-1465 (US 86722) (O); TIMN343061-3061 (US 85582) (A); TIDN0019217-9268 at 9229 (US 85597) (A).

- A Tobacco Institute press release dated June 10, 1992 titled "Majority Favors Smoking Sections in Most Public Places, Anti-smoking activists recycle old claims to add new pressure" relied on the McGill "symposium." TIFL0523989-3992 (US 88456) (A).

- ETS consultants distributed the McGill proceedings to government officials in markets around the world. 300522762-2767 at 2766 (US 22223) (A).

1008. Defendants organized at least four other similar ETS conferences: London in 1988, Brussels in 1989, Lisbon in 1990, and Athens in 1992. Robertson WD, 41:6-14 (1988 London Conference); 41:15-42:12 (1989 Brussels Conference); 87:5-10 (1992 Athens Conference); 2500048956-8969 at 8957 (US 27901) (A) (1990 Lisbon Conference).

(j) "Blatant Scientific Fraud": Ghostwriting of Scientific Papers

1009. Another means Defendants used to create "independent" science to dispute the scientific consensus on secondhand smoke was the practice of "ghostwriting," or secretly authoring scientific papers under the names of persons with no apparent connection to the cigarette manufacturers or their law firms. Defendants then cited the ghostwritten papers as "independent" findings and conclusions to challenge the scientific consensus and oppose smoking restrictions.

(i) The 1990 Drake/Johnson Paper

1010. As revealed in a number of documents, Reynolds and Philip Morris scientists and lawyers collaborated in 1990 to publish a paper titled "Measurement of Certain Environmental Tobacco Smoke Components on Long-Range Flights" under the names of outside consultants John Drake and Dallas Johnson. The following was recorded under the heading "Ghostwriting" in a December 10, 1990 Reynolds ETS Division report titled "1990 Program Review":

> Drake, J.W. and Johnson, D.E. "Measurement of Certain Environmental Tobacco Smoke Components on Long-Range Flights," Aviat. Space Env. Med., 61, 531-542 (1990). [This paper describes the same work as that of publication number 2 above. **Ghostwriters include Dr. R.E. Fenner, Philip Morris, and Ms. M.E. Ward, and Dr. G.B. Oldaker III**.]

507984785-4801 at 4800 (US 29936) (A) (emphasis added) .

1011. The Drake/Johnson paper was in fact published in 1990 in a journal *Aviation,*

Space, and Environmental Medicine. The only authors listed are Drake and Johnson. As for the role of Defendants, the paper states only that the cabin air measurements were made by Philip Morris and Reynolds. The names and roles of Fenner, Oldaker, and Ward as authors of the paper are not acknowledged at all. The journal noted on the first page of the paper that it had been submitted for publication in May 1988. 511422087-2098 (US 92092) (A).

1012. Two drafts of the Drake/Johnson paper were introduced at trial, a January 15, 1988 version and a February 10, 1988 version. A comparison of the first draft (January 15) to the final published version of the article reveals the extent of the ghostwriting by Philip Morris and Reynolds. The January 15 draft is titled "Measurements of 747 Cabin Air Quality on Long Flights." Drake's attempt at the paper left several sections wholly blank, including the "Abstract," and "Summary and Conclusions" sections. The sections of the January 15, 1988 draft that do appear to have been provided by Drake, namely the "Introduction" and "Background" sections, only slightly resemble those sections in the final published paper. 2076278856-8872 (US 93356) (A).

1013. The published Drake/Johnson paper contained a lengthy "Results" section and a shorter "Conclusions" section that were not written by Drake and were not present in Drake's original January 15, 1988 "draft." The published paper also added a brief "Epilogue" paragraph directing readers to the 1989 Malmfors/SAS paper, discussed below. Compare 511422087-2098 (US 92092) (A) to 2076278856-8872 (US 93356) (A).

1014. A February 15, 1988 Reynolds memorandum from Oldaker explains how Philip Morris and Reynolds were able to transform Drake's January 15, 1988 draft into the February 10 draft and what was eventually submitted for publication:

> Dr. John Drake, an aviation consultant contracted to assist with the survey, prepared the first draft of the manuscript. An editing

> committee worked with Dr. Drake to make his draft more readable and to provide substantive input in areas where he had little prior experience. Ms. Mary Ward, Law, and I were members of the committee. . . . In the near future we plan to prepare at least two manuscripts addressing the results of our survey that will be submitted to scientific journals for publication.

506535991-5992 (JD-067998) (A).

1015. Defendants cited the ghostwritten Drake/Johnson paper in support of their opposition to airline smoking restrictions in September 1991. 2023216588-6626 at 6594 (US 87407) (A); 2024191369-1381 at 1375, 1380 (US 89401) (A). Industry consultant Larry Holcomb was retained by Philip Morris through its public relations firm, Burson-Marsteller, to write the article "Impact of Environmental Tobacco Smoke on Airline Cabin Air Quality"; Holcomb cited the Drake/Johnson paper in support of his position that scientific evidence did not support the prohibition of smoking on commercial aircraft. 2021595753-5910 at 5760 & 5788-5808 (US 85541) (O). Industry consultant "Gray" Robertson cited Holcomb's paper to the EPA in his critique of the EPA Review Draft. TIH&E 002781-2791 (US 65463) (A); Robertson also cited to both Drake and Holcomb in the McGill proceedings. TLT0150001-0390 at 0351 and 0356 (US 65706) (A).

(ii) The 1988 Carson/Erikson Paper

1016. Reynolds' Oldaker also ghostwrote another ETS paper published in 1988 that studied the impact of ETS in office buildings in Ottawa, Canada. A November 3, 1988 ETS Division report titled "1988 Objectives and Accomplishments" recorded the following under the heading "Publications":

> (ii) ETS in Ottawa offices **(Oldaker) [ghostwriter]**: Environ. Technol. Lett., 9, 501-508 (1988).

506813203-3208 at 3204 (US 92095) (A) (emphasis added).

1017. In fact, the 1988 paper ghostwritten by Oldaker and described in the ETS Division report, titled "Results From Survey of Environmental Tobacco Smoke in Offices in Ottawa, Ontario," was published in the journal *Environmental Technology Letters*. However, the paper was published under the names of John Carson and Carol Erikson. 2501197262-7269 (US 92101) (A). The paper does not disclose the role of Oldaker in authoring the paper, but only thanked him in the closing "Acknowledgments" paragraph for his "help and comments." Carson was a paid industry ETS consultant. 2023034933-4946 at 4943 (US 87334) (A). This is also not disclosed.

1018. Defendants produced a draft of a report of the Ottawa study dated September 28, 1987, from Erikson to Oldaker. 506293413-3441 (JD-068110) (O). Defendants argue that this draft report somehow refutes the evidence in other documents that Oldaker ghostwrote the published paper. In reality, a comparison of the September 1987 draft to the published paper shows the degree to which Oldaker - and not listed authors Carson or Erikson - took the data in Erickson's report and wrote a scientific paper. 506293413-3441 (JD-068110) (O); 2501197262-7269 (US 92101) (A).

1019. For example, the "Presentation of Results" and "Discussion" sections in the September 1987 draft bears no resemblance to the "Results" and "Discussion" section in the published paper. The ten references cited in Erikson's draft are removed in the final paper, replaced by Oldaker with 20 references, almost all new. *In fact, it is not an overstatement to observe that Oldaker left none of Erikson's "Results" or "Discussion" text in the 1988 published paper, and that most of the published paper was never a part of the September 1987 draft.* 506293413-3441 at 3428-3440 (JD-068110) (O); 2501197262-7269 (US 92101) (A).

1020. To leverage the value of the seemingly "independent" paper, Defendants since

1988 have cited often to the published study in support of their position that there is no proven health risk associated with ETS. Some examples include:

- Reynolds cited the paper over ten times in its October 1, 1990 response to the EPA's draft Policy Guide on workplace smoking. 87654420-4485 at 4426, 4430, 4431, 4437, 4440, 4446, 4449, 4458, 4467, and 4476 (US 92098) (A).

- The Tobacco Institute cited the paper in its March 20, 1992 Comments in response to the OSHA Request for Information (Occupational Exposure to Indoor Air Pollutants). TI02120021-0098 at 0035 (US 65685*) (A).

- Philip Morris cited to the paper five times in its September 28, 1990 Comments to the EPA in response to the Draft Risk Assessment. 2070140494-0630 at 0518, 0524, 0525, 0526, 0605 (US 88607) (O).

- Reynolds scientist Christopher Coggins cited to the paper in answers to questions from a Senate Subcommittee relating to his May 11, 1994 testimony opposing a bill to require the EPA to issue guidelines for instituting a nonsmoking policy in federal buildings. Hearing of the Subcommittee on Clean Air and Nuclear Regulation at 94 (JD 047608) (O).

- The Tobacco Institute referenced the paper in its February 1990 Comments in opposition to the EPA ETS Compendium, and later in its March 20, 1992 "Comments" in response to the OSHA Request for Information. .. TI11951245-1685 (US 85699) (A); TLT1022319-2405 at 2333 (US 87404) (A).

- Reynolds cited the Carson/Erikson paper in its 1992 response to the OSHA Request for Information. Reynolds Response to OSHA. (JD 023792 at 46) (A).

- Philip Morris cited to the paper in its 1997 submission to the California EPA. Philip Morris included its California EPA submission as part of its 1998 opposition to the National Toxicology Program's proposal to list ETS in its Report on Carcinogens. (JD 023799 at App. 8) (O).

- The Carson/Erikson paper was also cited in a 2000 CIAR-sponsored book *The Chemistry of Environmental Tobacco Smoke*, authored by industry consultant Roger Jenkins. (JD 065024 at 164, 434) (A).

- The paper was cited by industry consultants in the McGill "symposium" proceedings. TLT0150001-0390 at 0053, 0082 (US 65706) (A).

1021. The ghostwritten paper was integrated into the ETS Consultancy Program as well. A July 11, 1989 Philip Morris status report on the program from Andrew Whist to Geoffrey

Bible contained the following with respect to the Ottawa study:

> One of our consultants provided a written endorsement of an air quality monitoring study conducted in Canada by R.J. Reynolds. The endorsement was used at a press conference called to release the study to the Canadian press. . . .

2500017054-7063 at 7058 (US 20543) (A).

1022. Reynolds scientist Mike Ogden, who formerly worked with Oldaker in the 1980s before Oldaker's retirement from the company, testified to both the Drake/Johnson and Carson/Erickson articles ghostwritten by Oldaker. The Court asked Ogden: "Is there any doubt in your mind that this is an example, a blatant example of scientific fraud, or are you going to tell me this is done routinely in the scientific world?" Ogden answered that it was not routine in the scientific world, but claimed at first that it was not fraud. At that point, the following colloquy with the Court ensued, with Ogden finally conceding the point:

> THE COURT: You don't agree that when someone says they wrote something it's not a fraud if they didn't write it?
>
> OGDEN: If they said they wrote it and they didn't, that would be fraudulent.
>
> THE COURT: Isn't that what that usually means when someone is listed as the author of a document?
>
> OGDEN: That would be my interpretation, yes.

Ogden TT, 3/16/05, 15918:9-15919:6.

(k) Cooking the Books: The Manufacture of False Science to Support the Industry Position on ETS

1023. Defendants promised the American public to cooperate with public health authorities and fund independent scientific research about secondhand smoke and adverse health effects, but instead issued false public statements and covertly funded consultants, scientific

papers, and other publications to advance their preconceived goals. Several projects managed by Defendants as part of their worldwide ETS program illustrate how Defendants' attack on the scientific and medical consensus was at best a contamination of the scientific literature and at worst a scientific fraud. Four of these ETS projects - the 1995 Japanese Spousal Study, the 1989 Malmfors/ SAS paper, the 1992 HBI 585 Building Study, and the 2003 Enstrom/Kabat paper - are described in detail below.

(i) The 1995 Japanese Spousal Study

1024. In April 1995, a paper titled "Marriage to a smoker may not be a valid marker of exposure in studies relating environmental tobacco smoke to risk of lung cancer in Japanese non-smoking women" was published in the *International Archives of Occupational and Environmental Health* under the name of industry consultant Peter (P.N.) Lee. 900006054-6061 (US 57902*) (A) This paper, internally called "The Japanese Spousal Study" by Defendants, was funded and directed by Defendants through the International ETS Management Committee (IEMC) in order to challenge the association between lung cancer and spousal smoking reported in the Hirayama study. Blackie WD, 54:17-19; 2023522351-2352B (US 75127) (A). As detailed below, the study was not only closely managed by Defendants, but also falsely concluded that "high misclassification rates in Japan . . . undermine conclusions from epidemiological studies conducted there."

1025. On April 5, 1991, Covington & Burling's Chris Proctor proposed to Defendants a study of misclassification (misreporting of smoking status) among Japanese women married to men who smoked. Charles Green at Reynolds sent the proposal to Bob Pages and Tom Osdene at Philip Morris with the message: "We need to get our international folks involved in the funding." 2023544450-4455 (US 22817) (O).

1026. Proctor's proposal for what later became the Japanese Spousal Study was presented to the CIAR Board of Directors for funding. The proposal called for a payment of $45,000 to Covington & Burling for Proctor's "supervision . . . of all phases of the study, including the preparation of a publishable report." 87802262-2263 (US 56329) (A); 2023544450-4455 (US 22817) (O).

1027. According to an April 15, 1991 Philip Morris e-mail from Bob Pages, a member of the CIAR Board of Directors, to Steve Parrish, the proposal as presented by Proctor called for two Japanese investigators to serve as co-authors, but that Proctor would be "a 'behind-the-scenes study director." 2023544456-4456 (US 22816) (A).

1028. Concealing Defendants' involvement - both as to funding and authorship - was critical. Pages recommended the following to Parrish in his April 15, 1991 e-mail:

> Three concerns: 1) This is NOT a project that should be funded by CIAR, **although there MAY be (I'm not convinced yet) a reason to say it was sponsored by CIAR so as to "hide" industry involvement (as was done in Rupp's "Asia Project")**. 2) Proctor (and his fee) may be necessary to help get this done - at least he has the "hands on" experience with a similar study done in the UK - but this should be a Japanese study: **Proctor should not be a coauthor on any publication that comes out of it.**

2023544456-4456 (US 22816) (A) (emphasis added).

1029. While the project was still under consideration by CIAR, the discussion among Defendants extended over to other side of the Atlantic and the IEMC. BATCo's Sharon Boyse (Blackie) commented in a June 19, 1991 memorandum to other members of the IEMC (including representatives of Philip Morris, Reynolds, and Brown & Williamson in the United States) that:

> In the meantime, were we only to support one project we would support the Japanese one for the following reasons:
>
> - **Independence**. Although I accept many of the points made in [Rothmans'] Barry Frost's memo, the fact is that with Hazleton

> [laboratories], the tobacco industry is directly paying for the research, whereas **the Japanese study could be channeled through an 'independent' organization such as CIAR.** No matter how good the science, independence is always preferable, and in fact BAT made the decision to discontinue part of its in-house research on ETS for this very reason.

507974107-4109 (US 24730*) (A) (emphasis added).

1030. Ultimately the project was not funded through CIAR; instead, "independence" was achieved by using industry consultants and law firm supervision. Industry funding was agreed upon through the IEMC, using two Japanese consultants recruited by Covington & Burling as part of Defendants' Asian ETS Consultancy Program, with Proctor taking a direct role in every stage of the study. The plan was to avoid affiliation with the funding companies to the greatest extent possible. Boyse wrote her boss at BATCo Ray Thorton in a June 17, 1991 memorandum titled "IEMC ETS Research Projects" that:

> It was therefore decided by all companies to fund the project. The research will be carried out by two Japanese scientists who have been recruited by Covington and Burling as part of the Far East ETS project, and who are therefore in no way associated with the tobacco industry. The project will be monitored by Covington and Burling, with Chris having a direct involvement in assessing methodology and progress. Regular verbal progress reports will come from Chris.
>
> Peter Lee will also be involved in advising on certain aspects of the project. However, neither Peter nor Chris will appear as co-authors.

300512244-2245 at 2245 (US 67752) (A).

1031. This document also recorded that all members of the IEMC participated in the funding of the Japanese Spousal Study at an original cost of $200,000 as follows: Philip Morris ($36,000), Brown & Williamson ($36,000), Reynolds ($36,000), BATCo ($36,000), Rothmans ($36,000), and Imperial ($20,000). 300512244-2245 at 2245 (US 67752) (A).

1032. The Japanese Spousal Study was carried out under Proctor's direction. Pages provided Parrish an update of the progress in an e-mail dated November 8, 1991. This message disclosed another major aspect of the study that would, like Proctor's involvement in directing the study and drafting the report, eventually be concealed in the published paper: although the samples for the study were obtained in Japan, analyses of the samples were done on the other side of the globe at Reynolds' lab in Winston-Salem. Pages wrote:

> Spoke with Chris Proctor to get an update.
>
> Study seems to be moving along surprisingly quickly. . . Frozen urine samples will eventually be sent to RJR for analysis. . . .
>
> Proctor expects to return to Japan shortly to check on the distribution of subjects . . . . He would like to be back in Tokyo to begin drafting a report by mid-December.

2023544508-4508 (US 22913) (A).

1033. Reynolds scientist Mike Ogden admitted at trial that the testing of the samples for the Japanese Spousal Study was in fact carried out at his lab. Ogden TT, 3/17/05, 15982:8-22. The testing at Reynolds is also confirmed in a December 17, 1991 Reynolds laboratory report, establishing that the sampling results were provided directly to Ogden. 508217791-7793 (US 92094) (A).

1034. Ogden admitted at trial that the Japanese Spousal Study "was important to [his] company because [his] company needed to undermine the data reported in the Hirayama study." Ogden TT, 3/17/05, 15977:12-19.

1035. The Japanese Spousal Study ran into problems when the Japanese investigators recruited by Proctor refused to cooperate, forcing Defendants to use both Proctor and long-time industry consultant Peter (P.N.) Lee to write and publish the paper. According to a May 18, 1993 Philip Morris summary of an IEMC meeting, Proctor related the following as part of his

presentation to the group:

JAPANESE SPOUSAL STUDY IEMC

* * *

PAPERS

1. Lee did the statistics.

2. the Japanese scientists have "drifted away" from Proctor; the paper will be published but will be much weaker than Peter Lee's previous draft.

3. Proctor has written a paper and has sent it to them for their review

4. Peter Lee could still publish his paper w/o Japanese

5. neither draft recognizes no [sic] funding source nor that RJR did the analyses

6. Proctor - some concern that the Japanese scientists will talk about the tob. Industry involvement.

7. one of the Jap. Scientists is "lost completely" (Nigawa sp?) but Yano is still close to Proctor

2501003237-3242 at 3239-3240 (US 22320) (A).

1036. Yano, the remaining Japanese researcher recruited by Covington & Burling, backed out soon thereafter, forcing Defendants to look to Lee as the author for the study. 2023544546 (US 22925) (A).

1037. Philip Morris IEMC representative Helmut Reif wrote in his June 24, 1993 "Monthly Activities" that the Japanese scientists had become "uncomfortable" with Lee's conclusions. 2028372583-2596 at 2595 (US 22926) (A).

1038. A later Philip Morris report from Helmut Reif recorded that one of the Japanese consultants recruited to be an author voiced his belief that the findings were not supported by the

data, that Lee had changed the data in a rewritten paper, and that he felt "threatened" by the tobacco industry. The following is an excerpt from Reif's November 29, 1994 "Monthly Activities" report:

> (1) Japanese Spousal Study
>
> History:
> A[dlkofer] visited together with Wynder the Japanese author on behalf of the spousal study. **(Authors refused to publish under their name, PNL [Peter N. Lee] rewrote it**, editors of "Preventive Medicine" found it not matching their journal, Int.Arch.Occ.Med, Adlkofer took it over, however, had hesitations. Prof. Feinstein wanted answers to some detailed questions before publishing it).
>
> Results:
> Author Yano reported that he was shown around to several ETS conferences by Proctor and afterwards Proctor withdrew. **Author never thought he would have to publish this study and distanced himself from the paper by the following arguments:**
>
> (a) **Misclassification was not 30% - PNL calculated on the basis of active smokers, not on the basis of passive smokers - but only 10%, and this was counterbalanced by a similar misclassification from the other side** - nonsmokers wrongly claiming to be smokers.
>
> (b) **He feels threatened by the industry** . . .

2028372914-2915 at 2915 (US 22324) (A) (emphasis added).

1039. After the Japanese authors backed out of the project, the paper (now listing Lee as the author) remained unpublished through 1994. The *British Medical Journal* and the *American Journal of Epidemiology* rejected the paper for publication. Blackie WD, 62:21- 63:4; 2024210654-0658 (US 22866) (A).

1040. The *American Journal of Epidemiology* (AJE) rejected the paper on the basis of flaws that, it its view, could not be remedied. For example, one reviewer wrote: "The response rate of 33% is abysmal by any standards." The editor-in-chief informed Lee in his May 17, 1994

letter :

> Both reviewers found the overall response rate of 33% to be unacceptable, particularly since generalizations are made to population-based studies. Furthermore, the sampling approach is not adequately described and a "semi-random" approach may not be unbiased. Can the results obtained in the 1990s be extrapolated to the reported studies, particularly the cohort study of Hirayama in which the smoking information was collected decades earlier?
>
> The reviewers also questioned the basis of the estimation of the misclassification bias and the criteria used to select the factors that you considered as potential confounding factors. Both reviewers identified a number of other limitations of the manuscript, including errors in the tables and possible miscalculations. Given the low response rate, revision would not address the principal concern of the two reviewers.

2024210654-0658 at 0654 (US 22866) (A).

1041. One peer-reviewer for the AJE questioned the primary conclusion of Lee's paper, namely that the misclassification he found would have biased Hirayama's results higher. In reality, Lee's data (if accurate) would have biased the observed risks lower (a negative bias). *This peer-reviewer's comments mean that Hirayama's observed risks would have been higher if the misclassification bias found by Lee were correct and taken into account*. This suggests that Lee falsely stated that his conclusions were supported by the data, when in fact they were not:

> Even if the results of the current study are deemed valid and generalizable, the conclusions as summarized in the abstract are not supported by the data generated in the study. . . . Smokers married to non-smokers were significantly more likely to lie about their smoking status than were smokers married to smokers (64% versus 17%, P=0.002). **Thus the bias implied by the actual data generated in this study is a negative bias, which does not support the statements in the abstract to the effect that results from passive smoking studies in Japan are invalid and that the increased risk reported is probably due to bias from smoking misclassification** (i.e., smokers lying about their smoking status). Of course, the finding that smokers married to non-smokers are more likely to lie is no more reliable than any other finding in this study given the low response rate.

(emphasis added) 2024210654-0658 at 0655 (US 22866) (A). See also discussion of bias above at US FF § III.A(2)(b)(ii).

1042. In fact, Lee himself stated in the abstract of this unpublished version that: "Major findings were that over 30% of smokers (judged by cotinine) denied smoking, a much higher rate that reported in Western studies; **denial rates were higher for women married to non-smokers**" rather than for women married to smokers. Accordingly, as noted by the AJE reviewer, Lee's data supported the exact opposite conclusion than what Lee claimed in his abstract; the data actually supported the conclusion that the reported risks in the Japanese studies would be even higher but for the smoking misclassification. 2024210632-0652 at 0634 (US 22865) (A) (emphasis added).

1043. Lee sent the rejection letter and reviewers' comments under cover letter dated May 23, 1994, to Proctor (with copies to executives at Imperial Tobacco and Gallaher) with a recommendation that the paper be rewritten. 2024210653-0653 (US 22867) (A).

1044. Notwithstanding the warnings of both the American Journal of Epidemiology and one of the industry's own ETS consultants who assisted with the study (Yano), Lee clung to his false conclusion that misclassification bias could explain the raised lung cancer risks reported in Japanese epidemiological studies. Adlkofer's *International Archives of Occupational and Environmental Health* published Lee's Japanese Spousal Study paper in April 1995. The paper falsely concluded that high rates of misclassification "undermine conclusions from epidemiological studies conducted" in Japan. 9000006054-6061 at 5054 (US 57902*) (A).

1045. The final published version of Lee's Japanese Spousal Study paper concealed the fact that "denial rates were higher for women married to non-smokers." In other words, not only did Lee and Defendants publish a study they knew was false, they concealed the information that

would have allowed readers to determine that the conclusions were not supported by the data. 9000006054-6061 (US 57902*) (A).

1046. Lee's paper acknowledged only the "financial support from several companies of the tobacco industry." However, the paper omitted the following facts:

> The proposal for the project was written by BATCo scientist and Covington & Burling analyst Chris Proctor;
>
> The analyses of the samples collected for the study were performed by a cigarette manufacturer, namely Reynolds;
>
> The project was directed by Proctor who even assisted in the drafting of the paper;
>
> The study originally included two Japanese authors recruited by Proctor who later refused to publish the study under their names; and
>
> The project was initiated by cigarette manufacturers with the express intent to undermine the Hirayama study.

9000006054-6061 (US 57902*) (A).

1047. Defendants and their consultants then cited Lee's conclusions from the Japanese Spousal Study in support of the industry position that there were no proven health effects associated with ETS, the epidemiology was flawed, and the question was still open. The original plan had been to generate a paper "to undermine Hirayama conclusions in time for the EPA [Risk Assessment]." 2023522351-2352B (US 75127) (A). However, because the project was not completed and published until 1995, it was instead used in connection with the 1994 - 1995 OSHA proposed rulemaking. At the request of the Tobacco Institute, Lee submitted comments dated July 1994 and November 1995 to OSHA. Lee asserted in his comments that he was only "an Independent Consultant in Statistics and Epidemiology, providing advice to a wide range of clients, including the tobacco industry." He then cited the Japanese Spousal Study as support for

his opinion that misclassification bias is a major flaw in Japanese epidemiological studies. TIBR0006738A-TIBR0006754 at 6750 (US 62553) (A); TIBR0000567-0590 at 0568 (US 85817) (A).

(ii) The 1989 Malmfors/SAS Airline Study

1048. Industry ETS consultant Torbjorn Malmfors and other Swedish consultants published a paper in 1989 titled "Air Quality in Passenger Cabins of DC-9 and MD-80 Aircraft" in industry consultant Roger Perry's journal *Environmental Technology Letters*. The paper measured several ETS components in the passenger cabins of SAS airline flights and concluded: "The total exposure to cabin air ETS among the passengers is rather small and insignificant in comparison to total life exposure to air pollution" and that an effective ventilation system could maintain air quality in airline cabins. 87630985-1000 at 0998 (US 23522) (A). Internal documents predating the published paper reveal that Malmfors obtained results showing that separation of nonsmokers did not significantly reduce potential health risks caused by smoking, and that Defendants changed the results and conclusions to make the paper support their position.

1049. A number of documents detail how the Malmfors/SAS study was directed, funded, and managed by Defendants and their lawyers to (1) conceal Defendants' funding and control and (2) manipulate the results to more clearly support the industry's position disputing the health risks of passive smoking; and (3) generate a study that could be used to resist airline smoking restrictions.

1050. John Rupp wrote Stig Carlson at Philip Morris on April 2, 1987, and reported that he had successfully recruited Malmfors to work for Philip Morris and form a "scientific advisory group." Rupp advised that Malmfors "does not believe that any adverse health effects [of ETS] have been shown" and was ready to take the "next step in the process" and meet with the tobacco

industry directly. 2023543320-43321 (US 90036) (O). Malmfors was later listed in a May 18, 1988 memorandum from Philip Morris's Andrew Whist to Bill Murray as one of the company's ETS consultants. 2023034933-4946 at 4939 (US 87334) (A).

1051. In the late 1980s, the issue of airline smoking restrictions was becoming more and more critical to Defendants. In 1986, Congress requested a report by the NRC to the FAA concerning the smoking sections on airplanes. In that report, "The Airliner Cabin Environment: Air Quality and Safety," the NRC recommended "a ban on smoking on all domestic commercial flights, for four major reasons: to lessen irritation and discomfort to passengers and crew; to reduce potential health hazards to cabin crew associated with ETS; to eliminate the possibility of fire caused by cigarettes; and to bring the cabin air quality into line with established standards for other closed environments." JD-024863 at 6-7 (A). This recommendation was followed by legislation in 1987 directing the Secretary of Transportation to restrict smoking on domestic flights with a scheduled flight time of two hours or less. 2501042537-2541 at 2537 (US 89402) (O); see 29 U.S.C.S. App. § 1374(d).

1052. SAS airlines announced in late 1987 that it was planning to ban smoking on domestic Swedish flights as a test in the summer of 1988. Finnair had already decided to ban smoking on all domestic flights and permit only smoking breaks on international flights. 2501042537-2541 at 2537 (US 89402) (O).

1053. Philip Morris decided in 1988 to carry out its own airline cabin testing for ETS, with the objective to "persuade the management of airlines to adopt policies which permit smokers to enjoy cigarettes during flight." Philip Morris's Mary ("Mopsy") Pottorff was assigned to be project leader, Rupp was tasked to select researchers to participate in the study. 2501042537-2541 at 2537, 2539 (US 89402) (O).

1054. Philip Morris elected to finance the SAS study through CIAR in order to hide tobacco industry involvement and add credibility to the study:

> The official funding of IFAQ [in flight air quality] research can be the Center for Indoor Air Research (CIAR) in Washington, D.C. There are two benefits from this vehicle, namely all contributions to fund the research can be processed by CIAR staff & CIAR can then be correctly named as a sponsor of the research - which will diminish the effectiveness of the antis PR efforts to challenge the credibility of the research.

2501458517-8519 at 8518 (US 25615) (O).

1055. In a July 5, 1988 memorandum to Philip Morris's Andrew Whist in New York, Pottorff wrote that SAS had agreed to permit the air cabin testing and that the project would be funded by Philip Morris, Reynolds, and the Swedish manufacturers association. Pottorff further advised that three industry consultants would participate in the study, and that the air samples would be tested at a Dutch laboratory called TNO. Malmfors would then author the paper with the other two consultants. A September 2, 1988 letter from interim CIAR director Guy Oldaker to Chris Proctor stated that BATCo was funding the project with the other companies. 2501042534-2535 (US 90037) (O); 508220128-0128 (92022) (A).

1056. Industry control of the project was intense even before the test samples were taken. A four-hour meeting was held in Stockholm on August 30, 1988, between industry representatives (Pottorff (PM), Gaisch (PM), Oldaker (RJR), Vello Norman (Lorillard) and Rupp) and the Swedish consultants (Malmfors, Thorborn, and Westlin) to plan the project. Pottorff had prepared the project design for the consultants. The statistical tasks to be carried out by the consultants were set out by Oldaker. Gaisch and other Philip Morris scientists had located and were "coaching TNO scientifically from the earliest stages to the very last stages of the project." The resulting paper could be published in industry consultant Roger Perry's journal

Environmental Technology Letters; in addition, Malmfors would present his findings to the CIAR Board of Directors prior to publication. 87774866-4870 at 4866, 4868 (US 90039) (O); 508220001-0003 (US 90040) (O); 2501042601-2602 at 2602 (US 90041) (O).

1057. The Dutch laboratory TNO took air samples aboard a number of SAS aircraft during the month of September 1988. TNO analyzed the samples for ETS components and prepared a "Confidential" report of its results to CIAR dated December 16, 1988. This report included an "Analysis of the Results" section (pages 20 - 42) where the authors concluded that the particulate and carbon dioxide levels on the SAS aircraft were not only high, but exceeded WHO and hygienic standards on many of the flights. The authors also found that there was little difference in ETS and air quality between the smoking sections and one of the nonsmoking sections, suggesting that separation of smokers and nonsmokers was inadequate. 89816305-6347 at 6343-6346 (US 90043) (A).

1058. Gaisch recorded in his October 1988 monthly report that he had seen the TNO data, and noted that the high carbon monoxide levels were "an indication that the air in the aircraft cabin does by no means meet the ASHRAE standards (US norm for quality of indoor air)" and that the separation of smokers and nonsmokers was "nearly immaterial" to the air quality. 2501152077-2091 at 2088-2089 (US 25597) (A).

1059. Defendants' reaction to the adverse findings in the TNO report was swift. Meetings were held on January 3 and 4, 1989 at Covington & Burling to discuss the report, the first with Philip Morris executives, the second with scientists from Lorillard and Reynolds, along with the three Swedish consultants and Max Eisenberg. At the morning meeting on January 3, the group agreed that "the RSP data was unexpectedly high" and that the testing pads should be reanalyzed at a laboratory in the United States: "There was no definite knowledge of the impact

of three months aging, **although it was felt it could only lower the numbers**." 2501255448-5448 (US 90046) (O) (emphasis added).

1060. At the afternoon meeting on January 3, 1989, Malmfors and the other two consultants discussed their statistical analysis and observations. The industry group "was not too comfortable with the way Malmfors had presented the data." They therefore asked Rupp to talk to Malmfors about a "better approach." On January 4, "Rupp reported that Malmfors was agreeable to such an approach." 2501255448-5448 (US 90046) (O).

1061. In his handwritten notes of the January 3, 1989 meeting at Covington & Burling, Tom Osdene wrote that the report's "explanations" were "inappropriate," and that the solution was to "remove the discussion" section. 2023528894-8895 at 8895 (US 90035-Green) (A). In his notes of the January 4 meeting, Osdene wrote that the TNO report would be "discarded" and a "revised final version" would be prepared. 2023528896-8899 at 8898 (US 92036) (O).

1062. Helmut Gaisch's report of the meetings recorded the following:

> [I]t was decided by a majority that (1) the exposed filter pads should be sent to Dr. Max Eisenberg, CIAR, who will find a US-based laboratory to carry out the UV-PM analysis, (2) **All chapters of the narrative part of [the] TNO [report], going beyond mere description of the experimental part, should be eliminated**.

2501152038-2052 at 2044-2045 (US 90044) (A) (emphasis added).

1063. TNO prepared a second report for CIAR dated January 23, 1989. This revised report entirely eliminated the 22-page "Analysis of the Results" section from the earlier report. Thus, Defendants had secured the removal of all of the findings and conclusions adverse to the industry's position on ETS. 506848666-8687 (US 90047) (O).

1064. Defendants' actions to mold the Malmfors/SAS study did not end here. As recorded by Lorillard's Vello Norman in his notes of the February 2, 1989 CIAR Board of

Directors meeting, Defendants were concerned that Malmfors "need[ed] coaching as to what to say and how to say it." This was because the study showed that "Seat segregation, as practiced by SAS, is not very effective, and there is a danger that they might ban smoking altogether." Therefore, Malmfors draft paper would be sent to Rupp, U.S. industry consultants, and CIAR by February 3 for review. 87823747-3750 at 3749 (US 85695) (A).

1065. The "February 3" draft of the Malmfors paper described in Norman's notes and sent to Rupp and others for "coaching" has not been produced in this litigation. However, a second draft of Malmfors' paper was forwarded by Mary Pottorff to the CIAR Board of Directors and Rupp under cover memorandum dated March 16, 1989. This paper is very different from the prior TNO reports submitted to CIAR. 2023528820-8893 (US 92028) (O).

1066. Defendants were apparently still not satisfied with Malmfors' paper. Philip Morris's Helmut Reif summarized a meeting between Malmfors and industry representatives (including Pottorff, Proctor, Green, Reif, and Covington & Burling attorney Charles Lister) in Stockholm on March 21, 1989, where Malmfors presented his revised findings. Industry representatives apparently tried to pressure Malmfors to change his results even further, at which point the following occurred:

> As the discussion got too tight, Malmfors said that he would not change his opinion, but there were other experts who could do his job. By the way, one should not smoke on an airplane.

2028364552-4554 at 4552 (US 90036-Green) (A).

1067. Despite Malmfors' apparent resistance, a comparison of the March 16, 1989 draft (2023528820-8893 (US 92028) (O)) and the published Malmfors paper (87630985-1000 (US 23522) (A)) reveals that further changes were made to make the paper even more favorable to the industry. For example, the March 16 draft stated: "Any possible health effects for passengers

would have been least likely in the business non-smoking (BNS) section, while any such effects in the tourist non-smoking would have been closer to those in the smoking section." This statement was deleted from the published paper. The March 16 draft contained the conclusion: "Even if the levels in some instances were relatively high, the total exposure to cabin air ETS is rather small and insignificant in comparison to total life exposure to air pollution." The first clause of this conclusion was deleted from the published paper. The attribution to CIAR, made in the introduction in the March 16 draft, was moved to the end in the published paper. The published paper also added the misleading claim: "The authors have served as consultants to CIAR." In reality, Malmfors and his listed co-authors were consultants *to Philip Morris*, not CIAR. 2023528820-8893 at 8821, 8863, 8868 (US 92028) (O); 87630985-1000 at 0999 (US 23522) (A).

1068. Many of the documents above describe how John Rupp and Covington & Burling, along with industry scientists, played an important role in the drafting of the Malmfors/SAS paper. In addition, a Covington & Burling bill to CIAR for the first quarter of 1989 (January 1 - March 31, 1989) included a $15,755 charge for the following work, among other items:

> [C]ontinued work in connection with the SAS project, including consulting with Professor Malmfors and others in Washington and Stockholm concerning their research report, consulting with the Executive Director and Company scientists concerning the draft report and related matters, and editing the draft report . . . .

2023526960-6960 (US 90049) (A).

1069. The Malmfors/SAS project was funded through CIAR at a cost of $638,806. 2505442777-2960 at 2861 (US 25643*) (A). While the published paper did acknowledge the funding from CIAR, there was no mention of the source of CIAR funds, or the involvement of tobacco industry scientists and lawyers in the planning, management, and execution of the study,

as well as the writing of the published paper. 87630985-1000 (US 23522) (A).

1070. The Malmfors/SAS paper was cited by Defendants in submissions to regulatory agencies, including the Federal Aviation Agency, in support of its position that no regulation of smoking in aircraft was required beyond separation of smokers and nonsmokers. 2024191369-1381 at 1375-1376 (US 89401) (A); 2023216588-6626 at 6594 (US 87407) (A).

1071. Industry consultants HBI and Gary Huber cited the Malmfors study to the EPA in opposition to the ETS Risk Assessment. 87653565-6820 at 4753-4763 at 4762, 5519-5548 at 5323 (US 88596) (O).

(iii) The 1992 HBI 585 Building Study

1072. In 1989, CIAR funded a project by industry consultant "Gray" Robertson and HBI (see supra US FF § III.A (2)(h)(vii)) to assess indoor air quality and ETS in offices. The project cost $138,387 and resulted in the 1992 published paper "The Measurement of Environmental Tobacco Smoke in 585 Office Environments" (the "585 Building Study"). The paper concluded that ETS components in "typical office workspaces" were lower than had been previously reported, supporting Defendants' position that ETS was an insignificant contributor to indoor air quality and that good air quality can be achieved with adequate ventilation. 2505528777-8786 at 8786 (US 20572) (A); 2505442777-2960 at 2895 (US 25643*) (A).

1073. Because of falsified data, missing data on the height of rooms, failure to measure air exchange rates, and improper categorization of smoking areas and nonsmoking areas as separate rooms when the rooms were in fact contiguous, the HBI paper misrepresented the differences in indoor air quality between nonsmoking, light smoking, and heavy smoking rooms and improperly speculated that the lack of significant differences could be attributed to adequate ventilation.

1074. HBI field technician Gregory Wulchin testified at trial that he conducted a number of the ETS inspections underlying HBI's published 585 building study. Wulchin WD, 6:13-7:1. Wulchin examined eight of his ETS field reports that were included in the data underlying the published paper and found that false data entries had been made. Wulchin WD, 7:2-13:12; TLT0600139-0217 (US 65101) (A). Wulchin testified that at least one of his data sheets had been altered by Robertson. Wulchin WD, 3:21-5:16; TLT0600139-0217 at 0154 (US 65101) (A); Wulchin TT, 11/3/04, 4855:5-4859:10. Wulchin identified similar errors transposing several other data recordings that had been made by other HBI technicians. Wulchin WD, 13:13-16:14. In addition, Wulchin testified that the readings in two of his field reports demonstrated unacceptably high levels of particulate from cigarette smoking in rooms where there was good ventilation. Wulchin WD, 16:19-17:8. As a result of these irregularities and others, Wulchin testified, "My experience with HBI data as well as [my] review of HBI reports, leads me to conclude that HBI's data contained unexplained entries that raise serious questions about the integrity of its studies." Wulchin WD, 17:9-14.

1075. After the 585 Building Study was published, the results and data were the subject of a 1994 Congressional examination. Robertson WD, 89:4-8; 2047330959-0981 (US 38593) (O). The Subcommittee on Health and the Environment obtained HBI's then-existing ETS data forms and compared them to the data that was submitted in an interim report to CIAR. Robertson WD, 90:10 (Robertson "submitted the field notes that we had on file at that time."); TLT0600053-0084 (US 65097) (A), (interim submission to CIAR).

1076. Discrepancies were identified that would have affected the levels of ETS reported by HBI's study. HBI employees also confirmed that their data collection forms were often changed to minimize measurements of ETS.

> It is my belief that there were other instances in which HBI reduced field measurements of high levels of particulates in rooms where smoking occurred...
>
> I conducted a number of tests summarized in the CIAR report. My review of the report indicates that HBI mischaracterized and made numerous alternations in the data I collected.

Wulchin WD, 3:11-20, 5:2-13; TLT0600139-0217 at 0140 (US 65101) (A).

1077. Some of the criticisms made by HBI employees and tobacco industry scientists about HBI methodology were also made by James Repace, EPA, and Alfred Lowery, Naval Research Laboratory, widely published authors on ETS and indoor air quality, in a 1992 letter to the editor shortly after the 585 Building Study was published. For example, from the data provided in the paper, Repace and Lowery were able to determine that HBI took measurements of smoking areas within larger rooms, and HBI did not report the volume of any rooms in which readings were taken. 2505583630-3641 (US 85640) (A).

1078. In addition, Repace and Lowery criticized the lack of science underlying the study: air exchange rates were not reported; the number of buildings was not reported; the locale of the buildings was not reported; the types of buildings were not reported; the ages of the buildings were not reported; the types of air handling systems were not reported; the time of year recordings were made was not reported; the proximity of the detector to smokers was not reported; and there was no discussion of or comparison with earlier findings, as would normally be the case in scientific studies. 2505583630-3641 (US 85640) (A); see also VXA1601456-01742 at 1651-1652 (US 64059) (A) (1984 Surgeon General's Report, stating number of cigarettes burned, the size of the room, the effective ventilation rate, and smoke residence time are all important variables in determining levels of secondhand smoke exposure); VXA2110670-1053 at 0823-0826 (US 63709) (A) (1986 SGR).

1079. The importance of the variables discussed by Repace and Lowery were also emphasized by company scientists evaluating a later HBI proposal. 87776361-6362 (US 56325) (A); 87776358-6359 (US 56324) (A); see also TIOK0023880-3883 at 3881 (US 85608) (A).

1080. Indeed, on July 12, 1995, three years after the study was published, even Robertson reluctantly admitted to OSHA that "10 out of 585 data sets used in the original paper" had been struck out and not used in a version of the paper that was rewritten after the original study was published, and after the allegations of scientific fraud were investigated by Congress. 2505533424-3425 at 3425 (US 86720) (A).

1081. Defendants themselves recognized the flaws in Robertson's scientific methodology. In April 1991, even before the allegations of scientific fraud publicly surfaced the following year (2070332077-2104 (US 85627) (A)), CIAR Board members Spears (Lorillard), Green (Reynolds), and Pages (Philip Morris), discussed a proposal by HBI to gather additional data related to ETS and indoor air quality. CIAR rejected funding the proposal because it lacked scientific merit. 87776361-6362 (US 56325) (A); 87776358-6359 (US 56324) (A).

1082. Despite the evidence of scientific fraud, in March 1992 the Tobacco Institute cited the 585 Building Study as scientific authority in opposition to OSHA's IAQ Rule. TI02120021-0098 at 0035 n. 32 (US 65685*) (A); see also (JD-023792 at 91) (A), (Reynolds' 1992 OSHA submission).

1083. The published paper on the 585 Building Study acknowledged, "Funding for this work was made available in part by the Center for Indoor Air Research, Linthicum, Maryland." (US 20572) (A). As detailed above (see supra US FF § III.A (2)(h)(vii)), this statement does not provide the reader an accurate picture of Robertson/HBI's dependent relationship on the tobacco industry.

1084. As recently as 2000, the paper was cited by industry consultant Roger Jenkins. (no bates at 49) (JD-065013) (O); BR2000545-0785 at 0658 and 0670 (JD-065024) (A).

1085. As late as April 1998, Robertson and HBI continued to act on behalf of Defendants in connection with secondhand smoke and indoor air quality issues. 2072439561-9564 (US 41540) (A). Robertson, a small business ventilation duct inspector in Fairfax had become a worldwide spokesman for the industry's message on indoor air quality. TLT0860122-0129 (US 87341) (A).

(iv) The 2003 Enstrom/Kabat Study

1086. Defendants' efforts to generate industry-favorable ETS science to create a controversy and somehow transform the issue of whether ETS causes disease into an "open question" continued into 2003, when a CIAR-funded and managed study was published in the *British Medical Journal*. James Enstrom's May 2003 article, "Environmental tobacco smoke and tobacco related mortality in a prospective study of Californians, 1960-1998," concluded that the association between ETS exposure and lung cancer and CHD "may be considerably weaker than generally believed." (no bates) (JD-024496) (A).

1087. The Enstrom/Kabat study seemed like a coup for Defendants who not only touted the study publicly, but used it in this Court (1) to assert that the question of whether ETS causes disease is still an open one and (2) that Defendants' continued public statements disputing the scientific consensus were not fraudulent. Defendants Opening TT, 9/22/04, 0328:8-25; Bradley WD, 101:10-21.

1088. As shown below, the Enstrom/Kabat study is yet another self-serving, unreliable, and scientifically questionable product of the industry's unabated effort to attack the scientific consensus on passive smoking. Internal documents leading up to the funding decision by CIAR

suggest that Enstrom manipulated a data set that he and Defendants knew would produce an unreliable, yet favorable, result.

1089. At least two Enstrom proposals to perform statistical analyses on data from CPS I were sent to the Center for Indoor Air Research (CIAR) for funding in 1996 and 1997. Enstrom's first proposal to CIAR was included under this cover letter dated July 15, 1996, to Max Eisenberg stating:

> For the past three years I have done consulting and research for Jeffrey L. Furr of Womble Carlyle on behalf of R.J. Reynolds and Philip Morris. This research has found a number of results that raise serious questions about several published findings on the relationship of passive smoking to lung cancer and other diseases.

2063610840-0841 at 0840 (US 85796) (A).

1090. Enstrom also stated in his July 15, 1996 letter to Eisenberg that his proposed CIAR research would "continue and expand upon" the research done for Womble Carlyle. 2063610840-0841 at 0840 (US 85796) (A).

1091. A June 25, 1996 Philip Morris e-mail from Marc Firestone to Richard Carchman stated that Enstrom did work for Philip Morris and Reynolds "in the context of the EPA litigation," and that one of his new proposals was "clearly litigation oriented" and should be "pursued, if at all, in the context of attorney work product." 2063610699-0699 (US 27128) (A).

1092. Thus, Enstrom had already proven his value to Defendants as a consultant to one of their law firms, and Defendants could reasonably expect that they were going to get more research and conclusions helpful to their position.

1093. The final proposal from Enstrom to CIAR is dated October 20, 1997 (see page 2), and resulted in funding of at least $525,000 from Defendants through CIAR. 566943549-3579 at 3550 (US 85813) (A); 2505442777-2960 at 2815 (US 25643*) (A).

1094. The October 1997 Enstrom proposal was not prepared without Defendants' input. An earlier version of the proposal had already been sent to Philip Morris's secret overseas laboratory INBIFO for comments in October 1996. 250100107-0112 (US 92034) (A). The CIAR Scientific Advisory Board, the group held out by Defendants as the independent reviewers of research funded through CIAR, was left out completely. Max Eisenberg, the former and only executive director of CIAR, testified that he did not forward Enstrom's proposal to INBIFO, he had no idea how it got there, and he never even saw the comments from INBIFO. Eisenberg TT, 11/15/04, 5938:1-5939:9.

1095. The November 1996 minutes of the CIAR Board of Directors reveals that the Board discussed the Enstrom proposal, and that Philip Morris lead scientist Richard Carchman and Reynolds lead scientist Charles Green (two members of the CIAR Board) visited Enstrom at UCLA to discuss the proposal with him personally. 2063650515-0518 at 0515 (US 79212) (A).

1096. Enstrom wrote a January 15, 1997 letter following up on his proposal, not to CIAR or its SAB, but directly to Carchman at Philip Morris. He attached a protocol for a precursor to the study that was eventually published in 2003. This precursor study attempted to prove the hypothesis that there was a threshold dose for active smoking, below which there were no proven health effects. This would then undermine one of the rationales for biological plausibility for harm caused by passive exposure to tobacco smoke. This letter contains Enstrom's cryptic message making clear that he was prepared to do whatever was necessary to make his work favorable to the industry, as long as the tobacco companies were willing to pay for it. He wrote:

> A level of trust must be developed based on my past research on passive smoking and epidemiology in general in order to work out the best way for me to conduct this research. **A substantial research commitment on your part in necessary in order for**

> **me to effectively compete against the large mountain of epidemiologic data and opinions that already exist regarding the health effects of ETS and active smoking.**

2063654073-4073 (US 85811) (A) (emphasis added).

1097. According to the minutes of the May 15, 1997 CIAR Board of Directors meeting, CIAR played found a co-author collaborator for Enstrom, Geoffrey Kabat. Carchman, a member of the Board of Directors, attended the meeting. 517578187-8188 (US 85816) (A).

1098. By letter from Carchman dated April 25, 1997, Philip Morris agreed to fund a precursor study by Enstrom for $150,000. 2063610867-0867 (US 85787) (A). That same year, Enstrom received funding from CTR, via a letter that proposed paying him an additional $25,000 in addition to an ongoing CTR grant already in place. 40001769-1769 (US 85804*) (O).

1099. Defendants funded the Enstrom/Kabat project collectively through a 1998 contract with CIAR. The project was directly funded by the CIAR Board of Directors, all tobacco industry executives, as an Applied Project without any review by the CIAR Scientific Advisory Board. Defendants paid $525,000 for the project through CIAR. 83205526-5581 at 5538 (US 92033) (A); Eisenberg TT, 11/9/04, 5630:22-5631:8; 2505442777-2960 (US 25643*) (A).

1100. Enstrom's relationship to the tobacco industry expressed itself in other ways. For example, Philip Morris paid Enstrom to make a presentation at a June 2000 conference in Richmond on the health impact on smokers and nonsmokers from changes in cigarette design and use. 2073736520-6520 (US 27396) (O); 2073736523-6523 (US 85795) (O).

1101. The Enstrom/Kabat paper was published under the title, "Environmental tobacco smoke and tobacco related mortality in a prospective study of Californians, 1960-98," and appeared in the May 2003 issue of the *British Medical Journal*. TKT0500029-0038 (US 65086) (A).

1102. As originally planned, the researchers conducted a study using only California CPS I data to ascertain rates of reported cases of coronary heart disease, lung cancer, and chronic obstructive pulmonary disease for study participants identified as "never smokers married to smokers." The study yielded the following results: Never smokers married to smokers had a relative risk of 0.94 for developing coronary heart disease; 0.75 for developing lung cancer. Thus, according to the study, the relative risk of developing coronary heart disease and lung cancer *decreased* for never smokers married to smokers. Based on these results, the researchers concluded that there is no significant association between passive smoking and tobacco-related diseases in never smokers married to smokers. TKT0500029-0038 (US 65086) (A).

1103. The Enstrom paper was published in 2003 after the American Cancer Society had repeatedly warned him that using its CPS-I data in the manner he was using it would lead to unreliable results. Enstrom only used a small subset of the overall data, and, more importantly, the data corresponded to participants who enrolled in 1959, a time when exposure to tobacco smoke was common. This is critical when comparing, as Defendants had Enstrom do, lung cancer and CHD in spouses married to smokers versus spouses married to non-smokers. If a spouse married to a non-smoker gets lung cancer, that lung cancer could very well have been the result of exposure to ETS (for example at the workplace or socially), but Enstrom's study would not detect this, and his relative risk number would be lowered by this omission. See also discussion of bias above at US FF § III.A(2)(b)(ii). Moreover, no data was collected on the smoking status of the spouses from 1972 to 1999 at all. Enstrom used the CPS-I data anyway. TLT0961621-1623 (US 86735) (O); (no bates at 502-503) (JD-024502) (A).

1104. The study was roundly criticized in the scientific community, including this statement from the members of the 2002 working group on involuntary smoking and cancer for

the International Agency for Research on Cancer (IARC):

> Enstrom and Kabat's conclusions are not supported by the weak evidence they offer, and although the accompanying editorial alluded to "debate" and "controversy", we judge the issue to be resolved scientifically, even though the "debate" is cynically continued by the tobacco industry.

(no bates) (JD-024496) (A).

1105. Dr. Samet testified at trial that Enstrom's evidence was weak and that in any event, his conclusions were not supported by the evidence. Samet WD, 184:4-13; Samet TT, 9/30/04, 1245:18-1249:20.

1106. Defendants, of course, promoted the study. For example, BATCo even advertised the study on its website in October 2003, citing the report on its website in support of its position that "the claim that ETS exposure has been shown to be a cause of chronic disease is not supported by the science." BATCo stated that a "very large study published in the *British Medical Journal* in May 2003 on environmental tobacco smoke in the home has found no increases in risk for the key smoking related diseases." The website even provided a hyperlink to BAT's summary of the study:

> In our view, this is an important study which confirms that many of the estimates of the risks of public smoking are overstated in the extreme, and that considerable doubts remain as to whether ETS exposure is associated with any risk of chronic diseases such as lung cancer and heart disease. **We believe the study illustrates that calls for bans on public smoking cannot be justified on the basis of the suggestion of chronic health risk for non-smokers**, although of course we believe that the needs of non-smokers should be also catered for with solutions such as good ventilation.

ARG0412302-2303 (US 86747) (O) (emphasis added); TLT1020487-0488 (US 88461) (O).

1107. Counsel for Defendants argued that the 2003 Enstrom paper was evidence that all of Defendants' statements denying the health effects of ETS were made in good faith:

> And Your Honor, if it is fraud, as the government seems to maintain, to doubt the quantity and quality of evidence linking ETS to diseased non-smokers, the record will show that the defendants were in pretty good company. . . . In 2003, Your Honor, two scientists, Dr. James Enstrom and Dr. Geoffrey Kabat published a review article. They reviewed most of the literature on ETS. Their conclusion was, "It seems premature to conclude that ETS causes death from coronary heart disease and lung cancer."

Defendants Opening TT, 9/22/04, 0328:8-25.

1108. Defendants' statistician Edwin Bradley relied on the Enstrom paper in his written direct testimony submitted to this Court during Defendant' case-in-chief, in support of his opinion that bias and confounding explain the elevated observed risks in epidemiological studies finding an association between spousal smoking and lung cancer. Bradley WD, 100:36-101:21.

(l) The EPA Risk Assessment: A Case Study of Defendants' Use of Their ETS Products to Derail Public Health Conclusions

1109. On June 25, 1990, the EPA released for public comment its Risk Assessment of ETS-related lung cancer in adults. The Agency's draft risk assessment classified ETS as a Group A carcinogen and attributed approximately 3800 nonsmoker lung cancer deaths per year to ETS. 2046522986-3260 at 3002-3010 (JD-004716) (A). The June 1990 draft Risk Assessment followed the release of a draft "Compendium" of passive smoking data and information in November 1989.

1110. After a period of public review and comment, EPA issued its second draft of the ETS Risk Assessment or Review Draft in May 1992 entitled "Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders. 2504201767-2298X (JD-004717) (A).

1111. The EPA published the final ETS Risk Assessment in December 1992. The EPA concluded: "ETS is a human lung carcinogen, responsible for approximately 3,000 lung cancer deaths annually in U.S. nonsmokers." TLT0780160-0684 at 0175, 0180 (US 78711) (A).

(i) Defendants' Assault on the EPA and Its Risk Assessment

1112. In November 1989, EPA had requested that the Tobacco industry comment on a draft document entitled "Environmental Tobacco Smoke: A Compendium of Technical Information," a companion document to the upcoming ETS Risk Assessment. TI11951245-1685 at 1251 (US 85699) (A). In its February 1990 comments to EPA, the Tobacco Institute relied heavily on the McGill "symposium," holding out the "symposium" as an independent scientific conference by concealing that the event was funded and managed by the industry and its lawyers:

> In addition, we would like to point out that in November of this past year, a symposium on ETS involving some 80 scientists from 20 countries was held at McGill University in Montreal. The proceedings of the symposium reflect a thorough, up-to-date discussion of the relevant literature. **We believe that the results of this conference -- which concluded, overall, that ETS has not been shown to present a health hazard to nonsmokers -- should be carefully considered in further development of the EPA Compendium.** Accordingly, we are transmitting copies of the McGill proceedings for use by EPA and its consulting authors.

TI11951245-1685 at 1254 (US 85699) (A) (emphasis added).

1113. In support of its arguments opposing the compendium's conclusions, the Tobacco Institute also cited published papers by industry consultants Sterling, Kessler, Fleiss, Layard, Reasor, HBI, Robertson, Hood, Tollison, Wagner, Ecobichon, Wu, Gori, Turner, Holcomb, Weinberg Consulting Group, Viren, Lee, Koo, Kabat, Wynder, Eatough, Witorsch and Haley. Again, the Tobacco Institute created the impression of independence by not disclosing that it and the cigarette manufacturers funded and managed these consultants. TI11951245-1685 (US 85699) (A).

1114. On June 25, 1990, the day the EPA released its draft Risk Assessment, the Tobacco Institute publicly went on the attack. In its press release, the Tobacco Institute stated under the headline "DRAFT RISK ASSESSMENT DESCRIBED AS SPECULATION;

Underlying scientific foundation inadequate" that the conclusion that "ETS has been shown to be a cause of disease" was "contrary to fact." The Tobacco Institute then cited the McGill "symposium" findings, with no disclosure or attribution, as independent authority in support of its view:

> This very issue was recently addressed by a prestigious panel of scientists at an international symposium on ETS held at McGill University in Montreal, Canada. As the opening presenter to the risk assessment panel at the symposium emphasized:
>
> "The first order of business *** is for proper studies to be carried out with respect to a possible causal link between ETS and particular diseases. If studies justifying a causal inference were to become available, we could then employ the remaining steps in the risk assessment technique."

87697659-7664 at 7659, 7660 (US 85586) (A); Dawson WD, 135:18-137:3.

1115. The Tobacco Institute press release also quoted the statements of two unnamed researchers who spoke at the "symposium"; a comparison of the statements to the published proceedings confirms that the unnamed persons were Tobacco Institute consultants Alan Gross and Gary Flamm. Neither was identified as having an affiliation with the Tobacco Institute, even though both were consultants who were paid to attend the "symposium" as part of their consultancy. 87697659-7664 at 7660-7661 (US 85586) (A); Dawson, WD, 138:3-139:16.

1116. Within a month of the release of the Draft Risk Assessment, Tobacco Institute efforts were in full swing, not only on the Risk Assessment but also on the accompanying EPA Draft Policy Guidelines relating to smoking in the workplace. A Tobacco Institute Public Affairs Progress Report stated:

> We continued coordinating the industry's submissions on both draft documents with two member companies who plan to submit independent comments. . . .
>
> Editorials by scientific consultants criticizing the EPA ETS risk

> assessment in light of the findings of the McGill ETS symposium were published in the Detroit News, the Las Vegas sun and the Chicago Sun-Times. . . .

TI09911997-2033 at 2005 (US 22367) (A).

1117. Industry consultants were paid to prepare letters to the editor for publication in major newspapers attacking the draft Risk Assessment with the results of the McGill "symposium." As stated in the Progress Report quoted above, a number of these editorials/ letters were published. TI09911997-2033 at 2021 (US 22367) (A). By once again omitting industry attribution, the letters appeared to be independent. 1990 letters by Tobacco Institute consultant Jack Peterson in the Chicago Sun-Times, Las Vegas Sun and the Salt Lake Tribune, and by Tobacco Institute consultant David Weeks in the Richmond-Times Dispatch, all with no industry attribution, illustrate how Defendants publicly used the press to create seemingly independent opposition to the EPA. Dawson WD, 133:13-135:13; TI12201464-1465 (US 86722) (O) (Peterson letter titled "Passive smoking danger? Don't believe what you read"); TIMN343061-3061 (US 85582) (A) (Weeks editorial titled "The Facts About ETS"); TIDN0019217-9268 at 9228-9229 and 9232-9233 (US 85597) (A).

1118. As described below, the Tobacco Institute and other Defendants filed lengthy comments with the EPA on October 1, 1990, disputing to the conclusions of and evidence cited in the Risk Assessment and policy guide. In these submissions, Defendants relied on and presented the industry's carefully crafted ETS initiatives as seemingly independent science.

1119. The Tobacco Institute Submission. The Tobacco Institute's submission to EPA is dated October 1, 1990. 87653565-6820 at 3941- 3998 (US 88596) (O). The comments emphasize the findings of and papers presented at the McGill "symposium," as well as industry-funded papers by industry consultants Lee, Balter, Gori, LeVois, Mantel, Bacon-Shone, Lunau,

G.L. Reynolds, Viren, Fleiss, Gross, Wynder, Kabat, Reasor, Ecobichon, Wu, Gross, Kilpatrick, Todhunter, Perry, Kirk, Layard, Koo, Bieva and Witorsch, as well as the 1987 Tokyo conference and the 1988 "Perry" conference (organized by industry ETS consultant Roger Perry). 87653565-6820 at 3958, 3963-3967, 3969, 3972-3976 (US 88596) (O).

1120. The Reynolds Submission. The Reynolds EPA submission, also dated October 1, 1990, emphasizes many of the same industry consultant papers and industry-managed conferences, including: Koo, Witorsch, Kabat, Lee, Mantel, Kornegay, Kastenbaum, MacDonald, Layard, Viren, Kilpatrick, Butler, Rylander, the American Health Foundation (AHF), Adlkofer, Gori, Haley, Viren, Bieva, Sterling, Yano, Eatough, Proctor, Carson/Erikson (the paper ghostwritten by Reynolds scientist Guy Oldaker). 87654420-4485 (US 92098) (A).

1121. Oldaker and Paul Nelson were among a number of Reynolds scientists who wrote separate comments on the draft EPA Risk Assessment for the company. They similarly cited the industry's symposia and consultants in support of their opposition. Oldaker, the writer of the 1988 Carson/Erickson paper, repeatedly cited the paper as one of the authorities in support of his comments. 87653565-6820 at 4515-4531, 4604-4612, 4613-4618, 4619-4645 (US 88596) (O).

1122. The Philip Morris Submission. Philip Morris submitted comments to the EPA dated September 28, 1990. Like those of the Tobacco Institute and Reynolds, the Philip Morris submission cited to: Adlkofer, Haley, Robertson, Sterling, Kirk, Perry, Carson & Erikson, Proctor, Eatough, Jenkins, Kilpatrick, Viren, Koo, Lee, Ueberla, Mantel, Wynder, Kabat, First, Guerin, Schwartz, Balter, Aviado, Lunau, Rylander, Fustinoni, Kasuga, Katzenstein and Faccini, as well as several industry "symposia" and conferences. 2070140494-0630 at 0537-0553, 0595-0600, 0604-0608, 0611-0615 (US 88604) (O).

1123. In addition, Defendants also had a number of their consultants submit free-

standing comments to EPA in opposition to the draft Risk Assessment. The following "independent" scientists submitted separate comments to the EPA on Philip Morris's behalf, but did not disclose their affiliation with the tobacco industry in their comments to the EPA: Adlkofer; Aviado; Bridges; Bucci; Butler; Furst; Rutsch; Rylander; Schneider; Skrabanek; Springall; Sterling (individually and with Weinkam and Rosenbaum); Sullivan; Tweedie; and Ueberla. 2026127293-7298 (Adlkofer); 2026128531-8559 (Aviado); 2026129063-9064 (Bridges); 2026127908-7912 (Bucci); 2026135132-5136 (Butler); 2026128569-8575 (Furst); 2026128171-8176 (Rutsch); 2026127783-7790 (Rylander); 2026127753- 7760 (Schneider); 2023475720-5728 (Skrabanek); 2023128950-8981 (Springall); 2026127212-7236 (Sterling and Collett)); 2026128426-8477 (Sterling, Weinkam, Rosenbaum); 2026134124-4134 (Sullivan); 2026127923-8001(Tweedie); 2026127065-7102 (Ueberla) (US 92064) (A); 2026127628-7636 (US 85564) (O) (Crepat); 2081369202-9220 at 9205-9206 (US 27796) (A) (list of PM consultants); Parrish TT, 1/26/05, 11147:12-11148:22, 11160:22-11167:9.

1124. All of these submissions are separately addressed and bear individual EPA "Received" stamps, indicating that each was mailed separately by the consultants. (US 92064) (A); 2026127628-7636 (U.S. 85564) (O) (Crepat).

1125. Under cover letter dated September 28, 1990, industry consultant and McGill "symposium" co-host Donald Ecobichon separately submitted the proceedings of the "symposium" directly to the EPA, urging that EPA consider the conclusions of the participants; Ecobichon did not disclose any tie to the industry. 2026134978-4978 (US 87395) (O).

1126. One striking aspect of the submissions of Defendants' "independent" scientists is that not only were these individuals paid to make comments on behalf of the industry with no disclosure, but also that their submissions were reviewed and edited by industry lawyers prior to

submission. Shook, Hardy & Bacon billing statements show the depth of involvement by outside attorneys in the preparation, review, and revision of the consultants' submissions. According to the billing statement, Shook, Hardy billed the work to the ETS Witness Development account on behalf of Philip Morris, Brown & Williamson, and Lorillard. 680707970-7973 at 7970 (US 92065) (A); see also 2023590213-0299 at 0217-0220 (US 22818) (A).

1127. An August 15, 1990 letter from Rylander suggests that he worked with Philip Morris's Tom Osdene to prepare his comments to the EPA. 2023533777-3777 (US 85720) (O).

1128. Brennan Dawson admitted to working with several of the consultants to submit comments critical of the EPA Risk Assessment. Dawson TT, 1/12/05, 1008:5-17.

1129. In December 1990, EPA's Scientific Advisory Board held a public meeting to discuss the Draft Risk Assessment and the draft policy guide. 2040226083-6212 (JD-002884) (A). Again, the Tobacco Institute went on the attack with its "independent" scientists. That morning the Tobacco Institute issued a press release claiming that there were major flaws in the draft EPA Risk Assessment and Policy Guide. Critical comments by Tobacco Institute consultants Lee, LeVois, and Fleiss are quoted in the release. However, neither their affiliation with the Tobacco Institute nor the fact they were paid industry consultants was disclosed.

1130. The Tobacco Institute intended to create the false impression that a large number of scientists existed who, independent of the tobacco industry, opposed the EPA's proposed Risk Assessment. The press release was accompanied by 69 pages of background materials, including "an annotated list of scientific comments critical of the documents." The Tobacco Institute claimed that "dozens of scientists have challenged fundamental and technical aspects of the draft documents." 87697701-87697772 (US 85587) (A). In the words of Brennan Dawson, however, of the 59 scientists included on the list, "most of if not all of the scientists commenting would

have been retained by the industry." Dawson WD, 142:19-22, 143:9-19; Dawson TT, 1/12/05, 10008:5-10011-9.

1131. Not coincidentally, a number of the 59 scientists in the 1990 Tobacco Institute list were first identified by Sharon Boyse (Blackie) in her seminal memorandum documenting the February 17, 1988 presentation of the industry's ETS Consultancy Program to the British manufacturers, including Roe (UK), Leslie (UK), Faccini (France), Butler (UK), Brown, (UK), Daniel (UK), Bridges (UK), and Sullivan (UK). 401208386-8391 (US 29365) (A). Other long-time industry consultants on the Tobacco Institute press release list included Rylander (Sweden), P.N. Lee (UK), Cerioli (Italy), Skrabanek (Ireland), Malmfors (Sweden), Crepat (France) Sterling (Canada), Wu (Canada), Springall (England), Clayton (U.S.), and Goodfellow (Canada) and others like Adlkofer, Wynder & Haley of the American Health Foundation.

1132. In this way, as with the citations to the international consultants by the Tobacco Institute, Reynolds, and Philip Morris, and the separate submissions by the consultants themselves, Defendants made use in the United States of their larger international ETS program.

1133. Defendants also utilized third party entities to create a perception of another "independent" front against the EPA. Under cover letter dated October 15, 1990, Covington & Burling forwarded Lorillard a compilation of comments that were "filed by and on behalf of the tobacco industry" with respect to the draft ETS risk assessment and policy guide. The compilation contains submissions from various third party entities with varying document dates. For example, on October 1, 1990, the tobacco-industry funded Washington Legal Foundation filed comments on behalf of itself and twelve tobacco congressmen who opposed the EPA action. WLF also issued a news release to publicize their comments. Yet nowhere in the submission to EPA or in the press release does WLF acknowledge its industry funding.

87653565-6820 at 3567-3583 (US 88596) (O).

1134. These scientists submitted detailed comments, all parroting Defendants' views regarding the lack of necessity to regulate ETS, that there was still a debate regarding the risks of ETS, and that ETS was not a proven carcinogen. Another commonality among these submissions was that not one contained any acknowledgment that the comments were submitted on behalf of and paid for by the tobacco industry. The submissions also did not inform the EPA that these scientists and much of the works cited to in their comments were the fruit of a world-wide tobacco industry program which "financed the generation of knowledge" through the "mobilisation of a corps of scientific consultants and engineers." 2501474253-4259 at 4255 (US 22017) (A). Furthermore, neither the consultants nor Defendants disclosed the fact that tobacco industry attorneys were intimately involved in the preparation, review and revision of comments prior to submission.

1135. Defendants' assault on the EPA continued after the final EPA Risk Assessment was published in 1992. In 1993, John Luik was hired by CECCM to write a paper entitled "Pandora's Box: The Dangers of Politically Corrupted Science for Democratic Public Policy;" which attacked the Risk Assessment. Blackie WD, 132:19-133:10. Shook, Hardy & Bacon helped craft Luik's response to peer review criticisms after he submitted "Pandora's Box" to a journal for publication. 2024215189-5190 (US 37097) (A); 2025495375-5376 (US 89050) (A). In spite of this, and although Luik received funding from Reynolds, Philip Morris, and BATCo, neither the funding nor the industry support was acknowledged or disclosed in the paper, which was ultimately published in a Boston University alumni journal called *Bostonia*. 2025495237-5249 (US 89052) (A).

1136. The omission of attribution in the Luik paper was intentional. According to a

December 21, 1993 memorandum from CECCM Chairman John Lepere to Philip Morris's David Bushong and Matt Winokur, Lepere addressed a Philip Morris recommendation that consultants in the future disclose CECCM funding. Lepere responded:

> I consider that future decisions on disclosure would best be made, taking account of your company's recommendation, on a case by case basis as each arises . . . .
>
> The only recent project to which the recommendation would have been relevant in J.C. Luik's "Pandora's Box" project. **Although the decision was not recorded in the minutes of the meeting of our Working Group held on 9 June 1993, the Group then decided, without dissent, that credit should not be given to CECCM in any publication resulting from that project.** I confirmed accordingly to John Luik in writing on the following day. He submitted his paper shortly thereafter for peer-review for publication in the "Philosophy and Public Affairs" learned journal and it has also recently been part-published in the Bostonia magazine, in both cases without acknowledgment of CECCM's financial support.

2025495222-5223 (US 89049) (A) (emphasis added).

1137. In 1999, B&W funded a book by Luik and fellow industry consultant Gio Gori by funneling the money through a third party, the Fraser Institute. Blackie WD, 143:6-12. The book, entitled *Passive Smoke: The EPA's Betrayal of Science and Policy*, went so far as to allege scientific misconduct on the part of the EPA in conducting its Risk Assessment. JDX2781834-1954 (JD 067661) (O). The authors again did not acknowledge tobacco industry funding, and B&W never corrected their failure to disclose its financial backing. Blackie WD, 143:10-17.

(ii) The Substance of the Industry's Attack on the EPA Has No Merit

1138. Defendants devoted a significant amount of time at trial attempting to discredit the EPA's methodology and conclusions. See, e.g., Interim Summation TT, 9/20/04, 6499:25-6450:14. At the outset and as described previously, the 1992 EPA Risk Assessment is only one

of many authoritative reviews of the evidence, and only one of many authoritative conclusions that passive smoking causes lung cancer.

1139. The only "new" conclusion added by the EPA Risk Assessment was a quantification of the risk, that is, an estimation of the number of deaths that are attributable to passive smoke annually. DXA0390094-0699 at 0118 (US 88654) (A). For this reason, even if the Court were to discount and disregard the Risk Assessment, this would in no way diminish the overwhelming scientific consensus that ETS causes a number of diseases and adverse health effects, including lung cancer, or make Defendants conduct with respect to ETS any less fraudulent.

1140. The EPA Risk Assessment recited the scientific standard and the lines of evidence that EPA considered in determining that secondhand smoke was a Group A carcinogen. Except for examining six more years of scientific endeavor, the types of evidence that was evaluated by the EPA was the same type as that considered by the Surgeon General, the NRC, and IARC in 1986.

> The weight-of-evidence analysis for lung cancer hazard identification is developed in accordance with U.S. EPA's *Guidelines for Carcinogen Risk Assessment* (U.S. EPA, 1986a) and established principles for evaluating epidemiological studies. The analysis considers animal bioassays and genotoxicity studies, as well as biological measurements of human uptake of tobacco smoke components and epidemiologic data on active and passive smoking. The availability of abundant and consistent human data at actual environmental levels of exposure to the specific agent (mixture) of concern, allows a hazard identification to be made with a high degree of certainty. The conclusive evidence of the dose-related lung carcinogenicity of MS in active smokers (Chapter 4), coupled with information on the chemical similarities of MS and ETS and evidence of ETS uptake in smokers (Chapter 3), is sufficient by itself to establish ETS as a known human lung carcinogen, or "Group A" carcinogen under U.S. EPA's carcinogen classification system. In addition, the document concludes that the overall results of 30 epidemiological studies on lung cancer and

> passive smoking (Chapter 5), using spousal smoking as a surrogate of ETS exposure for female never smokers, similarly justify a Group A classification.

DXA0390094-0699 at 0116-0117 (US 88654) (A).

1141. As was done elsewhere, Defendants' attack on the EPA targeted only the interpretation of the epidemiological data; Defendants did not attack EPA's evaluation of tobacco smoke as a carcinogen based on the evidence of animal studies, mainstream and sidestream smoke constituents, and measurements of exposure using biomarkers. Bradley TT, 3/14/05, 15456:7-10, 15457:17-15459:23.

1142. EPA itself acknowledged the difficulties of a making a pinpoint quantification of the disease risk from the epidemiological studies:

> For lung cancer estimates among U.S. nonsmokers, the substantial epidemiology database of ETS and lung cancer among U.S. female never-smokers was considered to provide the most appropriate information. From these U.S. epidemiological studies, a pooled relative risk estimate was calculated and used in the derivation of the population risk estimates. The large number of studies available, the generally consistent results, and the condition of actual environmental levels of exposure increase the confidence in these estimates. Even under these circumstances, however, uncertainties remain . . . . Still, given the strength of the evidence for the lung carcinogenicity of tobacco smoke and the extensive human database from actual environmental exposure levels, fewer assumptions are necessary than is usual in EPA quantitative risk assessments, and confidence in these estimates is rated medium to high.

DXA0390094-0699 at 0117-0118 (US 88654) (A); see also DXA0390094-0699 at 0120-0122 (US 88654) (A) (executive summary of epidemiological studies); Chapters 5 and 6 (detailed analysis of epidemiological studies). EPA's evaluation of the weight of the evidence resulted in a primary finding that "Passive smoking is causally associated with lung cancer in adults, and ETS, by the total weight of evidence, belongs in the category of compounds classified by EPA as

Group A (known human) carcinogens." DXA0390094-0699 at 0120-0122 (US 88654) (A)

1143. Defendants' statistician Edwin Bradley criticized the EPA's meta-analysis of U.S. epidemiological studies, faulting EPA for achieving statistical significance by using an "unconventional 90 percent confidence interval." Bradley TT, 3/14/05, 15456:7-10. However, Bradley incorrectly characterized the confidence interval that the EPA used. Dr. Burns, who participated in the EPA Risk Assessment, testified that the EPA used a one-tailed 95% confidence interval, not a two-tailed 90% confidence interval. He also explained in detail why a one-tailed test was proper:

> **The EPA did not use a 90% confidence interval. They used a traditional 95% confidence interval, but they tested for that interval only in one direction.** That is, rather than testing for both the possibility that exposure to ETS increased risk and the possibility that it decreased risk, the EPA only tested for the possibility that it increased the risk. It tested for that possibility using the traditional 5% chance or a P value of 0.05. It did not test for the possibility that ETS protected those exposed from developing lung cancer at the direction of the advisory panel which made that decision based on its prior decision that the evidence established that ETS was a carcinogen. What was being tested was whether the exposure was sufficient to increase lung cancer risk, not whether the agent itself, that is cigarette smoke, had the capacity to cause lung cancer with sufficient exposure. The statement that a 90% confidence interval was used comes from the observation that if you test for a 5% probability in one direction the boundary is the same as testing for a 10% probability in two directions.

Burns WD, 67:5-15 (emphasis added). In fact, the EPA Risk Assessment stated, "Throughout this chapter, one-tailed tests of significance ($p = 0.05$) are used . . . " DXA0390094-0699 at 0223 (US 88654) (A).

1144. Defendants know that a one-tailed 95% confidence interval was used by the EPA. In a November 22, 1993 memorandum to industry consultant John Luik, with copies to BATCo's Chris Proctor and Philip Morris's Matt Winokur, Rothmans scientist David Rowland summarized

the facts and the source of the confusion over whether the EPA had applied a 90 or 95 percent confidence interval. Luik was in the process at that time of finding a journal to publish his "Pandora's Box" paper, discussed above. Rowland described a meeting with counsel at Shook, Hardy & Bacon, a legal opinion by outside counsel at Lovells, and the conclusion that "the 90% argument is out":

> [SHB attorney] Bernie O'Neill and I went through the EPA document. The key to the whole thing is a short paragraph on page 5-2. . . .
>
> **So the EPA used a one-tailed test of significance at p=0.05. (ie the 95% confidence level).** To effect this, they performed a two-tailed test with 90% confidence intervals, **which is equivalent**. Hence the source of confusion perpetuated by Stanton Glantz and other commentators.
>
> Since getting back to the office this morning, I see that **Kim Davis of Lovell, White and Durrant has come to a similar conclusion** after considering pages 5-34/35 and speaking to his contacts in the US.
>
> **Thus, the 90% argument is out**: what has to be attacked is the EPA's assumption that they were justified in using the one-tailed test.

2025495375-5376 at 5375 (US 89051) (A) (emphasis added).

1145. Rowland had undertaken his investigation of the 90% confidence interval allegation after Luik was told by a journal reviewer that "Luik's claim that EPA used BOTH a 90% confidence interval and a one-tailed test is 'manifestly false.'" 2024215189-5190 at 5189 (US 37097) (A). Notwithstanding Rowland's confirmation to Luik that EPA used a 95% confidence interval and a one-tailed test, Luik's article was not changed, and his published paper falsely impugned EPA for using both a 90% confidence interval and a one-tailed test. 2025495237-5249 at 5239, 5243 (US 89052) (A).

1146. Bradley testified that EPA used a 90% confidence interval to produce a

statistically significant relative risk, implying that EPA lowered its standards in order to obtain a statistically significant result. Bradley TT, 3/14/05, 15456:3-15457:21. But as Dr. Burns testified, and Defendants are aware, EPA used a one-tailed 95% confidence interval that did not include, and could not have included, 1 (the "null hypothesis"). Indeed, under questioning by the Court, Bradley admitted to understanding the EPA's rationale for a one-tailed test, even if he did not understand its application. He told the Court that EPA "had stated that they [EPA] felt like you could not have reduced risk with exposure to ETS, so therefore, that was not a possibility that the relative risk could be less than 1, it could only be greater than 1, and consequently, they wanted to look only at the increase . . . " Bradley TT, 3/14/05, 15456:23-15457:3.

1147. Thus, Defendants' criticism of the EPA meta-analysis is flawed for the same reason that their unwarranted reliance on statistical significance as the primary causal criteria is flawed. See supra US FF § III.A(2)(b)(ii).

1148. Defendants also attack the EPA Risk Assessment through the District Court opinion in Flue-cured Tobacco Cooperative Stabilization Corporation v. United States Environmental Protection Agency, 4 F.Supp.2d 435 (M.D.N.C. 1998), vacated, 313 F.3d 852 (4th Cir. 2002). This is a fatally flawed argument for the obvious reason that the Fourth Circuit vacated the opinion in 2002. In addition, the District Court judge was not a scientist, nor did he undertake a scientific review of the literature and evidence. He did not rule that secondhand smoke is not a proven health hazard. Moreover, the sole decision actually made by the court on cross-motions for summary judgment was the procedural one that EPA violated its procedures by not including industry representatives on its advisory board (the IAQC), because inclusion might have affected some part of the EPA's assessment. The court stated, "EPA's authority under the Act is contingent upon the Agency hearing and responding to the represented constituents'

concerns. The record evidence is overwhelming that IAQC was not the representative body required under the Act. Had EPA reconciled industry objections voiced from a representative body during the research process, the EPA Risk Assessment would very possibly not have been conducted in the same manner nor have reached the same conclusions." Id. at 466. In any event, this limited procedural holding was vacated on appeal.

1149. It also appears that the District Court judge may have been led astray by Defendants in reaching his conclusion. In its opinion, the court draws a distinction between "comments submitted by scientists" and those submitted "by the tobacco industry" citing scientific literature that disputed EPA conclusions." Id. at 453. In reality, *all* of the comments referenced by the judge in his footnotes were from the industry. The "scientists" listed in the footnote are Cronan, Gori, Todhunter, Flamm, Newell, and Reasor, all long-time industry paid ETS consultants. The judge does not seem to be aware of this, or else he would not have distinguished them from "the tobacco industry" in his opinion. In another part of his opinion, the court relied on submissions by Wynder and Kabat criticizing the relative risks associated with secondhand smoke and lung cancer for falling below 2.0. See also discussion of relative risk above US FF §§ III.A(2)(b)(ii) and III.A(2)(g)(vi). The court again does not seem to recognize the relationship between these consultants and the tobacco industry. 4 F.Supp.2d at 461-462.

(m) Defendants' Fraudulent Activity Continues to the Present Day

(i) Websites and Other Public Statements

1150. In this litigation, Philip Morris, BATCo, Brown &Williamson, Lorillard, and R.J. Reynolds have denied that ETS causes disease in nonsmokers. USX6390001-0400 at 0045-0046 (US 89555) (O) (BATCo); USX6390001-0400 at 0078-0079 (US 89555) (O) (B&W); USX6390001-0400 at 0147-0148 (US 89555) (O) (Lorillard); USX6390001-0400 at 0194-0195

(US 89555) (O) (PM); USX6390001-0400 at 0272, 0274-0275 (US 89555) (O) (RJR).

1151. Reynolds continues to publicly dispute that secondhand smoke causes diseases and other adverse health effects in nonsmokers. Reynolds' position on its website is that it believes "that there are still legitimate scientific questions concerning the reported risks of secondhand smoke." Reynolds' website further states:

> Considering all of the evidence, in our opinion, it seems unlikely that secondhand smoke presents any significant harm to otherwise health nonsmoking adults at the very low concentrations commonly encountered in their homes, offices and other places where smoking is allowed. We recognize that exposure to high concentrations of secondhand smoke may cause temporary irritation, such as teary eyes, and even coughs and wheezing in some adults. In addition, there is evidence that secondhand smoke, like other airborne irritants, or allergens such as pollen and dust may trigger attacks in asthmatics.

(US 92012) (A). Mary Ward, an in-house attorney for Reynolds until 2004, testified that the Reynolds position on passive smoking has not changed since she joined the company in 1985, with the exception of admitting that ETS "may trigger attacks in asthmatics." Ward TT, 11/4/04, 5076:9-5077:22.

1152. Reynolds corporate position on ETS and children is that "parents and others should minimize the exposure of children and young children to tobacco smoke and other airborne irritants." (US 92012) (A).

1153. Lorillard continues to dispute publicly the scientific consensus as well. On October 14, 2003, Lorillard issued a press release announcing a favorable verdict in the Miami case of a former flight attendant who alleged her chronic sinusitis and bronchitis were caused by ETS exposure over 27 years of working for airlines. After stating the trial result and providing a summary of the allegations, the press release stated: "**Jurors are increasingly seeing through the transparent body of evidence in these types of cases**, and we will continue our vigorous

defense against any and all such future claims." USX5710001 (US 89303) (A). The press release was picked up and run in the Los Angeles Times the next day. USX5710005 (US 89305) (A).

1154. Lorillard general counsel Ron Milstein testified that his company has never admitted in any forum that ETS exposure causes disease, and that the October 2003 press release was in line with the company's position that ETS is not a proven health hazard. Milstein TT, 1/7/05, 9263:8-9264:24.

1155. B&W also uses its website to try to convince the public that ETS is not harmful. The company's 2003 website stated: "It is, therefore, our view that the scientific evidence is not sufficient to establish that environmental tobacco smoke is a cause of lung cancer, heart disease, or other chronic diseases." TLT0390003-0003 (US 76761) (A). In 2004, the B&W public corporate position was revised to state its disagreement in slightly different terms: "In our opinion and in the opinion of others, however, there are legitimate scientific questions concerning the extent of the chronic health risks of ETS." USX5420009 (US 89165) (A); Ivey TT, 11/16/04, 6082:23-6083:14.

1156. B&W CEO Susan Ivey testified that her company places its position on ETS on its website for consumers to rely upon. Ivey TT, 11/16/04, 6098:7-19.

1157. BATCo also denies that passive smoke is a health hazard to adults or children. On its website, BATCo states that ETS can be "annoying," but disputes that it presents any risk:

> We believe, however, the claim that ETS exposure has been shown to be a cause of chronic disease is not supported by the science that has developed over the last 20 years or so. In our view, it has not been established that ETS exposure genuinely increases the risk of nonsmokers developing lung cancer, heart disease, or chronic obstructive pulmonary disease.

ARG0412302-2303 (US 86747) (O); see also ARU6220813-0814 (US 86743) (O).

1158. BATCo's website contains a number of distortions with respect to the scientific

evidence. For example, BATCo claims that the 1998 WHO/IARC study "found no meaningful increase in lung cancer risk," when in reality the IARC researchers reported a increased relative risk of lung cancer of 16% for spousal exposure and 17% for workplace exposure. BATCo summarizes the 2003 Enstrom study results, but fails to state that the study was funded and managed by the tobacco industry through CIAR and Philip Morris. BATCo advises visitors to its website that the 1992 EPA Risk Assessment was "declared invalid" by a federal judge, but fails to disclose that the district court decision was reversed by the appellate court and that the Risk Assessment reinstated. ARG0412302-2303 (US 86747) (O); see Flue-Cured Tobacco Coop. Stab. Corp. v. United States Envron. Prot. Agency, 313 F.3d 852 (4th Cir. 2002).

1159. BATCo has denied ETS-related health risks in other recent public statements. According to a March 1998 news article, BAT Chairman Martin Broughton was asked if he stood by the company's assertion that passive smoking is not a health risk. Broughton's response was: "There is virtually no evidence at all to the contrary." ARU6532231-2233 at 2232 (US 86878) (O).

For example, in 2002, BATCo published a document titled "British American Tobacco Social Report 2001/2002." In this report, BATCo asserted:

> There is also a debate about Environmental Tobacco Smoke (ETS), also known as passive smoking. Some say it poses health risks, and others, including ourselves, say there is no convincing evidence that ETS is a cause of chronic diseases such as lung cancer.

TLT0231830-TLT0231910 at 1844 (US 76316) (O).

1160. From 1999-2001, the Philip Morris website publicly stated its disagreement with the scientific consensus as well:

> Many scientists and regulators have concluded that ETS poses a health risk to nonsmokers. **Even though we do not agree with**

> **many of their conclusions**, below we have provided some links so you can access some of their views.

(US 92056 at 2) (A) (emphasis added); Parrish TT, 1/25/05, 11080:23-11082:14.

1161. While this case was pending, Philip Morris revised its position on ETS to delete its disagreement with the conclusions of "scientists and regulators." Philip Morris now states: "Public health officials have concluded that secondhand smoke from cigarettes causes disease, including lung cancer and heart disease in nonsmoking adults" as well as a number of adverse health effects in children. However, in contrast to its corporate position on active smoking, Philip Morris is careful not to state its agreement with, or even acknowledge the existence of, the scientific consensus that passive smoking causes disease. (no bates at 1 of 2) (US 92055) (A).

1162. Liggett does not take a public position on the effects of ETS; in fact, Bennet LeBow testified, "I do not know whether Liggett ever had or has a position on ETS and causation of lung cancer in healthy non-smokers." However, Lebow uses standard industry buzz-words in his testimony that "the scientific issues involving ETS, and the effects of cigarette smoke on non-smokers, are different, **more complicated and more controversial** today than the issue of whether smoking causes lung cancer and other diseases in smokers." LeBow WD, 56:10-57:9 (emphasis added).

(ii) The Resurrection of CIAR Through the Philip Morris External Research Program (PMERP)

1163. A number of documents suggest that Defendants have continued the mission of CIAR through a new organization called the Philip Morris External Research Program, or PMERP.

1164. The MSA, signed by representatives of certain Defendants on November 23, 1998, required that Defendants shut down and disband CIAR within 45 days of "Final Approval."

Although the MSA was signed by the parties in November 1998, "Final Approval" by the settling States did not take place until approximately one year later. (no bates at 32-33) (JD-045158) (A).

1165. The CIAR Board of Directors voted to dissolve CIAR on October 7, 1999, and Eisenberg formally dissolved the organization on December 6, 1999. 86205205-5206 (US 21091) (O).

1166. Notwithstanding the MSA requirement to disband CIAR, Defendants were already forming a plan to reinstate CIAR at the time the MSA was signed in 1998. On November 25, 1998, Lorillard general counsel Arthur Stevens wrote a letter to Philip Morris general counsel Denise Keane with copies to Charles Blixt at Reynolds and Ernie Pepples at B&W. Stevens wrote: "Please call me later in the morning on Monday, November 30, 1998, so that we can discuss the status of the plan to reinstate CIAR. The matter seems to be 'dragging' without direction toward a positive resolution." 86205404 (US 22164) (A). Several other documents confirm that Defendants had a plan to reconstitute CIAR in 1998 and 1999, and Eisenberg recalled at trial that the CIAR Board of Directors had even voiced their intent in 1998 to reconstitute the CIAR. Eisenberg TT, 11/15/04, 5881:6-17, 5883:2-6; 86205377-5378 at 5377 (US 75412) (A); 2064207030B (US 25744) (A); 2063871374-1380 at 1380 (US 92030) (A).

1167. On October 11, 1999, Eisenberg faxed Philip Morris a proposal to form an "External Research Program" to administer research largely using the CIAR model of an SAB, a research agenda, and peer reviewers. 2073327299-7301 (US 90035) (A).

1168. The PMERP was established in early 2000. The program is administered by an entity called Research Management Group (RMG), set up in 2000 solely to manage the PMERP. RMG has never managed any other program except for the PMERP. Eisenberg TT, 11/9/04, 5631:9-24. RMG is headed by Max Eisenberg, the former executive director of CIAR.

PMERP/RMG, also founded in early 2000, is operated out of the same offices in Linthicum, Maryland, that formerly housed CIAR. PMERP/RMG employs many of the same persons who were employed by CIAR, and even uses the same phone numbers as the former CIAR. Eisenberg WD, 52:6-10, 53:10-16; Eisenberg TT, 11/15/04, 5852:10-5853:7.

1169. Eisenberg testified that he and Philip Morris established a "Research Focus" and Request for Applications for PMERP in the same way that the Research Agenda and Request for Applications were established for CIAR. Eisenberg TT, 11/9/04, 5637:16-5638:14; 2085317779-7809 (US 22200) (A). Eisenberg located peer reviewers for the PMERP in the same way he had done for CIAR; in fact, the PMERP utilized a number of former CIAR peer reviewers and grantees, as well as ETSAG project recipients, including James Enstrom, Alan Hedge, Samuel Lehnert, Roger Jenkins, and Antonio Miguel. 563815-5639:9; 2085317779-7809 at 7802 (US 22200) (A). All told, 44 out of the 105 peer-reviewers listed by PMERP in its 2000 Request for Applications were drawn from the peer reviewer list in the 1998 CIAR Request for Applications. 2085317779-7809 at 7802 (US 22200) (A); 86616778-6810 (JD-042662) (A); Eisenberg TT, 11/15/04, 5663:14-18. Moreover, 53 of the peer reviewers were former recipients of CIAR funding. Eisenberg TT, 11/15/04, 5864:3-11.

1170. Eisenberg also organized the formation of a Scientific Advisory Board (SAB), similar in structure to the CIAR SAB. The PMERP SAB was originally staffed with two former members of the CIAR SAB. Eisenberg WD, 53:22-54:3; 2085317779-7809 at 7780 (US 22200) (A). Also, researchers funded through CIAR have continued to receive funding through the PMERP. Eisenberg WD, 54:14-17.

1171. Research funded through the PMERP is very similar to that funded through CIAR. The first research topic area in the PMERP Research Agenda is "Exposure/Biomarkers/

Dosimetry," a subject that includes the very same types of work that were funded as Applied Projects by CIAR. For example, PMERP funds work investigating "area and personal monitoring," "biological monitoring with biomarkers," and exposure assessment. 2085317779-7809 at 7785 (US 22200) (A); 2082735680-5706 at 5687 (JD-043675) (A). This is the exact type of exposure work funded by CIAR through its multi-million dollar ORNL, Hazleton, Latin American, and other projects. See supra US FF § III.A(2)(g)(v)(bb). This is also the same type of work carried out by Chris Proctor and Peter Lee in their Japanese Spousal Study funded by Defendants through the IEMC. See supra US FF § III.A(2)(k)(i).

1172. The PMERP also solicits epidemiological research proposals to study risk factors and confounders in the development of cancer. 2085317779-7809 at 7786 (US 22200) (A); 2082735680-5706 at 5688 (JD-043675) (A). Once again, this subject area was the topic of numerous CIAR-funded Applied Projects - such as the Rylander and Matanowski projects - that sought to find and exploit other risk factors for lung cancer aside from secondhand smoke. See supra US FF §§ III.A.(2)(g)(v)(aa) and (bb).

1173. A Philip Morris document titled "Philip Morris External Research Program Management Report" reveals the similarities in the types of work funded by the former CIAR and the current PMERP. For example, a number of projects, by their title, relate directly to ETS and indoor air quality. 2085522647-2721at 2663, 2671, 2672, 2675, 2688, 2697, 2717, 2720 (US 25310) (A).

1174. While Eisenberg testified at trial that the SAB has funding authority over research (Eisenberg TT, 11/15/04, 5831:9-13), he later conceded that, similar to the CIAR SAB, the PMERP SAB has no authority to sign contracts with researchers or commit funds for any studies. Eisenberg TT, 11/15/04, 5861:6-5862:6.

1175. In this way, Philip Morris has established an operation that duplicates the structure and research of the now-defunct CIAR. In fact, Helmut Reif, director of Science and Technology at Philip Morris's FTR subsidiary in Switzerland, testified that the change in the research funding source from CIAR to PMERP was immaterial from his perspective. Reif PD, United States v. Philip Morris, 7/30/03, 190:11-15, 193:10-19, 194:8-195:6.

1176. Through the PMERP, Philip Morris continues to manage projects conducted by ETSAG and CIAR researchers Roger Jenkins, James Enstrom, Demetrios Moschandreas and Samuel Lehrer. PM3002997014-7258 at 7087, 7088, 7105 (JD 055034) (A). Thus, Philip Morris has brought key parts of the industry's ETS initiatives forward to today.

(iii) Other Initiatives

1177. Moreover, after entering into the MSA, Philip Morris continued its efforts to jointly fund industry research through structures that existed prior to the MSA, undertaking joint funding of external research with BATCo through Philip Morris's Scientific Research Review Committee. Reif PD, United States v. Philip Morris, 7/30/03, 70:13-71:15.

1178. As late as 2000, Philip Morris and BATCo jointly funded a project called DIANAIDS 2000. The researcher hired for DIANAIDS 2000, Kiri Syrjaenen is a long time industry consultant. 2024961742-1744 (US 22046)(A). DIANAIDS 2000 researched the human papilloma virus (HPV) as a potential cause of cancer. The focus by DIANAIDS 2000 on alternative causes to diseases caused by passive smoking is similar to the work performed by TIRC and CTR which, contrary to Defendants' public assertion that they would "aid and assistance to the research effort into all phases of tobacco use and health," constituted research that focused on mechanisms in cancers that are distant if not completely irrelevant to evaluating the risks and harms associated with smoking. The DIANAIDS 2000 project, like so many of

Defendants' passive smoking projects before, is monitored by BATCo scientist, Chris Proctor. 2505456510-6515 at 6511a-6513 (US 46058) (O); Reif PD, United States v. Philip Morris, 7/30/03, 69:5-71:23, 72:8-72:24, 76:10-77:4.

1179. Other research that has been jointly funded by Defendants continues to yield results in published literature, which is then used by Defendants to support their fraudulent public positions on ETS and overall effort to perpetuate the notion that an open question exists regarding the health effects of secondhand smoke exposure to nonsmokers. See, e.g., TLT0500029-0038 (US 65086) (A).

1180. In addition, the industry ETS Consultancy Program may still be operational. In 1998, Ted Sanders, Director of Worldwide Scientific Affairs of Philip Morris, sent Richard Carchman in Richmond, a collection of company evaluations of ETS consultants still working for Philip Morris. The document also contains a summary of how the European consultancy program was transferred from Covington & Burling to Philip Morris in 1997:

> **European Consultant Group**
>
> This program, which WSA inherited approximately one year ago, has gone through and is continuing to go through significant changes. The program, which dates back about ten years, was originally administered through C&B. Once the program was transferred to WSA, scientists took on an active role in managing the program. That role has continued to expand to the point that for the first time in the program's history, face to face contact between the three principal consultants involved in the program and WSA scientists has been initiated. The three principal consultants involved are Dr. George Leslie, Dr. John Hoskins, and Dr. Max Weetman. By the end of next week I will have CV's on each on these three individuals which will be transmitted to you. At that time I think that further discussions are necessary to determine both how best to utilize these consultants and to ensure that this can be done.

2063593931-3949 at 3946 (US 24025) (A) (emphasis in original).

1181. In addition Defendants' consultants still operate the journal International Society of the Built Environment (ISBE). In fact, consultant John Hoskins continues to serve as the editor of the ISBE journal Indoor + Built Environment. TLT0500003-0006 at 0005 (US 65083) (A). Philip Morris, Reynolds and Japan Tobacco were sharing expenses for ISBE conferences as late as 1998. 2063651094-1096 (US 75250) (A).

1182. Defendants presentation of expert evidence in this case through Edwin Bradley perpetuates Defendants' efforts to distort the scientific record, in that Dr. Bradley relied on a large number of industry-directed studies and industry consultants for his opinions. Nowhere in his written direct did Dr. Bradley divulge that the reliance materials were financed by Defendants in this case. Bradley TT, 3/15/05, 15483:11-15501:25. The following are examples of Dr. Bradley's reliance materials that are products of Defendants' ETS initiatives:

- A 1998 article titled "Critical Commentary on Views Expressed by IARC in Relation to Environmental Tobacco Smoke and Lung Cancer" by industry consultant Peter Lee and published in *Indoor + Built Environment*, the journal established by Defendants' consultant group IAI. Bradley WD, 51:23-52:11; 2063594510-4526 (US 20513) (A); TLT0500003-0006 at 0005 (US 65083) (A).

- A 2002 industry-funded paper by Lee titled "Environmental tobacco smoke and cancer of sites other than the lung in adult non-smokers." Bradley WD, 104:9-12.

- The flawed 2003 Enstrom/Kabat study funded and managed by Defendants through CIAR. Bradley WD, 101:10-21.

- A 1995 heart disease study by industry ETS consultants LeVois and Layard, a study that generated four of the five lowest point estimates in Bradley's demonstrative exhibits and meta-analysis. Bradley WD, 65:7-70:3. (JDEM 020122, 020135, 020118) (A). Dr. Samet testified that the study misuses data. Samet WD, 192:21-23 (LeVois and Layard (1995)); and Samet TT, 9/29/04, 1122:9-1127:4; 9/30/04, 1250:2-1251:8 (LeVois and Layard (1995)).

- A 1994 paper by industry consultants LeVois and Layard and funded by Defendants through the Tobacco Institute. Bradley WD, 54:3-5; (JD-023708) (A).

- The 1996 paper by Koo, Kabat, and Rylander titled "Dietary and Lifestyle Correlates with Passive Smoking in Hong Kong, Japan, Sweden, and the U.S.A."

Bradley WD, 101:3-9; (JE-022908) (A). All authors were recipients of industry funding. 2085780290-0291 (US 27867) (A) Rylander was a consultant to defendant Philip Morris since at least 1972. 2063590583-0586 at 0583 (US 85704) (A). Rylander reported to Richard Carchman on meetings with Koo and the progress made on the study. 2028366233-6234 (U.S. Ex. 22,815) (O). Koo was listed as a consultant to INBIFO at the time. 2029175611-5611 (U.S. Ex. 23,868) (O). Kabat was a member of the American Health Foundation whose founder Ernst Wynder once called himself "one of the best friends the cigaret industry has." 1000321438-1438 (US 85666) (A).

- A 1991 Tobacco Institute funded paper by industry consultants Joseph Fleiss and Alan Gross, "Meta-analysis in epidemiology, with special reference to studies of the association between exposure to environmental tobacco smoke and lung cancer: a critique." Bradley WD, 53:20-54:1, 54:6-21; (JD-025140) (A); TIDN0019217-9268 at 9220-9221 (US 85597) (A).

- A 1992 paper by industry consultant James Kilpatrick titled "Environmental tobacco smoke and lung cancer: a critique of a meta-analysis." Bradley WD, 54:1-3, 54:22-55:3 (JD-025144) (A); Kilpatrick received industry funding via the ETSAG in the 1980s (2028343885-3890 at 3887 (US 75166) (O)), was a member of Rupp's IAPAG group (TITX0025965-5968 at 5966 (US 85522) (A)) , and was a Tobacco Institute consultant into the 1990s. TIDN0019217-9268 at 9225 (US 85597) (A).

- 1994 and 1995 Congressional Research Service reports by two economic analysts. Bradley WD, 126:5-128:6, (JD-004487) (A); (JD-067670) (A). The "industry may have indirectly impacted" the analysts through a request by a member of Congress on behalf of the industry. In any event, the analysts admitted in their 1994 statement to Congress on the report: "We do not have technical expertise in the physiological and biological transmission mechanisms of disease causing agents." (no bates at 1) (JD-003086) (A). In the 1995 report, CRS analysts reviewed the evidence and did not come to any causal conclusion as to the health effects of ETS.

- A 1991 Tobacco Institute funded article by industry consultants Gio Gori and Nathan Mantel titled "Mainstream and Environmental Tobacco Smoke." Bradley WD, 98:5-8; 2022979482-9499 at 9493 (JD-047056) (A); TIDN0019217-9268 at 9221, 9227 (US 85597) (A).

(3) In Furtherance of Their Public Relations Scheme Denying the Health Effects of Smoking, Defendants Agreed Not to Compete on Health Issues and Not To Perform Certain Biological Research

(a) Introduction and Summary of Findings

1183. Defendants' conduct relating to the research, development, and marketing of potentially less hazardous cigarettes is powerful evidence of Defendants' purposeful execution of the scheme to defraud in furtherance of the objectives of the RICO Enterprise. Extensive evidence proves that Defendants identified a substantial market for a cigarette that could be marketed as less hazardous.[1] However, Defendants jointly agreed not to do anything in the marketing and development of cigarettes that would jeopardize the public relations position at the core of the scheme to defraud: the denial that cigarettes on the market were a proven cause of disease.

1184. Defendants agreed not to compete on smoking and health issues in the marketing of cigarettes. Accordingly, when a Defendant designed a cigarette – or developed a cigarette component – intended to reduce the delivery of harmful smoke constituents to the smoker, the Defendant limited the types of information that it provided to consumers in marketing such products. Defendants failed to provide information – even if they believed it to be truthful scientific information – that certain brands or types of cigarettes were likely to be less harmful than others, because such information carried the obvious implication that other cigarettes were harmful. Thus, for the first 46 years of the fraudulent scheme – during the **entire** period during

[1] For sake of efficiency and uniformity, this section will use the term "less hazardous cigarette" as shorthand to refer to a cigarette that (1) Defendants specifically conceived and designed to potentially reduce the harms to smokers from smoking by decreasing the delivered dose of toxic or carcinogenic chemicals to the smoker, and that (2) Defendants concluded accomplished that goal. This section does not concern "low tar/low nicotine" or "light" cigarettes, the design and marketing of which is discussed at US FF § III.D, infra.

which Defendants uniformly failed to publicly acknowledge the overwhelming medical and scientific consensus that smoking causes disease – no Defendant that designed and tested a cigarette specifically to reduce the smoker's exposure to harmful smoke constituents **ever** told consumers about the product's potential exposure or harm reducing benefits.

1185. After the initiation of this lawsuit, certain Defendants began to communicate more truthfully about the adverse health effects of smoking – thus eroding the justification for the agreement not to compete on clear health claims in the marketing of cigarettes. As of today, only two products – RJR's Eclipse beginning in 2000, and Liggett's Omni for a short period in 2001 – have been marketed to consumers as potentially reducing the risk of diseases caused by smoking.

1186. Defendants' conduct in this area is evidence both that Defendants' recognized internally that their marketed cigarettes cause disease, and that Defendants' intentionally and jointly restricted their business conduct in furtherance of the "open question" component of the scheme to defraud.

1187. Similarly, documents show that Defendants limited the types of scientific research they conducted, because they did not want to generate internal evidence to suggest that the companies believed there was any need to examine whether a causative link existed between smoking and disease, let alone create scientific information that demonstrated such a link. Accordingly, Defendants jointly agreed not to perform certain types of biological tests using commercially sold cigarette brands in their domestic research facilities.

(b) Summary of Defendants' Response to the United States' Evidence

1188. At trial, Defendants' response to the United States' evidence on this topic concentrated in three general areas – two of which are unsupported by evidence, the other of which does not actually counter the evidence presented. They are briefly summarized here, and

discussed in more detail infra where appropriate.

1189. Defendants' first major response was that they have in fact competed in the development and marketing of less hazardous cigarettes. In defense of their conduct in this area, Defendants collectively pointed to a half-dozen cigarettes for the entirety of the half-century of the fraudulent scheme. As shown at US FF § III.A(3)(g), infra, the evidence does not support Defendants' contention that they competed with each other on health claims for these cigarettes or in any way jeopardized their fraudulent public denials of smoking's harms.

1190. The second major response by Defendants was that their conduct in the area of less hazardous cigarette development and marketing was hindered – even precluded – by the United States Government. Defendants offered at least three variations of this complaint, each of which fails upon examination, as discussed infra: first, the United States has not "endorsed" any particular product (e.g., Reynolds's Premier) or technology (e.g., charcoal filters) or informed Defendants of a particular set of tests that Defendants must conduct to evaluate a potentially less hazardous product; second, Defendants were affirmatively prohibited from competing on smoking and health grounds by the Federal Trade Commission; and third, the United States should be blamed for Defendants' failure to develop and market potentially less hazardous cigarettes because the United States – in 1978 – decided to discontinue the Tobacco Working Group, a limited research program in which a few scientists employed by Defendants nominally participated in their individual capacities. Each of these contentions by Defendants is a post-hoc explanation for their conduct that is not supported by contemporaneous evidence.

1191. The third major response is to highlight their supposed research efforts to develop potentially less hazardous technologies and products. This response does not in any way diminish or rebut the United States' proof. It is undisputed that, internally, Defendants' scientists

did a lot of science, and that Defendants expended time, effort, and resources looking at different ways to potentially reduce the harm of cigarettes. However, when it came time to deciding what, when, and how to market a product that the scientists had developed, the record is clear that executives and lawyers repeatedly chose adherence to the fraudulent public relations and litigation position and the agreement not to compete, so as not to threaten the overriding objectives of the fraudulent scheme – profit maximizing and avoiding adverse litigation verdicts.

(c) Major Witnesses on Less Hazardous Cigarette Design, Development, and Marketing

1192. On this topic, both sides offered evidence through live witnesses.[2] The United States' primary witness was William A. Farone, Ph.D., a physical chemist who was hired by Philip Morris in 1976 to, among other things, help Philip Morris develop less hazardous cigarettes. Dr. Farone was the Director of Applied Research at Philip Morris from 1977-1984. After submitting a 182-page written direct examination, he provided extensive fact and expert testimony over three days of vigorous and aggressive cross-examination by several defense counsel. As the Court observed at the close of his testimony, Dr. Farone was "extraordinarily credentialed, knowledgeable, articulate, nondefensive, [and] nondogmatic." Farone TT, 10/12/04, 2184:9-21; see also Interim Summation TT, 11/18/04, 6516:20-6517:7 (Court noting that "Dr. Farone was a very impressive witness, and one of the reasons he was impressive was because at least I didn't view him as a total ideologue."). For example, Dr. Farone readily agreed that much of the research he personally worked on and oversaw at Philip Morris was "a good thing" because it was high quality work relevant to the development of potentially less hazardous

[2] Both sides proffered other witnesses who discussed the issue of less hazardous cigarette development or marketing in some respects; this is simply a brief section to identify each side's primary witnesses on this topic.

cigarettes. Given his position at Philip Morris, he offered credible, at times compelling testimony about Philip Morris's "state of mind" and its internal understanding of smoking and health that was fully consistent with the contemporaneous documentary evidence. As an expert, Dr. Farone's own education, training, and experience overseeing Philip Morris's less hazardous cigarette development for 8 years made him supremely qualified to decipher – from his perspective as a physical chemist – the effects of various cigarette designs on the types and levels of chemicals delivered to smokers, and to evaluate the nature and quality of all of the manufacturing Defendants' activity in this area.[3] As the Court recognized, the bottom line of Dr. Farone's testimony was that Philip Morris and the other Defendants did not do enough or go far enough to get a safer cigarette into a posture of greater consumer acceptance. See Interim Summation TT, 11/18/04, 6516:20-6517:7.

1193. Dr. Farone's testimony on Defendants' agreement not to compete on health grounds in the marketing of cigarettes and on restricting research was bolstered by the testimony of United States' expert Jeffrey Harris, M.D., Ph.D. Dr. Harris, a medical doctor and economist from M.I.T. who has published extensively on the health effects and economic impact of smoking and been an invited contributor and reviewer to several Surgeon General's Reports, reviewed thousands of Defendants' internal documents to reach his opinions in this case. Dr. Harris concluded, based on sound economic principles outlined extensively in his direct

---

[3] Prior to working for Philip Morris, Dr. Farone, who holds a Ph.D. in Physical Chemistry, had extensively studied and published on the chemistry and physics of "colloidal systems" and aerosols, including smoke, and, inter alia, had been Director of Scientific Research for Lever Bros., a job that entailed including product testing and development. See Farone WD, 2:4-2:19, 5:2-27:21. Dr. Farone was accepted as an expert in each of the four areas in which he was tendered: (1) the chemistry and biochemistry of alkaloids and addictive drugs; (2) the chemistry and physics of cigarette smoke; (3) cigarette design and technology; and (4) the chemistry and biochemistry of toxic substances and their interactions with living systems. Farone TT, 10/12/04, 2171:25-2172:8; 2182:11-2190:7.

examination, that from an economic perspective Defendants' conduct in the area of the research, development, and marketing of potentially less hazardous cigarettes was consistent with overt collusion and conspiracy based on direct communications among Defendants. Dr. Harris explained why Defendants' actions were not simply those of independent competitors acting at arms-length solely in their self interest, but rather those of actors in a collusive arrangement. See, e.g., Harris TT, 10/14/04, 2502:13-23; Harris WD, 22:22-23:14. Defendants offered no expert witness to counter Dr. Harris's central conclusions, which rested on an enormous body of material.

1194. Defendants' countered with two scientific witnesses who focused on this topic – David Townsend of Reynolds and Anthony Albino of Liggett. Dr. Townsend repeatedly overstated his qualifications and expertise and misrepresented his publication history. For example, he insisted he had been invited by the National Cancer Institute to be an expert speaker on a panel at a scientific conference on the FTC test method, when in fact he had been picked by Covington & Burling on behalf of the tobacco industry, not to be an expert panel participant, but rather to attend the conference and possibly present information to an expert panel. Compare Townsend WD, 13:5-15 with Townsend TT, 3/7/05, 14474:3-14495:10. On cross-examination, Dr. Townsend was repeatedly impeached and contradicted by his own prior testimony, by the testimony of other Reynolds's employees, and by Reynolds's own internal documents, on topics for which he professed expertise, including those related to less hazardous cigarettes. After hearing from Dr. Townsend, the Court found "problems with [Townsend's] testimony, ... [which] go to credibility and bias" generally. Townsend TT, 3/7/05, 14593:1-3.

1195. Dr. Albino's testimony concerned the successful development by Vector Tobacco – a Liggett affiliate – of Liggett's XA technology of the 1970s into the Omni cigarette sold briefly

in 2001. As described below, Dr. Albino's testimony reaffirmed Dr. Farone's conclusion that recent designs touted as potentially less hazardous by Defendants rest on long-available technologies.

(d) Defendants Made Public Statements That Linked Development & Marketing of a Potentially Less Hazardous Cigarette to Their "Open Question" Position Denying the Adverse Health Effects of Smoking

1196. Defendants made false representations to the public that they would do their best to protect the public's health, while simultaneously taking the fraudulent public and litigation position that no cigarettes had been proven unsafe. Examples of such public false or fraudulent statements include the following:

1197. In January 1954, certain Defendants published the Frank Statement – the seminal public statement (discussed at US FF § I.B(2), supra) that launched their coordinated fraudulent public relations campaign to preserve the market for cigarettes and the industry's profits. In the Frank Statement, Defendants told the American public: "We accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business. We believe the products we make are not injurious to health. We always have and always will cooperate closely with those whose task it is to safeguard the public health." 11309817-9817 (US 20277) (A).

1198. In March 1954, George Weissman, a Philip Morris Vice President, publicly reaffirmed the industry's commitment to protect the health of its customers, claiming that the cigarette industry would "stop business tomorrow" if it "had any thought or knowledge that in any way we were selling a product harmful to consumers." 2022239339-9343 (US 21766) (A).

1199. In 1964, Bowman Gray, Chairman of the Board of RJR, stated publicly on behalf of RJR, Philip Morris, B&W, Lorillard, Liggett, and American, that "[i]f it is proven that cigarettes are harmful, we want to do something about it regardless of what somebody else tells

us to do. And we would do our level best. This is just being human." (no bates at 161) (JD-002014) (A); 501935056-5071 (US 20690) (A).

1200. In 1971, Philip Morris chief executive officer Joseph Cullman III explained in a "Face the Nation" TV interview that Philip Morris was committed to removing harmful constituents from cigarette smoke:

> [T]his industry can face the future with confidence because **when, as, and if any ingredient in cigarette smoke is identified as being injurious to human health, we are confident that we can eliminate that ingredient**. We do not believe that cigarettes are hazardous; we don't accept that . . . .

1002605545-5564 at 5550, 5560 (US 35622) (A) (emphasis added).

1201. In the January 24, 1972 issue of the *Wall Street Journal*, Philip Morris Senior Vice President James Bowling declared that "[i]f our product is harmful . . . we'll stop making it. **We now know enough that we can take anything out of our product**, but we don't know what ingredients to take out." Bowling further stated that "[w]e don't know if smoking is harmful to health, and we think somebody ought to find out." 500324162-4164 at 4163 (US 20627) (A) (emphasis added).

1202. In June 1978, a Tobacco Institute Vice President, in the magazine *Business Horizons*, reflected the industry's public stance that cigarettes need not be made safer because they were already safe: "A question often asked of the tobacco industry is whether researchers are developing a ‘safe' cigarette. . . . The tobacco industry is convinced that no cigarette has been proved unsafe. Therefore, they regard any suggestion of a ‘safe' or ‘safer' cigarette as tortured logic." TIMN0074796-4800 (US 21480) (A).

1203. In 1997, Altria's Chief Executive reaffirmed his company's professed concern for smokers' health, stating in testimony that if Philip Morris ever agreed that smoking was a cause

of lung cancer, "I'd probably . . . shut [the] company down instantly to get a better hold of things." Bible PD, Florida v. American Tobacco, 8/21/97, 26:3-28:2.

1204. In each of the above statements, Defendants' stated commitment to act would have required them to accept and publicly acknowledge that their cigarettes were a proven cause of disease – an admission that would have contradicted the position at the core of their coordinated public relations campaigns and litigation defenses from 1954-2000. Farone WD, 134:3-135:17.

(e) Defendants Have Long Acknowledged Internally the Competitive and Economic Advantages from Marketing a Potentially Less Hazardous Cigarette

1205. Over the past four decades, the Cigarette Company Defendants repeatedly have recognized consumer interest in cigarettes that could be marketed as less hazardous. See Harris WD, 140:3-145. However, as shown in US FF § III.A(3)(g), infra, Defendants nonetheless chose not to market any such cigarettes – cigarettes that they designed and in fact believed to be less hazardous cigarettes – in this way.

1206. In a June 1966 report by Philip Morris researcher Myron E. Johnston, Jr., sent to top scientists Helmut Wakeham and Robert Seligman, Johnston noted: "If we could develop a . . . 'healthy' cigarette that tasted exactly like a Marlboro, delivered the nicotine of a Marlboro, and was called Marlboro, it would probably become the best selling brand." 1000338644–8671 (US 21487) (A).

1207. Similarly, in a May 25, 1966 report to Lorillard President J.E. Bennett, Alexander Spears, then Lorillard's Director of Basic Research and later its Chief Executive Officer, wrote that the development and marketing of a cigarette that yielded tar with "little or no tumorigenic response [in mouseskin painting tests], would be regarded as a highly significant development by the scientific community":

> Undoubtedly, **such a product would place the corporation in a highly enviable position, and in the writer's opinion a two or threefold increase in sales could result within a short period**. . . . On the other hand, if we fail to pursue this research and/or a competitor marketed a cigarette whose smoke condensate gave little tumorigenic response, the writer is of the opinion that a significant sales loss could result.

81577610-7625 at 7611-7612 (US 55403) (A) (emphasis added).

1208. In discussing one scientist's conception of a "safe cigarette" in its "Long Range Strategic Plan; External Forecast; 1979-1983," RJR noted internally: "If this concept received national consumer media, such as *Reader's Digest*, the dynamics of demand in the marketplace could change dramatically." 500676525-6577 at 6540 (US 22087) (A).

1209. In that same time period, Lorillard also recognized that the first cigarette company to market a less hazardous cigarette successfully would reap substantial and unilateral financial rewards. In a November 1977 letter, Benito Vila of Lorillard wrote to company marketing executive Richard E. Smith that since "I don't know of any smoker who at some point hasn't wished he didn't smoke," if Lorillard could develop an acceptable alternative method to deliver nicotine, **"I am 100% sure we would have a gigantic brand**." 01244294-4299 (US 21419) (A) (emphasis added);

1210. An undated draft memorandum titled "Notes on Group Research and Development Conference, March 1978" found in the files of S.J. Green, who served as a scientist, manager, and director of BATCo's Research and Development Department in the late 1970's, recognized that a "reduced biological activity" cigarette could be made and offered many "marketing opportunities":

> **Cigarettes of substantially reduced biological activity (SRBA) can be made by product modification and will continue to present a range of marketing opportunities**. By SRBA is meant cigarettes where epidemiology would show no greater incidence of

> disease for smokers than non-smokers. But there remains a need for credible biological tests to facilitate developments. Credibility will continually evolve but could be provided by outside independent medical and scientific advice. . . . **Defensive research will need to be provided for as far ahead as can be seen and this may well include social aspects**.

110083832-3838 at 3837-3838 (US 34964) (O) (emphasis added).

1211. Drs. Harris and Farone explained the nature of Defendants' "defensive" conduct. Dr. Harris testified that firms may maintain an inventory of modified products on their shelves, rather than introducing them into the marketplace, as a means of deterring cheating in a collusive arrangement. Harris WD, 147:28-148:8. Dr. Harris pointed to several examples of such defensive conduct in his testimony. Id., 153:15-154:18, 158:1-2; 160:7-161:6. Similarly, Dr. Farone pointed to 1000338644-8671 (US 21487) (A), wherein Myron Johnston recommended that Philip Morris "not introduce another health cigarette unless there is another health scare or additional restrictive legislation is passed." Dr. Farone testified Johnston's advice was reflective of Philip Morris's "attitude not to do anything to proactively develop and sell a potentially less hazardous product, but rather to develop and introduce such products only defensively." Farone WD, 107:23-109:2.

1212. Similarly, in a March 14, 1983 interoffice memorandum from RJR's R.A. Lloyd, Jr., Brand Manager, to Mike McKee, a Manager in the New Brands and Strategic Research Department, Lloyd commented on recent patents applied for or granted to Philip Morris and Imperial Tobacco Company:

> It is quite likely that smoking devices similar to those described in these patents or other new products perceived as ‘safer' will be introduced to the marketplace within the next few years by major tobacco companies. **The company which can introduce such products, which also supply a degree of user satisfaction which approaches that of current cigarette products, will become the dominate [sic] company in the industry almost overnight. It is**

> **reasonable to assume that the company who introduces such a product might capture as much as 25 share points in the first year if supply could keep pace with demand**.

501541129-1132 (US 21740) (A) (emphasis added); Harris WD, 140:3-143.

1213. And again in 1990, Philip Morris indicated to the Altria Board of Directors that "[w]e believe there is a potential consumer demand for a radically new smoking device that will provide a pleasurable smoking experience, address consumer concerns about health risks and social acceptability, and still be a profitable business venture." 2046741061-1074 at 1061 (US 22185) (A).

1214. B&W has stated similarly that the development and marketing of potentially reduced exposure cigarettes,

271098692-8695 at 8694 (US 22033) (O) (Confidential).

(f) Defendants Agreed Not To Compete on Health Issues in the Marketing of Potentially Less Hazardous Cigarettes

1215. Internal documents show that Defendants recognized that no cigarette company could make marketing claims about less hazardous cigarettes without implicitly or explicitly admitting that all other conventional cigarettes were hazardous. For this reason, Defendants for decades jointly maintained an agreement not to compete in the marketing of cigarettes by claiming that some cigarettes were likely to be less hazardous or "safer" than others. See, e.g., Farone WD, 134:3-135:22; Farone TT, 10/6/04, 1785:22-1786:19 (the Philip Morris scientists who discussed with Dr. Farone the agreement not to compete on health issues were "a hundred percent convinced that there was such an agreement and it related directly to the kinds of research we did . . ."); Harris WD, 187:22-197:2. This coordinated approach ensured that cigarette marketing would be consistent with, and thus an effective extension of, the core public relations position that cigarettes were not harmful to health.

1216. Even prior to issuance of the Frank Statement, in late 1953 the Presidents of three Defendants – Philip Morris, Lorillard, and American – agreed at a meeting that "their own advertising and competitive practices have been a principal factor in creating a health problem" because to that point, Defendants had made express comparative health claims in advertising. The meeting minutes stated that the Presidents "ha[d] informally talked over the problem and will try to do something about it." 2048375960-5964 at 5962 (US 85819) (A); Harris WD, 73:11-76:11.

1217. Additionally, during the December 14, 1953 meeting that included the presidents of Philip Morris, Reynolds, Lorillard, and B&W – one of the meetings that led to issuance of the Frank Statement – Reynolds's President Ed Darr stated that "he could not concur in sponsoring an industry paid advertising campaign . . . as long as the health theme continued to be featured by any one of the companies represented on the committee. . . . Mr. Peterson [of U.S. Tobacco] and Mr. Harnett [of Brown & Williamson] expressed their agreement with Mr. Darr's views in this matter." 680262226-2228 (US 88165) (A). Reynolds did, of course, participate in the joint public relations campaign – Mr. Darr was one of the signatories to the Frank Statement, 86017454-7454 (US 21418) (A) – providing further proof that the other companies agreed to Darr's demand that they all stop competing on health grounds in the cigarette marketplace. Brandt WD, 48:19-54:10; Harris WD, 73:11-76:11 75:25-83:6; Langenfeld TT, 3/10/05, 15184:3-15188:12.

1218. In September 1983 – thirty years after this "informal" discussion among industry heads not to compete on smoking and health issues in the marketing of cigarettes – this agreement remained in force. Patrick Sheehy, then Chairman of BAT Industries and former Chairman of Defendant BATCo, sent a telex and letter to Philip Morris's United States

headquarters to complain about a Philip Morris advertisement in Holland that was critical of BATCo's Barclay brand on smoking and health grounds:

> I find it incomprehensible that Philip Morris would weigh so heavily the short-term commercial advantage from deprocating a competitor's brand while weighing so lightly the long-term adverse impact from an on-going anti-smoking programme. **I believe this is the first time a Tobacco Manufacturer has purchased space to promulgate the anti-smoking position. In doing so, Philip Morris . . . makes a mockery of Industry co-operation on smoking and health issues** . . . .

2023102783 (US 36958) (A) (emphasis added); 201080394-0395 (US 78984) (A); 104576621-6624 at 6624 (US 20236) (A) (translation of advertisement); Harris WD, 187:22-197:2.[4]

1219. In October 1983, a phone call between BATCo board member Edgar A.A. Bruell and Philip Morris Chairman and Chief Executive Officer Hugh Cullman occurred to follow up on the letter and telex. The remarkable minutes recounting the conversation confirm the companies' mutual commitment to the established policy of not competing on health grounds in cigarette marketing. Cullman agreed that it was "Essential Industry hang together," and that the activity undertaken in Holland was "not PM company policy," and noted BATCo's request that Philip Morris "'instruct its No. 1's [top executives] **they must not use anti-smoking activities, statements or programmes for competitive gain**.'" BATCo's Bruell likewise emphasized that it was "[e]ssential to ensure that in future no member of the Industry does anything similar." 301030943-0944 (US 46577) (A) (emphasis added).

---

[4] While Philip Morris has complained that the matter concerned Philip Morris International, until Altria was formed in 1985 – two years after this incident – Philip Morris International was a division of Philip Morris Inc., the Defendant now known as Philip Morris USA. See Harris WD, 192:15-17; Keane WD, 3:2-4. Further, Philip Morris executives were directly involved in the matter – Sheehy sent the letter to Philip Morris Inc.'s George Weissman in New York – and the discussions about industry cooperation on smoking and health issues were worldwide in scope.

1220. Another internal memorandum from a top BATCo lawyer underscored how critical such continued cooperation among Defendants was for the entire industry. On October 3, 1983, BATCo's Alex Morini wrote that Defendants' success in civil litigation "has not been coincidental. On the contrary, it has very largely been achieved by a co-ordinated and consistently applied self-discipline on the subject of smoking and health within the Industry. **BAT believe that any breaking of ranks now can only have the most dire consequences on the future viability and profitability of the Industry as a whole**." Accordingly, Philip Morris's action in Holland "has jeopardised the credibility and long-term interests of the Industry as a whole" on the smoking and health issue. 301043570-3571 (US 93210) (A) (emphasis added).

1221. Defendants suggest that this "Holland incident" is in fact evidence of competition and conflict among Defendants, and point to the dispute in the United States at the Federal Trade Commission over B&W's advertising for Barclay. Philip Morris and Reynolds complained that the Barclay advertisements of its FTC tar yield were deceptive and misleading because Barclay's unique filter utilized air channels that vastly decreased the machine-measured tar yield; however, Barclay actually delivered much higher tar doses to smokers because smokers unavoidably crushed the air channels, thereby decreasing the amount of air mixed in with the smoke and increasing the tar delivery. Langenfeld WD, 101:23-102:8.

1222. And, as Dr. Farone testified, Philip Morris and Reynolds knew that their cigarette designs similarly yielded artificially low FTC ratings – they simply accomplished it by different design mechanisms that facilitated different forms of compensation from Barclay. Farone WD, 114:8-22.

1223. While Defendants point to this dispute as evidence of their competition, the FTC

proceeding was **secret**, and Defendants' submissions were maintained by the agency as confidential. Langenfeld TT, 310/05, 15265:15-15266:4. The Holland incident is probative because it shows that while Defendants were willing to challenge one another on smoking and health matters when their information was kept under wraps, as soon as the dispute was taken public – by Philip Morris's advertisement informing consumers of the Barclay deception – it prompted telexes, letters, and phone calls among the highest level executives to restore the public status quo – no competition among Defendants on smoking and health grounds.

1224. Similarly, in March 1988, Geoffrey Bible, then President and Chief Executive Officer of Philip Morris International (and later CEO of Altria) condemned tobacco companies publicly acknowledging the notion that smoking was harmful and that these harms could be reduced. Decrying a BATCo employee's referring to one of its products as "less harmful" in a newspaper article, Bible wrote, "The use of the words ‘less harmful' and ‘harmful components' has stunned us and I just cannot understand how tobacco companies can make such comments." 2500046188A (US 20548) (O).

(g) Defendants Adhered to the Agreement Not To Compete on Health Issues in the Marketing of Potentially Less Hazardous Cigarettes

1225. From the 1960s through the 1990s, the Defendants' actual approach to marketing cigarettes that they believed to be less hazardous than other cigarettes confirms that they intentionally avoided any contradiction with their core public relations position that smoking is not harmful. While Defendants have marketed remarkably few such less hazardous products, the approaches the different Defendants have taken in marketing these few products have been strikingly uniform.

1226. The record shows that though Defendants have known that commercial success of less hazardous products depends upon their informing consumers about their potential for harm

reduction, Defendants consistently decided against providing information to consumers because it would contradict their denial that smoking causes disease.

1227. This subsection first recounts the evidence proving Defendants' adherence to the agreement not to compete on health grounds. It then addresses Defendants' two major responses to this evidence – that they have competed, but the products have been commercial failures; and that they have not competed on health grounds in the marketing of cigarettes because they have been precluded from doing so since 1955 by the FTC.

(i) Evidence Proving Defendants' Adherence to Their Agreement Not to Compete on Health Grounds

(aa) The 1960s - Philip Morris: Saratoga Cigarette

1228. In the early 1960s, Philip Morris test marketed the Saratoga cigarette, which used a charcoal filter and which was, in its top researcher's view, "superior to anything in the marketplace" from a health standpoint. It failed, the company acknowledged, in part because Philip Morris chose not to inform consumers of what it believed to be its comparative health benefit relative to other brands.

> Two years ago, in anticipation of a health crisis to be precipitated by the Smoking and Health Report of the Surgeon General's Committee, we undertook to develop a physiologically superior product. . . . That product was known as Saratoga. Physiologically it was an outstanding cigarette. Unfortunately then **after much discussion we decided not to tell the physiological story which might have appealed to a health conscious segment of the market. The product as test marketed didn't have good 'taste' and consequently was unacceptable to the public ignorant of its physiological superiority**.

1000307159-7164 at 7159-7160 (US 20092) (A) (emphasis added); Farone WD, 164:16-165:8; Harris WD, 135:1-146:20 (presenting economic conclusions and internal documents reflecting Defendants' understanding that consumers informed about potential harm-reducing attributes of

cigarette are willing to trade off other attributes, such as taste).

(bb) The 1960s - R.J. Reynolds: Multijet Filter

1229. By the late 1960s, RJR had developed a feasible cigarette filter that, according to Reynolds's research, reduced the retention of smoke particulate matter in a smoker's lungs by 63%. Unlike the filters Defendants designed for cigarettes they marketed as "low tar" cigarettes, the "multijet" filter limited one form of smoker compensation – puffing harder on cigarettes to obtain more nicotine – and yielded tar and nicotine deliveries to human smokers that closely matched their FTC machine-measured yields. The multijet filter accomplished this by increasing its efficiency as flow rate increased – that is, the harder a smoker puffed on the cigarette, the less material passed through to the smoker. Farone WD, 133:13-134:1. See 514901941-1966 at 1941 (US 30086) (A); 504210090-0091 (US 29749) (A); see also Townsend TT, 3/8/05, 14790:25-14800:1, 14801:17-14803:9. Reynolds's expert witness David Townsend admitted that these findings were obtained using separate scientific testing methods, and thus strengthened the significance and validity of these results. See Townsend TT, 3/8/05, 14803:15-14804:11. Unlike other products offered by Reynolds and other Defendants, a cigarette with the multijet filter had the advantage of providing a smoker essentially the same tar dose as the FTC-reported yields.

1230. As early as 1971, RJR had a multijet filter product that both had a "satisfactory taste" and retained "considerably less" tar in the smoker's lungs and work had "progressed to the point where a complete cigarette design . . . [was] feasible and makable." 512279835-9836 at 9835 (US 30037) (A). Indeed, the company found that this prototype compared favorably to an existing Reynolds brand on the market, Vantage, which Townsend admitted was commercially feasible at the time. 512279835-9836 at 9835 (US 30037) (A); see also Townsend TT, 3/8/05,

14810:2-21. Townsend did not and could not present any documents indicating that the multijet filter was not commercially viable. Id., 14809:18-14810:1.

1231. In fact, the same document notes that the marketing department "had reservations" about selling it because Reynolds's marketers expressed "concern that **the utilization [in marketing] of the retention story, scientifically endorsed, may jeopardize the rest of the Company's cigarette business**." 512279835-9836 (US 30037) (A) (emphasis added).

1232. Reynolds never incorporated the multijet filter into marketed products. In fact, RJR revived the idea in the 1990s, again recognizing its potential ability to modify the particle size of the smoke aerosol delivered to smokers, but again did not develop the filter for use in any commercialized product. 510926982-6983 (US 87554) (A); 510827052-7068 (US 87555) (A).

1233. In his direct examination, Townsend insisted that the multijet filter did not prevent compensation and that "it didn't really [work]," in part because of clogging problems. Townsend TT, 3/7/05, 14593:1-3, 14412:16-14413:23. However, Townsend's testimony was undermined by documents showing that Reynolds believed the multijet did work – 504210090-0092 (US 29749) (A) and 514901941-1966 (US 30086) (A) – documents that Townsend had not reviewed or identified in reaching his opinions. See Townsend TT, 3/8/05, 14790:5-24, 14798:17-14799:3. Despite saying that he had "pulled every document I could find on Multijet," Townsend did not offer a single piece of contemporaneous documentary evidence to corroborate his testimony that multijet had clogging problems. Id., 14804:15-14808:4.

(cc) The 1970s - Brown & Williamson: FACT cigarette

1234. In the mid-1970s, B&W internally acknowledged a "scientific consensus on alleged ill effects of smoking" that included harm from constituents in the gas phase of cigarette smoke, including carbon monoxide ("artherosclerosis, permeable arteries, displacement of

oxygen in blood"), nitrogen oxide ("obstructive pulmonary disease, emphysema"), and hydrogen cyanide ("cilatoxic"). It thus developed FACT, which the company touted as a "low gas" cigarette to compete with low tar products. B&W perceived this sort of product as a potential vehicle not only to appeal to the "health-conscious" smoker, but as a method of slowing the incidence of quitting, and also as a way to address people's burgeoning concerns about environmental tobacco smoke:

> The gas reduction segment is expected to emerge in the next 1-2 years. The low gas segment is also seen as a means to eventually stem the decline in smoking incidence through positive statements to smoking consumers and passive smokers alike.

777076768-6792 at 6773, 6790 (US 54623) (O).

1235. While B&W believed that FACT presented a potential health benefit, it also believed that there were several impediments to offering "health reassurance via a new method" and, thereby, developing a successful marketing campaign for FACT. 777076768-6792 at 6768 (US 54623) (O). B&W recognized that this technology offered "the opportunity to make positive health statements to active and passive smokers alike," it was concerned about alerting smokers to another potential health threat from cigarettes. 777076768-6792 at 6768 (US 54623) (O). Accordingly, B&W rejected a proposed marketing campaign that would have informed consumers that gas from cigarette smoke was a health hazard, and an effective campaign would both educate them of as much, and show how FACT responds to that hazard. Indeed, B&W concluded that Liggett's and Lorillard's prior low gas products had failed in part because of "an inability of the positioning to communicate . . . distinct health hazards arising from cigarette gases." 777076768-6792 at 6771 (US 54623) (O); see also 681879254-9715 at 9293 (US 21020) (A). Nevertheless, a B&W Brand Manager stated explicitly in a memorandum to, among others, the Vice President of Brand Management: "We do not support definition in advertising of the

problem of gas in order to specifically communicate its consumer benefit and distinguish it from low ‘tar'. **To supply such definition would require overt references to the alleged ciliatoxic and cardiovascular ill effects of smoking**. **The possible ramifications of this in the Legal, Regulatory, and Policy area are appalling**." 667059296-9299 at 9297 (US 69068) (O) (emphasis added).

(dd) The 1970s - Liggett: Project XA

1236. By the early 1970s, Liggett had developed a new cigarette product, known as "XA," that internal research led it to conclude was less hazardous to smokers. Liggett viewed the XA cigarette as the means for its long-term survival as a cigarette manufacturer. According to sworn testimony of John Bowen Ross, an in-house lawyer, Liggett saw XA as a way to increase its market share, which had fallen to around 5%, by attracting smokers who desired a cigarette that was potentially less harmful than the cigarette they had been smoking. Ross PD, Washington v. American Tobacco, 10/22/98, 97:1-98:25; Harris WD, 174:13-175:2.

1237. Internally, Joe Greer voiced concerns about proceeding with the XA project. Greer was concerned that development of the XA would cast doubt on the "party line," which maintained that smoking was not harmful to health. Id., 37:6-38:18. These "concerns" about the development and marketing of the XA seriously frustrated the scientists who believed that they had developed a potentially less hazardous product. Mold PD, Cipollone v. Liggett, 12/13/85, 360:21- 362:15 (having overseen the XA project and spent "20, 25 years with a significant effort, something like twenty million dollars, working on something that the company has engaged you to do, you're successful at it, successful where no one else in the world has been successful, in other words, this is not just your run of the mill development, and now you're told one reason after another why you can't market this product or can't even publish [what] you have developed.

. . how many people that you know wouldn't be frustrated and annoyed?").

1238. The XA product utilized palladium as a catalyst to alter the chemical reactions occurring in a burning cigarette, thus modifying the composition of cigarette smoke. LATH00312201-2202 (US 22149) (A); Albino TT, 3/29/05, 17099:11-19, 17106:23-17107:1. By 1972, researchers at Liggett had determined that the smoke from XA cigarettes contained lower concentrations of polycyclic aromatic hydrocarbons ("PAHs"), some of the most harmful constituents in cigarette smoke. 681879254-9715 at 9485 (US 21020) (A); LATH00312201-2202 (US 22149) (A); Harris WD, 174:9-175:2; Albino TT, 3/29/05, 17096:7-16 ("Public health authorities had, for a long time, identified PAHs as a class of carcinogens in cigarette smoke that were closely associated with lung cancer risks."); Mold PD, Cipollone v. Liggett, 12/13/85, 360:21-364:22. By 1976, Liggett researchers had concluded, using the widely accepted, standard mouseskin-painting model, that the smoke condensate from XA cigarettes reduced overall tumors in mice by 85-88%, and cancerous tumors by 77-100%. Harris WD, 174:13-175:2; LG 2013584–3587 (US 21208) (A); LG166090–6102 at 6101 (US 21195) (A) (Figure 2); Meyer PT, Washington v. American Tobacco, 11/10/98, 5441:14-5443:2; Mold PD, Cipollone v. Liggett, 11/25/85, 100:2-105:15. Liggett also performed animal inhalation studies and chemical analyses that showed that the addition of palladium did not adversely affect the test animals or create threatening byproducts. Id., 104:17-105:15 (skin painting and inhalation studies "demonstrated that we had, in fact, eliminated the animal carcinogenicity"); 681879254-9715 at 9487 (US 21020) (A).

1239. In preparing to market the XA cigarette in the late 1970s, Liggett, like the other Defendants, strictly refused to inform consumers about XA's primary design feature and what Liggett concluded was its potential harm reduction benefit for the smoker. Liggett originally

wanted to develop a marketing campaign simultaneously conveying the benefits of XA (tentatively to be marketed as the "Epic" brand) while not making any express health claims about the product, because Liggett feared retribution from other Defendants in light of agreements to coordinate smoking and health research through CTR (which Liggett had not done with XA). Meyer PT, Washington v. American Tobacco, 11/10/98, 5471:25-5475:16, 5505:13-5508:10, 5508:18-5510:20, 5511:4-5518:13.

1240. Liggett's unwillingness to break from Defendants' joint agreement not to state explicitly or implicitly that any cigarettes were safer than any others was evident in a meeting it had with White House officials about XA. Lawrence Meyer, Liggett's outside counsel during this period, testified that the purpose of the White House meeting was "to let them know that the [XA] project was coming." Liggett perceived that the White House meeting "was positive" and "[t]hey were encouraged until such time as almost immediately, someone from the Tobacco Institute called and – and essentially asked . . . [Liggett counsel] Joe [Greer] and some of the others what the hell they were doing." Meyer PD, Washington v. American Tobacco, 9/8/98, 109:7-111:1.

1241. Liggett did not market XA. Albino TT, 3/29/05, 17103:9-11. Explaining this decision, Liggett's President K.V. Dey testified that the goal of the research, on which the company spent twelve years and millions of dollars, was for the purpose of producing a test cigarette yielding smoke condensate less tumorigenic to mouseskin, not to create a cigarette less hazardous to humans. Liggett considered the results irrelevant to the possible effects of smoking on humans, and continued to deny any link between smoking and cancer in humans. Dey PD, Cipollone v. Liggett, 4/19/84, 216:23-217:24, 218:5-219:16, 219:23-221:16; see also 681879254-9715 at 9505-9506 (US 21020) (A); Harris WD, 175:3-8 (after deciding not to

pursue XA in early 1980s, Liggett did not market any product utilizing that feasible technology for another 17 years); Mold PD, Cipollone v. Liggett, 12/13/85, 374:13-376:10 (Liggett's position mirrored that of the rest of the industry, "that epidemiology means nothing, painting on a mouse skin back means nothing, it can't be translated to man, and as far as publishing data regarding the constituents of smoke that were carcinogenic, I don't suppose anybody ever explained to me in so many words why they didn't publish it, but it was pretty obvious that they didn't feel that would be helpful" to their public position on cigarette smoking and health.)

1242. According to Liggett President Kinsley Dey, pressure and threats from Philip Morris not to market XA in the United States contributed to Liggett's decision not to market this cigarette. Mold PD, Cipollone v. Liggett, 11/26/85, 191:17-193:18.

1243. Lawrence Meyer, former antitrust counsel to Liggett, testified that B&W threatened Liggett's "very existence" if it marketed the XA cigarette, including freezing Liggett out of joint defense agreements, and perhaps excluding Liggett from the Tobacco Institute as well. This instruction, delivered through Ernest Pepples, B&W's representative on the Tobacco Institute's Committee of Counsel, was based on B&W's fear that selling XA would be an admission against the interest of all Cigarette Company Defendants. John Bowen Ross occasionally accompanied Greer on trips to meet with Ernie Pepples. In 1981, Pepples told Ross: "I hope you're not going to do anything with that damned [XA] project." 524007145-7151 at 7148-7149 (US 20917) (O); Meyer PT, Washington v. American Tobacco, 11/10/98, 5511:4-5518:13.

1244. Liggett feared that, given the view of the XA project by the other Cigarette Company Defendants, if it decided to terminate the XA project, it would appear that Liggett was responding to threats to terminate the project, and could be viewed implicitly or explicitly as an

agreement to restrain technology. Id., 5519-5526; Ross PD, Washington v. American Tobacco, 10/22/98, 82:11-89:17. Caught in a dilemma between violating the agreement not to compete on health claims and their perceived risk of antitrust allegations, Liggett chose to honor Defendants' fraudulent conspiracy by eliminating XA.

1245. RJR recognized that XA was a feasible less hazardous cigarette. In an internal defense memorandum prepared in approximately 1985, RJR (through its counsel) concluded that a non-carcinogenic cigarette could be made, noting with regard to Liggett's XA product: "Liggett abandoned it eventually, but only **after** it had come to a **successful** conclusion." RJR admitted it has made no effort to emulate the XA or otherwise to make a non-carcinogenic cigarette notwithstanding the expiration of Liggett's patent on the technology. RJR is well aware that it could market such a technology: "[XA] suggests that 'safer cigarette' technology has been available and in the tobacco industry's patented possession for the last 20 years . . . and still, no safer cigarette." 681879254-9715 at 9296, 9482 (US 21020) (A) (emphasis in original).

1246. After extensive review of the evidence concerning Liggett's development and ultimate decision not to commercialize its XA technology in the late 1970s, Dr. Harris, the United States' expert economist, testified that the "facts support the conclusion that, as a result of credible threats, Liggett withdrew its XA projects, and the collusive arrangement among cigarette manufacturers once again stayed intact." Harris WD, 185:12-17; see generally id., 176:3-185:17.

1247. XA remained an ignored technology at Liggett for nearly two decades. In the early 1990s, John Bunch, then a Liggett scientist and researcher, first learned of the XA technology. With little intervening advance in the technology, shortly following the creation of Liggett's affiliate Vector Tobacco in the late 1990, Drs. Bereman and Albino turned the XA technology into the Omni product in less than one year, and to get the product to market.

Bereman PD, United States v. Philip Morris, 4/23/02, 17:24-19:23, 20:9-21:8; Albino TT, 3/29/05, 17117:5-12 & 20-22, 17118:7-11; Bunch PD, United States v. Philip Morris, 5/22/02, 82:25-88:25, 116:15-120:20.

(ee) The 1980s - R.J. Reynolds: Premier Cigarette

1248. From the mid 1980s to 2000, RJR developed and test marketed three different products that were designed primarily – and RJR believed successfully – to reduce the delivery of harmful smoke constituents. The company test-marketed each of these products – Premier, Winston EW/Select, and Eclipse – in conformity with Defendants' joint agreement not to compete on health claims in the marketing of cigarettes, and with knowledge that adhering to the agreement prevented RJR from providing consumers with the information it knew was important to boost chances for commercial success.

1249. Dating back to as early as 1957, RJR was aware that researchers in the greater scientific community had recommended reducing the burning temperature of cigarettes to minimize the formation of harmful constituents such as polycyclic aromatic hydrocarbons (a family of compounds that include benzoapyrene). 507349165-507349287 at 9180 (JD-041934) (A); see also US FF § III.A(3)(j), infra (discussions of BATCo's Ariel and Philip Morris's nicotine aerosol research). But it was not until the mid-1980s that RJR developed a cigarette utilizing this design approach. The cigarette, eventually given the name Premier, was specifically designed to reduce the delivery of toxic cigarette smoke constituents by reducing the temperature of the burning cigarette. See, e.g., Townsend TT, 3/8/05, 14727:4-18; Burger PD, Arch v. American Tobacco, 8/21/97, 234:15-18; deBethizy PD, Hoskins v. Reynolds, 9/25/97, 47:16-48:19, 169:15-171:5 (Premier was "in a class of products that we were studying to try to address the risks associated with our product.").

1250. RJR conducted substantial research that led it to conclude that Premier accomplished its objective of decreasing delivery of many known harmful smoke constituents. See Townsend WD, 128:21-135:5 (discussing, in part, 507141075-1460 (JD-060325) (A)); Townsend TT, 3/8/05, 14727:15-18, 14813:16-14814:5; Burger PD, United States v. Philip Morris, 7/26/01, 71:4-74:16; Burger PD, Arch v. American Tobacco, 8/21/97, 234:15-18.

1251. Despite the internal belief about the harm-reducing potential of Premier, Reynolds never marketed Premier with clear health-related messages. Juchatz TT, 11/22/04, 6682:15-20. Reynolds's marketing of Premier was intentionally structured not to run afoul of Defendants' agreement not to compete on health grounds.

1252. Years before Premier was test-marketed in 1988, Reynolds's management and counsel, as well as counsel for other Defendants, had determined that Premier would not be publicly associated with the idea of risk reduction.

1253. Reynolds's approach to Premier started to take shape as early as 1982, when newly appointed Research & Development Department Director Dr. Robert DiMarco indicated, during his "Law Department orientation," that the consensus in the scientific community was that smoking caused disease and that it was his responsibility to make a cigarette with reduced mutagenicity – a cigarette less likely to cause the cellular changes that can lead to cancer. DiMarco's perspective alarmed the company and the industry. See generally 505741150-1153 (US 23009) (A); 505741141-1142 (US 20746) (A); 505741143-1147 (US 20747) (A); 505745988-5992 (US 20748) (A). Reynolds's chief counsel at the time, Sam Witt, stated that outside industry lawyers Ed Jacob and Tim Finnegan of Jacob, Medinger and Finnegan felt that it could be "devastating" if Dr. DiMarco, "as the company's chief scientist," were to testify about causation and take a position contrary to that of the industry. See Juchatz TT, 11/22/04, 6672:4-

6675:7 (discussing, in part, 505741143-1147 (US 20747) (A)), 6684:2-6686:15 (confirming that Witt authored US 20747).

1254. Therefore, as Reynolds lawyer Wayne W. Juchatz confirmed in his trial testimony, lawyers and management imposed specific conditions on DiMarco in exchange for permission to go forward with the development of Premier (and for keeping his job). First, DiMarco had to suppress or change his view that state-of-the-art scientific knowledge showed smoking caused disease, and that therefore the company's litigation defenses were obsolete and the industry's litigation "experts" who testified to the contrary lacked integrity and credibility. Second, any "less hazardous" product developed by DiMarco was not to have the term "safer" associated with it because it implied that Reynolds's existing products were unsafe – an admission that could be used against the company in litigation. And third, he was not to otherwise conduct research that, if subpoenaed, might jeopardize the company's legal defenses, might prove embarrassing for the company, or otherwise would be "hard to handle" for the company. Juchatz TT, 11/18/04, 6585:14-6587:5 (discussing 505741150-1153 (US 23009) (A)); 505741141-1142 (US 20746) (A); 505741143-1147 (US 20747) (A); 505745988-5992 (US 20748) (A)); see also Juchatz TT, 11/18/04, 6590:19-6591:16 (Reynolds Law Department "reach[ing] an understanding . . . to work with him [DiMarco] in an effort to devise a way in which he could do what he wanted without creating any serious legal problems"); id., 6592:23-6593:21, 6594:25-6596:8 ("The objectives of the Law Department were to allow him to do what he wanted to do, but minimize the risk."); id., 6598:20-6599:19, 6601:14-6605:21 (Juchatz could offer no substantive response to the Court's question: "Why in the world would he [DiMarco] have said things like that to you which impugn the integrity of his whole profession if he didn't believe it?"); id., 6609:6-6611:22 (outside lawyers thought DiMarco should be fired if he did not

come around); id., 6615:19-6617:9 (outside industry counsel Jacob and Finnegan expressed concern to RJR about DiMarco admitting causation). This, DiMarco understood, was the compromise position available to him in the face of threats (from, among others, Reynolds executives Ed Horrigan and Gerald Long, and outside counsel Ed Jacob) that otherwise he would be prohibited from developing this product. Id., 6583:19-6585:18, 6662:4-6669:12. Indeed, they went so far as to force DiMarco to adopt a "mission statement" they had drafted which ran contrary to the scientific views he had expressed to lawyers internally, and required him to have all his procedures reviewed by the Law Department. Id., 6619:9-6624:6 (discussing US 20746 & US 20747), 6668:6-6669:12, 6674:19-6675:8.[5]

1255. Consistent with this unrefuted evidence of the close monitoring by executives and lawyers of DiMarco's less hazardous cigarette development from its inception, when Premier was ready to come to market, RJR adhered to its longstanding agreement with Defendants rather than directly informing consumers of Premier's potential health-related benefits.

1256. In the fall of 1987, Reynolds sent Peter Hutt, a Covington & Burling lawyer who had previously served as Chief Counsel of the United States Food and Drug Administration ("FDA"), to meet with representatives of FDA and other government health officials. According to meeting minutes, Hutt refused to discuss "safety issues" with the FDA because the "tobacco industry" maintained that "**conventional cigarettes are not unsafe, and that it would never reverse this position**." He made clear that RJR would not "promote or label . . . [Premier] as safer than conventional cigarettes . . . [because] **such a claim would be an indictment of the tobacco industry and its long standing position that conventional cigarettes are not unsafe** .

[5] While Defendants told the Court that they intended to produce Dr. DiMarco to explain these events, and he was on the defense witness list (see Juchatz TT, 11/18/04, 6618:21-6619:8), Defendants did not call Dr. DiMarco.

. . nor did RJR have any intention of jeopardizing the industry's long standing position ." HHS0880359-0364 at 0361 (US 85828) (A) (emphasis added); see also Farone TT, 10/12/04, 2104-2106 (Dr. Farone testifies that Hutt's statements at this 1987 meeting are "totally consistent" with his opinions about Defendants' agreement not to compete on health grounds in cigarette marketing).

1257. Reynolds's views on this were corroborated by a letter written by Hutt that commented on a separate September 1987 meeting he had about Premier with the Director of the Centers for Disease Control's Office on Smoking and Health. Mr. Hutt wrote: "[Y]ou asked whether Reynolds agreed that cigarettes caused the health problems I had mentioned. I responded that they did not[;]" and "I again responded that Reynolds did not agree that the current cigarette is unsafe and would not contend that the new cigarette is safer or safe." 506147781-7783 (US 93089) (A).

1258. And in testimony in this case, RJR's Chief Executive Officer during its test-marketing of Premier, Gerald Long, confirmed RJR's commitment to protect Defendants' position that cigarettes are not harmful. Long testified that RJR carefully selected its marketing strategy to avoid any implication that conventional cigarettes posed a health threat:

> **[O]ne of the guidelines that we had right from the beginning [of putting together the marketing strategy was] that Premier could not be and would not be marketed as a safer cigarette because of the implications on the tremendous business that we had at hand already**. . . .
>
> **[I]f we had come out and stated here you have Premier, the safer cigarette or the safest cigarette or anything indicating to that, the implication would have come back on our own products and our competitive products in the industry which we were aware of that would have stated that they were not safe products, and since our position was that we were marketing, the industry and – ourselves and the industry were selling and marketing safe cigarettes, then we couldn't say in**

> **one of our brands that we were coming out with something that was safe, while all the rest was not safe**. . . .
>
> The negative implications, I think, are quite obvious, that **if we came out very strongly with a product, presuming that the product could deliver and it was the product that was in our opinion and the research showed it to be some kind of a – some kind of a product that was considered to be safer than any of the conventional cigarettes on the marketplace, it would have had a substantially negative effect on the rest of the tobacco industry**, and we felt we weren't ready to take on that obligation. . . . What kind of negative effects? It would have turned around and said to people, well, the tobacco companies are publicly admitting we do not market safe cigarettes.

Long PD, United States v. Philip Morris, 10/18/01, 86:3-90:25 (emphasis added).

1259. Reynolds test-marketed Premier from October 1988 to February 1989. Townsend TT, 3/8/05, 14813:23-14814:2. During that time period, Reynolds continued to deny that smoking caused cancer, emphysema, or heart disease. Id., 14814:6-15. For example, Reynolds wrote to the widow of one former smoker, "We firmly believe that cigarettes have been unfairly blamed as a cause of human disease." 515792869-2869 (US 20869) (A). And it made more broad public statements that "RJR disagrees with the view expressed in the Surgeon General's Report that cigarette smoking has been scientifically established to cause cancer." 507605620-5639 at 5620 (US 20781) (A). Thus, during this time period Reynolds in fact continued to tell the public there was no need for a potentially "safer" cigarette.

1260. Reynolds's attempts to explain its conduct concerning Premier are post hoc explanations without support in the record. For example, Dr. Townsend's denial that Reynolds's public relations position influenced its approach to marketing Premier was wholly undermined by the two Hutt documents and former CEO Long's sworn testimony, all of which expressly articulate RJR's reasoning. See Townsend TT, 3/8/05, 14820:8-14826:4. Rather, Dr. Townsend's strained explanation – 18 years after the fact – was that Hutt, a sophisticated lawyer

hired by Reynolds specifically to meet with high level government officials on this very issue, was out of step with his client. Id., 14826:8-19.

1261. Similarly, Reynolds's other response to explain why it did not make clear health-related statements is that such claims were impossible because "the government has defined no objective criteria or standards by which to demonstrate whether one cigarette is safer than another[; n]or is there a scientific consensus on what objective criteria or standards can be used." Townsend WD, 28:21-29:3. Neither Reynolds nor any other Defendant offered evidence that it is the United States' responsibility – legal or otherwise – to provide Defendants with an official set of standards or tests by which to evaluate their products for potential advertising claims, or that it would be scientifically appropriate to do so. In fact, as Dr. Harris confirmed during his redirect examination, it would be scientifically inappropriate to require a single battery of tests, because "the tests would have to be tailor-made" to address the differing scientific problems raised by particular products and designs. Harris TT, 10/21/04, 3286:9-3291:10. Second, it ignores Defendants' awareness of the range of available tests already available to assist in their assessment of cigarettes they design to be less hazardous. See 87633619-3626 (US 56267) (O) (Lorillard document identifying established biological tests for product evaluation). In any event, Reynolds's explanation is entirely inconsistent with its own subsequent conduct with Eclipse. Even though the United States has not issued any such "objective criteria or standards" for less hazardous cigarettes, Reynolds began making explicit health claims for Eclipse in 2000 based on a testing regimen it concluded supported such claims. Townsend WD, 148:8-18.

1262. At trial, Reynolds also offered two reasons why Premier failed in the marketplace. Premier's failure in the marketplace, whatever the reason, is **irrelevant** because it simply does not bear on, let alone counter, the United States' reason for proffering evidence on Premier – as

proof of Reynolds's intentional conduct to restrict their business conduct to protect and maintain consistency with Defendants' fraudulent denial of smoking's harms. Nevertheless, the United States briefly explains these responses by Reynolds.

1263. Reynolds contended that Premier failed because of "widespread condemnation by the public and public health community" – pointing to documents showing that public health representatives had urged the FDA to exercise jurisdiction over the product. But the evidence Reynolds presents belies this contention. The first two such documents urging jurisdiction were from the American Medical Association in April 1988 and from Surgeon General Koop in September 1988 – i.e., each coming before Premier was ever test-marketed; therefore they certainly did not stop Reynolds from going forward with the test market, let alone stop the test marketing prematurely. See HHS 0151020-1021 (JD-001592) (A). Contrary to and impeaching his trial testimony, Dr. Townsend was forced to admit that in 2002 – two years before this trial began – he had testified that Reynolds had not taken Premier off the market to avoid FDA jurisdiction. Townsend TT, 3/8/05, 14831:24-14834:3.[6]

1264. Reynolds's second response was that Premier failed because the product had flawed attributes, including its taste and the fact that it did not burn down. Townsend WD, 140:18-141:8. Reynolds denied that its failure to directly inform consumers of what Reynolds had concluded internally – that Premier actually reduced the harms from smoking – affected Premier's reception in the test marketplace. Contrary to Dr. Townsend's testimony, but consistent with the weight of the evidence in the record, Reynolds was well aware that its refusal to give

[6] In fact, there is evidence in the record that suggests that even at the time Reynolds was not particularly concerned about FDA regulation, because it had received information indicating that certain FDA officials were not interested in regulating Premier. Townsend TT, 3/8/05, 14835:4-14837:6 (discussing Burger PD, United States v. Philip Morris, 7/26/01, 128:8-21, 129:16-130:1).

consumers even the opportunity to weigh all of the product's attributes, by failing to provide clear information about Premier's reduced delivery of disease-causing smoke constituents, contributed to its performance in the test market. See Harris WD, 135:1-146:20.

1265. As David Iauco, RJR's head of business development, told the *Philadelphia Inquirer* in December 1997 (concerning RJR's Eclipse cigarette), "No smoker is going to switch to a lower-risk product unless they know of a benefit and believe it. There will be trade-offs and adjustments, things that the smoker will have to give up." 525413253-3262 at 3259 (US 87556) (O).

1266. RJR's marketing of Premier focused not on its potential health benefits, but instead on its purported cleanliness and courtesy benefits. See, e.g., Juchatz TT,11/22/04, 6682:15-19. The implausible explanation that RJR offered to the Court was that it spent the better part of one billion dollars, Townsend WD, 143:7-11, to make a cigarette that it could sell as a reduced odor, reduced ETS, "cleaner smoke." Townsend TT, 3/8/05, 14817:13-17. In fact, the CEO at the time, Gerald Long, confirmed that these themes for marketing Premier "failed because we couldn't say what we wanted to say [i.e., that Premier was a safer cigarette]" because of Reynolds's commitment to Defendants' public position on causation. Long PD, United States v. Philip Morris, 10/18/01, 86:7-88:2.

1267. Reynolds stuck with its non-controversial advertising plan even though it had learned through testing ad campaigns that "the claim ‘smoke-free' didn't mean anything" to consumers. Id., 87:5-7. Likewise, Reynolds's marketing executives concluded that "most [smokers] did not realize that the product had other [than low ETS] unique attributes (i.e., ... reduction in alleged controversial compounds) . . . As a result, many smokers who tried the product were not adequately prepared for its unique properties." 507543977-4004 at 3986 (US

85829) (O); see also deBethizy PD, United States v. Philip Morris, 4/17/02, 122:6-8 (Premier's "taste was dramatically different and people were unprepared for it").

1268. Philip Morris reached similar conclusions about Reynolds's marketing approach to Premier. Philip Morris hired consultants to evaluate Reynolds's marketing of Premier and found it to suffer from exactly the problem Reynolds's executive Iauco articulated: Premier's advertising was "ineffective in communicating a relative advantage over the smoker's current brand." 2022259027-9061 at 9027 (US 20363) (A); see also Farone TT, 10/7/04, 1818:10-1819:4, 2107:4-2108:3 (Farone testifies that Premier print advertisement was "fuzzy" because it didn't compare Premier to other marketed products such as Winston or Marlboro, did not inform consumers that the "compounds" are actually factors that cause disease or that there are carcinogens, and did not identify any chemicals in particular that might be harmful that were reduced by Premier.)

(ff) The 1990s - R.J. Reynolds: Eclipse Cigarette

1269. After abruptly ending Premier's test marketing after six months in 1989, RJR shifted its focus to development of another cigarette that reduced the burning temperature of the cigarette to reduce the formation and delivery of harmful constituents. Reynolds first test-marketed this product – Eclipse – seven years later, in 1996. And beginning in April 2000, Reynolds began marketing Eclipse with a claim that it may present less risk of lung cancer, chronic bronchitis, and emphysema. Townsend WD, 143:13-144:3, 148:7-11, 152:5-8.

1270. Reynolds pronounces that it competes with the other Defendant Cigarette Companies "based on the potential health benefits of Eclipse" and that Reynolds's marketing of this single product counters the wealth of evidence proving Defendants' agreement not to compete on health claims. Id., 153:4-13. However, the reality is that Defendants' conspiratorial

agreement not to compete on health claims continues and has influenced Reynolds's decisions on how to approach its products that it believes may reduce smoking's adverse effects. The evolution of Eclipse's these claims – in terms of timing and content – is a product of this conspiracy; the type of cigarettes with which Reynolds chooses to "compete" is a product of this conspiracy; and the true, limited target population for Eclipse is a product of this conspiracy.

1271. **Timing & Content of Eclipse Marketing** – From the beginning of its development in the early 1990s, Reynolds's primary internal goal and design criteria for Eclipse was risk reduction. Doolittle PD, United States v. Philip Morris, 5/10/02, 202:4-7; deBethizy PD, United States v. Philip Morris, 4/17/02, 56:8-11. By the time Reynolds first test marketed Eclipse in 1996, it already had concluded that it had met that primary design goal. deBethizy PD, Hoskins v. Reynolds, 9/25/97, 169:15-171:15. Yet at that time, no Defendants had ever acknowledged that any marketed cigarettes caused disease, and thus pursuant to Defendants' longstanding agreement had not marketed one cigarette as potentially less hazardous than another. So for the first four years of the Eclipse test-market, from 1996 to 2000, RJR marketed Eclipse in the same way it had marketed Premier: as a "cleaner" cigarette due to its producing very low levels of secondhand smoke, which Reynolds contends poses no health risk to humans, but is just an irritant. deBethizy PD, United States v. Philip Morris, 4/17/02, 56:8-11; 60:3-61:2; 61:22-63:11; 65:2-5; Doolittle PD, United States v. Philip Morris, 5/10/02, 202:18-23. Secondhand smoke reduction never was a design criteria or otherwise a goal in developing Eclipse. Id., 155:23-156:25, 157:7-160:1, 202:12-203:15, 272:19-273:4.

1272. In the late 1990s, certain Defendants began to make more truthful public statements about smoking's role in causing disease, thereby undermining Defendants' 45 years of lockstep uniformity denying that smoking is a proven cause of disease. For example, in October

1999, Altria and Philip Morris launched corporate websites stating, "There is an overwhelming medical and scientific consensus that cigarette smoking causes lung cancer, heart disease, emphysema, and other serious diseases in smokers." 2085240087-0089 at 0087 (US 45673) (A); (no bates) (JD-046719) (A); Keane TT, 1/19/05, 10555:22-10556:7; Parish TT, 1/27/05,11359:7-11360:1.

1273. Thereafter, in April 2000 – six months after the United States filed the Complaint in this case – RJR announced that it was beginning a new test market of the Eclipse cigarette with the marketing claim that Eclipse may present less risk of certain smoking related illnesses "compared to other cigarettes." Even without government-formulated and endorsed standards (the absence of which Defendants claim accounts for their failure to make clear health-related claims), Reynolds advertised that Eclipse may pose less risk for lung cancer, chronic bronchitis, and emphysema. Townsend WD, 143:13-144:3; 152:1-8. Today, in 2005, Reynolds says Eclipse "may present less risk of cancer associated with smoking." JD-068012 (A).

1274. While RJR did make some changes to Eclipse by 2000 compared to the initial release in 1996, none of the changes had to do with reducing health risks. Rather, Reynolds attributes the delay in making these claims until the year 2000 to the additional time it took to construct and apply its own scientific testing approach for labeling a cigarette less hazardous – what it refers to as the "Four Step Methodology." Townsend WD, 149:8-150:8. However, Reynolds possessed and had applied the "Four Step Methodology" well before 1996, when it first released Eclipse, let alone before 2000, when it first made risk reduction claims about the product. Id., 150:10-12. For instance, as outlined above, in the early 1990s, Reynolds used each and every component of its "Four Step Methodology" (chemistry testing, then biological testing, then human smoker tests, then review by an external panel of independent experts) in assessing

its "EW" product.

1275. **Content of Claims With Which Reynolds "Competes"** – Certain Defendants' recent statements acknowledging that smoking causes disease explains the timing of the health-related claims for Eclipse. Nevertheless, Reynolds itself has simultaneously acted to undermine them by (to this day) refusing to admit unequivocally that smoking directly causes any disease. Schindler WD, 18:11-22:4; Schindler TT, 1/24/05, 10812:23-10821:18. More, Reynolds refuses to inform the public as to what "other cigarettes" Eclipse was compared to support its health claim. As Dr. Farone testified, an assessment of whether Eclipse is a potentially less hazardous product "depends what [it is] compared to." Farone WD, 179:13-14. And Reynolds has not made available to the consuming public in a straightforward manner information that would permit a smoker to compare her brand to Eclipse on the measures that underlie Reynolds's claims about Eclipse. While Dr. Doolittle, Reynolds's Vice President for Product Evaluation, admits that the only way to make a scientifically valid toxicity comparison to actual brands is to test them all together at the same time using the same testing media in a single study, and admits that Reynolds regularly performs this comparison for the top 70 selling brands in the market, he concedes that Eclipse is never tested against them like this. Rather, Reynolds tested Eclipse in a separate study, against a non-market, lab-only "reference" cigarette, and not at the same time, nor using the same testing media as the actual market brands. Doolittle PD, United States v. Philip Morris, 5/1/02, 179:2- 184:19. There is nothing available to the public in the published literature containing even a non-contemporaneous comparison of Eclipse and actually marketed brands, and to the extent which data about other brands is published at all, they are coded. According to deBethizy, "[I]t would take a pretty sophisticated consumer" to determine how his specific brand stacks up. deBethizy PD, United States v. Philip Morris, 4/17/02, 101:18-102:20; 103:20-110:7

(testifying that "I don't know. I don't know how" a person could find out how Eclipse compared on the toxicity tests compared to his own brand such as Marlboro).

1276. **Reynolds's Choice of Cigarettes With Which It "Competes"** – In addition to the timing of the claims, Reynolds's decision to make health-related claims occurred in connection with a product, and in a manner, that did not directly threaten or disparage the market for conventional cigarettes. Reynolds was willing to make health claims about unconventional, hard-to-light, no-ash, odd tasting Eclipse in 2000. Yet as detailed above, prior to selling Eclipse or making health claims about it, Reynolds possessed and marketed a traditional style, **tobacco-burning** cigarette that it had concluded reduced risk and that it determined would sell well broadly. Reynolds has chosen not to make health claims about that product – or even to put it back on the market in the eight years since Reynolds pulled it off the shelves after it proved itself commercially successful. That cigarette is what was known internally at Reynolds as "EW."

1277. **True, and Limited, Target Population For Eclipse** – Reynolds would like the public and the Court to believe that it is using Eclipse to compete for other company's smokers – i.e., to get them to give up their current brands, which they otherwise would continue to smoke, and choose Eclipse, instead. See Townsend WD, 153:4-13. Reynolds tells the public through advertisements that, "The best choice for smokers who worry about their health is to quit[;]" that Eclipse "is not for people who want to quit" and "not an alternative to quitting[.]" Id., 152:14-21 (discussing JDX3281292-1293 (JD-061302) (A)). The evidence is clear, however, that Reynolds intended Eclipse to appeal precisely to those who want to quit, to provide an alternative to quitting, and perhaps even to lower the barriers for non-smokers to begin smoking.

1278. In September 1991, two prominent Reynolds scientists who were working on Eclipse took the extraordinary step of explicitly telling the chief executive of Reynolds that the

intention of Eclipse was to create the impression among smokers that Eclipse was reduced risk **expressly for the purpose of preventing a decline in the smoking population**. The two scientists were J. Donald deBethizy and David Doolittle, both of whom had also worked on Premier. See deBethizy PD, Hoskins v. Reynolds, 9/25/97, 47:6-20; deBethizy PD, Falise v. American Tobacco, 6/29/00, 108:24-109:3; Doolittle PD, United States v. Philip Morris, 5/1/02, 155:23-156:25.

1279. Doolittle and deBethizy together wrote a memo to CEO James Johnston regarding Johnston's Strategic Plan for 1992 to 1996 that urged Johnston to expand the focus of the strategic plan beyond just "capturing market share from other companies." Rather, they urged Johnston to include in his strategic plan a concerted effort for Reynolds to use its reduced risk products as the instrument of a strategy "**specifically aimed at stabilizing or reversing the [overall] market decline**" in cigarette sales – a strategy they perceived to be "critical to the long term growth of our business." 517706032-6033 (US 52122) (O) (emphasis added). Doolittle's and deBethizy's proposed method to do so was to "address the personal and social concerns of smokers" and increase market share by creating an impression that Reynolds's cigarettes be "**perceived by** the consumers as being less hazardous to their health relative to competitive products" – so these scientists urged "an aggressive long-term plan to **reverse the decline of smoking incidence** by repositioning our products" to "minimize . . . [smokers'] concerns regarding the hazards of smoking." 517706032-6033 (US 52122) (O) (emphasis added).

1280. Doolittle subsequently admitted that he intended for Reynolds to use Eclipse to attract potential quitters to stem the decline in smoking prevalence. Doolittle agreed that the decline in smoking due to health consciousness he was referencing was due to people quitting. Further, **"the only option for people who were concerned about their health was to quit, and**

that's the only option they had, and I think what I was trying to say was, we should give them another option." Doolittle PD, United States v. Philip Morris, 5/1/02, 155:23-156:25, 157:7-160:1, 186:23- 199:11, 204:8-205:25 (discussing 517706032-6033 (US 52122) (O) (emphasis added)).

1281. This plan was put into action. For example, seven years later – in 1999 – as part of its assessment of Eclipse, Reynolds hired University of Nebraska scientist Stephen Rennard to conduct studies on "smokers, specifically individuals with chronic bronchitis, who cannot quit but who switch to Eclipse." USX0010747-0841 (US 93085) (O). So not only did Reynolds go after people who "cannot quit" – but the company sought to use Eclipse as an incentive to **smokers who were already ill** to continue smoking rather than quit.

(gg) The 1990s - R.J. Reynolds: Winston EW/Select Cigarette

1282. According to Reynolds's expert Townsend, a hurdle for marketing a reduced risk cigarette is to achieve both technical feasibility and consumer acceptance. And according to Reynolds, despite all of its supposed efforts, Reynolds has not "cleared this hurdle." Townsend cited charcoal filtered cigarettes as an example of coming close but not succeeding. Townsend WD, 25:1-27:13; see also DXA0713376-3420 at 3383-3384 (US 78928) (A) (Townsend's expert report).

1283. Contrary to these statements, the United States demonstrated at trial – through Reynolds's own internal documents – that in the mid-1990s (between the periods of test-marketing Premier and Eclipse) Reynolds itself concluded that it had achieved both "technical feasibility" and "consumer acceptance" with a variation on a charcoal (carbon) filtered cigarette, referred to as "EW."

1284. As with its other potentially less hazardous products, Reynolds decided not to

market EW with clear health-related claims while it – like other Defendants – continued to publicly deny that smoking is a proven cause of disease. In fact, Reynolds discontinued sale of EW in 1997 despite a successful test market run that began in April 1995 – during which EW proved its consumer acceptability. Since then Reynolds has taken the same defensive approach toward the marketing of a supposedly new version of EW ("EW-2") as other Defendants have taken toward their own potentially less hazardous cigarettes – keeping it off the market unless and until its competitors market a similarly designed less hazardous product, and using it as a threat to assure they do not.

1285. "EW" is a tobacco-burning cigarette that, unlike the tobacco-heating Premier and Eclipse, is "much more like a traditional product that's in the marketplace that most people are familiar with today." Gentry TT, 10/14/04, 2386:6-11.

1286. R..J. Reynolds developed its "EW" cigarette to reduce certain harmful compounds in cigarette smoke and to be acceptable to consumers. Gentry WD, 9:1-8; Gentry TT, 10/14/04, 2388:4-14. It was envisioned as a tobacco-burning successor to Premier. Juchatz TT, 11/22/04, 6693:23-25; see also Gentry WD, 13:12-14:25; Gentry TT, 10/14/04, 2385:22-2387:14; Townsend TT, 3/8/05, 14853:12-14854:13 (asked about "the connection between Premier and EW[,]" Townsend explained, "the failure of Premier . . . led us to . . . consider how we can make a tobacco burning cigarette that is reduced risk . . . because that would ultimately be more successful in the marketplace than Premier . . . . And if it's more successful, it might have more effect on health.").

1287. There were two special components to the EW cigarette RJR introduced. The first was a "carbon scrubber" filter and the second was a "low nitrogen" blend of tobacco. Each contributed independently to EW's risk reducing potential. The low nitrogen blend reduced

constituents such as free radicals and nitrosamines, both of which are believed to play a role in disease formation. The carbon scrubber filter was an updated version of a charcoal filter. As explained further above, charcoal (or activated carbon) has the potential to selectively reduce harm-causing constituents. Cigarettes with such filters have historically earned a small market share in the United States, which Defendants attribute to an "off-taste" associated with it. Gentry WD, 5:18-6:20, 13:6-18; see also Gentry TT, 10/14/04, 2383:18-2384:5; Townsend TT, 3/8/05, 14704:10-14705:5; 513039845-9847 (US 22095) (O) (Confidential). Reynolds concluded that EW's filter "took care of most, if not all" of the taste problem, while at the same time being "more effective" in selectively reducing these harmful constituents than RJR's predecessor charcoal filter product, Tempo, or any other cigarette on the market at the time. Townsend TT, 3/8/05, 14705:6-14706:2. Reynolds scientists believed that the reduction in exposure resulting from these design features (filter and blend), had potential significance to cancer and heart disease caused by smoking. Burger PD, Arch v. American Tobacco, 8/21/97, 156:4-157:17, 237:1-238:23.

1288. By 1994, RJR (per Townsend) considered EW cigarettes to be "the first tobacco-burning products which exhibit reductions of this magnitude and are highly consumer acceptable." By this time, RJR had developed **six** consumer acceptable EW products

and in response to requests from the Marketing Department,

511689507-9510 at 9507 (US 22090) (A) (Confidential); see also Gentry WD, 10:11-18.

1289.

10:16-24 (discussing 511689507-9510 (US 22090) (A) (Confidential)), 12:2-4. By as early as

511689507-9510 at 9507 (US 22090) (A) (Confidential). Though it did not publicly label it a "four step methodology" back then, **like it later did with Eclipse**, **Reynolds substantiated (1) reductions in chemistry**, Gentry WD, 11:1-5, 15:13-21:19 (discussing data in 515873569-3776 (US 85886) (A), comparing EW version to Marlboro Light 85s), 25:3-28:7 (compared to Marlboro Light 85s, reporting substantial reductions in nitrosamines, which are possible human carcinogens, and other oxides of nitrogen, which may be linked to emphysema), 28:21-29:3; **(2) reductions in biological activity in both <u>in vitro</u> (testing on cells outside a live animal) and <u>in vivo</u> (live animal) tests**, Gentry WD, 29:4-34:1 (discussing 517400643-0671 (US 30327) (A) (Confidential), showing that EW prototypes had "statistically lower" mutagenicity scores compared to Marlboro Light 85s), 34:2-42:19 (discussing genotoxicity results reported in 520984125-4133 (US 80287) (A), 521967676-7677 (US 30519) (A)), 46:18-56:25 (discussing cytotoxicity results reported in 520984104-4117(US 80285) (A), 510941930-1938 (US 89101) (A), and 510959750-9752 at 9750, 9752 (US 51536) (A)), 42:23-44:13 and 44:17-46:17 (discussing <u>in vivo</u> sensory/Alarie irritation test results reported in 510768455 (US 87557) (A) and 511325258-5260 (US 30011) (A)); **(3) success in human smoker studies**, Gentry WD, 58:10-61:10 (discussing 520009013-9027 (US 89100) (A)); and **(4) review of this research by a panel of "independent" scientists**, Gentry WD, 62:13-68:12 (discussing the data presented to the panel in 515305298-5537 (US 89102) (A) and the panel's report, 518379726-9740 (US 30345) (A)). Unlike what was done with Eclipse, most of these tests on EW were done in

comparison to an actually marketed brand of a competitor – Philip Morris's Marlboro Lights.

1290. Further, RJR's marketing research at the time showed that potential consumers were most interested in hearing about a product's potential to reduce exposure to carcinogenic smoke constituents. For example, in 1992-93, the company concluded that out of 40 different product claims tested, the number one "enduring consumer want" was the "personal concern" want of "reduced controversial compounds" – i.e., "reduced risk." 508128536-8563 at 8541-8542 (US 85883) (A). RJR determined "Less risk" was far and away the reason for which smokers were most "willing to give up taste" and that "clear consumer communication of [that] consumer benefit [was] critical to motivating appeal." 508128536-8563 at 8545, 8553 (US 85883) (A).

1291. By 1994, RJR had sponsored extensive consumer concept and product testing for EW, including evaluations of the strength of various reduced exposure claims. It found that the stronger and clearer the reduced exposure message, the greater the consumer interest in the product. 508128536-8563 at 8545, 8553 (US 85883) (A); 515873569-3776 at 3681-3684, 3687-3688 (US 85886) (A) (message of "50% reduction in **alleged cancer causing compounds**" was preferred over the traditional taste claim in consumer testing by a wider margin than the amount by which the milder "50% reduction in **controversial compounds**" was preferred to a taste claim). Even though "the [EW] concept conveyed substantial taste trade offs compared to the 'traditional taste' claim, consumers had a significantly higher 'Purchase Interest' in the '50% reduction' claim than the traditional taste claim." 515873569-3776 at 3682 (US 85886) (A). In light of these results, the marketing research team at RJR repeatedly recommended that its executives use a reduced exposure claim for EW. 515873569-3776 at 3685 (US 85886) (A).

1292. RJR test-marketed six EW products beginning in April 1995 in Oklahoma as

Winston Select ("EW/Select"), and RJR compared sales in that area to sales of non-EW Winston Select in a comparable market in Tennessee. Gentry TT, 10/14/04, 2388:15-2389:10.

1293. Notwithstanding that (1) RJR scientists designed EW for the purpose of creating a reduced exposure cigarette acceptable to consumers; (2) RJR concluded that EW achieved that goal; and (3) marketing research showed that consumer interest was greatest for messages conveying potential exposure reduction, RJR **never informed** consumers in the Oklahoma test market that the EW version of Winston Select had the potential to reduce risk. While RJR proved willing to make health claims in 2000 about Eclipse without **any** epidemiological support, it asserted in 1995 that it could not and would not make health-related claims for EW/Select "[w]ithout 30 years of epidemiology." 510959750-9752 at 9750 (US 51536) (A). Indeed, instead of providing the EW test-market consumers the exposure-reduction information that RJR marketing personnel found to be the most appealing to consumers and that RJR scientists concluded could be substantiated, the EW/Select marketing campaign focused on taste. Townsend TT, 3/8/05, 14726:10-23.

1294. Reynolds did not market EW as a less hazardous cigarette because of the long established agreement among Defendants not to compete on health claims. Defendants refused to risk their profits from conventional cigarettes by implicitly or explicitly stating or disclosing that conventional cigarettes cause disease.

1295. In 1993, RJR chief counsel Wayne Juchatz asked outside law firm Jones Day Reavis and Pogue to conduct a thorough assessment of EW (then named "Project CC" internally) and its proposed potential marketing strategies, and to prepare a report for "attorneys defending Reynolds against future claims involving [EW]." In June 1994 Jones Day provided Reynolds with a 200-page report containing legal analysis and recommendations. Juchatz TT, 11/22/04,

6687:16-6688:25 (discussing 515873569-3776 at 3575 (US 85886) (A)).

1296. Jones Day concluded, in light of the scientific findings and the results of consumer tests conducted in 1993, "In sum, it appears that, in terms of both taste and price, [EW] is now ready to be introduced onto the market." Noting that RJR set as a benchmark for EW the reduction of 50% of "alleged carcinogenic compounds," and concluding they succeeded, Jones Day determined that "there are currently no regulations or statutes that prohibit the marketing of [EW]" as a potentially reduced exposure product. 515873569-3776 at 3581, 3667, 3672, 3699 (US 85886) (A). Juchatz understood this to mean that there were no legal barriers to advertising EW as a reduced risk product. Juchatz TT, 11/22/04, 6697:17-6698:11.

1297. Jones Day further acknowledged that "'50% less claimed cancer causing compounds' is more appealing to consumers than 'reduces controversial compounds' or 'reduces irritancy,'" and that any of these messages regarding "personal concern" were more appealing to consumers than the message concerning the taste of the cigarette. Jones Day nevertheless advised that any such direct, aggressive claims "may increase Reynolds' exposure to certain claims in smoking and health litigation," the most dangerous of which being that plaintiffs would posit that, with the development of EW, "Reynolds believes that other cigarettes are dangerous and must be redesigned to avoid future liability." 515873569-3776 at 3709-3766 (US 85886) (A). Jones Day recommended against making any reduced risk claims, even watered down ones such as "reduces irritancy" or "cleaner smoke." Juchatz TT, 11/22/04, 6693:23-6694:2.

1298. Jones Day's advice was contrary to the desired approach of "[m]any in Reynolds R&D Division, including Dr. David Townsend, [who] appear to favor strongly an aggressive approach . . . ." 515873569-3776 at 3687-3690 (US 85886) (A); Townsend TT, 3/8/05, 14720:21-14721:6 (Townsend admitted that he urged taking an aggressive approach to marketing

EW with health claims).

1299. As occurred repeatedly among Defendants from the 1960s forward, Reynolds chose to preserve its public relations and litigation position, and thus opted not to test market EW/Select with any claims that might imply Reynolds's recognition that smoking causes adverse health effects. 515873569-3776 at 3709-3766 (US 85886) (A).

1300. EW/Select's performance in the test market – even without health-related claims – was a success and confirmed its consumer acceptability. RJR's standard for whether a product is sufficiently consumer acceptable is whether, during its start-up or test market period, it achieves sales levels of between 0.3% to 0.5% of market share; sales at such a level would indicate "a very successful" product. Townsend TT, 3/8/05, 114681:5-14684:5, 14685:2-14686:13. Sales for EW/Select **far exceeded** this standard – at no time did it dip below 0.9% of market share. During the "action standard" months Reynolds identified as the measuring period for making a decision about EW/Select, it sold in the 1.0% to 1.25% market share range. Id., 14706:3-14711:8; 14733:8-13.

1301. Notwithstanding its strong sales performance, RJR discontinued the EW/Select test market in the summer of 1997. Gentry WD, 4:18-22; Townsend WD, 62:8-12. At trial Reynolds's witnesses claimed that EW was pulled because the scientists could not reach an agreement about whether it could make health claims about the product. Townsend WD, 62:13-63:7; Gentry TT, 10/14/04, 2469:7-2470:7. Townsend claimed that one of Reynolds's "top toxicologists" (Dr. Robert Suber) raised concerns about making such claims, as did others such as scientist Deborah Pence. Id.; Townsend TT, 3/8/05, 14711:9-14712:21, 14713:12-20. This post hoc claim by Dr. Townsend was immediately and directly impeached by an August 1997 memo about EW from Dr. Suber himself, which was copied to 25 RJR employees, including

Gentry, Townsend, and Deborah Pence, entitled "Revised Consensus to Claims Using the CS Filter and Low Nitrogen Tobacco." 70028426-8429 (US 22184) (A). Townsend was forced to admit at trial that this was a statement of unanimous agreement about a "consensus for commercial EW from a scientific perspective" with regard to the following claims that were reached after "conduct[ing] a number of chemical and biological assays on this product" and "are based on a competitive evaluation of other products within a local market":

- "The potential risks of smoking may be reduced due to the decrease in irritants, cytotoxins, and some carcinogens in the vapor phase";
- "Breakthrough filter giving good taste, but [sic] a significant reduction of many controversial or unwanted compounds may (might) reduce potential risks of smoking";
- "Decrease in many controversial compounds in whole smoke (with explanation insert) may (might) reduce potential smoking risks";
- "Decrease in irritants which may (might) potentially reduce the risks of smoking – throat harshness[,] throat irritation";
- "Decrease in many (some) vapor phase irritants, cytotoxins and genotoxins which may (might) potentially reduce the risks of smoking";
- "The potential risks of smoking may be reduced due to the decrease in free radicals in smoke";
- "Decrease in many (or most) controversial compounds in the vapor phase or whole smoke (with further information on pack or insert to define terms "controversial" and "many") may (might) reduce the potential risks of smoking"; and
- "Breakthrough in filter technology giving good taste, but [sic] significant reduction in most (or many) vapor phase compounds (or reduction in unwanted vapor phase compounds) may (might) reduce potential risks associated with smoking."

70028426-8429 at 8428-8429 (US 22184) (A); Townsend TT, 3/8/05, 14715:6-15, 14716:7-14718:25, 14722:13-14723:1. The United States similarly used this document to undermine Gentry's claim of "no consensus" on EW and to impeach his credibility. Gentry TT, 10/14/04,

2480:1-2485:15.

1302. Despite remembering that he received this Suber document, Townsend insisted that there was documentary evidence showing "no consensus" on EW. Townsend TT, 3/8/04, 14717:18-25. However, he failed to produce any such evidence with his written direct and could not identify a single such memo, email, or position paper on cross-examination that supported his claim. Id., 14715:24-14717:14, 14729:25-14731:11 ("I don't know of a single document that speaks to that"). Similarly, even though Townsend claimed in his written direct examination that the reason some scientists had doubts about these claims was that some of the chemistry reductions were not as great under "more intense puffing" conditions (Townsend WD, 63:18-20), he failed to produce or otherwise reference a single piece of documentary evidence – contemporaneous or otherwise – reflecting such findings. Id., 14731:17-14732:8.

1303. Upon questioning from the Court, Dr. Townsend could provide no explanation for the discrepancy between his testimony and the documentary evidence:

> THE COURT: Why do you think that Dr. Suber . . . would have put it in an important memo like that, that went to so many people, that there was a consensus if there wasn't a consensus and there was the level of disagreement that you've just described?
>
> [TOWNSEND]: I don't know, Your Honor, why he did that.

Id., 14729:11-17.

1304. Moreover, even if the Court were to credit Townsend's impeached testimony that there was disagreement within Reynolds about **how** to advertise EW/Select, even Townsend admitted that, in his expert opinion and his experience as a scientist, such disagreement is not a reason to keep EW/Select off the market entirely. Townsend TT, 3/8/05, 14724:15-14728:24.

1305. RJR insists that it has not abandoned the EW concept but instead has taken it back to the laboratory to improve performance and as of this year, was "still working on the

technology." Townsend WD, 64:1-5. The evidence shows that it is not technological problems that has caused Reynolds to withhold "EW-2," from the market since its development was completed in the late 1990s. Rather, Reynolds has, in the case of EW-2, taken the same defensive approach to less hazardous cigarette development characteristic of other Defendants.

1306. Specifically, the original EW had a goal of a 50% reduction in chemistry. Townsend TT, 3/8/05, 14766:6-8; Gentry WD, 11:1-5. By March 1998, Jeff Gentry (the leader on the EW project) reported on "EW-2 Product Development," stating that the objective was a 70% aggregate mass reduction in chemistry, that full analytical testing was complete, and that consumer testing was scheduled for the following month and would be completed the month after that. 700250382-0390 at 0386 (US 22188*) (A). In July 1998, R&D Director Gary Burger made a presentation to CEO Andrew Schindler on the 1998 "Top 10 R&D Priorities" and told him that with regard to tobacco-burning "reduced risk" cigarettes, **"EW-2 Development [was] Complete."** 519436056-6075 at 6065 (US 30352) (A) (emphasis added). Yet EW-2 has yet to make it to market.

1307. Defendants' ongoing conspiracy, not science, was the deciding factor in holding back EW-2. In July 1997, an RJR scientist asked in a presentation to Dr. Burger,

519186833-6877 at 6834-6835, 6838 (US 30349) (A) (Confidential). Townsend explained at trial that the belief was that any product out in the market prior to FDA regulations "might be

grand fathered," but if the company waited, FDA regulations that included pre-market approval could add "years and years" before it could be sold. Townsend TT, 3/8/05, 14782:15-14783:25.

1308. That recommendation notwithstanding, and despite a December 1997 document providing a timetable for EW-2, based on the assumption that FDA would regulate tobacco products and the conclusion that RJR should present FDA with its reduced risk products and technologies "as early as possible," Reynolds nonetheless decided that it would not go forward unless and until the "FDA bill containing reduced risk product policy **is moving in both houses**." 519990589-519990593 at 0591-0592 (US 30359) (A). The bill never made it that far, and EW-2 was not sold. Townsend TT, 3/8/05, 14765:21-14766:3.

1309. The Gentry-to-Townsend memo of July 1998 on "EW-2 Product Development" echoes these sentiments:

> **Importance to RJRT:** With the prospect of a national tobacco settlement approval by congress and signed by the president during the fourth quarter, reduced risk products such as EW-2 would provide RJR with a starting point for FDA approval. As a result RJR would have a consumer acceptable product ready for human trials by 8/98 [p]roviding RJR with an advantage in the establishment of testing protocols with the FDA for reduced risk products.

700250386-700250387 (US 22188*) (A). Yet there was no settlement "approved by Congress and signed by the President," Townsend TT, 3/8/05, 14765:17-25, and therefore RJR has chosen not to put EW-2 on the market at any time in the eight years since 1997.

1310. In short, RJR' approach to the development and marketing of EW products has proven strikingly similar to its approach to its other potentially less hazardous cigarettes, and similar to other Defendants' approach to such products – an approach dictated by Defendants' agreement not to compete on health grounds in the marketing of cigarettes and their collective commitment to avoid any public acknowledgment of smoking's role in causing disease.

(hh) The 1990s - Philip Morris: Accord

1311. In 1998, Philip Morris began to sell, in one limited domestic test market, its first cigarette since Saratoga in 1964 that was specifically designed to reduce the delivery of, and thereby the harm from, toxic smoke constituents. Known as Accord in the United States ("Oasis" in its Japanese test market), Accord is the first and only product marketed by Philip Morris in any capacity that exploits Philip Morris's long-understood principle of heating rather than burning tobacco to avoid the creation of harmful constituents via combustion. Farone WD, 177:10-179:12; Szymanczyk WD, 165:18-166:2, 167:15-169:3.

1312. Accord is Philip Morris's electrically heated smoking "system." The purchaser receives a kit – a starter set of shorter, specially designed cigarettes and a dark rectangular heating device approximately the size of a large candy bar. To smoke Accord, the smoker inserts a cigarette into the end of the heating device. When a smoker inhales on the inserted cigarette, the inhalation triggers the device's electrical heating element, which heats the cigarette at a temperature below that necessary to create combustion and delivers smoke to the smoker. The device permits a maximum of eight puffs per cigarette, and information about the activity and puff count is provided to the smoker on a small LED display on the device. 525335580-6084 at 5678 (US 20919) (A).

1313. Philip Morris researchers claim that various scientific studies demonstrate that Accord has substantially reduced the delivery of fifty-eight harmful constituents believed likely to contribute to smoking-related diseases. For example, the company says the level of polycyclic aromatic hydrocarbons is below a measurable amount, the carbon monoxide delivery is extremely low, there is a 90% reduction in 1,3-butadiene production, and the delivery of tobacco-specific nitrosamines ("TSNAs") is 50% below conventional cigarettes. Philip Morris research

has shown that mutagenic activity in the Accord cigarette is lower than conventional cigarettes, and the Ames test on Accord found essentially no mutagenic activity. Lilly PD, United States v. Philip Morris, 5/14/02, 246; 525335580-6084 at 5678 (US 20919) (A).

1314. Yet despite its scientific research showing Accord to be a substantial technological achievement, Philip Morris has never informed potential consumers in the test market, through promotional or marketing materials, of its conclusion that Accord is a reduced exposure product and a potentially reduced harm product. Farone WD, 179:13-23. Indeed, in a presentation to the Altria Board of Directors in late 1996, Philip Morris stated, "By controlling the heat applied to tobacco, [Accord] addresses in significant ways criticisms made of our current cigarettes," but that in marketing Accord to consumers, "**we do not want to disparage our existing brands**." 2086120855-0890 at 0855, 0871 (US 45812) (A) (emphasis added). Just like Reynolds's approach to marketing Premier and (initially) Eclipse, as of 2001 Philip Morris's marketing materials told potential consumers only that Accord "

Dudreck PD, United States v. Philip Morris, 6/21/02, 35:1-36:24; LB0011227-1236 (US 21854) (O) (Confidential); Harris WD, 229:10-230:23.

1315. Philip Morris's marketing representations reflect the company's conscious decision to avoid informing consumers about Accord's lower delivery of harmful smoke constituents.

Dudreck PD, United States v. Philip Morris, 6/21/02, 33:1-34:24; Dudreck PD, United States v. Philip Morris, 8/26/03, 465:22-466:25, 467:21-468:12 (Confidential); LB0037946-7950 (US 21855) (A); Harris WD, 229:10-230:23.

(ii) The 2000s - Brown & Williamson: Advance

1316. In October 1999, B&W entered into an agreement with an independent tobacco company, Star Scientific, Inc., ("Star") to develop a product utilizing tobacco cured by Star's patented process for creating low-TSNA bright tobacco. USX5110274-0292 (US 89063) (A); Honeycutt PD, United States v. Philip Morris, 4/23/02, 59:2-17, 68:25-70:3. This product is called Advance. Per the agreement, Star was responsible for test marketing Advance, and generating the onserts that were used in the test market. Blackie WD, 180:4-10.

1317.

Wessel 30(b)(6) PD, United States v. Philip Morris, 3/19/03, 42:1-43:1 (Confidential); Harris WD, 231:4-10; Honeycutt PD, United States v. Philip Morris, 4/23/02, 13:23-15:6, 61:3-66:6; USX5110274-0292 (US 89063) (A); StarUSvPM000251-0363 (US 85920) (O) (Confidential).

1318. In 2000, Star began test-marketing Advance in Lexington, Kentucky, and Richmond, Virginia. Blackie WD, 180:14-21. In addition to federally mandated warnings, Star voluntarily placed additional information about the product and smoking's harms on the package, and added an informational "onsert" attached to the package. 524942388-2389 (US 52963) (A);

524942390-2391 (US 88038*) (O); Blackie WD, 180:4-16 (acknowledging that US 52963 and US 88038 are the onserts used by Star Scientific in test-marketing Advance).

1319. B&W disagreed with Star on the package design for Advance because the copy on the back of Star's package included such statements as "Smoking can take YEARS off your life. It is much safer for you to QUIT than to switch or smoke" and "Star's processing methods greatly reduce SOME cancer-causing chemicals (nitrosamines) and its special filter reduced SOME toxic gases in cigarette smoke." B&W conceded that these statements were not misleading. Wessel 30(b)(6) PD, United States v. Philip Morris, 3/19/03, 19:3-22:23.

1320. Nevertheless, at the conclusion of Star's test-marketing of Advance in Richmond and Lexington, the agreement between B&W and Star was renegotiated. Blackie WD, 180:19-21. Under the renegotiated agreement, B&W gained control of the product, and the onsert became B&W's responsibility, not Star Scientific's. Blackie WD, 180:22-181:3; see also StarUSvPM000251-0363 (US 85920) (O) (Confidential).

1321. B&W began a new test market in Indianapolis in November 2001, using its redesigned packaging and onsert. Wessel 30(b)(6) PD, United States v. Philip Morris, 3/19/03, 24:2-10, 28:1-15.

1322. Dr. Blackie identified B&W's Advance onsert as TLT0960001-0002 (US 87216) (A); Blackie WD, 181:12-13. In contrast to Star, B&W was unwilling to voluntarily communicate clear, direct statements of smoking's harms in the text section of its onsert. Among the changes it made to Star's packaging and onsert, B&W:

- affirmatively removed Star's statements on the package that referred to "cancer-causing chemicals";
- deleted Star's statements that "Smoking related diseases can KILL you," "Smoking can take YEARS off your life," and "It is still better to QUIT than to switch or smoke";

- eliminated Star's text references to "carcinogens (cancer-causing chemicals)" and "potent cancer causing chemicals in tobacco and tobacco smoke" in the onsert. B&W instead referred to "toxins";

- deleted Star's onsert statement that "ALL SMOKED TOBACCO PRODUCTS ARE ADDICTIVE AND POSE SERIOUS HEALTH HAZARDS"; and

- deleted Star's statement explaining that "Because many smokers smoke to get nicotine, they tend to smoke more intensely when smoking 'lights' or 'ultra lights,' and that because of such nicotine-driven compensation 'lights' and 'ultra-lights' are NOT NOW viewed by health scientists as reliably less hazardous." Instead, B&W stated in minuscule type only that smokers 'can increase or decrease the amount of smoke that they take in depending on how they smoke their cigarettes' and thus actual delivery may differ from the FTC test measurements.

Compare 524942388-2389 (US 52963) (A) and 524942390-2391 (US 88038*) (O) with TLT0960001-0002 (US 87216) (A) (Onsert to B&W Advance). See also Wessel 30(b)(6) PD, United States v. Philip Morris, 19:3-22:23; Blackie TT, 10/26/04, 3897:15-3900:15.

1323. In sum, there is compelling evidence that Defendants agreed not to compete on health claims in the marketing of cigarettes, and that they adhered to that agreement. Over the past 50 years, Defendants have collectively offered to sale (in any capacity) a small handful of products that were designed to be less hazardous. Until Eclipse in 2000 – at a time when Defendants were beginning to publicly communicate more accurate, truthful information about smoking as a cause of disease – none of Defendants' marketing for any of these products expressly communicated to consumers the purpose behind the primary design features so as to allow smokers the ability to evaluate the potential benefits of the product, even though Defendants' marketing research showed that such information was important to consumers when considering whether to smoke the products.

(ii) Defendants' Responses to the United States' Evidence

1324. At trial, Defendants offered two general responses to the United States' evidence proving that Defendants followed their agreement not to compete in the marketing of less

hazardous cigarettes with clear health messages. First, Defendants contended that they have tried to market potentially less hazardous products, but the products have not attained sufficient market share to be considered a success. Without a doubt, Defendants' deliberate decision not to sell less hazardous cigarettes with clear health-related claims has not been the **only** reason that these products have not attained large market shares.[7] Testimony from witnesses for both Defendants and the United States indicated that the market reception of certain of these novel products has been affected by "taste" or other attributes. However, the substantial evidence introduced at trial and recounted above shows that Defendants recognized that the success of these novel designs depended upon informing consumers about the particular intended benefit of these products – lowered exposure to known harmful chemicals, and therefore potentially less harm. That evidence also shows that Defendants repeatedly and explicitly decided that was a line they would not cross because such information would be an indictment of all **other** cigarettes being sold.

1325. Moreover, as discussed above, the testimony of Dr. Farone and other witnesses and documents shows that in some instances, Defendants solved alleged problems with "taste" or acceptability, but chose not to incorporate those solutions into marketed products. In other instances, Defendants chose not to devote their fullest energies to finding a fix, and simply removed the product from the test market. It is also important to note that in the early days of "light" and "low tar" cigarettes, such cigarettes garnered a minuscule share of the market, and

---

[7] Of course, the fact that these less hazardous products have earned small market shares does not alone distinguish these products from other brands that these Defendants and other cigarette manufacturers keep on the market. The 2000 FTC report lists 1294 varieties of cigarettes in the United States for 1998. 525311179-1223 (US 52977) (A). Most brands have minuscule market share; indeed, the collective market share in 2004 of the fourteen versions of the 8th most popular brand of cigarettes, Reynolds's Salem, was 2.59%. (no bates - RJRT website at 2) (JD-068012) (A).

smokers similarly complained about weak "taste" or other characteristics. Yet Defendants continued to promote such cigarettes heavily with implied health reassurance messages (that were groundless, see US FF § III.D, infra), and eventually the market share of "low tar" cigarettes increased to the point where they now account for over 90% of the domestic cigarette market.

1326. Thus, while the failure to compete on health claims has not been the sole reason that these few products have failed to gain significant market share, it is a crucial reason, and one motivated primarily by Defendants' commitment to maintaining their fraudulent denials.

1327. Defendants also tried to explain that their failure to compete on health grounds in marketing was not a result of any agreement, but rather occurred because the Federal Trade Commission promulgated guidelines in 1955 ("1955 FTC Guidelines") that prohibited such health-related claims. Langenfeld WD, 52:3-55:8. Defendants' response fails for lack of any proof that it was actually the 1955 FTC Guidelines that influenced their marketing behavior. Langenfeld TT, 3/10/05, 15185:14-24. For example, the December 1953 meetings at which Defendants' agreed not to compete in the marketplace on health grounds predated by over 9 months FTC's promulgation in September 1954 of the draft version of what became the 1955 Guidelines. Id., 15186:4-15188:12. Further, Defendants' FTC expert, Dr. James Langenfeld, did not identify, in either his direct or his cross-examination, a **single** instance in which Defendants indicated that their decision about how to market a cigarette on health-related claims was constrained by the 1955 FTC Guidelines. Langenfeld TT, 3/10/05, 15202:4-16. Dr. Langenfeld was wholly unqualified to assess, let alone offer conclusions, about Defendants' intent or motivations. **Dr. Langenfeld did not consider a single internal document of Defendants for his work in this case**. Langenfeld TT, 3/10/05, 15171:7-15173:1, 15175:7-20. Thus, Dr. Langenfeld did not consider perhaps the most obvious source of evidence of Defendants' intent

and motivation – their own internal communications.

1328. In fact, Dr. Langenfeld conceded upon cross-examination that the FTC approved of the provisions on health-related advertising in the Defendants' 1964 voluntary Advertising Code that expressly **permitted** substantiated health-related claims. Id., 15195:12-16; see also Langenfeld WD, 63:14-68:20. Rather, the evidence – such as HHS0880359-0364 (US 85828) (A) – shows that Defendants' decisions were based on their commitment to their public denials that any cigarettes on the market were a proven cause of disease. Moreover, in the legal memorandum RJR prepared for submission to the FTC arguing that Reynolds's possible claims about Premier met FTC standards, Reynolds did not even mention the 1955 FTC Guidelines, let alone treat them as a binding legal restriction. 507349165-9287 (JD-041934) (A).

1329. Defendants' claim that the "tar derby" of the 1950s – a period of aggressive cigarette advertising by tobacco companies, including ads touting superior effectiveness of their respective filters – is evidence that they did in fact compete on health grounds in the marketing of cigarettes. See, e.g., Farone TT, 10/6/04, 1788:24-1790:24. Dr. Farone did not, however, consider that meaningful competition on a health claim because "**[t]here's no proof**; in order to say that something is better, you have got to show proof that it's better. I think they were all simply hyping it up. We have these filters, it lowers tar. The implication to the customer is that we are creating a tremendous decrease in the level of toxicity **with no evidence to support that**." Id., 1790:25-1791:6 (emphasis added).

(h) Defendants Agreed Not To Perform Certain In-House Biological Research That Would Confirm or Acknowledge That Smoking Cigarettes Causes Disease

1330. Another facet of Defendants' long-term coordination related to the development and marketing of potentially less harmful cigarettes was reflected in the "Gentleman's

Agreement" among the tobacco company Defendants. Under this agreement, Defendants committed not to perform certain types of biological research in their domestic facilities. Though Defendants themselves acknowledged that such research was critical to a meaningful evaluation of whether certain cigarettes were likely to be less hazardous than others, it might lead to the conclusion or prove that smoking caused disease or illness, and thus conflict with their public denials of smoking's adverse health effects.

1331. By their words and their actions, Defendants confirmed their common understanding of, and basic adherence to, this agreement. Dr. Farone testified that he learned about the Gentlemen's Agreement while he was at Philip Morris from top Philip Morris scientists, including the Vice Presidents for Research & Development Robert Seligman and Max Hausermann, as well as from documents. Farone WD, 134:2-137:7. As MIT economist Dr. Harris testified, certain Defendants did occasionally "cheat" by undertaking research in violation of this agreement, and were brought back in line by one or more of the other Defendants who were party to the agreement. Harris WD, 92:7-94:22,191:15-195:22; see also Farone TT, 10/7/04, 1909:21-1910:8 ("I don't think the fact that [the agreements restricting research and marketing on smoking and health grounds are] broken periodically means they don't exist. . . . it [501543470-3517 (US 21737) (A)] goes to, in my opinion, showing that, in fact, their concern about maintaining this agreement as opposed that it no longer exists"). Dr. Harris explained how such actions were consistent with Defendants' collusive, rather than competitive, arrangement and with economic theory; and Dr. Harris testified to his conclusion that while facets of this agreement may have gradually become inoperative over time, related agreements remained in force. See generally Harris WD, 35-51, 160:3-161:18.

(i) R.J. Reynolds

1332. In March 1983, high ranking RJR scientists Alan Rodgman and Frank Colby described the core parameters of this agreement:

> Throughout the domestic industry, two "gentleman's agreements" were operative in the early days:
>
> [a]ny company discovering an innovation permitting the fabrication of an essentially ‘safe' cigarette would share the discovery with others in the industry; and
>
> **No domestic company would use intact animals in-house in biomedical research**.

501543470-3517 at 3504 (US 21737) (A) (emphasis added). This agreement reflected Defendants' intent that no company undertake activities that would explicitly or implicitly acknowledge that cigarettes are harmful or yield research that shows cigarettes are harmful. See US FF § III.B, supra.

1333. In 1981, scientists at Temple University made a research proposal to RJR entitled "Selective Removal of Oxidants from the Tobacco Mainstream Smoke Aerosol." In an October 26, 1981 memorandum concerning the Temple proposal, Colby wrote:

> There is a clear-cut agreement among all U.S. cigarette manufacturers that any scientific discovery made within the companies, or otherwise sponsored by a single company, which might have a positive impact on the smoking and health controversy, would have to be freely shared, without any costs to the other manufacturers. There would, therefore, be no incentive for R.J. Reynolds to sponsor the Cohen project. This applies to any other product development oriented research by a medical institution to be sponsored by a U.S. tobacco company.

500534388-4389 (US 29467) (A).

1334. Earlier, the existence and terms of the Gentleman's Agreement was expressly recognized by a member of the Board of Directors of RJR. In 1978, Herschel H. Cudd, Jr., criticized Philip Morris for performing animal research at its INBIFO laboratory in Germany: "A

wholly-owned subsidiary in Cologne, Germany engages in carcinogenic biological research, such as mouse painting, **in violation of the verbal agreement among domestic companies not to perform animal testing in-house**." 503940653-0688 at 0669 (US 21436) (O) (emphasis added); 681879254-9715 at 9332 (US 21020) (A).

1335. And in 1981, Reynolds's scientist Colby stated in a memorandum that "[i]nformation was obtained that Philip Morris U.S.A. does not live up to the **alleged 'gentlemen's agreement' of not having animal laboratory facilities on their premises in this country**. Philip Morris indeed has had such facilities for at least 3-4 years and continues to operate them. This information was communicated to all concerned." 501626469-6469 (US 21576) (A) (emphasis added).

1336. RJR's repeated references to the Gentleman's Agreement in the 1970s and 1980s came after the company was found briefly to have violated the Agreement in the late 1960s, when it established a facility (known as the "Mouse House") to perform certain animal studies. When Philip Morris discovered and complained about RJR's violation of the Agreement, RJR quickly dismantled the Mouse House and its in-house biological research program. See US FF § III.B, infra (for detailed discussion).

(ii) BATCo

1337. Actions undertaken by BATCo also evidence an awareness of and conformity with the principles underlying the Gentleman's Agreement. On September 16, 1976, B&W in-house counsel Ernest Pepples warned BATCo against participating in a British safer cigarette working group because it would be recognized as an admission (that could be attributed to B&W in the United States) that the current state of the art knowledge is sufficiently advanced that an "independent committee can posit reasonable steps for a manufacturer to take which may reduce

risk to its consumers"; and that "cooperation with this committee is objectionable whether its advice is binding or not because it puts BAT in position of acknowledging that some hazard in cigarettes needs to be worked on." Instead, in order to protect United States legislative and litigation activities, B&W urged BATCo to take the following positions:

> **that the picture emerging is one of ever greater complexity in which a perceived one-on-one relation, as in a virus on disease, is most likely to be merely an illusion; [and]**
>
> **the strong current of authority in U.S. courts supports [the] view that the customers use of tobacco is not unduly dangerous and thus the manufacturer is not under a duty to consumer to warn him or to speculate about 'healthful' changes in the product.**

680273641-3643 (US 20998) (A) (emphasis added).

1338. BAT Industries Chair Patrick Sheehy, in a December 1986 letter to its partially owned Canadian subsidiary IMASCO, again reaffirmed the Defendants' collective position in response to a request that BAT support IMASCO's "safer cigarette research":

> . . . I cannot support your contention that we should give a higher priority to projects aimed at developing a 'safe' cigarette (as perceived by those who claim our current product is 'unsafe') by either eliminating, or at least reducing to acceptable levels, all components claimed by our critics to be carcinogenic.
>
> The BAT objective is and should be to make the whole subject of smoking **acceptable** to the authorities and to the public at large since this is the real challenge facing the industry. . . . .
>
> **In attempting to develop a 'safe' cigarette you are, by implication in danger of being interpreted as accepting that the current product is 'unsafe' and this is not a position that I think we should take**.

304017352-7354 (US 46613) (A) (emphasis added). Live examination of Dr. Wigand, who was personally aware of the substantive matters raised in the letter, confirmed that Sheehy wrote the letter for the reasons stated therein – not, as Defendants attempted to suggest, that it was merely a letter to resolve a dispute between scientists. Wigand TT, 1/31/05, 11658:21-11659:20; 11662:5-

13; 11662:24-11663:10; 11705:19-11712:13.

1339. As early as the 1960s, the Cigarette Company Defendants funded carefully controlled and collectively supported research in order to prevent individual companies from performing their own scientific research that might link smoking to disease. In 1962, BATCo's Charles Ellis told a conference of BATCo and B&W scientists, "We are committed not to carry out any biological testing ourselves and as I have said this is a valuable safeguard against unilateral action." 107468730-8764 at 8744 (US 20252) (A). The scientists recommended that any such testing be done through Harrogate, the lab supported by Tobacco Research Council, the British equivalent of the Tobacco Institute. 107468730-8764 at 8750 (US 20252) (A).

1340. BATCo urged that, as a strategic matter, Defendants should collectively perform all future research on the biological activity of cigarette smoke, noting:

> If, in fact, this had been the case in this circumstance then Lorillard could not have come out with such [a unilateral] pronouncement[ ] [that its Kent cigarette had a new filter with a 90% efficiency for phenol]. This is a good reason for doing medical and biological research industrywi[d]e and it points out the danger which might be expected when any single firm goes it alone.

107468730-8764 at 8735 (US 20252) (A).

1341. The BATCo researcher acknowledged that questions about the health effects of certain smoke constituents have both "the scientific side and the political attitude," and that the "**political implications have at the moment by far the greater importance** . . . ." He stated that Defendants refused to take "a more positive approach to this whole problem of producing ‘safe' cigarettes" because of the threat it posed to defense of ongoing lawsuits. He further urged that Defendants proceed collectively in any research studying the composition and adverse physiological effects of cigarette smoke. 107468730-8764 at 8735, 8737, 8739 (US 20252) (A) (emphasis added).

(iii) Philip Morris

1342. Immediately following the publication of the 1964 Surgeon General's Report, Philip Morris's scientists urged the company to be at the forefront of less hazardous cigarette development, reduced risk advancement, and product testing – to be prepared in case Defendants' agreement not to compete on smoking and health issues was abandoned. As shown below, in-house scientists' proposals to take a responsible approach to the testing and research on the health effects of Philip Morris's cigarettes were overridden by Philip Morris executives who were committed to the Gentleman's Agreement and the original plan hatched at the Plaza Hotel in December 1953. Farone WD, 138:22-139:10.

1343. In a February 18, 1964 memorandum, chief scientist Helmut Wakeham urged Philip Morris to: (a) gain a competitive advantage by increasing in-house research on the connection between smoking and health and by developing a "superior filter cigarette with acceptable taste having high gas-phase absorption and very low TPM [total particulate matter, or tar]" which would be "biologically approved on all major health questions"; (b) recognize that "health impact will surely be an important, perhaps the most important, basis for competition in the industry in the next few years"; (c) break up what he acknowledged to be "the common front approach of the industry through The Tobacco Institute and TIRC. RJR advocates a joint front, sit tight, status quo approach"; (d) establish "suitable biological approval specifications for all new smoking products"; and (e) change the status quo so that Defendants would conduct their own research on the connection between smoking and health "if they expect to develop proprietary position for the health competition." 1000335612-5625 at 5615-5618, 5623 (US 22986) (A); Farone WD, 162:7-19.

1344. Later in 1964, chief scientist Wakeham confirmed that Philip Morris's interest in

expanding its research capabilities was defensive in nature: "**Our philosophy is not to start a war, but if war comes, we aim to fight well and to win**." 1000307159-7164 at 7164 (US 20092) (A) (emphasis added); Farone WD, 139:19-140:8.

1345. Contrary to Wakeham's urgings, however, Defendants continued to **jointly** fund and perform biological research on the health effects of smoking, rather than individually performing cigarette research and development programs that could lead to competition on health claims in the marketing of cigarettes. In February 1968, for example, the scientific directors of Philip Morris, RJR, B&W, Lorillard, American, and Liggett met "to discuss the scientific aspects of the problems facing the tobacco industry with specific emphasis on tobacco and health." Notes of the meeting from Liggett's representative reported **"a general feeling that an industry approach as opposed to an individual company approach was highly desirable**." LG0092757-2761 at 2758 (US 56988) (O) (emphasis added).

1346. Chief scientist Wakeham admitted as early as 1964 that Philip Morris had the ability to conduct studies to determine whether Philip Morris's various cigarette designs caused any differential incidence of disease. Wakeham argued that Defendants, through TIRC/CTR, should sponsor an epidemiological study of the comparative health effects on smokers of non-filtered cigarette and filtered cigarettes:

> The health value of filters is undersold in the [Surgeon General's] report and is the industry's best extant answer to its problem. The Tobacco Institute obviously should foster the communication of the filter message by all effective means. At the same time TIRC can profitably sponsor development of those areas where exceptions to the report's treatment have been made [earlier in the document]. **Specifically, a prospective survey of filter vs. non-filter smokers is appropriate**. . . . [T]he industry must come forward with evidence to show that its products, present and prospective, are not harmful. Medical research must be done for this purpose, as well as for judging the merit of work done outside the industry. **The industry should abandon its past reticence**

> **with respect to medical research. Indeed, failure to do such research could give rise to negligence charges**.

1000335612-5625 (US 22986) (A) (emphasis added). Philip Morris never conducted this or any other epidemiological research. Carchman PD, Williams v. Philip Morris, 3/16/99, 54:22-58:13.

1347. Chief scientist Wakeham was well aware of the existence of the Gentleman's Agreement and the Defendants' continued adherence to it. In fact, BATCo scientists reported that Wakeham "was told that **there was a tacit agreement among the head of the US companies that [in-house biological research] would not be done**." 110315968-5971 at 5969 (US 26378) (A) (emphasis added).

1348. In the late 1960s, Wakeham again proposed to executives that Philip Morris abandon its agreement not to conduct in-house biological research that could lead to the conclusion that cigarettes cause disease. In a November 1968 internal memorandum identified as a draft and entitled "Need for Biological Research by Philip Morris Research and Development," Wakeham referred explicitly to the Gentleman's Agreement:

> We have reason to believe that in spite of **gentlemans [sic] agreement from the tobacco industry** in previous years that at least some of the major companies have been increasing biological studies within their own facilities. . . . **Essential** to the development and introduction of any product are **biological studies** proving safety of the product . . . .

1001607055-7061 at 7058, 7061 (US 21617) (A) (emphasis added). Dr. Farone saw this document when he was at Philip Morris. Farone WD, 135:20-136:15. See also 1002635062-5065 (US 20139) (A) (another version of the Wakeham memorandum recognizing that "this proposal to carry out biological research and testing may seem a radical departure from previous policy and practice"); Harris WD, 152:16-156:26.

1349. In that same memorandum, US 20139, Wakeham again proposed that Philip

Morris test the biological effects of its cigarettes for defensive reasons: "We must know more about our products than anyone else so that we are not surprised when our competitors or our antagonists publish information about our products. We must know how our products perform in conventional tests regardless of whether or not we believe the tests to be significant." 1002635062-5065 at 5065 (US 20139) (A).

1350. In July 1969, Wakeham, at the instruction of Philip Morris CEO Joseph Cullman III, prepared and distributed an eight-page proposal outlining a $500,000 per year, in-house biological research and testing program for Philip Morris. Wakeham emphasized that since the National Cancer Institute ("NCI") had begun using biological assays to test experimental cigarettes and was likely to proceed to test actual commercial brands of cigarettes, Philip Morris should perform its own testing on commercially sold cigarettes so that it would be prepared to respond to research results NCI produced. 2024972427-2436 (US 87559) (A).

1351. On September 9, 1969, Wakeham continued to advocate to Philip Morris executives that Philip Morris should perform research on and testing of the health effects of its cigarettes. In a memorandum, Wakeham reviewed British mouse skin painting data and: (a) noted that this was the best test for measuring biological activity for cigarette smoke, notwithstanding Defendants' public criticisms of this method; (b) explained the results to show the existence of a dose-response relationship, and to show that reconstituted tobacco cigarettes "made from whole leaves but not containing excess stems" produced fewer tumors than did condensate from flue-cured cigarettes, which suggested that the former results might play a positive role in developing a less hazardous cigarette; and (c) urged Philip Morris to begin testing its cigarettes with this methodology. This memorandum stated, in part:

> The mouse skin painting carcinogenicity test, despite all of its short-comings, is widely accepted as the critical test for biological

> activity of cigarette smoke. Even the tobacco industry is now hung on this one because of its acceptance of this test in the Chemosol evaluation. The Tobacco Working Group of the National Cancer Institute is also using this test as the primary assay of smoke. The conclusion from all this is inescapable: We should start testing our products now because it will be two years before we know the answer.

1000855768-5770 at 5768-5769 (US 20111) (A).

1352. Presented with the proposal and its competitive importance as explained by his head scientist, Chief Executive Officer Cullman decided that Philip Morris would not pursue any biological research program. On October 7, 1969, Cullman wrote to Millhiser: "I have discussed with you and George Weissman informally my serious reservations about the wisdom of embarking upon this program at this time. . . . **I still favor having the Council for Tobacco Research - U.S.A. approach this problem as it has in the past. The legal, philosophical, and practical problems of mounting a PM biological research program seem to me to outweigh the advantages**." 1003058247-8247 (US 87561) (A) (emphasis added).

1353. And in a February 24, 1970 memorandum to Wakeham that was copied to Weissman, company general counsel Paul Smith, Millhiser, and Wakeham's boss Clifford Goldsmith, Cullman elaborated on his decision and "the strong stand I have taken in connection with certain kinds of research activities by Philip Morris." He wrote that "our present policy is the correct one and that the program you are carrying out in Boston is as far as we should go now. **The possibility of getting answers to certain problems on a contractual basis in Europe appeals to me and I feel presents an opportunity that is relatively lacking in risk and unattractive repercussions in this country**." 1000216742-6742 (US 20081) (A) (emphasis added). Philip Morris ended up buying the INBIFO lab in Cologne, Germany, to perform some biological research in a way that would avoid "unattractive repercussions" in the United States.

Farone WD, 138:1-7. RJR considered even research at this Philip Morris-owned overseas facility a breach of the Gentleman's Agreement.

1354. Jerry Whidby – a scientist at Philip Morris for 26 years and a paid consultant to Philip Morris since his retirement in 1998 – confirmed that Philip Morris USA never conducted such biological testing of commercial cigarette brands like that advocated by Wakeham in the 1960s, and only started conducting some such testing in the late 1990s because of pressure from plaintiffs' lawyers in litigation. Whidby WD, 12:2-20, 13:10-13, 13:19-14:23; Whidby TT, 2/22/05, 13968:20-13971:9. Prior to 1998, Whidby never recommended that Philip Morris conduct biological testing of its as-marketed brands. Whidby WD, 15:1-3. Similarly, former Philip Morris scientist Richard Carchman has confirmed that the first time Philip Morris commercial brands were subjected to biological assays for cytotoxicity was 1999. Carchman PD, United States v. Philip Morris, 4/25/02, 220:6-223:20.

1355. And as Dr. Farone testified, he was directed by his superiors to maintain compliance with the Gentleman's Agreement: ". . . all of the testing, the – this huge amount of biological testing was all done on prototypes and Burley cigarettes and everything, virtually, **except cigarettes that are actually sold on the market**." Farone TT, 10/12/04, 2101:6-18 (emphasis added); Farone TT, 10/7/04, 1913:24-1914:4 (Farone acknowledged Philip Morris's production of biological research results, but noted that "none of them relate to marketed products.").

1356. Consistent with the Gentleman's Agreement not to perform certain types of biological research in the facilities of the Defendant Cigarette Companies, which continued into the 1980s, Philip Morris prohibited its scientists from publicly disclosing, without prior legal department approval, that Philip Morris was engaged in in-house animal research. See, e.g.,

1000127789-7790 (US 34422) (A) (1980 memorandum of a Philip Morris scientist referring to the Defendants' longtime legal defense that "'We within the industry are ignorant of any relationship between smoking and disease. **Within our laboratories no work is being conducted on biological systems**.'") (emphasis added); Harris WD, 218:1-219:23.

1357. On January 26, 1981, Paul Eichorn, a scientist on Philip Morris's manuscript review board, requested permission to circulate for internal review a report of a study that involved administering nicotine to rats. Eichorn asked Robert Seligman, Philip Morris's Vice President for Research & Development: "Before the Manuscript Review Board starts its review we would like to know if the subject matter (nicotine and physiological response – study in our facilities) would be allowed for release." Seligman responded on February 2, 1981: "I plan to pass this by Alex Holtzman [Philip Morris's counsel in New York] **before** going back to the M.S. board." 2021380745-0746 at 0745 (US 87562) (A) (emphasis in original); Farone WD, 153:23-155:18.

1358. Eichorn circulated the report to other Philip Morris personnel for review. The responses make clear Philip Morris's continuing secrecy of its in-house animal research:

> **Are we willing to publish results of studies performed inhouse on intact animals**? WFG [Walt Gannon]" "Good question RT [Robert Thomson] . . . Since word of this work and similar stuff does appear to find its way outside the company anyway publication may be preferable to suspicions. WF [William Farone] . . . **Need to get legal OK out of N.Y.** 2021380714-0714 (US 87563) (A) (emphasis added) (writer unidentified);
>
> **Do we want it known that we do animal studies**? CHO [Cynthia H. O'Donohue]. 2021380718-0718 (US 87564) (A) (emphasis added); and
>
> Longest abstract I've seen. **I'm still doubtful on publishing rat projects**. BK [B. Kosakowski]. 2021380721-0721 (US 87565) (A) (emphasis added).

1359. And, notwithstanding the 1981 claim by RJR's Frank Colby that Philip Morris was violating the Gentleman's Agreement, in 1984 Philip Morris research Director Thomas

Osdene, who oversaw Philip Morris's externally conducted research related to the health effects of smoking, testified that all such research was done outside of Philip Morris's research facilities in the United States. Osdene 30(b)(6) PD, Cipollone v. Liggett, 10/3/84, 47:25-48:16, 82:6-24, 123:15-124:5 ("We did not do any animal work in-house in the United States.").

1360. Dr. Farone confirmed that Philip Morris was adhering to the Gentleman's Agreement in 1984:

> . . . from a factual basis, all I can say is that in 1984, because of what Philip Morris would not do, at least what they thought, my supervisors, my superiors, vice presidents, both, said it was in effect. . . . I would have a hard time because of my factual knowledge in saying that it stopped some time sooner because I know in '84 it's still going on."

Farone TT, 10/7/04, 1905:21-1906:2.

1361. Indeed, at the April 14, 1994 Waxman hearings, B&W's CEO Tommy Sandefur and American Tobacco's CEO Donald Johnston confirmed that neither company had performed biological research in its own facilities. 516017590-7910 at 7756 (US 22901) (A).

(iv) Brown & Williamson

1362. B&W's adherence to the agreement not to conduct meaningful biological research in-house to develop potentially less hazardous cigarettes, and not to compete on health claims was articulated in a 1976 memorandum from counsel**, which indicated that Brown & Williamson should adhere to "the view that the customary use of tobacco is not unduly dangerous, and thus the manufacturer is not under a duty to consumer[s] to warn . . . or to speculate about 'healthful' changes in the product."** 680273641-3643 (US 20998) (A) (emphasis added).

1363. B&W believed that research on potentially less hazardous cigarettes would undermine Defendants' public relations and litigation position that cigarettes are not harmful.

Indeed, in 1989 B&W's longtime in-house counsel advised that B&W should not pursue the development of any less hazardous cigarette or undertake meaningful biological research that would be inconsistent with its public position regarding smoking and disease:

> You asked me to outline a response to a suggested strategy for modification of cigarettes in ways which would be said to reflect the smoking and health controversy. The suggestion includes constructing cigarettes which would have modifications such as lower biological activity, lower levels of specific smoke constituents, and lower tar and nicotine; approaching 'regulators' to seek approval of such modified products; and marketing the modified products to consumers. . . . [B&W] should oppose the suggested strategy for several reasons, the first of which is that **science does not support offering a modified product as relevant to concerns about smoking and health**. . . . B&W's positions on smoking and health are based on science. Today, **our opinion is science has not established that smoking causes disease in humans and no cigarette can be constructed which would be safer than another**. . . . Neither the Ames test nor any other bioassay (including 90 day rodent inhalation tests) would provide substantiation for a manufacturer's statement that a product modification was significant for smoking and health. . . . [I]t is not established that the reduction or removal of specific smoke constituents or of smoke constituents across the board, such as in low tar cigarettes, is significant for smoking and health.

680701034-1038 at 1034-5 (US 21010) (A) (emphasis added).

1364. In the fall of 1989, scientific leaders of BATCo research from its B&W location and from its foreign entities met in Vancouver, British Columbia, to discuss the development of a less hazardous cigarette, including the selective reduction of harmful substances and nicotine analogues. The scientists produced a twelve page set of minutes from that meeting. B&W and BATCo lawyers – particularly B&W Assistant General Counsel Kendrick Wells – obtained a copy of those minutes and eliminated ten of these pages, and substantially revised the remaining text. Kendrick Wells participated in this process, which reduced the minutes to approximately two and one-half pages, despite the fact that he did not attend the meeting. All references to less

hazardous cigarettes – from which a conclusion ostensibly could be drawn that currently sold cigarettes were not safe and that nicotine is addictive – were removed. Wigand WD, 35:11-53:22.

1365. Following the Vancouver meeting, B&W President Thomas Sandefur instructed Vice President for Research and Development Jeffrey Wigand to discontinue discussion or research relating to the health or safety of cigarettes. According to the testimony of Dr. Wigand, B&W's Vice President for Research and Development from 1989-1993, Sandefur told him directly that he was curtailing B&W's work in this area because "any activity or allusion to a safer cigarette would be deathly contrary to the company position relative to liability issues associated with smoking and health." Wigand WD, 128:4-8. Sandefur also prohibited B&W from having a scientific and medical advisory committee to provide direction or support for the development of a less hazardous cigarette. Wigand WD, 14:12-15:19.

1366. During the 1980s, B&W revived Project Ariel, an old alternative smoking device that had been started in the early 1960s. Wigand TT, 1/31/05, 11592:19-11593:6. This revived project, called Project Airbus, was shut down shortly after the Vancouver conference. Id. The Airbus research was eventually discontinued at B&W, and transferred overseas to BAT's Southampton facility. Wigand WD, 126:6-8; Wigand TT, 1/31/05, 11703:2-11705:3. This research "was conducted overseas because, in particular, Mr. Sandefur was concerned, in conjunction with the law department, that any safer cigarette work that was done in the United States would be subject to discovery and would play well into the hands of an adversary. It also was of concern that safer meant that everything else was unsafe and, therefore, one of the fundamental tenets of the legal defense of the industry and B&W was that the products never showed causality to creating disease." Id.; cf. Farone WD, 147:12-150:12 (as Philip Morris's

Director of Applied Research, Farone was not permitted to see results of biological research conducted at Philip Morris's German INBIFO facility).

(v) American Tobacco

1367. An August 1965 memorandum from counsel for Defendant American Tobacco reported the company's adherence to the agreement not to engage in an in-house biological research program:

> At the conclusion of our conference Harlow stated the opinion that the program contemplated would make the Company's past and current position in the health field 'untenable'. Harlan thought that 'we'll have to give it [the program] up'. Harlow ultimately stated that, while the program was important and he wanted very much to do it, he would certainly not want to do anything that 'has an impact on the Company's position or if it makes that position any less sound than it now is'.

The memorandum further noted that American Tobacco had "initiated no biological research on animals in its own laboratory" since the 1930s. Counsel warned that undertaking a proposed biological research program, which included developing techniques "to measure and evaluate [and compare] the biological effects" of American Tobacco's products, would potentially undermine its "past fundamental position" denying the harmfulness of cigarettes and to support its position in product liability litigation: "any attempt by the Company publicly to assert product improvement in terms of health on the basis of its [proposed] animal results involves all the . . . problems for its public and legal position in the health controversy." MNATPRIV00026861-6916 at 6863, 6909, 6912 (US 21478) (A).

(i) Defendants Have Developed Products To Use Defensively If Another Company Violated the Agreement Not to Compete

1368. Consistent with Defendants' agreement not to compete on health claims in the marketing of cigarettes, Defendants have withheld or removed from the market cigarettes that

their internal scientific research concluded were likely to reduce smoker's exposure to known harmful smoke components, and were technological improvements over competitor's cigarettes. To the extent that Defendants developed less hazardous cigarettes or technologies, they have done so for defensive reasons – to be prepared to respond if other Defendants contravened the agreement and began marketing a cigarette using health-related claims.

(i) Philip Morris

1369. By November 1961, Philip Morris had conducted sufficient research to conclude that a "medically acceptable low-carcinogen cigarette may be possible." Its Research & Development Department continued research into less hazardous cigarettes in order to be prepared to compete on health grounds, but only if necessary. A Helmut Wakeham presentation to the Philip Morris board of directors in October 1964 noted:

> [T]he Research and Development Department is working to establish a strong technological base with both defensive and offensive capabilities in the smoking and health situation. **Our philosophy is not to start a war, but if war comes, we aim to fight well and to win**.

1000307159-7164 at 7164 (US 20092) (A) (emphasis added); Farone WD, 139:19-140:8.

1370. As additional evidence of Philip Morris's defensive approach to the development of less hazardous cigarettes, in 1979 Philip Morris was considering the development of an extension of its new Merit brand that would reduce the delivery of carbon monoxide. In his notes from the October 15, 1979 meeting of scientists to discuss this product, Robert Seligman indicated Philip Morris's plan to keep the less hazardous product on the shelf once developed: "!! May be a very important product to have ‘on the shelf' and in test market." 1003713936-3938 at 3938 (US 35855) (O).

1371. Also in the late 1980s, Philip Morris developed a product it considered

competitively superior to Reynolds's Premier and that it believed to be a potentially less hazardous cigarette. However, a June 27, 1990 presentation to the Philip Morris Companies (now Altria) Board of Directors discussed Philip Morris's plan to market the less hazardous product as part of a defensive strategy only if necessary:

> We have developed our . . . prototype to the point where **it is a good competitive product for the Premier category.** It is superior to Premier in taste, lightability, and it delivers much less carbon monoxide than Premier. Our product is approaching the point where it will be ready for test market – further refinements are required but **we think we are pretty well placed to respond if necessary to a relaunch of a Premier-type product by Reynolds**.

2046741061-1074 at 1063 (US 22185) (A) (emphasis added).

1372. In the late 1990s, Philip Morris undertook its Selective Constituent Reduction Program ("SCoR" or "SCRP") to develop a conventional looking, lit-end cigarette product (unlike the electrically heated Accord device) that removes certain harmful constituents from the cigarette smoke. Szymanczyk WD, 171:4-12. Philip Morris has failed to market this product at all even though beginning in July 2002, its longtime advertising agency Leo Burnett designed and created all advertising, point-of-sale and direct marketing communication for the product and spent "9-10,000 man hours on [the project in 2003]." Dudrek 30(b)(6) PD, United States v. Philip Morris, 8/26/03, 216:5-218:5, 234:3-20, 236:19-237:25, 238:18-239:25, 241:1-4.

1373.

Dudreck PD, United States v. Philip Morris, 8/26/03, 238:18-242:4 (Confidential lines at 239:11, 241:20-23, 242:3); LeVan PD, United States v. Philip Morris, 6/25/02, 163-175 (Confidential lines at 163:11-25 & 165:19-23).

1374.

Dudreck PD, United States v. Philip Morris, 8/26/03, 231-232 (Confidential lines at 231:1-11, 18-20; 232:5-7).

Dudreck, United States v. Philip Morris, 8/26/03, 239-241 (Confidential lines at 239:11, 241:20-23).

1375. and according to Suzanne LeVan, former Philip Morris Vice President of Premium Brands from 1991-2001 and current Vice President of Marlboro,

LeVan, United States v. Philip

Morris, 6/25/02, 159-162, 163-175 (Confidential lines at 163:11-25 & 165:19-23); 2085803066-3084 (US 25329) (O) (Confidential); 2085297717-7736 (US 25241) (O).

1376. Moreover, Philip Morris did not introduce any research comparing its SCoR prototypes to its very lowest delivery cigarettes, to make sure that they don't actually deliver higher levels of chemicals compared to cigarettes it already has on the market. Farone TT, 10/6/04, 1761:4-13.

PM3000172528-2555 (JD-050240) (A) (Confidential).

(ii) BATCo

1377. The most significant example of BATCo developing less hazardous cigarette technology solely as a defensive measure is its history with its "Project Ariel." Ariel represents the earliest known demonstration of a Defendant's ability to deliver satisfying levels of nicotine – the primary reason people keep smoking – in aerosol form, without delivering the harmful constituents of tobacco combustion. Harris TT, 10/19/04, 2878:9-2881:20. However, BATCo failed to market Ariel because doing so would have implicitly undermined its public position that conventional cigarettes do not cause disease. 201035126-5126 (US 20304) (O).

1378. The first practical device to alter or avoid combustion was Project Ariel, which was patented in about 1964 and "based on research done for BATCo at Battelle." BATCo's own scientists determined that this device was feasible. "If you can alter or avoid combustion, you have the potential to prevent the formation, and thus the delivery of many of the harmful compounds in smoke." Various embodiments of this design "have been pursued since then and have been shown to be commercially feasible. Ariel was basically a ceramic tube placed in the middle of a conventional cigarette to run the complete length of the rod. The tube was connected to the filter or a mouthpiece, but that filter or mouthpiece is isolated from the tobacco that

surrounded the ceramic rod. Nicotine or nicotine plus flavor was placed inside the tube so that when the tobacco burned the nicotine and flavor were released when the hot zone reached that portion of the ceramic tube. The ceramic could be made to break or crumble when the hot zone passes along the tube. Thus it had the look and feel of a cigarette but the only chemicals delivered in the mainstream were the ones placed in the tube." Farone WD, 177:10-179:7.

1379. On February 13, 1963, Sir Charles Ellis wrote to BATCo Production Director D.S.F. Hobson to suggest a gradual transfer of responsibility for Ariel from Battelle to BATCo, and a "definite phrase stating that BAT will undertake the commercial realisation of the project." Ellis went on to state: "**There is no doubt that the project is feasible . . . . I have myself smoked two crude versions of the devices . . . and obtained a marked nicotine effect without, of course, any combustion products**." 301121935-1936 (US 20581) (A) (emphasis added); see also 301121911-1917 at 1917 (US 22023) (A) (February 18, 1963, Battelle report confirming that "it was possible to smoke a complete cigarette and get some satisfaction out of it. These experiments make it appear very likely that a satisfactory device can be developed."

1380. However, BATCo continued to adhere to Defendants' joint position denying adverse health effects of smoking. On the same day, BATCo board member (and future Board Chairman) D.R. Clarke stated in a memorandum that he could not see any likely commercial application for Project Ariel, which "**certainly could have no future unless the ordinary cigarette is proved to be harmful and the industry is unable to remove the cause of the trouble**." 201035126-5126 (US 20304) (O) (emphasis added).

1381. In July 1966, BATCo scientists again confirmed that with regard to Ariel, "the original objective is feasible and achievable." 105534272-4285 at 4283 (US 20241) (O). And again in May 1967, BATCo in-house scientists concluded that "the ARIEL design provides . . . a

satisfying smoke which, within present knowledge, is 'healthy.'" 301099888-9902 at 9890 (US 21547) (A).

1382. BATCo's adherence to Defendants' joint public relations position scuttled further marketing development of Ariel by patent holder BATCo, B&W, or a licensee of the Ariel patent. On March 2, 1970, BATCo's S.J. Green (in London) informed B&W researcher I.W. Hughes (in the United States) that he favored licensing the patent if a license were requested. He stated: "My reasoning is that to refuse is to invite adverse reaction – if we claim this invention has any conceivable contribution to make on health grounds." Hughes responded to Green's letter, stating that it was the view of people with whom he spoke at B&W that "it would be inadvisable for his [sic] development to be licensed to anyone in the U.S.A.," noting further that both companies agreed that "**the time for marketing such a product has not yet come**." 107623970-3970 (US 34856) (O). In the end, Ariel was neither developed by BATCo or B&W, nor licensed to any third party.

(iii) R.J. Reynolds

1383. As discussed, notwithstanding Reynolds's public statement that "[i]f it is proven that cigarettes are harmful, we want to do something about it **regardless of what somebody else tells us to do. And we would do our level best**," see US FF § III.A(3)(d), supra, Reynolds has not sought to reintroduce into the market its EW product (EW-2) – which exceeded its market share benchmark when briefly sold in the mid-1990s – despite repeatedly reaffirming its scientific conclusions that EW reduced the delivery of numerous smoke constituents to smokers and had great potential to reduce harm to its users.

(iv) Brown & Williamson

1384. Evidence shows that, notwithstanding B&W's recognition of offensive or

affirmative market opportunities for a potentially less hazardous cigarette, it has chosen not to market Advance, as a potentially less hazardous product, though it believes it to be one, unless other tobacco companies market reduced exposure or "reduced harm" cigarettes.

1385. Since at least 2001, B&W has had two versions of Advance ready to launch (a 100s version and a king-sized version). B&W's "Advance Brand Plan," reveals that it will not market Advance as a less hazardous cigarette unless necessary to compete with other tobacco companies:

271098692-8695 at 8694 (US 22033) (O) (emphasis added) (Confidential).

1386. B&W, in fact, has tracked its competitors' progress with respect to the development of potentially less hazardous products, and is ready to market the Advance cigarette. According to the Advance Brand Plan,

271098692-8695 at 8694 (US 22033) (O) (emphasis added) (Confidential).

That is, the Advance Brand Plan stated:

271098692-8695 at 8693 (US 22033) (O) (Confidential).

1387.

Wessel

30(b)(6) PD, United States v. Philip Morris, 3/19/03, 87:22-88:8 (Confidential); Blackie WD, 183:3-4.

1388. Therefore, as shown here, Defendants' agreement not to compete on health claims and not to conduct biological research in-house has led Defendants to abandon development and marketing of cigarettes that their own in-house scientists have determined to be less hazardous, until such a time as less hazardous cigarettes must be used defensively.

(j) There is Substantial Evidence That Defendants Chose Not to Incorporate Feasible Designs or Product Features Found to Potentially Reduce the Exposure to or Harm from Cigarette Smoke

1389. Contrary to James Bowling's 1972 public statement that because Philip Morris did not "know if smoking is harmful to health," it did not know "what ingredients to take out" of cigarette smoke, substantial evidence shows that, internally, Philip Morris (as well as other Defendants) has recognized that cigarette smoke is harmful to smokers, and has focused considerable research attention on the primary known harmful chemicals in cigarette smoke. See 500324162-4164 at 4163 (US 20627) (A). Since at least the early 1960s, Defendants knew about the many toxic constituents in cigarette smoke, several of which were known to be animal or human carcinogens, and include the tobacco-specific nitrosamines ("TSNAs"), aldehydes, and polycyclic aromatic hydrocarbons ("PAHs"). Farone WD, 60:11-66:18, 69:23-71:23; see also 2023193305-3328 (US 20381) (A). Further, Defendants have at times demonstrated – internally

– the scientific capability to substantially reduce or remove those harmful components. See, e.g., US FF § III.A(3)(g)(i)(bb), supra (discussing RJR's multijet filter). However, for innovations that chemical or biological tests suggested could potentially reduce hazards, Defendants failed to integrate the technologies into marketed cigarettes and to meaningfully test whether such features in fact caused less disease for smokers. Farone WD, 4:6-19, 156:18-179:23; Farone TT, 10/6/04, 1624:24-1625:10 ("The work [on less hazardous cigarettes] was great, the technology we developed . . . was very adequate. **It's the implementation that's the problem**.") (emphasis added). Dr. Farone testified that "when you look at the utilization of those technologies, you see that they were not utilized or used in a manner that would allow you to prove or to actually make the products that you could make using those technologies. And basically, the ones that saves you money, that resulted in no net costs, were the ones that were used. . . ." Farone TT, 10/12/04, 2121:25-2122:5. Even for the technologies that Defendants have incorporated that have potential to meaningfully reduce delivery of harmful chemicals – including filters, ventilation, and expanded tobacco, these features have not been exploited to their utmost capability. Id., 2114:13-22. And as Dr. Farone made clear, it was the executives – not the scientists – who ultimately chose what and how to market. Id., 2124:25-2125:5. Such evidence rebuts Defendants' claims that their recently developed or test-marketed cigarettes use novel technologies to reduce smokers' exposure to these toxins, and rebuts their claimed commitment to protect smokers' health to the greatest extent possible.

1390. One category of evidence that Defendants claim responded to the United States' proof about Defendants' conduct in the area of less hazardous cigarette marketing was evidence tending to show that Defendants have expended considerable time, effort, and resources on scientific research. As evidence shows, including the testimony of Dr. Farone, it is not disputed

that Defendants' scientists conducted research on technologies and processes that could potentially reduce the harms from smoking.

1391. Defendants' attempted response overlooks two points. First, all of the internal work on less hazardous cigarettes is itself powerful evidence that Defendants, contrary to their public denials, did recognize that their cigarettes cause harm in smokers. As the direct testimony and cross-examination of Dr. Farone shows, Philip Morris hired him to help them develop a less hazardous cigarette. If Philip Morris genuinely believed that their cigarettes on the market posed no health danger – as they told the public, see, e.g., TIMN0074796-4800 (US 21480) (A) (Tobacco Institute statement that idea of safer cigarette is "tortured logic" because cigarettes not yet proven unsafe) – there would have been no need to hire someone specifically to oversee work to make them **less** dangerous.

1392. Second, the purpose and conclusions about the internal work remained largely internal. While the scientists kept busy, and developed many promising technologies, they did not decide what, whether, or when to market cigarettes. Those decisions were made by executives and the lawyers working at their behest. And as discussed further infra, the evidence collectively and convincingly shows that the executives and lawyers consistently chose loyalty to the Defendants' agreed-upon policy of denying smoking's harms, and adherence to the agreement not to compete on health claims, and thereby restricted whether and how they would develop, test, and implement the scientific work of their R&D departments.

1393. In short, this evidence simply does not rebut the United States' proof that Defendants' jointly agreed not to – and did not – compete in the marketing of cigarettes on smoking and health grounds, so as to avoid conflict with their fraudulent public position denying that cigarettes were harmful.

1394. Moreover, substantial evidence rebuts Defendants' claims regarding their development and marketing of potentially less hazardous cigarettes. The products Defendants identify generally employ design features or technologies known to Defendants for at least 45 years. Further, there is substantial evidence that during the past five decades Defendants decided not to incorporate design features or processes that Defendants' own research concluded were likely to reduce the hazards of smoking, were technically feasible, and were acceptable to smokers.

1395. Substantial documentary and testimonial evidence also counters Defendants' claim that they have done "all they could" to research and development potentially less hazardous cigarettes. See, e.g., Townsend WD, 15:8-14.

1396.

Townsend TT, 3/7/05, 14630:14-14631:24 (Confidential - Sealed).

Id., 14632:6-14633:24 (discussing 52392 7195-7289 at 7253 (US 93000) (A)) (Confidential - Sealed).

Id., 14634:7-14 (Confidential - Sealed), 14635:24-14636:4 (Confidential - Sealed).

Id., 14637:20-14639:14 (Confidential - Sealed); Townsend TT, 3/8/05, 14648:18-14651:25 (Confidential - Sealed).

Id., 14652:2-14658:1 (Confidential - Sealed).

(i) Altering or Preventing Cigarette Combustion and Nicotine Aerosols

(aa) Philip Morris

1398. By 1957, Philip Morris knew that reducing the burn temperature of cigarettes would decrease the levels of certain health-threatening hydrocarbons contained in smoke, and had identified potential methods of doing so, such as using catalysts; modifying the width of the cut and of the blend; controlling access of the air to burning coal; altering the cross-sectional size and shape of the cigarette; and using a non-catalytic filling material to conduct heat away from the coal and reduce its temperature. 1001935513-5548 at 5535 (US 20124) (A). It was forty years before Philip Morris test marketed a product based on this principle – the electrically heated Accord.

1399. By February 1972, Philip Morris research uncovered that scientists had the capability to substantially control the content of the smoke delivered to smokers by its cigarettes, and to limit the delivery of substances in the particulate phase of smoke that it acknowledged internally were "unhealthful." In a memorandum memorializing an "Idea Disclosure for an Indirect Cigarette," a Philip Morris scientist described a product which could use indirect heat to generate and deliver to the smoker an aerosol. The researcher stated that "[t]he particulate phase of the aerosol is generated from pure substances and its composition **is under full control;**

hence, it is capable of being made not only not unhealthful, but positively healthful." In fact, this technology was publicly known since the patents for BATCo's Ariel product were granted in the early 1960s. Philip Morris has never actively marketed an aerosol cigarette. 2026378749-8750 (US 20425) (A) (emphasis added); see also PM3000136418-6422 at 6420 (US 61504) (A) (1976 Philip Morris document indicating that "we can filter out all tar"); Farone WD, 178:6-14.

1400. In late 1993, Philip Morris conducted additional research regarding this approach through its "Ideal Smoke Program," where the objective was to "develop an aerosol delivery system for desired compounds only." 2050742052-2053 at 2052 (US 20491) (A); 2061945926-5928 at 5926 (US 20509) (A). A high-ranking scientist at INBIFO stated that among the "[d]esirable components, . . . [n]icotine and flavor components are perceived as essential." 2023119230-9231 (US 20376) (A); Farone WD, 81:15-20.

1401. Additionally, Philip Morris could easily inform smokers how to substantially reduce their intake of benzoapyrene ("BAP"), which has been long recognized as a carcinogen delivered by cigarette smoke, but has not done so. As early as 1958, a Philip Morris executive, Jet Lincoln, decreed that "BENZPYRENE MUST GO." 1005038656-8658 (US 22214) (O). And in 1997, Philip Morris Companies pledged publicly to shareholders to "look for opportunities to eliminate BAP from tobacco smoke." 2084331906-1944 at 1933 (US 88034) (O); 2065378797-8797 (US 88037) (O) (pledge, in draft opposition to shareholder proposal, to explore ways "to reduce, and perhaps eliminate, BAP from tobacco smoke"). In fact, Philip Morris has recognized that **90 percent of the BAP delivered by a cigarette is delivered in the "lighting" puff, and that the lighting puff of a match-lit cigarette delivers 20 times more BAP than any other puff**. 2086131534-1543 (US 70846) (O); 2072217133-7134 (US 88033)

(O). Philip Morris has also discovered that **the delivery of BAP from the lighting puff is cut by half if the smoker uses an electric lighter**, rather than a match, to light the cigarette. Yet Philip Morris has not taken the simple step of informing consumers of this or providing smokers with instructions for how to light a cigarette to minimize the disproportionate level of BAP from the lighting puff. Alonso PD, United States v. Philip Morris, 7/11/03, 155:2-156:15.

(bb) Lorillard

1402. The lack of activity at Lorillard regarding the development of a less hazardous cigarette similarly reflects behavior consistent with the "Gentleman's Agreement." Like other Defendants, in the early 1960s Lorillard studied ciliastasis. Ciliastasis is a condition in which the lung's cilia, the hair-like structures lining the lung passageways that are responsible for removing foreign matter such as particulate matter from cigarette smoke, become immobilized, or static, and cease their cleansing function. Lorillard conducted significant research relating to one compound in particular, phenol methyl oxadiazole ("PMO"), as a possible solution to the problem of ciliastasis. Coggins PD, United States v. Philip Morris, 6/27/02, 32-35.

1403. PMO was added to cigarettes for testing, but the taste was found to be unacceptable. Rather than conduct committed research to attempt to overcome this obstacle, Lorillard abandoned research on PMOs by the end of the 1960s. Coggins PD, United States v. Philip Morris, 6/27/02, 32-35.

1404. Like other Defendant manufacturers, Lorillard developed a sophisticated understanding of the physics and chemistry of tobacco and tobacco smoke. For example, a November 1973 document stated that "The analysis of a number of tobacco and smoke components and sever tobacco physical properties is regularly carried out in support of projects originating both within R&D and in other departments . . . These analyses include menthol,

humectants, flavors, **carbon monoxide**, carbon dioxide, plasticizer, specific volume, moisture, **particle size** and others." 83250679-0693 at 0688 (US 55641) (A) (emphasis added). This document further discussed Lorillard's intent to research and develop what it termed a "safe cigarette," and estimated – **in 1973** – that with the expenditure of a few hundred thousand dollars, "a marketable [‘safe cigarette'] product should be realizable within a total time span of five years." 83250679-0693 at 0692 (US 55641) (A).

1405. In 1977, Lorillard set a goal to develop and sell a "zero tar" cigarette by 1980, the year that Philip Morris introduced Cambridge. In a memorandum to Research Head Alexander Spears discussing the filtration, tobacco blend, and flavorant requirements to create such a low delivery product, Lorillard's scientist set "the probability of total success at 75 to 80 percent." 01417692-7714 (US 20047) (A).

1406. Notwithstanding Lorillard's steadfast adherence to the industry's public relations position that no cigarettes were a proven cause of disease, Lorillard has long recognized explicitly that a number of chemical and biological tests are capable of providing meaningful information about whether a change to a cigarette design or component is likely to reduce the carcinogenicity, mutagenicity, or genotoxicity of cigarette smoke. A 1986 draft document titled "Cigarette Modification Project: Biological Aspects" states Lorillard's assumptions prior to embarking on a project to conduct biological tests to evaluate potentially less hazardous products. One such assumption is: "**Our understanding of the causation of these diseases [cancer, emphysema, and cardiovascular disease] is sufficiently advanced that we may reasonably target specific smoke components or classes of components for reduction**." The document goes on to identify several different tests – including Ames mutagenicity tests, mammalian cell genotoxicity assays, and in vivo genetic toxicity screening – that would allow

Lorillard to evaluate whether its products were likely to be less hazardous. 87633619-3626 (US (O) (emphasis added); see also 87213942-3966 (JD-024775) (O).

(ii) Technologies to Reduce Delivery of Carcinogenic Tobacco-Specific Toxins

1407. For the last five decades, Defendants have been aware of various techniques to significantly reduce the delivery of tobacco-specific nitrosamines ("TSNAs") in cigarette smoke. Only in the last few years have any Defendants chosen to incorporate one of these approaches in a cigarette for sale.

(aa) Philip Morris

1408. Philip Morris has engaged in a course of delay and never-ending research of technologies to reduce TSNAs. Farone WD, 168:14-173:16. By 1980, Philip Morris had developed at least three different technologies for lowering the oxides of nitrogen ("denitrification") contained in reconstituted tobacco leaf, a tobacco filler created from bits of tobacco leaf discarded during the manufacturing process. Philip Morris found each of the three methods reduced the formation of nitrosamines well beyond the method then in use, and concluded each of the three was commercially and economically feasible. However, Philip Morris did not implement any of these technologies in the years after the technology was created. Farone WD, 172:11-173:16.

1409. Philip Morris secured at least three patents on various denitrification processes. See 2028516499-6546 (US 37394) (A) (electrodialysis) (Patent No. 4,566,469); 2051804769-4776 (US 78963) (A) (patent for "dissimilatory denitrification" that also recognized that "smoking products having lowered amounts of oxides of nitrogen present in smoke are desirable."); 2028596292-6292 (US 23057) (A) ("thermophilic process") (Patent No. 4,685,478); see also 2022203905-3906 (US 20355) (A) (1981 process improvement).

1410. In December 1980, Susan Dobberstein, a Philip Morris scientist, reviewed three different approaches that Philip Morris had to date developed to denitrify tobacco. Dobberstein concluded that all three were technically and economically feasible, and that "**consumer tests showed all three processes to be acceptable to the internal smoking panels used by Philip Morris to measure product "subjectives."** 2028516499-6546 (US 37394) (A) (emphasis added).

1411. Notwithstanding these conclusions, Philip Morris utilized none of these technologies to reduce the delivery of oxides of nitrogen to the smoker. Philip Morris has claimed that the NOD ("naturally occurring denitrification") process was abandoned in 1984 because it did not work consistently, even though it had patent applications stating to the contrary pending before the Patent and Trademark Office. In fact, a 1983 document states that NOD "[p]roduction feasibilit[y] was demonstrated." 2021605662-5671 (US 20351) (A); 2050824506-4550 at 4508 (US 20493) (A). Evidence in the record also shows that other potential obstacles were overcome. 2050817028-7043 (US 22219) (A) (November 1983 report sent to high level PM scientists showed that "modification of the NOD process improved the subjective character of NOD RL-TC on internal panel tests" and that the scientists had demonstrated the "reproducibility of the process"); Farone WD, 173:10-17.

1412. In the end, Philip Morris did not incorporate any of the improved methods for denitrifying reconstituted leaf, but not because it did not work. Philip Morris's Tobacco Technology Group ("TTG"), the internal committee responsible for deciding the manufacturing processes and technologies for Philip Morris entities to use worldwide, preferred as of September 1983 to "put NOD on the shelf," and "decided not to rush into commercializing" this process which reduced the nitrates in reconstituted leaf by 95%. Executive Hamish Maxwell reflected

the ambivalence, questioning "whether we really need to bring our NO delivery down" at all. 2000750261-0264 at 0262 (US 87567) (A); see also 2026232862-2862 (US 87568) (A) (describing the TTG's mission); 2000572749-2755 (US 87569) (A) (minutes of TTG meeting discussing denitrification processes).

1413. Yet in 2000, Philip Morris appeared to recognize again the effectiveness of bacterial denitrification and to consider this method in modifying the RL process to "eliminate or reduce" the elevated nitrosation occurring during the current RL process. 2086117481-7483 at 7481 (US 45774) (A); Farone WD, 173:17-174:8. As Dr. Farone testified on Philip Morris's failure to incorporate the denitrification technologies that were previously successfully tested,

> My criticism is that they have patented technology which they said worked, and today, as I read the research reports, once again Philip Morris is looking at microbial – using microbes to change the materials that are in tobacco. And we had several projects going on there that already did it. The data showed that you could make the plants. You could smoke the tobacco. You could put it in cigarettes.
>
> And what I read now is, Oh, we're thinking about let's try this once again. So my criticism is paralysis by analysis."

Farone TT, 10/6/04, 1771:9-17.

1414. Philip Morris did not offer any evidentiary counter, but rather asserted that these denitrification processes, even if successful, offered only incremental benefits because Philip Morris was already using a denitrification process using crystallization that removed 90% of the nitrates in their "reconstituted leaf," or RL. However, Philip Morris did not refute Dr. Farone's testimony that "**we knew that PM's nitrate levels were still the highest, and we needed to reduce the other 10% just to make our levels comparable to the competition**. The use of these processes in RL was only to be a first step. The goal was to use the process on Burley tobacco in general because this was the real problem." Farone WD, 172:18-23; Farone TT,

10/6/04, 1766:6-15.

1415. By at least 1982, Philip Morris developed another way to reduce the oxides of nitrogen in its cigarettes – blending and preparing tobaccos that would deliver lower levels of oxides of nitrogen. Farone WD, 168:18-169:22.

1416. Bright tobacco, also known as flue-cured tobacco, is one of the main tobaccos used in cigarettes sold in the United States. Bright tobacco has traditionally been cured by heating it in barns with propane heaters. Burley tobacco is the other main tobacco used in American cigarette production. Burley tobacco, which is naturally higher in alkaloids that promote TSNA formation, is "air-cured." PM3000136161-6165 at 6161 (US 61555) (O) (describing tobacco curing methods and content of "important ingredients" in various strains including sugars, nicotine, and total volatile bases); Farone WD, 44:2-45:22, 46:16-47:21. In a 1985 patent that Philip Morris submitted in 1982, Philip Morris described its discovery of a way to air-cure Bright tobacco and reduce harmful nitrogen oxide ("NO") in smoke:

> This novel tobacco, when formulated as a smoking article, such as a cigarette, and smoked, presents the aroma and taste of a blended tobacco smoking article and may be substituted in whole or in part for burley tobacco in blended tobaccos while substantially maintaining the subjective qualities of the burley tobacco and yet, as compared to the burley tobacco-containing blends, provides a reduced NO content in the smoke.

1000015245-5246 (US 22133) (A); 511351011-1019 (US 88040) (A) (Patent No. 4,516,590, filed November 26, 1982, issued May 14, 1985); see also 2026526349-6353 (US 86964) (A) (Patent No. 4,607,646, submitted in Feb. 1984, issued to Cliff Lilly on August 26, 1986, patenting a method for treating bright tobacco to create a tobacco with Burley's smoking characteristics, but without Burley's 'less desirable features').

1417. This invention allowed for substitution of air-cured Bright tobacco for burley

tobacco, and thus represented a potential advance in reducing the delivery of harmful TSNAs to smokers. However, while Philip Morris conducted a successful trial of incorporating air-cured Bright tobacco into marketed products, Philip Morris did not pursue utilization of air-cured Bright further. Farone WD, 169:23-171:17. Philip Morris offered no trial testimony to explain their failure to take advantage of this promising way to reduce smokers' exposure to TSNAs. Further, current Philip Morris Vice President of Product Development and Technology, Hector Alonso was not even aware of Philip Morris's prior successful research and utilization of lower TSNA air-cured Bright tobacco. See Alonso PD, United States v. Philip Morris, 7/11/03, 131:25-132:13.

1418. By 1985, Philip Morris had demonstrated its ability to use tobacco blend selection to "Deliver Adequate Nicotine and Reduced TSNA [Tobacco Specific Nitrosamines]." On April 1, 1985, Philip Morris scientists Sue Tafur and Ed Lambert wrote a memo to Ted Sanders, a high-level Philip Morris scientist, which was copied to other Philip Morris scientists including Jim Charles, Robert Ferguson, Robin Kinser, and William Morgan, reporting on their experiment "to determine if it is possible to deliver adequate nicotine to MS [mainstream] smoke while reducing mainstream TSNA by using an experimental filler blended from a high alkaloid tobacco with low alkaloid and oriental tobaccos. This work was designed to provide a preliminary indication of the feasibility of the concept." Tafur and Lambert concluded that "[t]he data presented here indicate that **the approach to delivering adequate nicotine to MS while reducing TSNA can be met by judicious blending of tobaccos**." 2001113614-3618 (US 22216) (A) (emphasis added).

1419. Thus, notwithstanding Defendants' scientific knowledge for the last five decades of methods to substantially reduce TSNA delivery from several different types of tobacco,

including burley and reconstituted leaf, Philip Morris (and other Defendants) have failed to incorporate such technology into a nationally marketed reduced risk cigarette.

1420. To the contrary, rather than incorporate reduced risk technologies into cigarettes, as recently as 2001, in response to Vector announcing its plans to market Omni, its potentially reduced exposure cigarette, Philip Morris and BATCo lobbied Argentinian officials to prohibit cultivation of the genetically modified tobacco that Vector says is a key component of Omni. Roberto Sanchez Loria, Agriculture Secretary of Tucuman, Argentina, confirms that these two companies warned him that his "province is in danger of losing business" from Defendants if it continues to plant transgenic tobacco. 524007145-7151 at 7150 (US 20917) (O).

1421. In the late 1980s, Philip Morris developed and utilized a process – supercritical fluid extraction – that removed virtually all of the nicotine from cigarettes. Because nicotine is the primary alkaloid in cigarettes responsible for TSNA formation, Philip Morris repeatedly demonstrated and reported that the supercritical fluid extraction process also removed virtually all of the harmful TSNAs from tobacco. Farone WD, 174:9-175:10. Yet when Philip Morris test-marketed the product under the brand names Next and De-Nic, it did not inform consumers that by removing nicotine, the cigarette eliminated the main source of physiological dependence that causes the repeated inhalation of harmful cigarette smoke constituents, or that the product had a substantially reduced level of TSNAs. 2023088294-8297 at 8296 (US 20375) (A); 2022207033-7038 (US 20356) (A). In fact, Philip Morris introduced no evidence – just counsel's arguments – that Philip Morris conceived of, designed, or tested its denicotinized cigarettes as a possible less hazardous cigarette.

(bb) R.J. Reynolds

1422. RJR, Philip Morris, and B&W all claim to have incorporated in their products, to

varying degrees, Bright tobacco that has been cured by an indirect heating process that replaces the old propane flue-curing technique.

1423. Reynolds takes credit for the development of this technology, and claims it is responsible for a 93% reduction in TSNAs. Townsend TT, 3/8/05, 14738:2-21. Reynolds further boasts that "one of the first things" it then did was to share its discovery with all of its "major competitor companies" because it was their obligation as scientists to do so. See Townsend WD, 66:23-67:4; see also Townsend TT, 3/8/05, 14744:1-14745:2. Importantly however, Reynolds was forced to admit that the **only** companies with whom it shared this technology were the (non-Liggett) joint defendants – i.e., other members of the RICO enterprise and conspiracy. Moreover, they did not share with the only company that Reynolds knew to have been aggressively researching TSNA-reduction methods – Star Scientific – even though Star had invited Reynolds to its labs and revealed all of its processes to Reynolds. Townsend TT, 3/8/05, 14744:1-14752:10 (discussing, in part, 505724149 (US 93144) (A)).

1424. The sincerity of Reynolds's commitment to reducing its consumers' exposure to TSNA's is undermined by evidence showing that almost a decade before Reynolds introduced its TSNA-reduced line in 2003, Reynolds was aware that its "EW" product – which had proven itself commercially acceptable in its test-market – reduced TSNAs by 65% compared to Philip Morris's Marlboro Lights by virtue of its removing nitrogen-containing compounds from tobacco. Yet in 1997 Reynolds removed EW from the market – at a time when it could not know the prospect of developing another such consumer-acceptable technology (like the heat exchange process it learned of years later) to reduce TSNAs. Townsend TT, 3/8/05, 14753:11-14759:14.

(iii) Charcoal Filters

1425. Like the idea of reduced TSNA deliveries through tobacco growing, curing, or

treating methods, Defendants' recent re-focus on charcoal filters concerns a technology Defendants have known to be effective for at least 45 years. Farone WD, 159:17-162:6.

1426. By 1959 at the latest, Defendants knew of the potential for filters containing charcoal or activated carbon to absorb harmful constituents of smoke, in particular from the part of cigarette smoke which remains in gaseous (as opposed to particulate) form. The February 18, 1964 report from Helmut Wakeham to Philip Morris senior management titled "Smoking and Health Significance of the Report of the Surgeon General's Committee to Philip Morris Incorporated," stated that "[t]he [Surgeon General's] report gives inadequate recognition to the selective adsorption of certain gas phase components from smoke which affect pulmonary cleansing mechanisms (viz., mucus flow, cilia activity). The statement that carbon filters previously employed do not have specific power to scrub the gas phase ignores pioneer work at American Tobacco reported in Tobacco Science, Vol. 3, pp. 52-56, 1959." 1000335612-5625 at 5618 (US 22986) (A); Farone WD, 162:4-19. Among the most harmful chemicals delivered in the gas phase of cigarette smoke are the toxic aldehydes. Id., 60:11-15, 64:9-14, 161:11-15.

1427. By 1964 Philip Morris had test marketed – consistent with the agreement not to compete on health claims (see US FF § III.A(3)(g)(i)(aa), supra) – the charcoal filtered Saratoga brand, which Philip Morris scientists considered "[p]hysiologically . . . an outstanding cigarette." 1000307159-7164 at 7160 (US 20092) (A) (emphasis added). Results of research Philip Morris conducted in 1969 on the biological effects of whole fresh smoke and the gas phase of cigarette smoke in unfiltered and charcoal-filtered cigarettes included the finding that carbon "filters effectively the biologically active components of smoke." 1000036347-6366 at 6354 (US 20070) (A).

1428. Similarly, RJR recognized the potential benefits of a charcoal filter by 1960.

However, RJR's sole carbon filter cigarette during that time was Tempo, which sold from the early 1960s to the early-to-mid 1970s. Townsend WD, 26:21-22.

1429. Additionally, record evidence rebuts Defendants' claim that "taste" has proven to be an insurmountable obstacle in developing consumer-acceptable cigarettes with charcoal filters.

1430. In 1971, RJR undertook research to "find[ ] chemical additives and blends which will reduce or mask the unpleasant off-taste associated with carbon filter cigarettes." 500605911-5915 at 5911 (US 48333) (A). The research concluded:

> Fifteen additives have been found which reduce the carbon taste on all flue cured test cigarettes, but these additives were not markedly effective on the TEMPO blend. By changing the blend, however, a significant reduction in the carbon taste was achieved even without the use of additives.

These researchers identified "Valmont" as an actual RJR brand sold abroad that modified Tempo and substantially reduced the carbon taste for smokers. 500605911-5915 at 5913 (US 48333) (A). Yet RJR did not make that change for the domestic market.

1431. Also in 1971, a report to Robert Seligman, Philip Morris's Vice President of Research and Development, described the results of a weeklong taste test of charcoal and noncharcoal versions of a new cigarette brand among almost 400 smokers. Almost one-fifth of the smokers (19%) had no preference between the two models, "many smokers had trouble discriminating between the two products," and even among those expressing a preference, "the two products were preferred about equally." 1000718502-8505 at 8502 (US 87571) (O).

1432. More dramatically, in April 1984 Philip Morris reported on a Public Opinion Liking ("POL") Study, a consumer test regularly utilized by Philip Morris to evaluate potential new cigarette brands, that compared a regular Merit cigarette to one utilizing a charcoal filter.

The purpose of the study was "[t]o determine consumer acceptability of Merit 85mm with charcoal filter relative to control Merit 85mm." The POL Study Leader summarized the results:

> The results, based on this sample of the control and experimental cigarettes, indicate that **the experimental cigarette [the version with the charcoal filter] was preferred and rated significantly higher on the qualitative attributes by the Merit 85mm and Merit Ultra Lights 85mm smokers. These results support previous results from a Richmond Product Placement Panel test . . . run in 1976**.

2075008054-8067 at 8054 (US 87572) (O) (emphasis added). Thus, Philip Morris confirmed on multiple occasions – in 1971, 1976, and again in 1984 – its ability to develop consumer-acceptable charcoal-filter cigarettes.

1433. Despite its scientific knowledge of the role of activated charcoal, in late 1997, Philip Morris re-initiated a research project with the objective of understanding "effects of carbon filters on gas phase deliveries" and included among its continued filtration research a project to "[d]evelop model of carbon adsorption." 2086131512-1513 (US 21933) (A); 2086131675-1675 (US 21934) (A). Such repetitive study of previously researched questions has characterized Philip Morris's research. Farone WD, 139:19-142:2, 166:3-14.

1434. In short, for 40 years Defendants have understood charcoal's potential benefits, but ignored research demonstrating feasible ways to exploit charcoal's capabilities and claimed that charcoal-filtered cigarettes were simply unacceptable to American smokers. The three charcoal-filtered products recently developed (or in development) that Philip Morris, RJR, and B&W tout as potential reduced exposure products – SCoR, EW, and Advance, respectively – must be viewed in this context.

1435. Defendants' other attempt to counter the United States' evidence on charcoal filters was to suggest, through its cross-examination of Dr. Farone, that no public health

authorities have endorsed charcoal-filtered cigarettes as less hazardous. As an initial matter, Defendants offered no proof that the United States "endorses" consumer products, let alone particular designs of cigarettes, and Dr. Harris's unrebutted testimony was to the contrary. Harris TT, 10/21/04, 3284:6-3286:2 (discussing Premier). Moreover, Dr. Farone testified that Defendants' contention is overly simplistic, because whether simply adding (or removing) a single design feature or component will make a cigarette meaningfully less hazardous cannot be scientifically determined in isolation, without substantial additional knowledge about the other design features and components, including the tobacco blend, and the type and density of charcoal. See, e.g., Farone WD, 163:10-16; Farone TT, 10/6/04, 1741:19-1747:1 ("the issue is whether putting [a charcoal filter] on a Marlboro cigarette, full-flavor Marlboro is enough of a reduction to be meaningful . . . . [I]f you only reduced the chemicals by an insignificant amount just to say that I've done some reduction, then it's not a very meaningful change compared to what you could do.").

1436. In the late 1990s, Philip Morris undertook its SCoR program to develop a conventional looking, lit-end cigarette product that removes certain harmful constituents from the cigarette smoke. To accomplish the intended reduced deliveries, Philip Morris has included a plug-space-plug filter – whereby activated carbon is sandwiched in the space between two "plugs" of another filter material. See Alonso PD, United States v. Philip Morris, 7/11/03, 74:24-75:16; 75:18-77:4. In fact, this filter design was known to Philip Morris **by 1959**. 2021656217-6217 (US 88023) (O) (1959 memorandum discussing plug-space-plug filter research). And in the late 1960s and early 1970s, Philip Morris researched precisely this plug-space-plug design utilizing charcoal. 1000320914-0914 (US 88024) (O) (March 1970 document concerning plug-space-plug filter using carbon, stating that "project is economically feasible"); 1000320619-0619

(US 88025) (O); 2028631322-1339 (US 88022) (O) (November 1974 report); Farone WD, 167:1-8 ("There is nothing in [SCoR] that represents a new technical breakthrough that was not available in 1980, as far as I've seen."). At the time the trial began, Philip Morris had not yet test-marketed any SCoR product. See Szymanczyk WD, 172:9-11.

1437. Second, Reynolds's EW/Select product, discussed at US FF § III.A(3)(g), supra, has a charcoal filter as one of its central exposure-reduction components, and RJR has internal information that the specific filter technology is decades old. Specifically, with regard to the carbon scrubber filter technology in EW, Jones Day identified a 1973 patent for technologies very similar to two of the primary features of the EW filter, and noted that RJR's application to patent the EW filter was denied because it was not deemed novel, useful and not obvious. 515873569-3776 at 3739-3742 (US 85886) (A).

1438. In short, Defendants' suggestion that recent product development efforts disprove the United States' claims is rebutted by evidence that these "new" products in fact rely on design approaches and features long known to Defendants, and reflect technologies that Defendants have for decades chosen not to meaningfully test and exploit.

(k) The NCI's Tobacco Working Group Bolsters the Evidence Proving Defendants' Conspiratorial Conduct on Less Hazardous Cigarette Development

1439. At trial, Defendants' attempted to suggest that their collective failure to develop, meaningfully test, and market any potentially less hazardous cigarette with health-related claims before 2000 was caused in substantial part by the United States' failure to continue the Tobacco Working Group ("TWG"), an NCI-sponsored project that ran for about ten years from 1968-1977. See US FF § I.E(3), supra (background activities of the TWG).

1440. Defendants attribute significance to the TWG's role in their own less hazardous

cigarette development that is not supported by the evidence. During his cross-examination, Dr. Harris testified that "[i]n terms of its scientific accomplishments, I would say the [TWG] program was minimal." Harris TT, 10/18/04, 2709:2-3. Similarly, Dr. Farone confirmed, Defendants did not meaningful translate whatever useful scientific information they collected from the TWG's efforts into marketed products with the potential to reduce harm. Farone TT, 10/12/04, 2159:24-2160:10 (while some information was "very useful" to scientists within the companies, "that wasn't intended to mean that the companies bought into those things. . . . [T]he companies did not in fact use those things . . .").

1441. Moreover, Defendants' conduct in connection with the TWG demonstrates the extraordinary extent to which Defendants coordinated their actions in the area of smoking and health, and in particular, coordinated their approach to the issue of less hazardous cigarette design, development, and marketing. Defendants' approach to the TWG and all Defendants' related activities were jointly formulated and closely monitored by committees of industry lawyers and executives to ensure that such "participation" in the TWG did not threaten – and indeed served – Defendants' common purposes. Defendants' representatives to the TWG regularly reported to their counsel, who kept company executives, CTR, the Tobacco Institute, and one another abreast of TWG activities. 501556259-6263 (US 22283) (O); 501555964-5966 (US 22284) (O); 500502060-2063 (US 22286) (O); 501990370-0374 (US 22287) (O); 1005070117-0121 (US 22288) (O); 1005070122-0122 (US 22903) (O); 680142648-2648 (US 22374) (O); 2015040862-0863 (US 36652) (O); 680143084-3084 (US 22293) (O); 03540217-0225 (US 22294) (A); BWX0003934-3938 (US 86425) (O); 03753993-3994 (US 22295) (A); 03646227-6228 (US 22296) (A); LG0208389-8389 (US 59040) (O).

1442. Murray Senkus, RJR's longtime representative to the TWG, admitted that

Defendants' attorneys encouraged Defendants' participation in the TWG; he recalled that Defendant lawyers conceived of the project because it would enhance their public image and "might be useful in anticipated litigation." 515872408-2456 at 2416-2417 (US 22261) (A).

1443. A March 9, 1972 document drafted by Alexander W. Spears of Lorillard recognized: "If I were to withdraw [from the TWG], Lorillard would lose considerable insight into the workings of the National Cancer Institute program with respect to cigarettes. There is a very real possibility that this program is going to have a profound effect on the cigarette industry, and I believe that we should be aware of these effects as soon as they become clear. **We also have some significant influence on the course of the detailed activities and, therefore, some effect on ultimate results.**" 01240178-0178 (US 22282) (A) (emphasis added).

1444. Defendants' employees who "participated" in the TWG repeatedly: (1) informed the TWG that their participation was in their individual capacities, not as representatives of a tobacco company; and (2) disclaimed that such participation represented acceptance that any cigarettes were unsafe. In fact, letters echoing this view – some of which are nearly verbatim – were drafted by Defendants' lawyers after their discussion with Defendants' executives, and were sent according to the timing decided upon by the Defendants' Committee of Counsel. See 501990061-0062 (US 88489) (O) (RJR's Murray Senkus stated in his March 27, 1968 acceptance letter that, by agreeing to serve on the TWG, "I am in no manner accepting the view (1) that present cigarettes are hazardous or (2) that the smoke of such cigarettes causes or contributes to the development of human lung cancer."); 500502337-2338 (US 67920) (O) (draft of Senkus letter prepared by RJR's counsel Henry H. Ramm); 03645686-5686 (US 22263) (O) (Lorillard's R&D Director Alexander Spears wrote in his March 28, 1968 acceptance letter to TWG Director Endicott that he agreed to serve as a scientific advisor to the group in his "individual capacity,

and not as a representative either of my company or of the tobacco industry and, accordingly . . . it will not be stated or implied that the tobacco industry or my company is represented."); 1003729890-9890 (US 69276) (A) (virtually verbatim acceptance, with same date, from Philip Morris's Helmut Wakeham to TWG); LG0267405-7405 (US 59094*) (O) (July 1974 letter of Liggett Research Department Director William Bates accepting formal membership on the TWG, stating: "you should understand that my services on the Group will be totally in my capacity as an individual and not as an employee or representative of Liggett and Myers Incorporated.").

1445. Contrary to their repeated declarations that their role in the TWG was solely as an individual, the scientists coordinated closely with each other and industry lawyers to jointly choreograph their involvement with the TWG. For example, at a March 10, 1972 meeting of Defendants' counsel and scientific directors at the Tobacco Institute, the attendees formulated a course of action to respond to congressional testimony by the head of the TWG, who had testified that the recommended animal inhalation tests the TWG was considering represented the joint understanding of United States Government and tobacco industry scientists as the best way to proceed. Defendants' lawyers discussed the need to "correct that impression . . . for the purpose of . . . litigation" that the scientific directors concurred in the type of animal tests which were being sponsored by the TWG: "After discussion it was agreed that the three original members of the Working Group (Wakeham [of Philip Morris], Senkus [of RJR], and Spears [of Lorillard]) would write separate letters to [Director] Gori correcting his statement. [Outside industry counsel David] Hardy was requested by [B&W general counsel and later CTR president Addison] Yeaman to draft the substance of such a letter." 1005055229-5230 (US 26186) (A).

1446. That very day, David Hardy of Shook, Hardy & Bacon wrote to Tobacco Institute Executive Committee member Thomas Ahrensfeld and lawyers for Defendant Cigarette

Companies, enclosing "a draft of the type of letter that should go to Dr. Gori from Doctors [Helmut] Wakeham, [Murray] Senkus and [Alexande]r Spears, the three initial members of the Tobacco Working Group. . . . The enclosed draft is not being sent directly to the research directors because I thought that in each instance counsel would want to take it up with their own director." 03645691-5692 (US 22265) (A). The scientific directors dutifully sent to Gori the letters drafted for them by Hardy. 501990268-0269 (US 22266) (O) (RJR's Senkus); 680231759-1760 at 1759 (US 22269) (O) (B&W's Hughes); 03645684-5685 (US 26069) (A) (Lorillard's Spears).

1447. Similarly, at the Committee of Counsel meeting held at the Tobacco Institute on March 14, 1973, Defendants' lawyers and research directors discussed Defendants' participation in the TWG. The minutes reflect that during the afternoon session of the meeting, they

> consider[ed] an appropriate response to the letter dated March 9, 1973, from Dr. Gori to the Research Directors in their capacity as members of the Tobacco Working Group. . . . **After careful consideration of the views of the members of the Tobacco Institute staff with regard to the public relations and political effects of the public withdrawal from the TWG, it was concluded that the research directors cannot withdraw. We should take steps to give the industry as much protection as is possible and at the same time remain in the Tobacco Working Group**.

680143026-3027 (US 22902) (A) (emphasis added). The Committee adopted a three-point proposal whereby Defendants' scientific directors would decline to concur with or comment on Gori's recommendations. 680143026-3027 (US 22902) (A).

1448. Defendants' research directors subsequently mailed new reservation and disclaimer letters prepared or outlined by counsel. On May 14, 1973, Liggett's counsel Joseph Greer wrote to his colleague Frederick Haas advising that Jack Roemer, Chairman of the Committee of Counsel, scheduled a CTR meeting for May 15, 1973, to discuss whether the

scientific directors should send a disclaimer letter to Gori concerning their participation on the TWG and whether CTR should participate in the TWG. LG2000466-0467 (US 22270) (O). Philip Morris's scientific representative Helmut Wakeham wrote to Associate General Counsel Alex Holtzman recalling that it had been decided at the CTR meeting on May 15th that the research directors should write another letter to NCI and that, "[a]s I recall it, you were going to prepare such a letter from me." 1004863309-3309 (US 22271) (O). Senkus subsequently wrote to Gori stating that "my role in the TWG is that of a scientific advisor. . . this role is confined to areas of chemical, analytical, physical and manufacturing problems related to cigarette smoke, tobacco composition, and physical and manufacturing characteristics of cigarettes." Senkus then informed his supervisor, William D. Hobbs, that "the other Research Directors will respond in the same vein." 501990170-0171 (US 22264) (A); 500081721-1721 (US 22274) (O); 501555598-5598 (US 22273) (O)

1449. Information gathering was a critical aspect of Defendants' involvement with the TWG. Defendants' scientific representatives on the TWG reported directly to their respective company counsel. For instance, over a number of years, RJR's Murray Senkus sent regular "Confidential – For Legal Counsel" summaries of TWG activity to RJR counsel Henry Ramm. See, e.g., 501556259-6263 (US 22283) (O); 501555964-5966 (US 22284) (O); 500502060-2063 (US 22286) (O); 501990370-0374 (US 22287) (O). Philip Morris's Osdene and Wakeham did the same for their counsel, Alex Holtzman. 1005070117-0121 (US 22288) (O); 1005070122-0122 (US 22903) (O).

1450. The Tobacco Institute was also kept informed of the activities of the TWG. On February 22, 1973, Alexander Holtzman, counsel for Philip Morris, wrote to Horace Kornegay, President of the Tobacco Institute, advising that Philip Morris scientist Wakeham had been

invited to a meeting of two subcommittees of the TWG on March 8, 1973. Holtzman also advised that the letter of invitation had advised that Gori would "set forth his ideas for future projects of the Tobacco Working Group and present a proposed budget for those projects" at a meeting on March 25, 1973. 680142648-2648 (US 22374) (O). Holtzman stated: "Perhaps Dr. Wakeham and others who may attend the meetings on March 8 will get some additional information about Gori's plans at that time." 680142648-2648 (US 22374) (O). Representatives of the Tobacco Institute also met directly with Gori in 1973. 690020214-0255 (US 31061) (O).

1451. CTR similarly was informed about TWG activities. On May 31, 1974, Defendants' outside counsel, David Hardy of Shook, Hardy & Bacon, wrote to members of the CTR Research Review Committee and the Industry Research Committee advising that summaries were "to be prepared with, if applicable to the topic, an emphasis on objectives (or relevancy), cost, source of funds, and supervisory information" on the TWG. William Bates, Liggett's TWG representative, was assigned responsibility for the TWG summaries. 2015040862-0863 (US 36652) (O). Bates provided the requested material for the CTR Research Review Committee and Industry Research Committee related to the TWG to David Hardy by letter dated July 30, 1974. Among the material Bates included was "a draft copy of the annual report for the Tobacco Working Group," which he indicated "should be used only for information purposes for members of the committee" because of the draft nature of the report. LG0208389-8389 (US 59040) (O); 680143084-3084 (US 22293) (O). The draft annual report of the TWG was discussed at a subsequent research committee meeting, the minutes of which reflect (among other things) that B&W's Wally Hughes commented that the "'Experimental Cigarette Report' to be presented at [the] Sept[ember] TWG [meeting is] going to be much more dangerous." 03540217-0225 at 0218 (US 22294) (A).

1452. An August 30, 1974 letter from David Hardy to DeBaun Bryant, Vice President and General Counsel of B&W, enclosed a copy of the draft TWG annual report, and stated: "I was under the impression that you and I were both receiving all of the Tobacco Working Group material." 680143084-3084 (US 22293) (A). As a result, CTR was able to regularly monitor and discuss TWG activity.

1453. Lorillard counsel Arthur Stevens similarly kept Defendants' outside counsel, William Shinn of Shook, Hardy & Bacon, informed about TWG activity. In an April 23, 1975 letter, Shinn thanked Stevens for material Stevens sent him on the TWG: "The status report on the smoking and health program and policies and procedures manual were most welcome. I have been trying to keep abreast of the Tobacco Working Group projects and found the material very helpful." 03753993-3994 (US 22295) (A); see also 03646227-6228 at 6227 (US 22296) (A).

1454. As part of their efforts to obtain information about TWG activities, Defendants cultivated relationships with government employees who could, from the inside, aid their monitoring efforts. One such TWG participant, T.C. Tso of the Agricultural Research Service of the United States Department of Agriculture, covertly shared information with Defendants about the TWG's activities. In a March 10, 1975 letter from BATCo scientist David G. Felton to various industry personnel worldwide, Felton enclosed material on the TWG that he had received from Tso. Felton advised:

> Following the meeting of the TWG held at Bethesda on February 18-19th, I have received, from Dr. T.C. Tso, a confidential copy of his internal report on the proceedings and, in accordance with my usual practice, I enclose a photocopy for your personal information. To preserve the confidentiality of the source, please do not discuss this report with outsiders.

105366949-6955 (US 22317) (O). Tso also had a meeting with J.C.B. Ehringhaus of the Tobacco Institute on July 23, 1975, in which he provided a status report on the TWG.

TIMN449671-9671 (US 22391) (O).[8]

1455. Contrary to Defendants' claim that the TWG was an open collaboration between Defendants and the NCI, the evidence shows that Defendants affirmatively withheld information from the TWG and chose not to contribute in ways that could potentially threaten their fraudulent approach of publicly denying that cigarettes are a cause of disease.

1456. In 1970, independent scientists Auerbach and Hammond conducted research that Philip Morris concluded was "the first time that cigarette smoke as a direct agent has produced lung cancer in an animal in any reliably conducted experiment." 1000298389-8392 (US 26082) (O). The industry immediately and for the next two years undertook to publicly undermine these data and it used its representation on TWG to try to curtail and then minimize the importance of TWG's work to replicate these studies. See US FF § I.E(3), supra (for detailed discussion of TWG). At one point during these efforts, it took the time to laud its accomplishments to that end, as stated at the 1971 Annual Meeting of the Tobacco Institute:

> Our constant pressure on Hammond's and Auerbach's shaggy – or shabby – dog story has put that work as reported so far into a permanent file marked controversy – especially among scientists. It did more than that. It demonstrated our counterattack capability as a team. During the rest of the year we missed no event worth talking about in which our comment wasn't issued – and printed and broadcast – the same day.

TIMN0081403-1405 (US 77050) (O).

1457. And in the early 1970s, Defendants' lawyers and executives determined that their

---

[8] Unsurprisingly, Philip Morris secured the services of Tso upon his retirement in 1983. Philip Morris, along with two other companies with whom Tso had worked at the TWG, approached Tso **prior to** his retirement from the federal government; he was persuaded to join Philip Morris by Tom Osdene, who had regularly participated in TWG activities for that company. 2023799642-9642 (US 87701) (O); 2000631334-1337 (US 87702) (O); 2000511301-1302 (US 87703) (O); 2000596045-6045 (US 87704) (O); 2001202319-2319 (US 87705) (O).

scientist representatives on the TWG would not offer suggestions to the TWG about the experiments to conduct or projects to pursue in the search for a less hazardous cigarette. Defendants' outside counsel David Hardy of Shook, Hardy & Bacon wrote company counsel and executives on August 7, 1973, that:

> I have gotten from [CTR Scientific Director] Dr. Sheldon Sommers a list of suggested projects for the Tobacco Working Group. . . . If you will arrange through Dr. Spears to find out which of this list of suggestions might be favorably considered by the Tobacco Working Group, Dr. Sommers will supply a proposed detailed protocol. . . . You will notice that a copy of this letter, as well as a copy of the suggested projects, is going to each General Counsel of the Institute members, who can take it up with their respective Scientific Directors, keeping in mind the stated limitations on the function of company scientists in connection with the Tobacco Working Group.

1005056343-6343 at 6343 (US 22272*) (O).

1458. Philip Morris counsel Alexander Holtzman forwarded Hardy's list to Philip Morris scientist Helmut Wakeham on August 10, 1973. 2021016081-6085 (US 22276) (O). Defendants' scientists marked up the list for potential priorities and circulated it to the scientific representatives on the TWG from the various cigarette companies. 000240215-0215 (US 26067) (O); 2021016079-6080 (US 22277) (O). The scientists conducted a conference call in August 1973, and determined that Sommers, CTR's Scientific Director, should prepare detailed protocols for six of the proposed projects for possible suggestion to the TWG. LWDOJ00095517-5517 (US 34114) (O); LWDOJ0095518-5519 (US 88792) (O).

1459. On September 6, 1973, Defendants' lawyers and scientists met as part of the Committee of Counsel at 100 Park Avenue in New York. 000240213-0214 (US 26066) (O) (letter from Wakeham to other Defendants' scientific directors about upcoming meeting). Those present included in-house counsel and scientists from the TWG-participating companies, as well

as Tobacco Institute representatives and outside industry counsel. At this meeting, Defendants decided **not to submit any of Sommers' proposals or make any additional research recommendations at all to the TWG**. 1000255835-5836 (US 26068) (A); 680215434-5435 (US 22279) (A).

1460. Haas' and Greer's notes from the September 6, 1973 meeting shed light on Defendants' real motivation for their participation in the TWG:

> Dr. Sommers had reviewed the projected research program sought to date by Dr. Gori of the NIH, who is in charge of the program. In short, Sommers seems negative about making any suggestions to Gori's group. . . . No one present, including the scientific directors, felt that we should proceed to prepare and send protocols as to suggested areas of research to Dr. Gori. **The feeling was** that the industry has not been hurt so much by science as by publicity and **we had better keep our flanks protected so as to be able to the extent possible, to criticize research which will take place in the forthcoming years under Dr. Gori's direction**.

LWDOJ00095539-5542 (US 34115) (A) (emphasis added).

1461. Individual company research directors also withheld potentially useful information from the TWG. Instead, Defendants let the TWG expend its own resources to investigate questions that Defendants had already explored years before. A December 3, 1975 Philip Morris interoffice correspondence from Thomas S. Osdene to "File," and copied to Helmut Wakeham, Frank E. Resnik, Robert B. Seligman, W.F. Cannon, and R.G. Carpenter, discussed the "Reconstituted Tobacco Sheet Workshop, Bethesda, Maryland, November 24, 1975." Osdene reported that Gori was exploring possibilities for a fifth NCI biological testing series and discussing variations of a prototype for testing. Osdene commented: "In summary, the meeting was of great interest. **Thus far, it appears that Gori is going down the road on which the tobacco manufacturers found themselves some 5 to 10 years ago**." 1003729912-9914 at 9914 (US 22280) (A) (emphasis added).

1462. Not only did Defendants never correct the path Gori was taking, but they never intended to work cooperatively with the TWG at all. For instance, Philip Morris scientist T.S. Osdene attended an October 1973 TWG meeting during which "Gori asked who should recommend ‘a less hazardous cigarette', Gori or the industry? There was no reply from any industry representatives." 1000051661-1665 at 1664 (US 22281) (A). As described by Tom Osdene, TWG member Dr. Marvin Schneiderman of NCI stated at an April 2, 1974 TWG meeting, "'We have found a less hazardous cigarette but it is not marketable or practical. We need more input from the tobacco companies: what can they market? I am tired of bull[deleted].' There were no comments from the members of the tobacco companies." 1003102962-2968 at 2965 (US 22443) (A).

1463. Similarly, RJR's Alan Rodgman, who succeeded Senkus as Reynolds's representative to the TWG in 1976, said that "the work done by the TWG really broke no new ground. Most of the mouse skin-painting studies and the variables tested had been tested before by the tobacco companies. Dr. Rodgman stated that, in fact, **the tobacco companies had revealed the procedures used in their skin-painting experiments to the NCI, but had refused to reveal the results of their tests**." 515872408-2624 at 2425 (US 22261) (A) (emphasis added).

1464. In sum, Defendants used the TWG to provide cover for their decisions not to develop, test, and market potentially less hazardous cigarettes. Defendants' representatives "participated" largely as passive monitors and information gatherers, engaged in a consistent pattern of non-cooperation, and at times acted affirmatively to try to derail and undermine TWG projects.

1465. Furthermore, Defendants utilized the connections made with certain government

scientists through the TWG and retained two members of the TWG, Gio Gori from NCI and T.C. Tso from USDA, as consultants. Following the termination of the TWG, Gori began working at the Franklin Institute, thanks to a large grant by B&W. Bloch PD, United States v. Philip Morris, 2/14/02, 1815:20-1819:20; HHS1091046-1048 (US 88738) (O). Gori has been a spokesperson and consultant for the industry ever since the 1980s. 680900035-0045 (US 21013) (A); 1005082903-2903 (US 21529) (O); TIMN435245-5245 (US 22487) (O); 2050986280-6281 (US 27064) (O).

(l) The Scientific Information That Reynolds Presents to the Public and to the Courts is Inherently Unreliable, as It Uses Financial Incentives to Compromise the Neutrality of Both External and Internal Scientists

1466. Reynolds has relied on statements by scientists to promote its less hazardous and other research efforts. However, Reynolds has undertaken actions to reward these scientists to the point of rendering their statements of support incredible. It has presented reports of supposedly independent outside scientists when the truth is these scientists have both ties to and reliance on the industry and the company. And it has repeatedly presented the testimony of its own scientists without revealing to the listener the fact that their professional status and financial success are tied to how well they do as witnesses.

(i) The "Independent" Scientific Reviewers of Eclipse

1467. When Reynolds CEO Andrew Schindler introduced Eclipse's reduced risk claims to company shareholders on April 19, 2000, he told them, "Before making any claim that a new cigarette product may present less risk of smoking, it must first be substantiated by extensive scientific testing and then verified by **independent** experts." 525073272-3277 at 3275 (US 78746) (O) (emphasis added). Reynolds expert Townsend testified that the fourth and final condition of its "Four Step Methodology" for making claims about Eclipse was that an "**external**

panel of **outside** experts had to – and, he said, did – review the data and agree that Eclipse may pose less risk. Townsend WD, 149:19-151:12 (discussing (no bates) (JD-060235) (A) – the panel report, issued in 2000) (emphasis added).

1468. A few noteworthy examples reveal that this eight-member panel was dominated by men who were anything but "independent," "external" or otherwise "outside" to the interests of the industry, Reynolds, and even Eclipse itself. It is clear that all these people owed something to Reynolds and could not possibly be the "independent" evaluators Reynolds held them out to the public to be. Real or apparent conflicts of interest abound, all of which were hidden or not affirmatively revealed.

1469. For instance, Bernard Wagner was the chairman of this panel and in charge of selecting its members, (no bates at 1) (JD-060235) (A), and incomprehensibly, was a long-time Reynolds and Eclipse insider intentionally portrayed by the company as an outsider. From 1991 to 1997, Wagner was a paid consultant working with the company on Eclipse. The internal memo to the company CEO reflecting Wagner's hiring – which, interestingly, was done by Reynolds's External Affairs department rather than its Research and Development department – expressly spells out that Wagner's consultancy work was to be on Eclipse. It said that Wagner was offered a "full time consultancy," noting that Wagner had developed scientific research for Premier. It specifically points out how Wagner will be "useful in contacting our political indoor air allies in industry and in positioning us with certain regulatory groups" and that he should **serve as a full time consultant, rather than as a Reynolds employee -- "This provides some flexibility and maintains his scientific/medical credibility which is essential."** 507777205-7208 at 7206 (US 78748) (O) (emphasis added). Wagner's role included proposing strategies to Reynolds about how to "blunt[ ] . . . political and emotional" reactions to Eclipse. See

511800168-0169 at 0168 (US 21940) (O).

1470. In just a three year period of this consultancy – 1992-1994 – Reynolds paid Wagner approximately $810,000 in fees for his work on "XDU" – which was then one of Eclipse's in house names. 511800230-0230 (US 78753) (O).

524538474-8474 (US 78752) (O) (Confidential).

1471. Stephen Rennard was another member of the Eclipse "independent" review panel. (no bates at) (JD-060235) (A). From 1999 to 2002 – **overlapping with the time he was serving on the Eclipse review panel** – Rennard conducted human lower respiratory tract studies on Eclipse for Reynolds. US 93088 (O) at 2. In other words, he was simultaneously conducting some of the studies he was independently evaluating. While Rennard was receiving an honorarium from Reynolds for serving on the "independent" Eclipse review panel, Reynolds also was paying him $822,396 to conduct these human smoker studies on Eclipse. See (no bates) (JD-060235) (A); USX0010747-0841 (US 93085) (O).

1472. Moreover, it appears that even before the "independent" Eclipse review panel had completed its review and published its report, Rennard already had published a separate article promoting the success of the cigarette – "Switching to Eclipse is Associated With Reduced Inflammation in the Lower Respiratory Tract of Heavy Smokers." See (no bates at 47) (JD-060235) (A).

1473. Martin Cline was another member of the eight-person, "independent" Eclipse review panel. (no bates at 1) (JD-060235) (A). From 1974 to 1982 he received a grant from the industry, including Reynolds, the last three years of which were funded at a level of $1.05 million. 501969919-501969921 (US 93057) (O).

1474. Shortly thereafter, Cline became what was believed to be the first scientist ever subject to sanction by the National Institutes of Health for violating DNA human subject guidelines, a situation that caused him to lose his chair at UCLA School of Medicine and his funding for several grants. See (no bates) (US 93099) (O); (no bates) (US 93100) (O).

1475. In need of funding, Cline looked back to the tobacco industry. Reynolds stepped into the breach. Reynolds provided Cline with annual contract funding for work (ranging from specific research to "consulting . . . in the area of toxicology") beginning in 1987 and running through 1992 and 1993. See 506567983-506568003 (US 93065) (O); 509541248-509541250 (US 93075) (O).

1476. Attempting to boost the legitimacy of the "independent" Eclipse review panel, Townsend testified that its report's conclusions were "published in Inhalation Toxicology, a peer reviewed scientific journal." Townsend WD, 150:20-23. What Townsend neglected to inform the Court is that this journal's editor-in-chief at the time, Donald Gardner, also simultaneously was a member of the "independent" Eclipse review panel. See (no bates at iv, 1) (JD-060235) (A).

1477. Moreover, two Reynolds scientists – one former (Christopher Coggins) and one current (James Swauger) were also on the journal's editorial board at the time. (no bates at iv, 1) (JD-060235) (A). Swauger also was on the Reynolds internal company team of investigators for Eclipse. (no bates at 44) (JD-060235) (A). And prior to its publication, the Eclipse manuscript was reviewed and commented upon by three individuals (Acosta, Griggs, Watts) who had served as "consultants" to the "independent" Eclipse review panel while it was doing its work. (no bates at 1) (JD-060235) (A). In short, Eclipse's "independent" review was conducted by numerous people who had significant, extended past and/or ongoing financial relationships with Reynolds,

who appear to have pre-judged Eclipse a success before the panel completed its review, and in some cases who were responsible for the very work that was supposed to be the subject of "independent" evaluation.

(ii) The Credibility of Reynolds's Scientific Witnesses Is Challenged by Evidence That Reynolds Frequently Remunerates or Promotes Scientists Because They Offered Helpful Testimony in Litigation or Litigation-Related Proceedings

1478. In evaluating the testimony of current and former Reynolds scientists related to less hazardous cigarettes and other issues, it is relevant that Reynolds scientists work in an environment filled with motivations and tangible rewards – cash awards, bonuses, promotions – to testify in a favorable manner for the company.

1479. This evidence influences the weight to be given to the testimony of Reynolds witnesses, including former Reynolds R&D Director David Townsend, who has testified in at least 22 trials and as many or more depositions for RJR since 1993, including testifying nine times in a ten month period in 1997. He also has received training in talking to the media about reduced risk product. Townsend TT, 3/7/05, 14425:5-14428:11. He testified that "any promotions or awards that are given to our scientists are based on merit and have nothing to do with the substance of what they say in litigation, or any other public forum" – and no one has ever ruled out that the benefits he himself has received are due to what he said in litigation. Townsend WD, 198:19-200:7. Rather, he claims that testifying for the company is "an extension of my job[,] . . . something that I volunteer . . . not part of my job description." Townsend TT, 3/7/05, 14442:19-25. And he insists his promotion to the highest "technical ladder" position in the company was, "very clearly . . . for the scientific contributions that I made." Id., 14448:23-25.

1480. On cross examination however, Townsend conceded that no one at Reynolds expressly ruled out the possibility that the benefits he has received are unrelated to his testimony. Moreover, on cross examination, Townsend was forced to concede that a job performance evaluation from his boss, Gary Burger, included discussion of his service as a witness for the company. Id., 14444:3-14446:4. Likewise, he was forced to admit that his promotion to senior principal scientist, the company's top level on the "technical ladder" (as opposed to the "managerial ladder") was supported by letters to the "technical review committee" from three separate scientists raving about his performance as a witness for the company, noting that he won a "Chairman's Award" for it, and referencing offers from company lawyers and outside counsel to write letters of support regarding the same. One such letter stated: "Paul Crist (Jones Day) reported to Wayne Juchatz that Dr. Townsend's performance in the Kueper case caused industry lawyers to proclaim that he was the best technical witness that they had ever seen and as such is a major reason RJR won the case." Id., 14446:5- 14466:4 (discussing 511689574-9578 (US 30024) (A), 511689588-9589 (US 30025) (A), 512011929-1930 (US 30028) (A), 511689579-9582 (US 93001) (A), 511689583-9584 (US 93002) (A)).

1481. Similar evidence concerns defense witness Michael Ogden, who has given at least 18 days of testimony in nine different cases. In response to a question from the Court in this case, Dr. Ogden incredibly denied it was fraudulent "when one person lists their name as the author of a document that was written by somebody else." Ogden TT, 3/17/05, 15918:9-15919:3. In 1997, Ogden's boss's letter of nomination for promotion to R&D Principal Scientist cited Ogden's role as witness in contested OSHA hearings and in "offer[ing] critiques and guidance to RJRT legal counsel in the cross-examination of OSHA's expert witnesses." 519274420-4426 at 4422 (US 30351) (A). And in June 1999, after the jury returned a verdict favorable to Reynolds

in Butler v. Reynolds, a case in which Ogden had testified, a series of e-mails circulated among Reynolds scientists congratulating Ogden on what they saw as his pivotal role in the defense victory. Ogden TT, 3/16/05, 15840:5-8; 519439554 (US 30353) (A). The very next day, Donald deBethizy, one of Ogden's superiors and the Company's Vice President for Product Evaluation, organized an effort to have Ogden receive **"a special cash award for his testimony**." 700497631-7633 at 7631 (US 61782) (A) (emphasis added). deBethizy warned his assistant, Jo Peay, "Do not discuss this with anyone!" 700497631-7633 at 7631 (US 61782) (A). He also instructed Ms. Peay to ask Reynolds's R&D counsel Mary Ward to provide a page describing Ogden's "effort[s] in Butler," but warned, "You don't have to tell her [Ward] we are seeking a cash award." 700497631-7633 at 7631 (US 61782) (A). Attached to deBethizy's instructions to Peay there was a one page "Commendation Award Recommendation" regarding Ogden's testimony in the Butler trial and the ensuing victory for the Company. 700497631-7633 at 7632-7633 (US 61782) (A). The author deemed Ogden's testimony "instrumental in the outcome of the verdict," and recommended Ogden for a $5,000 reward for his "performance on behalf of our Company." 700497631-7633 at 7632-7633 (US 61782) (A). This recommendation speaks **exclusively** to Ogden's litigation activities. 700497631-7633 at 7632-7633 (US 61782) (A). Subsequently, Ogden received the G.R. DiMarco Award for his "development, interpretation and presentation of . . . information . . . in a legal environment in 1999." 700471625-1626 at 1626 (US 61867) (A). Evidence suggests that knowledge of Ogden's award and payment would have been well known within Reynolds. Not only did this promotional effort begin in R&D, but company awards are formally given out at company luncheons. 513193665-3683 (US 30052) (A). Since receiving that award money, Ogden has testified in at least four more cases for Reynolds.

1482. Ogden's sponsor – Donald deBethizy – was no stranger to this environment at RJR. In 1994, deBethizy received a Reynolds Chairman's Award and $2,500 for being part of a team that "present[ed] . . . compelling testimony at the OSHA hearings." 513193665-3683 at 3674 (US 30052) (A).

1483. The evidence concerning defense witness and former Reynolds scientist Arnold T. Mosberg is similarly disturbing. Just like Townsend mischaracterized his credentials, causing the Court to question his credibility (Townsend TT, 3/7/05, 14495:11-14518:9, 14524:6-14545:7), Mosberg also has misrepresented his academic credentials. Defendants designated testimony and an exhibit stating that Mosberg has a master's degree in biomedical engineering and physiology and a Ph.D. in biomedical engineering and physiology from Ohio State University. Mosberg has himself testified to this elsewhere under oath. See Mosberg PD, United States v. Philip Morris, 4/23/02, 14:8-22; DXA0631752-1764 (US 77849) (O); 528207535-7572 (US 93233) (O); (no bates) (US 93234) (O); 527704826-5025 (US 93227) (O); 528425994-6037 (US 93232) (O); 526520229-0344 (US 22194) (O); 527301215-1263 (US 93231) (O). However, Brad Myers, the registrar for Ohio State University, stated that Mosberg's master of science degree is **not** in Biomedical Engineering and Physiology; rather, like his bachelor's degree, it is in Aeronautical and Astronautical Engineering. See (no bates) (US 93226) (O).

1484. Mosberg provides yet another example of Reynolds's practice of rewarding witnesses for winning at all costs in litigation. In 1997, RJR was considering Dr. Paul Nelson – a frequent company witness – for promotion to the position of Master Scientist. In support of Nelson's promotion as a **scientist**, Mosberg, at the time the Director of the Toxicology Division, described in detail Nelson's role as a litigation and policy **advocate** – a "Leader and Soldier in the EPA and OSHA Regulatory Rule Making Process," specifically noting Nelson's "three days of

testimony" at the OSHA hearing, and lauding the effect of his work: "This [OSHA proposed] rule has not progressed any further since that time, even though its approval was thought to be almost certain." 522101328-1340 at 1339 (US 30526) (O). Mosberg also noted that for this work Nelson received several company awards. 522101328-1340 at 1339 (US 30526) (O).

508303644 (US 29968) (A) (Confidential).

508303644 (US 29968) (A) (Confidential). Nelson received a Chairman's Award for his role as a witness in the OSHA hearings, 513193665-3683 at 3674-3675 (US 30052) (A), accompanied by a check in the amount of $2,500. 513193665-3683 at 3680 (US 30052) (A); see 512011929-1930 at 1929 (US 30028) (A). And in addition to writing his own letter for Nelson, Mosberg instructed **Public Affairs** Department director Robert Meyne to write a letter. Meyne in turn stated, "Paul both helped develop the strategy for our participation in these hearings and took part in them ... fac[ing] the most difficult and confrontational questions imaginable . . . . [Without his and others' work, t]he effect of these rules on our business would have been devastating." 522101348-1349 (US 30528) (O). Mosberg likewise asked ETS attorney Mary Ward to write a letter of support for Nelson for this technical promotion. In response, Ward described Nelson as "one of the stalwart few upon whom I most rely . . . [i]n the regulatory and legal arenas." 522101358-1360 at 1359 (US 30529) (O).

1485. Defense witness Scott Appleton, when he was at Reynolds, enjoyed similar rewards. In 1989, he received a $9,000 Commendation Award (14.7% of his annual salary) approved by the CEO. 508041278 (US 29946) (A). The basis for this award was, in part,

Appleton's "lucid and effective testimony" in the Shires case as an example of the "extraordinary devotion he has shown" to "defend[ing] the Company's position" in litigation. 508041278 (US 29946) (A).

1486. Townsend identified Reynolds scientist John Robinson as the company's voice and expert on smoking behavior and compensation issues. Townsend TT, 3/7/05, 14583:1-4. In Robinson's 1996 nomination for promotion to Principal R&D Scientist, his supervisor Donald deBethizy highlighted his litigation-related contributions. He credits Robinson with developing an

RJR0000000525026256 700557062-7070 at 7063 (US 89562) (O) (Confidential). Noting that Robinson was involved in two current and eight upcoming cases, deBethizy described him as a

RJR0000000525026256 700557062-7070 at 7063 (US 89562) (O) (Confidential).

1487. This promotion nomination letter was the culmination of a long running history of positive job evaluations for Robinson due to his involvement in litigation. In 1983 he was cited for assisting RJR counsel in FTC v. Brown & Williamson – "contributions instrumental in the ultimate upholding of the FTC's position vs. B&W by the courts." 512051633-1649 (US 89560) (O). In 1985, Robinson was noted for his "valuable assistance to Law Department in the

preparation for litigation vital to the Company's interests. For this he received a letter of commendation from the chief extramural counsel." 512051633-1649 (US 89560) (O). In 1986, he "continued to provide excellent and much sought-after support to the Law Department. 512051633-1649 (US 89560) (O). He has received numerous compliments and received letters of commendation for this work." 512051633-1649 (US 89560) (O). And in 1991, Robinson's performance evaluation noted, "A significant block of time (25%) during the 4th quarter was spent working in support of tobacco litigation. The objective of this work was accomplished satisfactorily." 512051633-1649 (US 89560) (O).

1488. Deborah Kay, another RJR scientist,

508303648 (US 29969) (A) (Confidential). The basis for the award was because of her as reflected in its success in smoking and health legislation and litigation. 508303648 (US 29969) (A) (Confidential). Her 1991 performance evaluation notes her EPA work and also speaks of her involvement in the OSHA ETS hearings, noting how she was trained by "outside lawyers" about "OSHA procedures" and how she worked on strategies to answering questions, evaluating them (with attorney Mary Ward) to determine whether they would "serve the Company" or not. 515530353-0366 at 0356, 0362-0363 (US 30102) (O).

1489. Defense witness Alan Rodgman was a Reynolds scientist from 1954 to 1987, rising to the level of R&D Director of Fundamental Research. Since his retirement from Reynolds in 1987, Rodgman has been retained as a paid smoking and health litigation consultant to Womble Carlyle ("Womble"), earning upwards of $600,000 for his work there. Rodgman PD, United States v. Philip Morris, 6/26/02, 23:20-32:8. At the same time that he was being paid as a

"consultant" to Womble, Rodgman also was serving as a fact witness for Reynolds in its defense of various smoking and health cases. Id., 27:12-35:17. Specifically, while a "consultant," he has testified as a fact witness for the Company in at least seven cases, giving at least eleven days of testimony. Rodgman admits that there is a virtually complete overlap between the "historical" information he has given Womble as a litigation consultant and the content of his testimony in these smoking and health proceedings. Id., 37:1-43:11. Not only has there been overlap between topics about which Rodgman consulted and topics about which he has testified, but there also was a blurring of the lines between when he was paid to consult and when he was paid to testify and/or prepare to testify. Rodgman acknowledged under oath that there were occasions when he billed Womble for some of the time he spent meeting with lawyers and preparing to be deposed as a fact witness. Id., 40:1-43:11. On at least one occasion, he considered requesting payment for his time testifying as a fact witness in a smoking and health deposition, and may have on one occasion or another actually been paid for such testimony. Id.

(4) Risk Perception

(a) Introduction

1490. Defendants claim that everybody understands the health risks associated with smoking and, therefore, makes informed decisions about whether or not to start or continue to smoke. In fact, Defendants claim that people overestimate smoking risks. To the contrary, research clearly shows that individuals do not appreciate the risks of smoking. Moreover, the tobacco companies have communicated messages to the public in an effort to minimize the perceived risk associated with smoking.

(b) People Underestimate The Risk Associated with Smoking

1491. Dr. Paul Slovic, a Ph.D. in psychology and president of Decision Research, a nonprofit research institute specializing in the study of human judgment, decision making, and risk perception, who is, in fact, a pioneer researcher in the study of people's perceptions of risk, doing research on decision making and risk-taking behavior since 1959, and specifically on risk perception associated with smoking since approximately 1990, found that most people have a deficient appreciation of the risks associated with smoking, certainly when they begin to smoke. See generally Slovic WD.

1492. Likewise, Dr. Neil Weinstein, a psychologist with expertise in the study of risk perceptions, risk communication, and health-protective behavior, who has been studying individual formation of risk perceptions since 1974 and who is an author of a chapter in the NCI's Monograph 13 on perceptions of light cigarettes, found that most people do not appreciate the risks associated with smoking in order to make informed decision about whether to commence or continue smoking. See generally Weinstein WD.

(i) People Do Not Understand the Nature of the Risk

1493. Research shows that most people do not possess adequate knowledge about the plethora of diseases caused by smoking. One survey showed that a great majority of smokers and nonsmokers realized that smoking can cause life-threatening illnesses but, except for lung cancer, no specific smoking-linked illness could be named by more than half of the respondents. About half mentioned emphysema, about a quarter mentioned any kind of cancer other than lung, and only about a quarter mentioned any kind of cardiovascular risk. About 10% did not mention cancer at all. In addition, those surveyed said they had little knowledge about the reality of what it is like to experience the pain and suffering associated with lung cancer, emphysema, congestive heart failure, or the other diseases associated with smoking. More than 70% of adults and 80% of adolescents overestimated the likelihood that lung cancer was curable. Slovic WD, 19:4-20:15 (citing Weinstein, N.D., Slovic, P., Waters, E., and Gibson, G., "Public Understanding of the Illnesses caused by Cigarette Smoking," *Nicotine and Tobacco Research* (April 2004)); Weinstein WD, 24:7-25:21 (citing Jamieson, P., Romer D., *A Profile of Smokers and Smoking*, In Slovic, P. (ed.), Smoking: Risk, Perception, and Policy, Thousand Oaks, CA:Sage (2001); Annenberg, 2000)). A smaller national survey conducted by Drs. Slovic and Weinstein ("Weinstein & Slovic, 2001") found very similar results. Weinstein WD, 25:19-20.

1494. Scientific research makes clear that, without being prompted, many people cannot identify even the most serious and frequent illnesses caused by smoking. The results of the Annenberg study, as well as the Weinstein & Slovic survey showed that about one person in eight still did not know that smoking causes lung cancer; only one in four named throat or mouth cancer; less than one in four cited heart disease as a factor related to smoking; and only a minimal number named any other life threatening illnesses caused by smoking, such as asthma,

chronic bronchitis, or stroke. Weinstein WD, 25:9 - 26:13 (citing Annenberg, 2001; Weinstein & Slovic 2001; Wewers M.E., Ahijevych K.L., Chen M.S., Dresbach S., Kihm K.E., Kuun P.A., "Tobacco use characteristics among rural Ohio Appalachians," *Journal of Community Health*, 25:377-288 (2000)).

1495. In fact, other surveys have shown that 35% of smokers think the harmful effects of cigarettes are exaggerated, and 40% do not accept the idea that smoking is "very dangerous." Weinstein WD, 26:14-27:1 (citing Annenberg, 2000 and McMillen R.C., Ritchie L.A., Frese W., Cosby A.G., *Smoking in America: 35 Years after the Surgeon General's Report* (Starkville, MS: Mississippi State University, Social Science Research Center, November, 2000)).

1496. Moreover, in distinguishing between superficial awareness, which entails a general recognition that smoking is dangerous, and a deeper, more meaningful knowledge, that encompasses a complete understanding of the many serious diseases caused by smoking, as well as the true nature of addiction, along with an understanding of what it would be like to experience those diseases or addiction, it is clear that most people do not possess meaningful knowledge of the diseases caused by smoking. Slovic WD, 20:16-21:5. Surveys have borne out that individuals have little knowledge about the reality of what it is like to experience the pain and suffering of lung cancer, emphysema, congestive heart failure, and other smoking related diseases. One survey showed that 53% of adolescent smokers and 49% of adult smokers know "a little" or "not much at all" about the pain and suffering associated with lung cancer. Likewise, 68% of adolescent smokers and 54% of adult smokers know "a little" or "not much at all" about the pain and suffering associated with emphysema. More than 70% of adults and 80% of adolescents overestimated the likelihood that lung cancer is curable. Slovic WD, 19:4-20:15 (citing Weinstein, N.D., Slovic, P., Waters, E., and Gibson, G., "Public Understanding of the

Illnesses caused by Cigarette Smoking," *Nicotine and Tobacco Research* (April 2004)).

1497. Similarly, 81% of teens and 66% of adults believe that lung cancer patients typically live for three years or more. Weinstein WD, 28:4-8 (citing Weinstein & Slovic, 2001). However, the typical lung cancer patient actually dies within a short ten months of diagnosis. Weinstein WD, 28:6-8 (citing SEER (Surveillance, Epidemiology, and End Results) Program Public_Use Data (1973-1998), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2001, based on the August 2000 submission (Survival Matrix 1)).

(ii) People Do Not Understand the Likelihood of the Risk

1498. Just as people do not understand the nature of the risk associated with smoking, people similarly tend not to understand the likelihood of the risk associated with smoking. In a study conducted for the American Cancer Society, Americans were asked which of a number of hazards, including cigarette smoking, drug use, AIDS, alcohol abuse, and murder, was responsible for the greatest number of deaths each year. In reality, more deaths are due to cigarette smoking than to **all** of the other listed health problems **combined**. Nevertheless, the largest number of people in the survey, 28%, believed that car accidents kill more people than any other hazard on the list. Only 21% recognized that cigarette smoking is by far the biggest killer on the list. Weinstein WD, 30:17-32:2 (citing *Survey of U.S. voter attitudes toward cigarette smoking* (Sept. 9, 1993)); Borland R., "What do people's estimates of smoking related risk mean," *Psychology and Health*, 12:513-21 (1997); Eiser J.R., Sutton S.R., Wober M., "Smoking, Seat-belts, and Beliefs About Health," *Addictive Behaviors*, 4:33 1-338 (1979); Annenberg, 2000; Weinstein & Slovic, 2001. Another peer-reviewed published study found that relatively heavy smokers "greatly underestimate" the risks of smoking. Weinstein WD, 38:2-8

(citing Schoenbaum, M., "Do smokers understand the mortality effects of smoking?," *American Journal of Public Health*, 87:755-759 (1997)).

1499. As further evidence of the fact that individuals tend not to understand the likelihood of the risk associated with smoking, studies show that when individuals are asked to estimate the absolute risk of smoking, their answer will change when the question is changed slightly, indicating that they are uncertain about the answer. For example, when survey participants were asked how many smokers out of 100 would die of lung cancer, the average adult answer was 48 and the average youth answer was 60. However, when asked to think about several possible causes of death (lung cancer, auto accidents, heart disease, stroke, and all other causes) and to estimate how many smokers would die from each of them, the estimates for lung cancer dropped to 23 for adults and 28 for youth, despite the fact that the two questions ask for exactly the same numerical risk estimate of lung cancer. Weinstein WD, 32:19-37:2 (citing Slovic P., "Smokers: Rational Actors or Rational Fools?" In Slovic, P. (ed.), Smoking: Risk, Perception, and Policy, Thousand Oaks, CA:Sage (2001)); Slovic WD, 49:7-52:9.

1500. Research further shows that underestimation of the likelihood of risk associated with smoking has existed for many years. A 1970 Gallup poll showed that 30% of respondents did not agree that cigarette smoking is one of the causes of lung cancer and 40% of smokers did not agree that smoking is one of the causes of heart disease. According to the 1975 Adult Use of Tobacco Survey, 19% of current smokers did not believe that cigarette smoking is harmful to health. A 1981 Gallup Poll showed that 31% of current smokers did not believe that cigarette smoking causes lung cancer. Finally, according to the 1987 National Health Interview Survey, 31% of current cigarette smokers did not believe that cigarette smoking was related to emphysema. Weinstein WD, 44:23-47:9 (citing Giovino, G.A., Tomar, S.L., Reddy, M.N.,

Peddicord, J.P., Zhu, B., Escobedo, L.G., Eriksen, M.P., "Attitudes, knowledge, and beliefs about low-yield cigarettes among adolescents and adults," *The FTC Cigarette Test Method for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes. Report of the NCI Expert Committee,* Smoking and Tobacco Control Monograph No. 7, U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, NIH Publication No. 96-4028, 1996)).

(iii) People Do Not Appreciate the Risk to Themselves (Optimism Bias)

1501. Complicating the fact that people misperceive the risks of smoking, a psychological phenomenon – referred to as optimism bias – exists whereby individuals have a strong tendency to believe that their own risk is less than the risk of their peers. Thus, whatever people may accept about the risks faced by the "average smoker" or by "smokers in general," they tend to believe that they have a lower risk. Research on optimism bias shows that people who are asked about themselves often conjure up rationalizations that lower the perceived risk. For example, smokers are likely to claim that the cigarettes they smoke are less harmful, that they will eventually stop, or that others smoke more often or inhale more. In fact, most smokers believe that their own smoking pattern is less risky than that of other smokers. Weinstein WD, 43:5-19; 49:14-50:1.

1502. A study of this phenomenon showed that 63% of teen smokers and 61% of adult smokers agreed with at least one of nine comforting beliefs about smoking (16% of smokers agreed that smoking is safe if you don't inhale; 20% said smoking is safe if you only smoke one or two cigarettes a day; 10% believed that there is not much risk in smoking in your teens because you have plenty of time to quit; 17% said smoking is safe if you only smoke during high school or college and then quit; 27% agreed that if you exercise regularly, you can undo most of

the negative effects of smoking; 23% believed that smoking light cigarettes lowers the risk of health problems; and a small number of smokers agreed that it is safe if you only smoke with friends; if no one in your family has had cancer, smoking cigarettes isn't likely to give you cancer; and if you smoke regularly for 10 years and still have no cough or shortness of breath, then you're not likely to have problems in the future. Weinstein WD, 50:2-51:6 (citing Weinstein & Slovic, 2001).

1503. Importantly, smokers view their own risk as being less than the risk of the "average smoker." Research shows that, on average, smokers claim that they smoke fewer cigarettes than the typical smoker, inhale less than the typical smoker, are less addicted than the typical smoker, are better able to quit than the typical smoker, have a healthier lifestyle than the typical smoker, are less influenced by cigarette advertising than the typical smoker, and smoke cigarettes that are lower in tar and nicotine than the typical smoker. Weinstein WD, 51:18-52:4 (citing Annenberg, 2000; Segerstrom, S.C., McCarthy W.J., Caskey N.H., "Optimistic Bias Among Cigarette Smokers," *Journal of Applied Social Psychology*, 23:1606-1618 (1993); Weinstein & Slovic, 2001; VXA2270001-0714 at 0200, 0223 (US 63621) (A)).

1504. A peer-reviewed published study based on a nationally representative1995 sample showed that only 29% of smokers believed their personal risk of heart attacks was higher than the average for people of their age and sex, and only 40% of smokers said that their personal cancer risk was higher than the average for people of their age and sex. Even among those smoking two or more packs of cigarettes a day, only 39% said that their heart disease risk was above average and only 49% said that their cancer risk was above average. Weinstein WD, 58:12-59:6 (citing Ayanian J.Z., Cleary P.D., "Perceived risks of heart disease and cancer among cigarette smokers," *Journal of the American Medical Association*, 218:1019-1021 (1999)). In reality,

smokers' risk of getting these diseases is significantly higher than nonsmokers. Weinstein WD, 59:7-19.

1505. Likewise, other studies show that smokers view their risk, as compared to the average person, as "average" to "a bit higher." In none of these studies did the average smoker acknowledge that his or her risk of lung cancer, heart disease, or emphysema was "moderately," "substantially," or "much" higher than that of the average person. Weinstein WD, 59:20-60:8 (citing Milam J.E., Sussman S., Ritt-Olsen A., Dent C.W., "Perceived invulnerability and cigarette smoking among adolescents," *Addictive Behaviors*, 25:71-80 (2000); Reppucci, J.D., Revenson, T.A., Aber, M., "Unrealistic optimism among adolescent smokers and nonsmokers," *The Journal of Primary Prevention*, 11:227-236 (1991); Strecher, C.J., Kreuter, M. W., Kobrin, S.C., "Do cigarette smokers have unrealistic perceptions of their heart attack, cancer, and stroke risks?," *Journal of Behavioral Medicine,* 18:45-54 (1995); Sutton, S.R., "Are Smokers Unealistically Optimistic About the Health Risks? Findings from two national surveys," Unpublished Manuscript, Health Behavior Unit, Institute of Psychiatry, University of London (1995); Hahn, A., Renner, B., Schwarzer, R., "Perception of health risks: how smoker status affects defensive optimism," *Anxiety, Stress, & Coping: An international Journal*, 11:93-112 (1998); Slovic, P., "Smokers: Rational Actors or Rational Fools?" In Slovic, P. (ed.), Smoking: Risk, Perception, and Policy, Thousand Oaks, CA:Sage (2001); Weinstein & Slovic, 2001)).

1506. In fact, many studies have demonstrated that smokers believe that they face lower risks than the typical or average smoker. Weinstein WD, 61:22-26 (citing, Boney-McCoy, S., Gibbons, F.X., Reis, T.J., Gerrard, M., Luus, C.A.E., Sufka, A.V.W., "Perceptions of smoking risk as a function of smoking status," *Journal of Behavioral Medicine*, 15:469-488 (1992); Hansen, W.B., Malotte, C.K., "Perceived Personal Immunity: the Development of Beliefs About

Susceptibility to the Consequences of Smoking," *Preventive Medicine*, 15:363-372 (1986); Lee, C., "Perceptions of immunity to disease in adult smokers," *Journal of Behavioral Medicine*, 12: 267-277(1989); McKenna, F.P., Warburton, D.M., Winwood, M., "Exploring the limits of optimism: the case of smokers' decision making," *British Journal of Psychology,* 84:389-394 (1993)).

1507. This is equally true among adolescents. One study reported the results of two surveys. The first involved a group of 359 high school sophomores (average age 15.2 years) who were asked "to rate the likelihood of their getting lung cancer . . . themselves in the future as compared to the likelihood of other students in their school of the same age and sex getting the disease." In the second survey, a different group of 322 students (average age 15.7 years) was asked not only about lung cancer but also about two other smoking-related illnesses, emphysema and heart attacks. The nonsmoking students rated their chances of developing lung cancer as being below average, yet the smoking students rated their chances of developing lung cancer as average. The second survey (regarding emphysema and heart disease) produced similar results. Weinstein WD, 61:5-21 (citing, Reppucci, J.D., Revenson, T.A., Aber, M., "Unrealistic optimism among adolescent smokers and nonsmokers," *The Journal of Primary Prevention*, 11:227-236 (1991)).

(iv) People Do Not Understand the Difficulty of Quitting (Addiction)

1508. Finally, just as people underestimate the nature and likelihood of the risks associated with smoking, as well as underestimate the risk to oneself, people also tend to underestimate the risk of becoming addicted. Data from the Annenberg, 2001 survey showed that about 65% of adult smokers and 84% of young smokers planned to quit. Of those who planned to quit, about 73% of the adults and 76% of the youth planned to make an attempt within

the next year. When asked whether the researchers would find that they had successfully quit smoking if they were called again in a year, 78% of the adults and 83% of the young people said yes. The actual success rate for attempts to quit smoking tends to be below 10%. Slovic WD, 21:17-23:5 (citing Annenberg, 2001). These unrealistically optimistic perceptions of their ability to quit smoking persists regardless of the number of past quit attempts or the length of time smoking. Slovic WD, 24:1-26:8 (citing Annenberg, 2001).

1509. Furthermore, 24% of youth smokers and 12% of adult smokers expected to smoke for less than a year, 10% of youth smokers and 5% of adult smokers expected to smoke for between one and five years, and only 5% of young smokers and 7% of adult smokers expected to smoke longer than five years. However, a much larger proportion, 61% of youth smokers and 76% of adult smokers said they had never thought about it. Weinstein WD, 67:10-23 (citing Annenberg, 2001).

1510. In another survey of smokers who were planning to quit in the next year, and who had tried and failed in the past, 88% of youths and 64% of adults believed they would be nonsmokers a year later. Even among those who acknowledged that quitting was very hard or almost impossible for others, 83% of youths and 57% of adults predicted their own success. Weinstein WD, 68:22-69:4 (citing Weinstein & Slovic, 2001).

1511. Likewise, a longitudinal survey conducted as part of the University of Michigan's Monitoring the Future Study found that 85% of high school seniors who smoked occasionally predicted that they probably or definitely would not be smoking in five years. However, in a follow-up study five to six years later, of those who had smoked one to five cigarettes per day as high school seniors, only 30% had quit, and 44% had actually increased their cigarette consumption. Slovic WD, 26:9-20 (citing Slovic, P. (ed.), Smoking: Risk, Perception, and

Policy, Thousand Oaks, CA:Sage (2001), Chapter 6, citing Johnston, L.D., O'Malley, P.M., and Bachman, J.G., "National Survey Results on Drug Use from the Monitoring the Future Study," NIH Publication No. 93-3598, Rockville, MD: National Institute on Drug Abuse (1993); U.S. Department of Health and Human Services, "Preventing Tobacco Use Among Young People: A Report of the Surgeon General," U.S. Department of Health and Human Services).

1512. Thus, the tendency of young smokers to be uninformed and to underestimate the difficulty in stopping smoking, especially in conjunction with their belief in the short-term safety of smoking, creates an insidious situation where they begin smoking without any meaningful appreciation of the actual risks that smoking presents to their health. Slovic WD, 26:21-27:4. Optimism bias, as discussed above, facilitates this misperception. Slovic WD, 27:5-28:13.

1513. Peer-reviewed research shows that young people optimistically underestimate their risk of becoming addicted. A study asked 376 teenagers (average age 15.2 years) about their risk of nineteen health problems and negative life events, one of which was "get[ting] hooked on cigarettes." The study found that teenagers believed they were less likely than their peers to get "hooked." This optimism was as great or greater than their optimism about avoiding any of the other eighteen hazards studied, with the single exception of "get[ting] hooked on drugs like marijuana." Weinstein WD, 64:17-65:15 (citing Cohn, L.D., Macfarlane, S., Yanez, C., Imai, W.K., "Risk-Perception: Differences Between Adolescents and Adults," *Health Psychology*, 14:217-222 (1996)).

1514. Similarly, research shows that adolescents agree that it is hard for other smokers to quit, but they believe that they will be able to quit more easily than other smokers. For example, in one study, 96% of teen respondents believed that it is "hard," "very hard," or "almost impossible" for a half-pack-a-day smoker to quit, and 96% agreed that the longer you smoke the

more difficult it is to quit. However, 43% of the teen smokers believed that they, personally, would find it easy to quit and never smoke again. A mere 16% thought it would be either "very hard" or "almost impossible" for them. Teenagers' reluctance to give up this reassuring illusion is demonstrated by the finding that, even among teens who had already made a serious quit attempt and failed, 32% still believed it would be easy for them to quit. Weinstein WD, 68:1-11 (citing Weinstein & Slovic, 2001).

1515. As evidence that beginning smokers are uninformed about smoking risks, research shows that as people become more experienced smokers, they overwhelmingly regret having started smoking. Smokers in the Annenberg survey were asked, "If you had it to do over again, would you start smoking?" More than 85% of adult smokers and about 80% of young smokers answered no. Slovic WD, 29:4-31:10 (citing Annenberg, 2001). A similar question had been asked in a poll reported in a 1984 study prepared for Philip Morris. Over 85% of smokers were found to agree strongly or very strongly with the statement "I wish I had never begun smoking." 2500002189 (US 21460) (A); Slovic WD, 31:11-16; 68:9-13. A British national survey of 893 smokers that asked "If you had your time again would you start smoking?," found that 83% of current smokers would not. Slovic WD, 31:17-34:4 (citing Jarvis, McIntyre, & Bates, "A Picture of Misery: The Truth About Smoking, In Smokers' Own Words," unpublished article (2002)). Similarly, another survey asked the "Would you do it again?" question, resulting in 86% of the respondent smokers answering "no." Slovic WD, 31:21-32:1 (citing Weinstein & Slovic, 2001).

1516. Most recently, a study surveying more than 8,000 smokers in Canada, the United States, the United Kingdom, and Australia, asked whether they agreed or disagreed with the statement, "If you had it to do over again, you would not have started smoking." The rate of agreement was high—about 90%—and nearly identical across the four countries. Slovic WD,

32:2-9 (citing Fong, G. T., Hammond, D., Laux, F. L., Zanna, M. P., Cummings, K. M., Borland, R., & Ross, H., "The near-universal experience of regret among smokers in four countries: Findings from the International Tobacco Control Policy Evaluation Survey," *Nicotine & Tobacco Research*, 6 (Supplement 3), S341-S351 (December 2004)).

(c) Why People Underestimate the Risk of Smoking

1517. Thus, overall, smokers underestimate the risk associated with smoking. There are many factors responsible for this fact. First, the risks associated with smoking are cumulative, which are difficult for humans to adequately appreciate. Second, smoking presents future risks, which are, again, difficult for people to appreciate. Finally, smoking initiation and continuation is guided by experiential rather than analytic thinking, and a psychological phenomenon called the affect heuristic serves to mitigate the perception of risk and enhance the perception of benefits related to smoking.

(i) Smoking Is A Cumulative Risk

1518. Cumulative risk refers to the concept that the likelihood of harm occurring increases as the activity is repeatedly engaged in. Thus, risk accumulates over time, with repeated exposure to the hazard. Smoking represents a cumulative risk because it is behavior that takes place one cigarette at a time. The risk associated with smoking one cigarette is very small. However, a person smoking one pack of cigarettes every day for 40 years consumes about 300,000 cigarettes and the risk accumulates with each one. As the risk accumulates, the hazard becomes more and more of a threat. Slovic WD, 16:4-14. Because the risk accumulates slowly and invisibly, there appear to be no adverse consequences and, therefore, the risk does not seem as imminent as it might seem when the same overall probability of harm threatens you at a single moment in time. Slovic WD, 16:15-17:12 (citing Diamond, W.D., "Effects of describing long-

term risks as cumulative or noncumulative," *Basic & Applied Social Psychology* 11(4), 405-419 (1990)).

1519. Thus, when young people begin to smoke they tend to believe that they can smoke for some amount of time before the risks associated with smoking have any impact on them. A survey of high school students who smoked more than six cigarettes per day showed that about one third believed that there is "really no risk at all" from smoking a pack of cigarettes daily for the first few years after starting to smoke, and about 40% saw no harm associated with the very next cigarette smoked. Slovic WD, 17:13-22 (citing Slovic, P., "What Does it Mean to Know a Cumulative Risk? Adolescents' Perceptions of Short-term and Long-term consequences of smoking," *Journal of Behavioral Decision Making,* 13, 273-276 (2000)). Likewise, the Annenberg survey showed that 65% of young smokers and 70% of adult smokers believed that it takes one year or longer "for smoking to harm the health of a new smoker." About 32% of youths and 45% of adults thought it would take five or more years of smoking to seriously harm health. Another study, surveying more than 1,000 college students, presented very similar results, finding that about 60% of nonsmokers believed smoking on a weekend or a couple of days a week was harmful, whereas only 32% of smokers held this view. Slovic WD, 18:1-9 (citing Annenberg, 2001; Murphy-Hoefer, R., Alder, S., & Higbee, C., "Perceptions about cigarette smoking and risks among college students," *Nicotine & Tobacco Research, 6* (Supplement 3), S371-S374 (December 2004)).

(ii) Smoking Is A Future Risk

1520. Moreover, the risks associated with smoking pose detrimental consequences realized in the future. Many – and certainly the most serious – adverse consequences associated with smoking are likely to occur some years after one starts to smoke. Therefore, the likelihood

that one will downplay any far off effects – especially combined with the misperception of a cumulative risk – puts beginning smokers in the position of seriously under-appreciating the risks.

1521. The Annenberg survey found that only 7.4% of adult smokers and 4.8% of young smokers expected to smoke longer than five years when they began, yet 87% of these adults and 76% of these youth reported that they had been smoking for more than five years. Slovic WD, 21:6-:21 (citing Annenberg, 2001).

1522. These concepts were recognized and utilized by the industry in developing marketing strategy. As a 1982 marketing study prepared for Imperial Tobacco Limited noted:

> One certainly cannot say that the social environment of the 80's lacks for warnings about smoking. Public service commercials, posters, anti-smoking groups, smoking restrictions, stop-smoking organizations and programs, media articles, school lectures (which are treated with a particular disdain), even packs and ads, all say loud and clear that smoking is a serious health hazard. They no longer equivocate and say 'might be' as was once the case. They say 'is.' Why, then would anyone wish to start smoking, in the face of such loud, consistent and clear warnings?
> Oddly enough, such hazards are literally ignored by starters. It's not that they don't believe them, but that the threat is so diffuse and long-term that it need not be worried about. The hazards of smoking aren't like the hazards of, say, riding a motorcycle on an icy road while blindfolded. That would be so obvious and palpably immediate a danger that not even the most foolish teen would try it. The smoking of a cigarette isn't like that at all. People do it all the time with no seeming problem or impairment.

566627751 (US 20938) (A).

(iii) The Affect Heuristic

1523. Beginning smokers are guided by what is known as the "experiential mode of thinking," relying on feelings rather than deliberate, analytic thinking. Slovic WD, 12:4-14 (citing Slovic, P., Finucane, M., Peters, E., & MacGregor, D.G., "The Affect Heuristic," In T.

Gilovich, D. Griffin, & D. Kahneman (Eds.), Intuitive Judgment: Heuristics and Biases, New York: Cambridge University Press (2002); Slovic, P. (Ed.), Smoking: Risk, Perception, and Policy, Thousand Oaks, CA: Sage (2001), Chapter 6, citing Epstein, S., "Integration of the Cognitive and Psychodynamic Unconscious," *American Psychology*, 49, 704-724 (1994)). Experiential or affective thinking is intuitive, automatic, rapid, natural, and reliant upon imagery and affect. Analytic thinking, on the other hand, is slow, methodical, and deliberative, dominated by the collection of data and consideration of calculations and probabilities.

1524. The tobacco companies have long recognized that people rely on something other than reasoned analysis of the risks in initiating and continuing to smoke. A November 26, 1969 report by Dr. Helmut Wakeham and presented to the Philip Morris Board of Directors, entitled, Smoker Psychology Research, describes a program of psychological research that aims "[t]o learn more about the psychology of smoking, and hopefully to discover ways to exploit the benefits of smoking to the advantage and profitability of our major company business." Among the questions that Philip Morris sought to answer through its smoker psychology work was:

> Why do 70 million Americans and countless millions outside of the United States smoke despite parental admonition, doctors' warnings, governmental taxes, and health agency propaganda?"
> "What benefits do smokers wittingly or unwittingly find in smoking that outweigh the real or imaginary risks that the same smokers feel?"
> "Why do some people not smoke, others smoke relatively few cigarettes, still others many, some merely puff superficially, while others inhale deeply?"
> "Why do some people start very young, while others wait until middle life to begin smoking?"

1000273741-3771 (JE 26080) (A); Slovic WD, 56:3-26. See also 501899346-9359 (US 20688) (A) (a 1974 RJR market research memo recognizing that, "[t]he more closely a brand meets the psychological "support" needs (advertising or otherwise communicated brand or user image) and

the physiological needs (product characteristics), the more likely it is that a given brand will be selected." Among others, it was noted that of the "specific causes" for selecting a first usual brand was, "[t]he user 'image' that has become associated with a particular brand. To some extent young smokers 'wear' their cigarette and it becomes an important part of the 'I' they wish to be, along with their clothing and the way they style their hair."); 503517461 (US 20716) (A) (a 1984 RJR marketing memo that discusses various 'rules of thumb' for developing effective younger adult smoker marketing programs, including, "use of a 'soft sell.' Use humor. **Stress emotion not reason**." (emphasis added)).

1525. Thus, affective cues emanating from the social environment are powerful influences on smoking behavior. Having a good time with friends and avoiding the risk of peer disapproval are examples of social factors in which affect (experiential thinking) appears to dominate any tendency for analytic or deliberative thinking. Slovic WD, 38:7-16. The tobacco companies have exploited this phenomenon in their advertising and marketing. An RJR Camel Advertising Development "White Paper" explicitly states that, "[s]ince CAMEL does not have a demonstrably different or unique product **(rational)** benefit to sell, this jolt needs to be based on an **emotional** response[.]" 506768775-8784 (US 20764) (A) (emphasis added). See also 507278143-8195 (US 21440) (A) (a 1988 RJR marketing report, noting that among four stated advertising objectives, one was to "elicit[] positive emotional response."); 85073124-3130 (US 67536) (A) (a 1978 marketing research report prepared for Lorillard, commenting that "Smoking doesn't seem to need all that great a rationale: youth immortal.").

1526. Research makes clear that far more beginning smokers think about "trying something new and exciting" than think about health consequences. In one study, when asked how long they thought they would continue to smoke when they first started, the majority of

young and older smokers said that they did not think about it. Slovic WD, 15:1-5 (citing Annenberg, 2001). More specifically, the study showed that individuals do not think about or consider smoking risks when starting to smoke. Almost 80% of the adult smokers surveyed answered "not at all" when asked how much they thought about how smoking might affect their health when they first began to smoke. The most frequent answer among young smokers was also "not at all" (47%). Slovic WD, 12:14-15:5 (citing Annenberg, 2001).

1527. Affect is a subtle form of emotion, defined by positive or negative evaluative feelings toward an external stimulus. As related to smoking, an example of such stimuli are cigarettes themselves, the act of smoking, or images of cigarettes and people smoking. Positive feelings toward cigarettes will tend to motivate smoking behavior and negative feelings will tend to deter it. Slovic WD, 35:7-36:11 (citing Zajonc, R. B., "Feeling and thinking: Preferences need no inferences," *American Psychologist, 35*, 151-175 (1980); Slovic, 2001, Chapter 6, citing Damasio, A.R., Descartes' error: Emotion, reason, and the human brain, New York: Avon (1994)).

1528. A decision making process known as the Affect Heuristic serves to explain why exposure to certain stimuli – which evoke positive affect and preference for those stimuli – depresses one's perception of risk associated therewith. The affect heuristic is a model for the way people react to stimuli based on experiential or affective reasoning. Slovic WD, 40:11-20. People base their judgments of an activity or a technology not only on what they **think** about it but also on what they **feel** about it. If they like an activity, they are moved to judge the risks as low and the benefits as high; if they dislike it, they tend to judge the opposite — high risk and low benefit. Slovic WD, 41:16-44:1 (citing Alhakami, A.S., Slovic, P., "A Psychological Study of the Inverse Relationship Between Perceived Risk and Perceived Benefit," *Risk Analysis*, 14(6),

1085-1096 (1994); Finucaine, M.L., Alhakami, A., Slovic, P., & Johnson, S.M., "The Affect heuristic in Judgments of Risks and Benefits," *Journal of Behavioral Decision Making,* 13, 1-17 (2000)).

1529. In this vein, cigarette advertising is designed to associate imagery that conveys positive affect with cigarettes and smoking. Other promotional efforts (e.g., attractive packaging, gifts to consumers, sponsorship of athletic and entertainment events) likewise are designed to increase the positive affect associated with smoking. As positive affect increases, the perceived risk of smoking decreases through the operation of the affect heuristic. By the same heuristic process, subsequent pleasurable experiences associated with smoking also reduce the perceived risk. As a result, as people are exposed to these various stimuli, their attraction to smoking is enhanced, while their perception of risk associated with smoking is depressed. Slovic WD, 44:2-45:17.

1530. The tobacco companies have long been aware of this concept and have used it in their marketing and advertising strategies. A B&W report entitled Viceroy Agency Orientation Outline, in discussing various campaigns in test market, notes that, "[g]iven consumer awareness of the smoking and health issue, full flavor smokers must deal with their illogical behavior. Therefore, we attempted to communicate VICEROY's flavor/satisfaction benefits by providing consumers a rationalization for smoking or a repression of the health concern." One of the campaigns tested was "Feels Good: 'If it feels good, do it. If it feels good, smoke it. VICEROY. It feels good.'" 680116947-6968 (US 21877) (A); Slovic WD, 59:7-15.

1531. Likewise, an RJR document outlined a program of research to guide new advertising campaigns for Winston and Camel – consistent with current academic research on the affect heuristic – presenting a new model in which feelings come first and consumers do not go

through a traditional rational process of choosing a brand. Abandoning the traditional rational consumer behavior model of "Think→Feel→Do," it adopts a more likely behavior model of "Feel→Do→Think." 504603440-3462 (US 68113) (A).

1532. A 1998 marketing memo prepared for Philip Morris recognizes that

It goes on to discuss a theoretical model to guide brand marketing as rational→experiential→emotional, noting that

Interestingly, in discussing rational behavior, it is admitted that 208040882-0912 (US 70718) (Confidential) (A). See also 2080490740-0774 (US 70717) (A) (follow up report prepared for Philip Morris, discussing same marketing model).

1533. Thus, it is clear that tobacco companies have, for many years, undertaken sophisticated market research and consumer studies to understand that, when beginning to smoke, individuals are influenced more by imagery, positive affect, emotion, and social relationships through their experiential thinking than by logic, reason, or analysis of risk. The companies have utilized this understanding in promoting and marketing their cigarettes. As a result, consumers and potential consumers experience positive feelings toward smoking and a reduced perception of risk. Because of these feelings and perceptions, it is more likely that non-smokers will start smoking and current smokers will not quit. Slovic WD, 53:4-1.

(d) Defendants did not Present Evidence Refuting Drs. Slovic and Weinstein

1534. Instead of calling a qualified psychologist or other competent expert to challenge the evidence presented by Drs. Slovic and Weinstein, Defendants called Dr. Kip Viscusi, a law professor with a Ph.D. in economics. Rather than relying on the plethora of scientific research that exists, in reaching his ultimate conclusion that smokers overestimate the level of risk

associated with smoking, Dr. Viscusi relied on the results of three questions asked in four surveys, three of which were funded by the tobacco industry and conducted for use in litigation and the other one of which was a small survey conducted by Dr. Viscusi after he began his long term consulting affiliation with Defendants and their lawyers. Viscusi TT, 17922:21-17931:3; 17936:7-17942:20; 17948:15-17958:17. In fact, Dr. Viscusi admitted on cross-examination that there are many scientists who have reached the same or similarly supporting conclusions to those of Drs. Slovic and Weinstein on this issue. Tellingly, Dr. Viscusi could cite to no other experts who agree with his ultimate conclusion that smokers overestimate the risk associated with smoking. Viscusi TT, 17972:20-17978:8; 17983:7-17991:5.

1535. Dr. Viscusi has testified as an expert witness for Defendants in at least thirty-four instances, including deposition and trial testimony, in numerous lawsuits since 1986, when he began his consulting affiliation with the Defendants. Dr. Viscusi was compensated for his work in this case at a rate of between $700 and $850 per hour. Defendants paid Dr. Viscusi $6800.00 for the testimony he gave in this trial. Viscusi TT, 17931:8-17934:10.

1536. Both Drs. Slovic and Weinstein are more credible witnesses than Dr. Viscusi. Drs. Slovic and Weinstein's opinions are, therefore, entitled to greater weight than are those of Dr. Viscusi.

B. The Myth of Independent Research

1537. In the 1954 Frank Statement, and repeatedly since then, Defendants have promised the American public that they would conduct and disclose the results of disinterested and independent research on the health risks of cigarette smoking, touting that they were concerned about the claims of the adverse health effects of smoking and that they would do whatever was necessary to get to the truth on behalf of their consumers. These promises were false when made and have never been fulfilled.

1538. For years, Defendants propounded a myth – that the Tobacco Industry Research Committee ("TIRC") and its successor, the Council for Tobacco Research ("CTR"), functioned as independent bodies pursuing independent research – as proof that they were meeting their promise to the American people. In reality: (a) TIRC/CTR was biased from its inception; (b) the Cigarette Company Defendants acted to influence TIRC/CTR's activities and its Scientific Advisory Board ("SAB"); (c) the Cigarette Company Defendants' lawyers, both in-house and outside counsel, controlled numerous TIRC/CTR Special Projects and then attempted to cloak this control with TIRC/CTR's alleged independence; and (d) TIRC/CTR's true purpose was to create positive public relations for the Cigarette Company Defendants.

1539. Despite their promises, the Cigarette Company Defendants did not routinely employ or support scientists to conduct research into smoking and health. Lawyers working for the Cigarette Company Defendants watched and internally policed and restricted company research – all based on liability concerns. In the rare instances when they did conduct internal research into smoking and health, the Cigarette Company Defendants did so in secret and suppressed any unwanted results, in some cases by destroying documents and in other cases by taking steps to shield documents and materials from discovery in litigation and from disclosure to

the American public.

(1) The Promise: "We, the Cigarette Company Defendants, Will Conduct Independent Research to Find the Truth About Smoking and Disease"

(a) The Frank Statement

1540. In December 1953, the Presidents of American Tobacco, RJR, Lorillard, B&W, and Philip Morris, among others, met in the Plaza Hotel in New York. Consistent with the agreements reached at the December 1953 meetings, on January 4, 1954, a full-page statement called "A Frank Statement to Cigarette Smokers" was disseminated by Defendants to the American public through publication in 448 newspapers in the United States. 11309817-9817 (US 20277) (A); TIMN0116378-6384 (US 21277) (O); CTRBYL000001-0014 (US 21138) (O); Brandt WD, 50:21-51:23, 54:20-55:10.

1541. The Frank Statement promised, in part, that the Defendants would conduct a search for the truth through independent outside and in-house research:

> Regardless of the record of the past, the fact that cigarette smoking today should even be suspected as a cause of serious disease is a matter of deep concern to us. Many people have asked us what we are doing to meet the public's concern aroused by the recent reports. Here is the answer: 1. **We are pledging aid and assistance to the research effort** into all phases of tobacco use and health. This joint financial aid will of course be **in addition to what is already being contributed by individual companies**. 2. For this purpose we are establishing a joint industry group consisting initially of the undersigned. This group will be known as TOBACCO INDUSTRY RESEARCH COMMITTEE. 3. In charge of the research activities of the Committee will be a scientist of unimpeachable integrity and national repute. In addition there will be an Advisory Board of scientists **disinterested in the cigarette industry**. A group of distinguished men from medicine, science, and education will be invited to serve on this Board. These scientists will advise the Committee on its research activities.

11309817-9817 (US 20277) (A) (emphasis added); Brandt WD, 55:11-21; Kessler WD,

65:6-16.

1542. However, as Dr. Allan Brandt explained,

> [D]ocuments illustrate that at the same time that the industry assured the public through its "Frank Statement" that "there is no proof that cigarette smoking is one of the causes [of cancer]" it documented a large number of known carcinogens in its product. At the same time that the industry announced "we accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business" it established a sophisticated public relations apparatus – based on the "cover" of conducting research – to deny the harms of smoking and reassure the public. Medical and scientific knowledge concerning the harms of smoking – including cancer and premature death – continued to grow impressively, in spite of a barrage of critiques and distortions by industry spokespeople and the TIRC. But once the essential strategy was organized and implemented in 1953-54, the industry's approach was unwavering.

Brandt WD, 61:20-62:7.

1543. Defendants repeated the assurances made in the 1954 Frank Statement. In a December 1958 press release, Timothy Hartnett, TIRC Chairman, reaffirmed the promises made in the Frank Statement by assuring the public:

> At its formation in January 1954, the Tobacco Industry Research Committee stated its fundamental position: 'We believe the products we make are not injurious to health. We are pledging aid and assistance to the research effort into all phases of tobacco use and health.' That statement and pledge are reaffirmed today by the members of the Tobacco Industry Research Committee.

500518759-8761 at 8761 (US 20636) (A); Brandt WD, 88:6-14.

(b) Continuing Parallel False Promises from Members of the Enterprise, Including the Tobacco Institute

1544. Defendants claimed that they would, in part, fulfill their promise to research and publish their findings about smoking and health by funding independent research through the TIRC/CTR. In the January 1954 Frank Statement, and repeatedly over the years since then, the

Defendants told Congress, federal agencies, courts, and the public that TIRC/CTR's purpose was to fund and to perform independent scientific research on the issue of smoking and health. 11309817-9817 (US 20277) (A).

1545. A 1954 TIRC statement announcing the appointment of Timothy Hartnett as full-time Chairman of TIRC contained a statement from Hartnett that

> [t]he tobacco industry is determined to find answers to the public's questions about smoking and health. The appointment of a full-time chairman completes an organization dedicated to carrying on comprehensive and objective scientific and statistical research to establish the facts and report them to the public. . . . The millions of people who derive pleasure and satisfaction from smoking can be reassured that every scientific means will be used to get all the facts as soon as possible.

TLT0901831-1832 (US 88043) (A); Kessler WD, 51:18-52:14.

1546. A January 25, 1954 document entitled "Statement Concerning the Origin and Purpose of the Tobacco Industry Research Committee and Its Proposed Functions" stated that the Defendants formed TIRC "in the interest of the public as well as of the industry to meet the challenge raised by widely publicized reports in the press, purporting to link tobacco smoking with the cause of lung cancer." TIRC was created to address "the appearance of certain publications claiming an established relationship between cigarette smoking and lung cancer." The document further stated:

> In the light of the foregoing agitation and in the absence of authoritative findings, there is a responsibility on the part of the management of the tobacco manufacturers and others engaged in the tobacco industry to aid in the final determination of this controversy. It is the earnest wish of the industry to encourage competent scientific authority to find ultimate facts which will dispel the present confusion and to communicate authoritative factual information on the subject to the public.

TIMN0116378-6384 at 6378, 6380 (US 21277) (O).

1547. The Cigarette Company Defendants went so far as to claim that they would stop selling tobacco if they determined that smoking was harmful or would change the product in order to make certain that it was no longer harmful. For example, George Weissman, Vice President of Philip Morris, in a statement to be delivered on March 30, 1954 before the NATD Convention in Chicago, claimed "[i]f we had any thought or knowledge that in any way we were selling a product harmful to consumers, we would **stop business tomorrow**." 2022239339-9343 at 9341 (US 21766) (A) (emphasis added).

1548. On June 15, 1954, at a TIRC press conference discussing the organization's goals, Dr. Clarence Cook Little, the first Scientific Director of TIRC, stated:

> We want to learn all that we can . . . We haven't any axe to grind. We respect differences of opinion. . . . This is not a partisan effort. We are not trying to prove anything. We are trying to find out the facts. . . . I don't have any personal preconceived notions at all. I am just anxious to find out everything we possibly can. . . . We would not pick any man to be supported in whom we didn't have confidence enough to let him be a scientist. He will be left free. He will not be bossed. He will not be directed.

CW0105 4843-4879 at 4845, 4846, 4858 (US 20278) (A).

1549. In a TIRC press release dated July 28, 1954, Dr. Little stated:

> In order to find conclusive facts concerning questions that have been raised about tobacco use and health . . . the Scientific Advisory Board of the Tobacco Industry Research Committee has adopted a three-fold policy which will direct funds into research on: 1) Study of the physical and chemical composition of tobacco and accompanying products. 2) Study of tissue changes in humans and animals under various conditions. 3) Study of smoking and other tobacco habits and of the emotional and physical make-up of smokers.

The press release concluded by stating that the purpose of the TIRC was "to finance objective research on tobacco and health." CTRPUBLICSTMT000093-0095 at 0093, 0095 (US 21163) (A).

1550. In addition to the false statements made by Defendants individually and in furtherance of their scheme to defraud, Defendants in 1958 created the Tobacco Institute, a public relations organization whose function was to make certain that Defendants' false and misleading positions on issues related to, among other things, the connection between smoking and disease, were kept constantly before the public, doctors, community leaders, the press, and the government. At all times, Defendants controlled the Tobacco Institute, including its public statements made on behalf of Defendants.

1551. Dr. Allan Brandt explained the reasons for the creation of the Tobacco Institute:

> By mid-1956 the industry found itself in yet another public relations dilemma. The utility of the TIRC was constituted in its stated commitment to "objective" science and its search for the "truth." At the same time, industry executives voiced a repeated desire for a more aggressive public relations campaign. . . .
>
> The legitimacy and influence of the TIRC rested upon the perception of restraint. As a result, Carl Thompson of Hill and Knowlton argued in one of the Hill papers, marked as U.S. Exhibit 88,409, that "A flamboyant campaign against the anti-smoking propagandists would unquestionably alienate much of the support of the moderates in both scientific and lay publics." Therefore, he urged that TIRC stay the course.
>
> The only way to protect the public relations "capital" invested in the TIRC was to create a separate entity for more aggressive public relations and political lobbying. In 1958, the industry announced the creation of the Tobacco Institute. With regulatory initiatives on the horizon, especially proposals to label cigarettes as hazardous, John Hill had advised the creation of a trade association that would not have the limitations associated with TIRC.

Brandt WD, 89:4-23. Dr. Brandt's testimony is persuasive and consistent with the underlying evidence.

1552. The Tobacco Institute, created by the Cigarette Company Defendants (except BATCo and Philip Morris Companies) and others as a joint trade association, made statements

on behalf of the Cigarette Company Defendants and in furtherance of the Enterprise. Such statements were released to convince the public that the tobacco industry was making efforts to conduct its own research as well as to fund independent scientists.

1553. On June 7, 1962, the Tobacco Institute issued a press release welcoming an "impartial study" by the Surgeon General on smoking and health. George Allen, President of the Tobacco Institute, stated: "No one has a greater interest than the tobacco industry in helping medical science find solutions to the health problems of our country." Allen went on to cite the "extensive scientific research program" of TIRC, established to "provide grants to independent scientists." TIMN0123772-3772 (US 85928) (O).

1554. In a December 27, 1962 press release, the Tobacco Institute publicly recognized the Defendants' "special responsibility to help science determine the facts" regarding smoking and health. The release went on to credit the Enterprise with taking the lead in "seeking the answers by setting up the T.I.R.C. and turning over full control of its research program to a group of outstanding, independent scientists." TIMN0123775-3779 at 3777-3778 (US 85930) (O).

1555. A November 3, 1963 Tobacco Institute press release stated that the industry was on a "crusade" to find answers to the "questions about smoking and health" and that it "should be a crusade neither for nor against tobacco. It is a crusade for research . . . ." TIMN0118245-8246 at 8245 (US 77055) (O).

1556. On February 1, 1964, the by-laws of TIRC were amended to provide that the name of the organization be changed to "The Council for Tobacco Research-U.S.A." The purposes and objectives remained the same as in the 1954 by-laws, namely, "to aid and assist research into tobacco and health, and particularly into the alleged relationship between the use of tobacco and lung cancer and to make available to the public factual information on this subject."

682631364-1368 at 1364 (US 21024) (O).

1557. On March 6, 1964, the Tobacco Institute sent a press release announcing the reorganization of TIRC and its new name, CTR. This press release represented that CTR's research policy would be set by doctors and scientists independent of the tobacco industry. 508775085-5088 at 5085 (US 20815) (O).

1558. On January 12, 1965, the Tobacco Institute issued a press release stating, "[t]he industry will continue forcefully its support of responsible research efforts to establish the true facts." The statement continued, "[t]his research, which is supported by contributions from members of the tobacco industry, is being conducted by numerous independent, competent doctors and scientists associated with many institutions throughout the country." TIOK0034195-4195 (US 85931) (O).

1559. On December 29, 1965, the Tobacco Institute stated in a press release that it was Defendants' belief that current research had not established whether smoking causes disease and that the matter is still an "open question." The press release stated: "If there is something in tobacco that is causally related to cancer or any other disease, the tobacco industry wants to find out what it is, and the sooner the better." TIMN0123848-3851 at 3848 (US 21332) (O).

1560. On June 7, 1966, in a speech regarding Philip Morris's efforts to sponsor independent research, Joseph F. Cullman III, President of Philip Morris, stated:

> [W]e feel a deep sense of responsibility to our cigarette smokers. All of us who work in this industry feel a deep concern over questions raised about cigarettes and health. We will not rest until we learn the scientific facts that will provide solutions to the medical problems in question. We intend to leave no research question unanswered in our quest for the truth. What have we done to help find the truth? This industry has allocated nearly twenty million dollars for the support of research projects by independent scientists, through The Council for Tobacco Research - U.S.A., and through the American Medical Association

> Education and Research Foundation. If more funds are needed for this research, I am sure the industry will provide them.

1000235218-5230 at 5227 (US 20083) (O).

1561. On December 24, 1968, Shook, Hardy & Bacon, a tobacco industry law firm, authored the following statement for Joseph Cullman, Chairman of the Board of Philip Morris: "The cigarette industry recognizes its responsibility to the American people. It is anxious to seek the answer to the question of whether cigarettes are in fact the cause of any human disease. It is unfortunate that emotional propaganda against cigarettes has been permitted to suppress scientific inquiry and proof." 1000313777-3779 at 3777 (US 20093) (O).

1562. A 1969 Tobacco Institute brochure stated that "[f]rom the beginning, the industry's policy has been to work – as dispassionately as possible – toward a conclusive, scientific understanding of the actual facts, *whatever these facts turn out to be*." 620047929-7972 at 7963 (US 20945) (O) (emphasis in original).

1563. In 1970, the Tobacco Institute issued a public statement, published as an advertisement in major American newspapers, publicizing the research efforts of the cigarette industry. The statement, titled "The question about smoking and health is still a question," read in pertinent part:

> [A] major portion of this scientific inquiry has been financed by the people who know the most about cigarettes and have a great desire to learn the truth . . . the tobacco industry. And the industry has committed itself to this task in the most objective and scientific way possible. . . . 1115 reports in all. Through this work much valuable data have been produced about lung cancer, heart disease, chronic respiratory ailments and other diseases. However, there's still a lot more to be learned. . . . There are eminent scientists who believe that the question of smoking and health is an open one and that research in this area must go forward. From the beginning, the tobacco industry has believed that the American people deserve objective, scientific answers. With this same credo in mind, the tobacco industry stands ready today to make new commitments for

> additional valid scientific research that offers to shed light on new facets of smoking and health.

TIMN0081352-1352 (US 21305) (A).

1564. The text from a March 17, 1970 television spot labeled "TI – approved Ad Hoc" stated:

> Today, we in this industry support more impartial research on the vital question of tobacco and health than any agency of the Federal Government, and more than all the voluntary agencies combined. We have great confidence that the findings of this research will lead the way in providing fair and accurate information regarding cigarette smoking.

2010008819-8822 at 8820 (US 20300) (O).

1565. On November 30, 1970, in a statement to the Executive Committee of CTR, Henry H. Ramm, General Counsel of RJR, stated that the purpose of the organization was:

> To aid and assist research into tobacco use and health, and particularly into the alleged relationship between the use of tobacco and lung cancer and to make available to the public factual information on this subject. . . . When the products of an industry are accused of causing harm to users, certainly it is the obligation of that industry to endeavor to determine whether such accusations are true or false. Money spent for such purpose should not be regarded as a charitable contribution but as a business expense--an expense necessary to keep that industry alive. In view of the billions of dollars of annual sales of our industry our expenditures for health research have been of a minimal order.

1003057214-7220 at 7214, 7218 (US 20147) (O).

1566. On December 1, 1970, Philip Morris, RJR, B&W, Lorillard, and American Tobacco placed an ad through the Tobacco Institute in *The Washington Post* entitled "The question about smoking and health is still a question." The ad stated that "[i]n the interest of absolute objectivity," Defendants have "supported totally independent research efforts with completely non-restrictive funding." The ad further created the false impression that all research

results had been published. TIMN0081352-1352 (US 21305) (A).

1567. On January 3, 1971, the Tobacco Institute issued a press release describing the "locked door" along the "statistical path" that linked smoking to ill health. In this press release, Tobacco Institute President Horace Kornegay noted that the tobacco companies would provide more than $4 million that year "for support of independent scientific research on smoking and health questions" and declared: "Any organization in a position to apply resources in the search for those keys – and which fails to do so – will continue to be guilty of cruel neglect of those whom it pretends to serve." TIMN0121003-1007 at 1004-1005, 1007 (US 21722) (O).

1568. In a February 1, 1972 Tobacco Institute press release, Kornegay stated that "[t]he cigarette industry is as vitally concerned or more so than any other group in determining whether cigarette smoking causes human disease . . . " and added that "despite this effort the answers to the critical questions about smoking and health are still unknown." TIMN0120596-0597 (US 21321) (O).

1569. The Tobacco Institute continued to report to the public on the Defendants' alleged efforts to conduct research, fund independent science, and search for answers to the questions about smoking and health; yet by 1975, every member of the Enterprise, in furtherance of its common objectives, would not admit that smoking could be the cause of some human illness. The Enterprise continued to communicate to the public its purported feeling of responsibility to consumers and its monetary contributions to scientific research. A January 14, 1975 Tobacco Institute press release reported that the Cigarette Company Defendants "have committed some $50 million to help support researchers who are seeking the truth." TIMN0120638-0639 at 0639 (US 21698) (O).

1570. On August 16, 1976, James C. Bowling, Vice President of Philip Morris,

explained in an interview in London that "it's up to us morally to find the answers. And that's why we're spending more on cigarette health research than the Federal government . . . ." He further stated: "They [CTR] decide where the research needs to be done. They allocate the money, we read the results when it's printed in the literature . . . We have no influence on them whatsoever." 1002410318-0351 at 0333, 0340 (US 20137) (O).

1571. A February 1977 RJR document stated:

> **Objective**: What we want to convey can almost be summarized in one sentence: **The smoking and health controversy is just that – it is a controversy**. . . . The smoking and health controversy is a very important question; our Industry has been - and is, of course, trying to provide the answer. If there ever should be any component or components, as found in smoke, that can be proven to be, or contribute to be, a cause of any disease in man, we will of course, take them out.

500021655-1710 at 1658 (US 20614) (A) (emphasis in original).

1572. In 1977, Addison Yeaman, B&W's General Counsel, stated in a speech:

> My assignment today is to inform you of the measures the tobacco industry has taken to discharge its obligation to investigate the question of whether the use of tobacco in cigarettes is causative of, or materially contributes to a number of diseases that constitute major health problems throughout the world. . . . The companies fully recognized that the industry has an absolute duty and a heavy obligation to seek to determine what if any part its products play in disease. . . . I am utterly secure in saying to you that the tobacco industry recognizes its responsibility and its duty and that it will continue its every effort and at whatever cost to finding the answer to the question "what part, if any, does tobacco play in human diseases."

CTRPUBLICSTMT001437-1445 at 1437, 1438, 1445 (US 21164) (O).

1573. In 1978, a Tobacco Institute publication addressed twenty-one questions under the title of "Facts About the Smoking Controversy." In response to the question "Do the tobacco companies control the research they sponsor[,]" it claimed, "Absolutely not! The commitment of

the tobacco manufacturers to resolve the smoking and health controversy has never been fully appreciated." TIMN0055129-5135 at 5134 (US 21298) (O).

1574. On December 31, 1981, the Tobacco Institute published "Tobacco Industry Research on Smoking and Health: A $104 Million Commitment," which noted:

> Since the first questions were raised about smoking as a possible health factor, the tobacco industry has believed that the American people deserve objective scientific answers. The industry has committed itself to this task. . . . In the interest of strict objectivity, the tobacco industry has supported independent research efforts with completely nonrestrictive funding, mainly through the Council for Tobacco Research. . . . However, there is still a lot more to be learned. . . . questions of smoking and health are unresolved . . . the tobacco industry stands ready today to make new commitments for additional scientific research that may shed light on the question of smoking and health.

2046754709-4710 at 4710 (US 20474) (O). The same promise was repeated the next year in the Tobacco Institute's publication "Tobacco Industry Research on Smoking and Health: A $111 Million Commitment;" and in 1984, the Tobacco Institute published its annual report entitled "Tobacco Industry Research on Smoking and Health; a $120 Million Commitment." 670500617-0620 (US 20968) (O); 2045377870-7876 (US 20460) (O).

1575. James F. Glenn, Chairman of the Board and Chief Executive Officer of CTR, wrote a February 15, 1995 letter responding to a previous letter from James Todd, Executive Vice President of the American Medical Association. In it, Glenn insisted:

> Your letter of November 8, 1994, addressed to the deans of a number of medical schools, has been brought to my attention. I feel that a response is required in view of the serious inaccuracies in your letter and, in particular, your misleading portrayal of the Council for Tobacco Research-U.S.A., Inc, as a public relations pawn of the tobacco industry. . . . Did you mean to imply that CTR is not "<u>really</u>" a research institute? . . . You state that "tobacco research institutions such as the . . . Center [sic] for Tobacco Research . . . all funded fully by tobacco companies are used by the tobacco industry as part of its overall public relations strategy . . . ."

> The tobacco industry, to the best of my knowledge, has not used CTR in this manner during my tenure. Indeed, the tobacco industry does not review the grant applications to CTR or select the research sponsored by CTR, nor does the industry seek to influence CTR grantees in any fashion. On the contrary, CTR encourages these independent investigators to publish their research findings, whatever they may be.

88024854-4857 at 4854-4855 (US 56357) (O) (emphasis in original).

1576. A January 22, 1997 BATCo document stated:

> [S]cience has yet to identify a genetic mechanism by which any substance in tobacco smoke causes lung cancer in humans. Enormous amounts of research continue in this area, including work funded by British-American Tobacco. . . . We continue to support academic research, particularly in the biological sciences, in the pursuit of an explanation of the relationship between smoking and lung cancer, and in the expectation that such an explanation could lead to changes in our product.

700805002-5048 at 5004, 5008 (US 21051*) (O).

1577. Defendants' representations concerning their public commitments continue to this day. Philip Morris's internet website, www.philipmorrisusa.com, states, in part, as follows: "Our goal is to be the most responsible, effective and respected developer, manufacturer and marketer of consumer products, especially products intended for adults." The same Philip Morris web site also states: "We will be successful in achieving our goal when we: . . . Communicate Health Effects of Our Products – Communicate openly, honestly and effectively about the health effects of our products." http://www.philipmorrisusa.com/DisplayPageWithTopicd59b.asp at 1 (US 80795) (O); ARU6411453-1455 (US 80795) (O).

1578. BATCo recently prepared a "Social Report" and published the report on the website of the BAT Group, www.bat.com. The "British American Tobacco Social Report 2001/2002" noted:

> The Scientific Research Group, comprising scientific experts from our Group companies' worldwide Research & Development facilities, meets regularly to review, with input from independent scientific experts, developments in the science of smoking and health and to consider external research proposals for funding in this field. External requests for Scientific Research Group funding are granted when the research proposed is relevant, of sufficiently high quality and where the area of investigation has not previously been comprehensively explored. We give independent researchers freedom to publish their findings with no editorial constraints.

British American Tobacco Social Report 2001/2002 at 35, www.bat.com; TLT0231830-1910 at 1848 (US 76316) (O).

(2) The Reality: CTR Was a Front That Failed to Deliver on the Industry's Promise to Conduct Independent Disinterested Research

(a) Throughout TIRC/CTR's Existence, It Did Not Seek to Fulfill the Defendants' Promise to Conduct and Disclose Independent Research

(i) Formation of TIRC/CTR – An Industry "Front"

1579. In an attempt to create a public relations plan to distract smokers from smoking and health related concerns, Hill & Knowlton, a public relations firm retained by TIRC, stated the following in an undated document: "There is only one problem – confidence, and how to establish it; public assurance, and how to create it – in a perhaps long interim when scientific doubts must remain. And, most important, how to free millions of Americans from the guilty fear that is going to arise deep in their biological depths – regardless of any pooh-poohing logic – every time they light a cigarette." The document also set forth various problems confronting the industry regarding public relations issues on smoking and health. "Problem 4" displayed a number of tactics to respond to the findings of noted scientists like Wynder, Rhoads, and Ochsner. According to this document,

> [w]e have a choice, as previously indicated, of: (a) Smearing and belittling them; (b) Trying to overwhelm them with mass publication of the opposed viewpoints of other specialists; (c)

> Debating them in the public arena; or (d) We can determine to raise the issue far above them, so that they are hardly even mentioned; and then we can make our real case.

JH000493-00501 at 0495, 0498 (US 21408) (A); Brandt WD, 53:16-54:10.

1580. In a December 14, 1953 memorandum, Timothy Hartnett, President of B&W, summarized the crisis of the industry in the following terms:

> But cancer research, while certainly getting our support, can be only half an answer. . . . The other side of the coin is public relations. . . . [which] is basically a selling tool and the most astute selling may well be needed to get the industry out of this hole. . . . It isn't exaggeration that no public relations expert has ever been handed so real and yet so delicate a multi-million dollar problem. . . . Finally, one of the roughest hurdles which must be anticipated is how to handle significantly negative research results, if, as, and when they develop.

1005039779-9783 at 9779-9780, 9783 (US 20190) (A); Brandt WD, 55:22-56:11.

1581. A December 15, 1953 Hill & Knowlton memorandum entitled "Background Material on the Cigarette Industry Client" described how Defendants' representatives "have agreed to go along with a public relations program on the health issue." In the section entitled "The Industry's Position," it stated: "They feel that they should sponsor a public relations campaign which is positive in nature and is entirely 'pro-cigarettes.' They are confident they can supply us with comprehensive and authoritative scientific material which completely refutes the health charges." JH000502-0506 at 0502, 0503 (US 21411) (A).

1582. On April 14, 1954, TIRC published "A Scientific Perspective on the Cigarette Controversy," which reaffirmed the Frank Statement and set forth a number of brief statements from various scientists in an attempt to show that there was no consensus on the link between smoking and cancer. 1005039987-40008 (US 20192) (O).

1583. Despite TIRC's claim that there was no consensus on the link between smoking

and cancer, there was overwhelming evidence by the mid-1950s that cigarette smoking caused lung cancer and death. Numerous peer reviewed studies from a variety of methodological approaches had all reached this conclusion. During the 1950s, there was not a single substantial study contradicting this finding. Brandt WD, 66:10-69:13.

1584. Hill & Knowlton's June 21, 1954 "Public Relations Report and Recommendations for Tobacco Industry Research Committee" stated that TIRC

> now has the basis needed for carrying on a long-range plan of public relations activities aimed at establishing the TIRC in the public mind as a constructive force in scientific research. These activities will endeavor to keep the following facts before the Public: 1. That there is no proof that smoking is a cause of lung cancer . . . .

514806129-6131 at 6130 (US 20860) (O).

1585. Internal documents show that CTR was intended to operate as a public relations "front" and a "shield" for the Defendants, despite the Defendants' contrary public statements. 680260940-0941 (US 20995) (A).

(ii) TIRC/CTR Was More Concerned About Public Relations Than Science

1586. CTR provided a mechanism for the Defendants to claim that they were conducting independent research. Yet it was used, instead, as a public relations tool to conduct self-serving research to support Defendants' litigation position and to provide witnesses in lawsuits, before Congress, and in other regulatory actions. TIRC used scientific research for public relations purposes. As Dr. Allan Brandt noted,

> The TIRC deftly exploited scientific research for the purposes of public relations. From the outset the dual functions of TIRC, public relations and scientific research, were intertwined. The scientific program of TIRC was always subservient to the goals of public relations. Rather than carefully and critically assessing the emerging scientific data concerning the harms of smoking, the

> TIRC took the lead in denying and distorting these harms. Instead of "getting all the facts" in a timely way, the TIRC focused its energies and resources in two areas. . . . it served as a public relations unit for the industry, especially in relation to growing public concerns about the risk of smoking. It repeatedly attacked scientific studies demonstrating the harms of cigarette smoke. It worked concertedly to reassure smokers about cigarettes.

Brandt WD, 57:8-18.

1587. Members of TIRC recognized the organization's public relations function.

Timothy Hoyt, Executive Secretary of TIRC, stated on April 28, 1955, that

> [e]ssentially, the major purposes of the TIRC are Research and Public Relations. Our job is to maintain a balance between the two, and to continue to build soundly so that at all times Research and Public Relations complement each other. In that way we intend to assume the mantle of leadership and, ultimately, to create a condition where the public will look to the TIRC for the answers rather than to others.

CTRMN003816-3835 at 3826 (US 21147) (O).

1588. Statements from TIRC meeting minutes and correspondence attest to Defendants' satisfaction at having successfully influenced the public to believe that there was a legitimate scientific controversy regarding smoking and health and that Defendants openly and honestly participated in that debate. An April 28, 1955 Confidential Hill & Knowlton Public Relations Report to TIRC stated that

> [a]n increasing number of scientists and researchists are anxious to report on their works involving cigarettes. Of late, most of these have been anticipated and, when necessary, steps are taken to deal with the findings. These reports include studies on the relation of tobacco and heart as well as tobacco and lung cancer.

CTRMN039137-9143 at 9138 (US 21158) (O).

1589. TIRC continually attacked the mounting evidence of the effect of smoking on disease. For instance, an undated TIRC press release denounced Alton Ochsner's book (Ochsner

was one of the first scientists to investigate the relationship between cigarette smoking and lung cancer) as "[j]ust another propaganda device in the anti-tobacco crusade which the author has been carrying on for years." CTRMN004949-4952 at 4952 (US 21153) (A).

1590. On June 7, 1955, Dr. Little appeared on Edward R. Murrow's "See It Now" television show and was asked: "[H]ave any cancer-causing agents been identified in cigarettes?" He replied: "No. None whatever, either in cigarettes or in any product of smoking, as such." CTRMN005534-5541 at 5534 (US 21156) (A).

1591. In a June 13, 1955 Tobacco Institute press release, TIRC Chairman Timothy Hartnett claimed that "[n]obody has produced evidence proving that cigarette smoking causes human lung cancer." CTRMN004981-4982 at 4981 (US 21154) (O).

1592. In a July 30, 1957 letter, Edward A. Darr, President of RJR, praised Paul Hahn, President of American Tobacco, for having the foresight to argue in favor of the creation of the TIRC in December 1953. The letter also stated:

> It now appears, however, that the tobacco industry should go on the offensive in bringing the truth about cigarette smoking to the public. . . . I am convinced that an organization of tobacco manufacturers formed for the narrow and well-defined specific purpose of presenting facts and information helpful to the industry can and should be formed and that such an organization be entirely separate from the TIRC, which would continue its activities in connection with the Scientific Advisory Board grants but would discontinue the major part of the public relations activity, leaving this to be handled by the new organization, whatever name might be given to it. Certainly, no one can question the necessity of our going on the offensive without delay.

BBAT030581-0582 (US 22058) (O).

1593. In a July 31, 1958 Tobacco Institute press release, Hartnett reemphasized this point, stating that "[t]he position of this country's cigarette industry is unchanged because the

facts have not changed. Scientific evidence simply does not support the theory that there is anything in cigarette smoke known to cause human lung cancer." CTRMN004985-4986 at 4985 (US 21155) (O).

1594. During the February 14-15, 1958 meeting of the CTR SAB, Timothy Hartnett informed the SAB that Hill & Knowlton "is acting as public relations counsel for both organizations [TIRC and the Tobacco Institute]. He pointed out the desirability of this from both organizations' standpoint." CTRMN004331-4335 at 4332 (US 21150) (A).

1595. Further, Bowman Gray, Chairman of the Tobacco Institute, announced "a tentative decision to let the matter of the respective functions of the two organizations [the Tobacco Institute and TIRC] be decided upon a case by case basis under the guidance of public relations counsel." 04209323-9326 at 9323 (US 47370) (O).

1596. Leonard S. Zahn, one of Hill & Knowlton's former employees, was appointed Public Relations Consultant to CTR at the SAB meeting in September 1969. CTRMN004539-4544 (US 21151) (O).

1597. In an April 4, 1978 letter from Ernest Pepples, Senior Vice President and General Counsel of B&W, to C. I. McCarty, Chief Operating Officer of B&W, I. W. Hughes, Chairman of B&W, and DeBaun Bryant, CTR Director, Pepples admitted:

> Originally, CTR was organized as a public relations effort. The industry told the world CTR would look at the diseases which were being associated with smoking. There was even a suggestion by our political spokesmen that if a harmful element turned up the industry would try to root it out. The research of CTR also discharged a legal responsibility. The manufacturer has a duty to know its product. The Scientific Advisory Board composed of highly reputable independent scientists constitute a place where the present state of the art is constantly being updated. Theoretically SAB is showing us the way in a highly complex field. There is

> another political need for research. Recently it has been suggested that CTR or industry research should enable us to give quick responses to new developments in the propaganda of the avid anti-smoking groups. For example, CTR or someone should be able to rebut the suggestion that smokers suffer from a peculiar disease, as widely alleged in the press some few months ago. A properly designed research effort should encompass the need for instant response on subjects of public interest in the smoking and health controversy. Finally the industry research effort has included special projects designed to find scientists and medical doctors who might serve as industry witnesses in lawsuits or in a legislative forum. All of these matters and more should be considered in asking what kind of research the industry should do.

680212421-2423 at 2422 (US 54024) (A).

1598. A November 6, 1978 memorandum marked "Confidential - For Counsel Only" from Donald Hoel regarding "Industry Research Committee Meeting, October 26, 1978, Lexington, Kentucky" stated:

> After some further discussion, Janet [Brown] and Arnie Henson expressed American Tobacco Company's view that CTR must be maintained but needed new people. It must be more politically oriented. They felt that CTR must look at what is happening and what others are doing to see what questions can be raised, etc. The approach must be steady, slow and conservative. They must find skeptical scientists.

01347203-7209 at 7203, 7208 (US 43667) (A).

1599. A memorandum written on November 17, 1978 by Robert Seligman, Vice President of Research and Development at Philip Morris, contained the following historical account: "Bill Shinn [attorney at Shook, Hardy & Bacon] described the history, particularly in relation to CTR. . . . It was set up as an industry 'shield' in 1954. . . . CTR has helped our legal counsel by giving advice and technical information, which was needed at court trials. CTR has supplied spokesmen for the industry at Congressional hearings. The monies spent at CTR

provides a base for introduction of witnesses." 2045752106-2110 at 2107 (US 20467) (A); Kessler WD, 52:25-53:14; Stevens WD, 33:8-34:2.

1600. In fact, certain recipients of CTR funds may have been "kept on the payroll," to maintain favorable relations, either for their testimony or the testimony of their colleagues. 01335922-5922 (US 20045) (A).

(iii) CTR's Research Did Not Conduct Research Designed to Investigate the Link Between Smoking and Health

1601. CTR did not conduct research designed to answer the central question of great interest to the public, namely, whether there was a link between smoking cigarettes and adverse health effects such as cancer and other diseases.

1602. In a document titled "Confidential Report – Scientific Advisory Board Meeting – November 9-10, 1957," the TIRC's Scientific Advisory Board acknowledged that the "French have done a number of statistical inquiries that show a correlation between tobacco consumption in definite relation to the increase of lung cancer, to an increase of cancer of all sites, and to other ailments. They see no alternative to giving these a causative interpretation." Despite the importance of these findings, TIRC did not make them public. CTRMN004324-4330 at 4329 (US 21149) (A).

1603. Moreover, despite the obvious importance such an answer carried, TIRC never developed an approach to carcinogenesis and tobacco that could resolve the question of whether harms were induced by cigarette smoking. Although some researchers explored alternative hypotheses, the TIRC did not pursue direct research on cigarettes and disease. Rather than directly addressing the constituents in tobacco smoke and their demonstrated effect on the human body, the TIRC directed most of its resources to either: (a) alternative theories of the origins of

cancer centering on genetic factors and environmental risks, or (b) the basic mechanisms of disease. As a result, most research projects funded through its SAB were irrelevant to the immediate questions of the harms of tobacco. At the same time, Little and the TIRC repeatedly used truisms such as the "need for more research" and "how much more there is to learn" to deflect attention away from what was known. Brandt WD, 85:12-86:3; 501773418-3466 (US 20686) (A).

1604. CTR's research was purposely focused away from the fundamental questions of smoking and health.

> [CTR] ultimately developed a research program that focused principally on basic science mechanisms in cancers. This program was distant if not completely irrelevant to evaluating the risks and harms associated with smoking. The TIRC research program was organized and devised to *not* address the immediate and fundamental questions of the health effects of smoking.
>
> In this way, both functions of TIRC (public relations and research) were integrally related; both were fully committed to the goals of denying and discrediting the substantial scientific evidence of smoking's harms and reassuring the public, especially smokers and potential smokers.

Brandt WD, 57:19-58:4 (emphasis in original).

1605. The industry research plans to address health and smoking were largely driven by legal practicalities, including the risk of "[d]oing smoking and health and being forced to admit in law suits that their experiments have caused cancer in animals and yet that they have made no changes in tobacco smoke to eliminate the tumours." 1003119099-9135 at 9113 (US 20152) (A).

1606. One section of a February 19, 1963 report described a meeting of industry representatives from TIRC, RJR, and Philip Morris at which a debate took place about the

accuracy and the legal and public relations implications of whether TIRC should disseminate the statement that "the causes of lung cancer are not known to science." XBW0010811-0826 (US 26458) (O).

1607. A 1968 CTR memorandum stated that:

> two points of view apply to all the work of [CTR]. . . . The problem therefore is to keep these two general factors – complexity of the diseases and importance of the Host Factor – continually in mind, and to conduct the various specific pieces of research which we support in such a way as to add to the increasing body of experimental evidence which justifies this attitude [i.e., that causes other than smoking are to blame].

HT70135161-5164 at 5164 (US 21629) (O).

1608. In a January 12, 1968 document, Addison Yeaman, B&W's General Counsel, wrote about the need to reorient CTR from more basic research to that with specific application to tobacco. He admitted: "Review of SAB's current grants indicates that a very sizable number of them are for projects in what might be called 'basic research' without specific orientation to the problem of the relationship of the use of tobacco to human health." 00552837-2839 at 2837 (US 22968) (A).

1609. Addison Yeaman, B&W's General Counsel, wrote a January 19, 1968 memorandum about whether to alter the "long established policy of CTR, carried out through SAB, to 'research the disease' as opposed to researching questions more directly related to tobacco." LG2023842-3843 at 3842 (US 61222) (A); Harris WD, 148:23-151:22.

1610. On June 1, 1970, a private conference was held in CTR's offices to discuss with several CTR grantees the "Effects of Nicotine and/or Smoking on the Central Nervous System." On June 17, 1970, Philip Morris researchers Helmut Wakeham and William Dunn called CTR

offices to suggest planning a scientific conference on the benefits of smoking. CTR Associate Scientific Director Robert Hockett and others at CTR "reacted quite favorably to this suggestion" since the private June 1st conference "had brought out several effects in this area that can be regarded as beneficial." On July 1, 1970, Hockett sent a letter to Henry H. Ramm, Vice President and General Counsel of RJR, suggesting and requesting financing for such a conference to be held in the West Indies. 503654893-4894 at 4893 (US 20719) (O).

1611. A June 1, 1970 letter to Henry Ramm, Vice President and General Counsel of RJR, acknowledged:

> We in Louisville recognize that over the years the CTR's grants have produced some "good science," but science which has not provided us with either much material useful on the offensive, nor much that was very meaningful on the defensive, in terms of effect on the public and ultimately Congress. We have long felt that we are less well served by the existing system of making grants upon unsolicited application over a very wide field than we would be were we to determine the specific areas relating to tobacco and health toward which meaningful research projects might be directed . . . it is the view in Brown & Williamson that CTR's past performance, in terms of its contribution to the industry's posture in the face of attack on the health issue, does not justify the current rate of cost but that properly re-organized and re-oriented it could serve the industry's needs.

01188151-8153 at 8151, 8153 (US 34493) (O).

1612. CTR's long-established policy of not directly researching questions of smoking and health was to keep the "open question" alive. As Dr. Jeffrey Harris explained,

> Defendant cigarette manufacturers had agreed jointly to deny that smoking caused any disease. As part of this joint strategy of denial, they repeatedly stated that the relationship between smoking and disease was “still a question,” an “open question,” and a “controversy.” Industry spokesmen repeatedly asserted that “no one knows” for certain whether smoking really causes any disease, that “more research” was needed to find out what really

> caused cancer and other diseases. The "long established policy of CTR" was to "constantly keep alive" this stance.

Harris WD, 151:23-152:2. Moreover, as Dr. Harris noted,

> The CTR - through its long-established policy of researching the disease rather than directly researching questions of smoking and health - helped to carry out manufacturers' collusive strategy of jointly denying that smoking caused any disease. Rather than serving as a cooperative arrangement that served the interests of the consuming public, the CTR was an instrument of collusion.

Harris WD, 152:3-13.

1613. Defendants' own documents illustrate this point – namely, that the joint industry research conducted through CTR was admittedly not intended to get to the truth about smoking and health. As explained by Alexander Spears, Research Director of Lorillard, in a 1974 memorandum to Curtis Judge, Chief Executive Officer of Lorillard:

> Historically, the joint industry funded smoking and health research programs have not been selected against specific scientific goals, but rather for various purposes such as public relations, political relations, position for litigation, etc. . . . In general, these programs have provided some buffer to public and political attack of the industry, as well as background for litigious strategy.

01421596-1600 at 1598 (US 20049) (A).

1614. In a June 13, 1974 letter, Janet Brown, industry counsel, responded to a request for comment on industry-funded scientific research from David Hardy of Shook, Hardy & Bacon. Brown expressly acknowledged that "[t]he industry has repeatedly reiterated its research commitments" to the public, dating back to the 1954 Frank Statement. Brown then cautioned that the "[f]ailure to meet this commitment - which must be viewed as a pledge not simply to the public but also to the SAB, CTR's scientific staff, and the entire scientific community - would

involve grave risks, as I hardly need emphasize." Brown concluded her letter with two candid observations on the lack of truly independent tobacco industry-funded research. First, she stated that "[w]here the industry is itself the arbiter of the amount and nature of research to be done, however, arguments that the research is self-serving . . . gain in force and acceptance." Second, Brown concluded her letter with the following:

> A juror, congressman, scientist, or anyone else may feel free to substitute his scientific judgment for that of manufacturers or of a manufacturer's scientific staff, since, whatever may be the capabilities and expertise of company employees, they <u>are</u> employees and arguably cannot command either the independence, depth nor breadth of the great research institutions and career research personnel concerned with the objective elucidation of the nature and causes of chronic disease.

03659023-9025 at 9024-9025 (US 87177) (A) (emphasis in original).

1615. In a November 8, 1994 letter to James F. Glenn, Chairman of the Board and Chief Executive Officer of CTR, James Todd, Executive Vice President of the American Medical Association, wrote,

> Between 1954 and 1991, the Council for Tobacco Research spent over $185 million for 1,246 original articles by more than 850 scientists. While this seems to be a considerable sum, it should be compared with the advertising budget of the tobacco industry, about $5.2 billion in 1993 alone. A survey of industry-funded scientists revealed that nearly 80% of them indicated that none of their research had ever examined the health effects of tobacco use. . . . US District Court Judge H. Lee Sarokin, after reviewing tobacco industry "research" data in two tobacco product liability cases in the early 1990's, wrote that ". . . the creation of [the tobacco industry research institutes] and the work performed was nothing but a hoax created for public relations purposes with no intention of seeking the truth or publishing it."

88024858-4859 at 4858 (US 56358) (A).

(b) CTR Used Its Scientific Advisory Board as a Smokescreen

1616. By directing attention to the SAB, Defendants gave the appearance of furthering independent research efforts. However, the true aim was to preserve and foster false doubt about the adverse health effects of smoking in order to dissuade existing smokers from quitting and encourage non-smokers to start. TIMN0077551-7554 (US 63585) (A); Brandt WD, 124:11-127:10.

1617. Members of the SAB were initially screened and selected by representatives of Hill & Knowlton, a public relations firm (retained by TIRC), Defendants' attorneys, and Cigarette Company Defendants' research directors. TLT090 2041-2064 (US 88360) (A); Kessler WD, 51:18-52:14.

1618. Defendants and their agents represented in public and in court that the SAB grant process functioned independently from industry influence and was the mechanism by which they were fulfilling the obligations they had undertaken in the Frank Statement and elsewhere. In fact, Defendants "deliberately isolated" the SAB from the activities ongoing in other parts of CTR so that the SAB could be held out as a group of independent scientists, while the rest of CTR operated under Defendants' control. 670307892-7894 at 7893 (US 20967) (O); 515772203-2211 at 2210-2211 (US 87024) (A).

1619. An October 19, 1954 document titled "Confidential Report – Tobacco Industry Research Committee Meeting," reported that Clarence Cook Little, TIRC's Scientific Director, advised TIRC's membership on the SAB's "viewpoint": "He declared that both he and the members of the Board were aware of the attacks which had been made on tobacco for over 200 years, and wished to build a foundation of research sufficiently strong to arrest continuing or future attacks." HT0145314-5316 at 5314 (US 21771) (A).

(c) In Reality, CTR Was Controlled by Industry Executives and Lawyers for Their Own Purposes

(i) General Control of CTR

1620. Cigarette Company Defendants, through their attorneys and other agents, took an active role in controlling TIRC/CTR's research and other priorities. 503655086-5088 (US 20720) (A). They used this control to frequently intervene in CTR's business decisions. 01346193-6196 (US 20046) (A).

1621. Despite all of their efforts to channel research away from anything that might be damaging to the industry, some of CTR's research efforts, however, did generate results showing that smoking causes disease. In those instances, the evidence shows that Defendants actively sought to restrict, and did restrict, the dissemination or publication of adverse research. 2048924986-5018 at 5001 (US 21694) (O).

1622. In a July 3, 1963 cable, Addison Yeaman, Vice President and General Counsel of B&W, indicated that William Hoyt, Executive Secretary of CTR, had:

> agreed to **withhold disclosure** [of] Battelle report to [CTR] members **or SAB until further notice from me**. Finch [CEO of Brown & Williamson] agrees submission Battelle or Griffith developments to Surgeon General undesirable and we agree continuance of Battelle work useful but disturbed at its implications re cardiovascular disorders. We believe combination Battelle work and Griffith's developments have implications which increase desirability [of] reevaluation [of CTR] and reassessment [of] fundamental policy re health.

689033422-3422 (US 22734) (A) (emphasis added).

1623. In a November 18, 1965 memorandum titled "Re: Council for Tobacco Research - U.S.A.," which discussed the proposed budget for 1966 for studies in "Whole smoke," "Oral

Cavity," and "Epidemiology, " Liggett counsel Frederick Haas noted:

> As a result of a conference held by the General Counsel, we broached another subject with the Council staff. In view of the present posture of the industry with the Congress, Federal Trade Commission, etc., it was suggested that the organization of the Council be further implemented by creating an Industry Projects Advisory Board, which could feed suggestions for research to the staff. [The Board] would consist of General Counsel with the aid and advice of the Ad Hoc Committee and . . . the staff of the Council . . . would evaluate whether the project would be likely to obtain SAB approval.

LG2002635-2638 at 2635-2637 (US 21201) (O).

1624. A 1966 B&W document attaching the minutes of a meeting of General Counsel from December 17, 1965, described how CTR research proposals were reviewed and approved by lawyers:

> The Ad Hoc Committee submitted its 'priorities' selected from the recommendations for specific research presented to General Counsel at an earlier meeting. . . . The Ad Hoc Committee divided the proposals referred to into three categories: Category A: Projects essentially of an 'adversary' value. These are considered to have a relatively high priority. Category B: Research having a generally defensive character. Category C: Basic research.

CTRMN041346-1350 at 1349 (US 21944) (O).

1625. During the 1970s, CTR's Industry Research Committee – comprised of the cigarette manufacturers' attorneys and public relations employees – considered what research CTR should conduct and developed research projects accordingly. In a November 4, 1978 memorandum, Janet C. Brown, an attorney for American Tobacco, explained that the industry had "moved closer to becoming the arbiter of the amount of CTR research done (by reason of its control of CTR's budget) and the type of research done (by reason of the changes in scope and

direction of research, as dictated by [Addison] Yeaman's letter)." BWX0007531-7548 at 7545 (US 36238) (O).

1626. In a March 23, 1973 handwritten note to Robert C. Hockett, CTR Scientific Director, Helmut Wakeham, Director of Research and Development for Philip Morris, rated forty-four scientists as to "which ones might have greatest benefit to the [tobacco] industry." The note ended, "[u]se [the ratings] for what you think they might be worth and throw the paper away." 87657627-7629 at 7627 (US 21097) (O).

1627. On August 23, 1973, Edwin J. Jacob, long-time tobacco industry counsel, wrote:

> CTR has determined that it does not wish to participate in Homburger's sub-committee effort at establishing smoking machine standards for biological research. . . . we might be in an unfortunate posture if CTR did not participate and the committee formulated standards at substantial variance with CTR's ultimate results. After some discussion of the details, it was agreed that Hockett would talk to Homburger with the objective of getting Homburger to postpone his effort.

680252584-2584 (US 20994) (O).

1628. In a November 3,1978 letter, Sheldon Sommers, Chairman of the CTR Scientific Advisory Board, complained to William Gardner, CTR Scientific Director, that he (Sommers) was unable to understand the legal counsel he was being given. The clear import of Sommers' letter was that the CTR lawyers were controlling tobacco research by CTR based upon legal considerations. Sommers also stated, "I think CTR should be renamed Council for Legally Permitted Tobacco Research, CLIPT for short." 11319256-9256 (US 20281) (A).

1629. On April 4, 1978, Ernest Pepples, Senior Vice President and General Counsel of B&W, wrote a letter to several high-ranking B&W officials regarding American Tobacco's

conclusion

> that part of the central nervous system/nicotine work poses a question with respect to the assurances which the companies gave to the Justice Department to the effect that none of the scientific work at CTR would have commercial application. Philip Morris and Lorillard concur in the view that some of the central nervous system (CNS) work has commercial overtones, specifically work which would lead to blocking agents or substitutes for nicotine. The Committee of Counsel worked out a compromise: the ongoing CNS work under contract would continue, but before CTR embarked on any new work, research applications in the CNS/nicotine area would be pre-screened before being submitted to the CTR SAB.

680212421-2423 at 2421 (US 54024) (A).

1630. At a special meeting on April 21, 1978, CTR's Board of Directors adopted the following resolution: "RESOLVED, that funds may be committed to any research project only when, in the opinion of the Corporation's legal counsel, that commitment is within the scope of the Corporation's legally permissible activities." CTRMINBD000130-0134 at 0132 (US 21463) (A); Third Amended Response of Defendant CTR to United States' Second Set of Individual Interrogatories, Interrogatory Nos. 3 and 4 (March 29, 2004) (US 86773) (A).

1631. Beginning in April 1978, W. Thomas Hoyt, CTR's Executive Vice President (and then President after October 1980) determined which grant applications should be reviewed by CTR's legal counsel, Jacob & Medinger. As a result, at least eight CNS research proposals were reviewed by CTR lawyers and not sent on to the CTR SAB. In addition, at least fifteen additional CNS research proposals were reviewed by lawyers without being sent to, or prior to copies being sent to, the full SAB for their review, or even after review of those same proposals by the SAB Executive Committee. Third Amended Response of Defendant CTR to United States' Second Set of Individual Interrogatories, Interrogatory Nos. 3 and 4 (March 29, 2004) (US

86773) (A).

1632. In an October 25, 1978 Philip Morris internal memorandum regarding the October 18-20, 1978 CTR meeting, Robert B. Seligman stated that:

> I discussed the recent CTR meeting with Preston Leake. As Chairman of the Industry Technical Committee, he was present at the grant approval meeting of CTR. As a matter of background, Preston indicated that at the mid-1978 meeting Ed Jacobs appeared to warn the SAB against approving work in the area of CNS stimulation. The SAB reacted vehemently claiming it was a legal problem and leave the science to them. They also indicated that they were not being paid adequately. At the most recent meeting, Ed Jacobs was not present but Ad Yeaman said that certain grants would be 'reviewed' by counsel after receiving SAB approval. The CNS study grant would certainly fall in that category.

2075573034-3034 (US 43681) (O).

1633. Numerous industry documents demonstrate correspondence among Defendants concerning what research CTR should and should not conduct. For example, a November 13, 1978 Philip Morris "confidential" interoffice correspondence recommended long term plans for CTR, stating that

> CTR should be controlled both legally and scientifically by representatives of the industry. . . . CTR should fund work largely by means of contracts, thus reserving the right to control publications which might be detrimental to the industry. . . . [t]he long-term scientific program should be carefully planned such that the results obtained should not be able to harm the industry.

The memorandum further specified "Subjects to be Avoided – 1. Developing new tests for carcinogenicity. 2. Attempt to relate human disease to smoking. 3. Conduct experiments which require large doses of carcinogen to show additive effect of smoking." 1000036500-6502 at 6500, 6502 (US 35094) (O).

1634. An undated slide presentation outlined five "Funding Sources of Tobacco Industry Research" and focused on the 1980 to In an April 23, 1990 letter, Charles Wall, a Shook, Hardy & Bacon lawyer, advised Arthur J. Stevens, Senior Vice President and General Counsel of Lorillard, on a possible name change for CTR, the appointment of non-tobacco industry scientific board members, and the use of a public relations firm so that CTR would have a more favorable perception in litigation. He hoped that as a result of these actions, "it will be more difficult for plaintiffs to mischaracterize the true independence and objectivity of the scientific research effort." TIMN0015297-5299 at 5298-5299 (US 21287) (A).

1635. In an October 15, 1991 letter, Shook, Hardy & Bacon attorney Bill Allinder provided the proposed CTR Defensive Statement "to be used in the event further inquiries are made about the articles appearing in the American Journal of Public Health . . . ." Allinder went on to comment about the draft and stated that he and Robert Northrip (a colleague at Shook, Hardy & Bacon) "do not object to [the] changes except for the sentence [] added to the second paragraph: 'CTR's grantees publish the results of their research in peer reviewed scientific journals.' Taken at face value, this statement is not entirely accurate." 86000272-0278 at 0272 (US 22205) (A).

(ii) Control of Research Through CTR Contract Work

1636. In a December 6, 1977 letter to Addison Yeaman, then-President of CTR, Robert Heimann, CEO of American Tobacco, expressed his discontent with the direction of CTR. He wrote:

> This we can no longer say since what is called "directed" or "contract" research has been brought into the picture. As I remarked at the September 1976 meeting, the original concept of T.I.R.C. did not embrace the idea of contract research but envisioned industry support of research on a pro bono publico,

> arm's-length basis. I believe the current movement toward contract research is a violation of our advertised pledges to the public and I also believe industry support of objective and independent scientific research is of cardinal importance in maintaining a statesmanlike stance. I do not think it would be an exaggeration to say that the current shift to contract research bastardizes a fine concept of objectivity which many good people in past years worked long and hard to establish.

1000255934-5936 at 5934-5935 (US 20084) (A) (emphasis in original).

1637. A December 12, 1977 "Confidential" B&W memorandum from Ernest Pepples to J.E. Edens and C.I. McCarty also described the nature of the growing concern. In it, Pepples advised that there were individuals who took "exception to the program of directed, contract work under which the staff of the CTR has laid out a plan of research" and explained that the concern stemmed from a request by a CTR staff member to conduct "certain short term tests on smoke fractions." Pepples explained that these tests were:

> **[R]ed light tests**. They have been developed for use by FDA and other agencies in possibly identifying harmful ingredients and substances in products which are available to the consuming public. **They show only a probability of trouble but are used as a signal in determining whether products should be yanked off the market**. . . . American evidently is concerned, and I share the concern to some extent, that a finding under a CTR contract of red lights in one of these tests as it applies to cigarette smoke fractions would be very difficult to explain away. . . . **the fact of the red light in our own hands would be a serious burden to the tobacco industry if it came out in legislative hearings or in litigation**.

680261196-1197 (US 28074) (A) (emphasis added).

1638. On March 16, 1978, Arthur J. Stevens, Vice President and General Counsel of Lorillard, prepared a conference summary of Defendants' concerns about whether CTR should be an independent organization. Stevens wrote:

> American and other companies dismayed at direction of CTR research. (Heimann letter) opposed to contract research. American (and apparently others) convinced that Gardner and Kreisher are committed to attempting to demonstrate how tobacco smoke causes disease, rather than whether it causes disease. (Yeaman disputes this impression). Question whether CTR can be said to be independent when it is conducting its own proposed research, through contracts, rather than through grants. . . . Does Industry still want/need independent, objective SAB and Staff.

80410972-0976 at 0972, 0974 (US 21058) (A) (emphasis in original); Stevens WD, 35:2-22.

1639. At that time, contract research was undertaken at the specific request of the CTR staff. An undated document with a handwritten notation at the top marked "CTR" discussed the CTR contract work. The document stated: "We made the assumption that work should be self-serving to the industry, therefore, it should be contract work so that the disposition of the results will be under complete control of the industry. Divided into three categories: 1) Knowledge would benefit the tobacco industry. 2) Knowledge would be more broadly beneficial. 3) Work which should be avoided." 1003718457-8457 (US 85934) (A) (emphasis in original).

1640. An April 4, 1978 internal B&W letter from Ernest Pepples, Senior Vice President and General Counsel of B&W, to J.E. Edens, C.I. McCarty, I.W. Hughes and DeBaun Bryant, dated April 4, 1978, also discussed CTR's contract research. In it, Pepples reported:

> American, RJR and PM continue to harbor doubts concerning the operation and direction of CTR. . . . [Heimann's] letter took strong exception to the program of directed, contract work under which the staff of CTR plans and directs the research. Heimann says CTR should be a grantor organization and nothing more. In Heimann's view, CTR should make grants to reputable scientists who are exploring areas of interest in the smoking and health controversy and the grantees, as opposed to CTR, should be responsible for the plan of research. It is a distinction without much difference but American embraces it warmly nonetheless.

680212421-2423 at 2421 (US 54024) (A).

(aa) Suppression of Dr. Homburger's Work

1641. Contract research at CTR had begun as early as the late 1960s. By 1970, there were signed contracts between CTR and Bio-Research Consultants, Inc. (researcher Fred Homburger's company) related to experiments concerning smoke inhalation in Syrian golden hamsters. 11225358-5365 (US 25876) (O); Lisanti PD, Engle v. R.J. Reynolds Tobacco Co., 8/13/97, 105:7-108:3, 121:1-122:12, 124:11-125:2.

1642. In 1973, CTR decided not to renew its contract with Bio-Research Consultants, Inc., which greatly upset Homburger. He then alleged that members of the tobacco industry attempted to censure his work, which he argued produced results of pre-invasive carcinoma in the larynx and two malignant tumors of the nasopharynx. MB000253-0253 (US 76114) (A); TEH15425-5425 (US 25888) (O); 11066169-6177 (US 25891) (O); CTRCONTRACTS006059-6059 (US 85936) (O); 11066189-6190 (US 25892) (O); MB000255-0255 (US 26031) (O); 11225380-5383 (US 25878) (O); 01195572-5573 (US 26443) (A); MB000256-0256 (US 26032) (O); MB000257-0257 (US 26033) (O); 1000283966-3967 (US 26081) (O); CTRCONTRACTS005507-5508 (JE-25877) (A); 503654905-4906 (US 85938) (O); ZN23135-3135 (US 66274) (O); 11225204-5204 (US 25875) (O); ZN6241-6244 (US 85939) (O); 2022886197-6198 (US 20367) (O); ZN23133-3133 (US 85940) (O); CTRCONTRACTS005740-5741 (JE-25882) (O); CTRMNZN475-477 at 477 (US 21160) (O); 1005075456-5456 (US 26188) (O); 2025498564-8597 (US 66671*) (O); HHS0681984-1986 (US 85941) (O).

1643. In April 1974, Leonard Zahn, CTR's public relations advisor, "[g]ot [Homburger's] press conference killed without his knowing why or how." In a confidential memorandum to CTR President Henry Ramm and CTR employee W. Thomas Hoyt, Zahn described how he found out that a press conference had been scheduled for Homburger during

the American Society of Experimental Pathology ("ASEP") meeting in Atlantic City at which Homburger was going "to tell the press that the tobacco industry was attempting to suppress important scientific information about the harmful effects of smoking" and "was going to point specifically at CTR." Zahn spoke unfavorably about Homburger with his "long-time friend" Judy Graves, the ASEP public information officer, and a few hours later, Graves called Zahn at his hotel; gave Zahn permission to arrange to cancel the press conference (which he did); and called Homburger and told him the press conference had been canceled because of "scheduling difficulties in the press room." Zahn also spoke with the head of the press room so that when Homburger came to the press room the day after presenting his paper at the meeting, he was given a cordial welcome and was "nicely 'hastened' out the door." Zahn ended his memo with the following post script: "P.S. I doubt if you or Tom will want to retain this note." CTRMNZN475-477 at 477 (US 21160) (O); 2022886197-6198 (US 20367) (O); Zahn PD, Cipollone v. Liggett, 12/16/86, 171:11-23; Zahn PD, Massachusetts v. Philip Morris, 5/28/99, 181:13-186:16, 187:24-188:14, 189:16-191:5; Zahn PD, Richardson v. Philip Morris, 12/1/98, 250:6-254:18.

(bb) Suppression of Work Done at Microbiological Associates, Inc.

1644. CTR continued, however, to perform contract research. For many years, CTR entered into long-term contracts with Microbiological Associates, Inc. ("MAI") to perform inhalation experiments on mice, expending "some 12 million dollars into the contracts with MA." The first proposal submitted by MA was in 1969. As a result of the contracts, CTR staff routinely went on site visits to monitor the contract work performed at MA, which was receiving millions of cigarettes from CTR to use in connection with the contract research it performed on

CTR's behalf. CTRCONTRACTS026326-6363 (US 32521) (O); CTRCONTRACTS001667-1667 (US 85943) (O); 11221371-1371 (US 86616) (O); 11223018-3018 (US 86617) (O); CTRCONTRACTS003211-3212 (US 85944) (O); SF0370024-0024 (US 65434) (O); 11223231-3231 (US 85947) (O); SF0370027-0027 (US 65435) (O); CTRCONTRACTS028836-8838 (US 85949) (O); HK1118020-8021 (US 85950) (O); 10006317-6319 (US 86618) (O); SF0826731-6731 (US 65441) (O); 10036226-6230 (US 86620) (O); CTRCONTRACTS026364-6364 (US 32559) (O).

1645. By the late 1970s, the contract work performed for CTR at MA was causing growing concern. A November 30, 1976 memorandum from Janet Brown, an attorney at Chadbourne & Parke, to Arnold Henson, counsel for American Tobacco, detailed her concerns with the contract research being performed at MA. BWX0003940-3948 (US 36215) (O).

1646. Dr. Carol Henry was hired by Microbiological Associates in 1976 to be a project director for a contract already in existence with and funded by CTR, and ultimately ended up as the project director for the inhalation facility for the project (the inhalation facility was built to expose animals to cigarette smoke). As Dr. Henry noted, "Dr. Kouri and his colleagues at Micro had done some of the very early and important work to show that these enzyme systems could what's called activate these chemicals to be more closely aligned with those chemicals that might cause cancer. What I was very attracted to Micro about is that at the time much of the emphasis in obtaining enzymes was from liver systems, and Micro offered the opportunity to really look at lung systems and a variety of other tissues to really understand how this might work." Dr. Henry believed that the study (the long-term mouse inhalation study) was scientifically important, and that the results of the experiment supported the hypothesis that cigarette smoking causes lung cancer. Henry PD, State of Florida v. American Tobacco Co., 7/31/97, 15:11-23, 17:12-23, 18:9-

19:14, 21:25-22:3, 38:11-12, 42:3-24.

1647. Yet in a November 29, 1977 Philip Morris Inter-Office Correspondence to Robert Seligman, Vice President of Research and Development for Philip Morris, Thomas Osdene offered his comments on the CTR program review session Osdene had attended, observing:

> I was amazed at the trend that the CTR work is taking. For openers Dr. Donald H. Ford, a new staff member, makes the following quote[]: . . . "We accept the fact that nicotine is habituating." . . . It is my strong feeling that with the progress that has been claimed, we are in the process of digging our own grave. I believe that the program as set up has the potential of great damage to the industry and I strongly urge that the whole relationship of our Company to CTR be carefully reviewed. I am very much afraid that the direction of the work being taken by CTR is totally detrimental to our position and undermines the public posture we have taken to outsiders.

2022246952-6952 (US 36865) (O).

1648. In a January 10, 1978 memorandum, Thomas Osdene reported that "[a]t Mr. Goldsmith's request, Dr. Seligman, Mr. Holtzman, and I met with Dr. Gardner, Dr. Hockett and Mr. Hoyt at the CTR offices in New York. The objective was to review the contracts carried out by Microbiological Associates[.]" With respect to the contract involving human studies involving aryl hydrocarbon hydroxylase ("AHH"), Osdene stated: "I believe that even if a standardized test is perfected for the determination of AHH in humans, its use could well be manipulated to obtain simplistic deductions on cause and effect relationships. It is my recommendation that CTR cease work in this specific area of human studies." 1000041904-1905 at 1904 (US 35103) (A).

1649. The troubling issue of contract research at CTR was discussed at a Meeting of Counsel on February 1, 1978. In attendance at the meeting were: Addison Yeaman (Chairman

and President of CTR); Stevens (Lorillard); Ahrensfeld and Holtzman (Philip Morris); Shinn and Sirridge (Shook, Hardy & Bacon); Roemer, Crohn, and Jacob (RJR); Pepples (B&W); and Janet Brown (Chadbourne & Parke). At the meeting, Brown argued that CTR contract research was problematic because:

> Contract research results and their publication, by contrast, would be argued by the industry's opponents to be industry findings. Outright disavowal, particularly on the issue of "relevance," is going to be utterly unconvincing. On what basis would the industry underwrite contracts for "saccharin-type" (or any other) research if it did not believe the research to be material to problems of "smoking carcinogenicity"? Publication of contract research exacerbates the problem, since CTR's contracts give it control over publication.

Jacob noted that:

> CTR independence is arguably belied by several of its functions. CTR Special Projects, though perfectly sound research, are frankly designed to support industry arguments. The Information Storage and Retrieval System, a part of the CTR Library, is designed and maintained as a legal, rather than as a "scientific" literature research tool.

Shinn opined that:

> [T]he whole current force of the industry's [TI's] appeal to its supporters – as well as its answers to its critics – is assertion of industry dedication to research. The research effort is now the vital element in Kornegay's position with Congress, the Executive, HEW, NIH, and in TI's response on the "public smoking issues" and to the various governmental and voluntary agency anti-smoking drives.

It was also apparent that there were serious disagreements with John Kreisher's viewpoints at CTR. Brown reported that:

> Yeaman felt that much of the members' current dissatisfaction really reflected dissatisfaction with Kreisher and his attitudes.

> Kreisher is also a cause of internal staff dissatisfaction and Yeaman would have no difficulty in recommending to Gardner that Kreisher be separated. Gardner himself complains that Kreisher goes off on "junkets" without telling Gardner where or when he is going, and that Kreisher never files reports on time. Kreisher has been openly critical to outside scientists of Gardner – whom he has called incompetent – of Yeaman – whom he has called "absolutely controlled by the industry" – and of CTR, which he has said is run by the lawyers. Yeaman feels that this conduct constitutes ample reason to fire Kreisher for cause. . . . The real dispute was whether Kreisher should be given a "generous termination" [e.g., a years' salary] together with a consulting contract (for a year or more). . . . Roemer would want a clause providing that Kreisher would not do anything against the interests of CTR and the industry.

BWX0013406-3437 at 3409, 3410, 3425-3426 (US 36250) (A).

1650. In an April 4, 1978 B&W letter from Ernest Pepples to J.E. Edens, C.I. McCarty, I.W. Hughes, and DeBaun Bryant dated April 4, 1978, Ernest Pepples discussed his concern over CTR contract research, reporting that:

> Dr. Charlie Sommers believes that some of the contract work [at CTR] has gone too far afield – "It seems to have a life of its own." He recently found that the massive, expensive inhalation program being conducted at Microbiological Associates was not going forward in areas which he understood it would be by this time and that it was doing some things that surprised him. Dr. Sommers is the Chairman of the Scientific Advisory Board. He will lead the SAB later this month in a review of the contract work . . . .

680212421-2423 at 2422 (US 54024) (A).

1651. In a November 13, 1978 Philip Morris memorandum, Thomas Osdene recommended restructuring CTR because "CTR as originally structured may have outlived its usefulness, especially in the area of P.R." Osdene proposed that

> CTR should be controlled both legally and scientifically by representatives of the industry. . . . CTR should fund work largely by means of contracts, thus reserving the right to control publications which might be detrimental to the industry. . . . The

> long-term scientific program should be carefully planned such that the results obtained should not be able to harm the industry. . . . There should be a greater participation by industry scientists in contracts and/or grants given by CTR.

Osdene went on to include a list of "Potential Long-Term Scientific Studies" and under the heading, "Subjects To Be Avoided," Osdene listed: "1. Developing new tests for carcinogenicity. 2. Attempt to relate human disease to smoking. 3. Conduct experiments which require large doses of carcinogen to show additive effect of smoking." The list of potential long-term scientific studies and list of subjects to be avoided were then shared with Alexander Spears of Lorillard. 2021016008-6010 (US 85952) (A); 1003718406-8408 (US 35899) (A).

1652. In a January 8, 1979 Philip Morris internal memorandum, Osdene commented on the MA contract work: "I am forced of the opinion that the program seems to be misdirected since its main mission seems to be to prove that smoking causes cancer." 2075573037-3038 at 3038 (US 24708) (O).

1653. As a result of "the concerns about having a large contract where we were investigating a wide variety of elements and issues in carcinogenesis and its relationship to – and cigarette smoke in relationship to carcinogenesis . . . eventually the [MA inhalation] contract was then phased down, and we were told that the Council [for Tobacco Research] did not choose to have any further contracts. They wanted to have all of their work done under grants." Dr. Henry was told of this change by staff from CTR and CTR's attorneys. 31:16-21. As Dr. Henry noted, "as things progressed . . . the presence and interaction with attorneys increased dramatically." She observed that in all her years that she has had contracts, she never had this kind of involvement by lawyers. Henry PD, State of Florida v. American Tobacco Co., 7/31/97, 30:17-31:3, 32:6-8, 44:14-24.

1654. Dr. Henry characterized the decision to shut down the study as "scientifically ill-advised, for the reasons that this is a very large, important industry that had lots of customers, lots of clients, and to not be able to answer in a credible way fundamental questions about the potential of this material to be causing serious disease, not just cancer but other diseases, it seemed to me that this was not an advisable thing to do." She added, "I would conclude that the concerns that were raised about the way the research was going and what we might eventually develop given the kinds of results we had to date, that there must have been concerns that this would damage the industry." Henry PD, State of Florida v. American Tobacco Co., 7/31/97, 45:23-46:6, 48:4-9.

1655. Consequently, in a June 23, 1980 letter, Ernest Pepples, Vice President and General Counsel of B&W, stated that "Add Yeaman advises that the Executive Committee of the SAB has decided to terminate the massive inhalation program at Microbiological Associates." Completion of research begun under contract between CTR and MA continued through approximately 1982. 01347166-7166 (US 85953) (O); SF0220081-0082 (US 65431) (O); SF0280056-0109 (US 65432) (O); 11246158-6158 (US 86622) (O); CTRCONTRACTS026364-6364 (US 32559) (O); Lisanti PD, Arch v. American Tobacco Co., Inc., 7/18/97, 344:13-348:16.

1656. In 1983, CTR requested a final manuscript concerning the work performed at MA. After manipulating the text of the manuscript and adding an introduction drafted by Sheldon C. Sommers, CTR Scientific Director, CTR published the manuscript as a book entitled "Chronic Exposure of Mice to Cigarette Smoke." CTRCONTRACTS026364-6364 (US 32559) (O); SF0280114-0114 (US 65433) (O); CTRCONTRACTS025150-5150 (US 85956) (O); CTR98CONG00071-0071 (US 32519) (O); CTR98CONG00073-0073 (US 32520) (O); CTRMIN-BD 000147-0152 (US 32590) (A); TI05120118-0120 (US 85959) (O); TI05120131-

0149 (US 85960) (O); 60026806-6908 (JD-094474) (A).

1657. Dr. Henry had attempted to write up the results of the study but her work was monitored by Dr. Gardner at CTR and "there were definitely directives from the attorneys . . . [f]or the Council . . . [t]he person I remember most vividly was Mr. Finnegan [Tim Finnegan, from Jacobs, Medinger & Finnegan]. She noted, "Mr. Finnegan appeared to have very strong feelings and directions about what should and should not be in this report." As to the idea of having lawyers look over her shoulder and being involved in the writing of the report and placing limits on what could be said, "I objected to it and said that because the shape of the report, of the final report was altered, it – and I was told that the sponsor had the authority to dictate this." Henry PD, State of Florida v. American Tobacco Co., 7/31/97, 49:7-50:5, 50:19-51:2, 51:25-52:2, 52:5-22.

1658. Dr. Henry noted that when CTR ultimately published "Chronic Exposure of Mice to Cigarette Smoke," Dr. Henry was unaware it was being published and did not give her permission to publish in the form in which it was published. The book contained a forward by Dr. Sheldon Sommers of CTR., and though Dr. Henry believed that the results of her study "suggested definitely a carcinogenic response in this animal model after exposure to smoke," that conclusion is **not** in what CTR published. Henry PD, State of Florida v. American Tobacco Co., 7/31/97, 61:3-62:11, 65:3-8, 65:9-66:4, 70:7-14.

(cc) Suppression of Dr. Huber's Work

1659. Industry lawyers also controlled research conducted by allegedly "independent" scientists. In the 1970s, the tobacco manufacturers sponsored research at Harvard University. The funding of this research was controlled by the Committee of Counsel and executives of the companies. A June 7,1976 letter from senior industry counsel, David Hardy, stated:

> In Bill Shinn's letter to you of May 21, he solicited at my request, any observations or comments that you may have with regard to the renewal of the Harvard University project. This project has been handled in the past by the Committee of Counsel and the executives of the companies, but I wanted to find out if any member of the Research Liaison Committee had any observations.

03748208-8208 (US 20601) (O).

1660. Gary Huber was the principal investigator in charge of the research program at Harvard University relating to smoking and health. The program was funded in part by a five-year grant, and a three-year extension of that grant, from the Defendants. Huber has stated that, in approximately 1980, he met with Defendants' lawyers in a hotel in Boston who told him that his research was "getting too close to some things." Huber identified these attorneys as lawyers from Shook, Hardy & Bacon, as well as lawyers from Lorillard and B&W. Huber PD, State of Texas v. American Tobacco, 9/20/97, 46:6-9, 46:12-24; Stevens WD, 36:5-9.

1661. Confirming that industry lawyers controlled the funding for his research, Huber testified as follows:

> Q. Were the [Harvard] studies important information, in your opinion, when you reported those findings to scientists?
>
> A. Yes.
>
> Q. An did you stress their importance to industry officials?
>
> A. Very much so.
>
> Q. And did you want to go forward and do further studies with animals?
>
> A. Absolutely.
>
> Q. Why?
>
> A. Well, we found - - we found very important results and we felt that they should be pursued and they had impact on a number of very serious and important considerations that

deserved answers.

Q. Was money forthcoming from the cigarette company sponsors later for you to complete your animal studies after Harvard?

A. It was promised, but it never came.

Q. Were you, in fact, ever able to finish your experiments?

A. No.

. . .

Q. Did you ever have a meeting in a hotel in Boston with industry officials who expressed concern that your research was, quote, "getting too close to some things," end of quote?

A. Yes.

Q. And who was that, sir?

A. It was with the industry attorneys.

Huber PD, State of Texas v. American Tobacco, 9/20/97, 40:23-41:17, 46:6-9, 46:12-14.

1662. A "confidential" memorandum dated February 1, 1974 from Janet C. Brown to Cyril Hetsko regarding the "Harvard Project Report of Dr. Gary L. Huber at the Tobacco Institute Meeting of January 31, 1974, the Regency Hotel, New York City" summarized the status of Dr. Huber's industry-sponsored research. It stated: "I asked Shinn if it had not been one of the agreed conditions of the industry grant that Channing would consult only Hardy in the event Huber needed help from the industry, that Hardy would take the matter up with the counsel for the companies involved, and that counsel would then decide what assistance would be given and by whom. Shinn's reply was 'Fifth Amendment.'" 968003194-3198 at 3196 (US 58194) (O). Dr. Huber's work is also discussed at US FF § III.A(2), supra.

(iii) CTR Special Projects

1663. While Defendants promoted the SAB as an "independent" board, they funneled funds through TIRC/CTR to conduct non-SAB approved research projects that were not objective or independent as promised, but instead were designed to conclude that there was no link between smoking and disease and to develop favorable research and expert witnesses to defend the industry in court. These research projects, known as TIRC/CTR Special Projects, were initiated and developed by Defendants through their agents, including outside counsel, who used them to provide research funding for scientists and doctors who might be willing to provide testimony favorable to the cigarette companies on smoking and health matters. The funding of Special Projects was handled by Defendants' agents, including the law firms of Jacob, Medinger & Finnegan and Shook, Hardy & Bacon. 92456261-6268 at 6262 (US 75420) (A); 2045752086-2093 (US 20466) (A); Donald Hoel PD, United States v. Philip Morris, 6/27/02, 56:9-20; 57:13-18.

1664. CTR Special Projects came into being in the mid-1960s when

> it was decided to undertake various special projects in the form of contract research, pilot and exploratory studies, short-term research projects and other projects – such as preparation of bibliographic reviews and analytical monographs – whose character would render them narrower in scope than the broader objectives of the Advisory Board's grants-in-aid program.

CTRMN007485-7490 at 7486 (US 21157) (A).

1665. CTR Special Projects were funded by Defendants' attorneys when the SAB would not approve grant funding for a proposed research project or when the cigarette companies needed favorable research performed for litigation purposes, and wanted it done quickly. LG2002635-2638 at 2637 (US 21201) (O); 504480626-0629 at 0628 (US 20730) (O);

515772203-2211 at 2204, 2207 (US 87024) (A).

1666. In a February 22, 1980 letter to Timothy M. Finnegan, (a Jacob & Medinger attorney), Arthur J. Stevens, Senior Vice President and General Counsel of Lorillard, responded to an earlier memorandum from Finnegan seeking approval for a project to be funded from Special Account #4. Stevens agreed to participate in the funding of the project, and noted:

> I am mindful of the continuing mandate with which your office, Shook, Hardy and others have been charged by your respective clients on behalf of the Industry; that is, to find witnesses and researchers – and, if necessary in order to determine the feasibility of developing a relationship with them, engage them as consultants, or as researchers on initially modest projects. . . . There resides within the Company a good deal of tobacco chemistry expertise. Perhaps some effort should be made by us, as lawyers, to the extent consistent with our concerns about legal privilege and related protections, to more frequently tap that knowledge, by using our own scientists as consultants to our litigation counsel regarding the research methodologies and proposals suggested by those scientists we engage to conduct independent research.

TI17101942-1944 at 1943 (US 62476) (A).

1667. Defendants knew that CTR Special Projects work was not independent science. Notes from a "Meeting of Committee of General Counsel Held on September 10, 1981" expressed concern about the "degree to which we make advocacy primary and science becomes secondary" and that, to aid in litigation, the companies, through Special Projects, were funding science that was "not worth a damn." 2045752086-2093 at 2086, 2090 (US 20466) (A).

1668. On October 11, 1985, RJR attorneys received a memorandum regarding a meeting held August 8, 1985 to discuss the history of industry Research & Development, especially the history of CTR, and also the issue of CTR document production. The document made clear that CTR, the Tobacco Institute, Special Projects, and Special Account #4 Projects were initiated to

protect industry interests in litigation and public relations. 512678484-8499 (US 51653) (O).

1669. The General Counsel of Philip Morris, RJR, Lorillard, Liggett, B&W, and American Tobacco began using research funds to pay for large numbers of CTR Special Projects. From at least 1965 to 1993, hundreds of mail and wire communications occurred among the members of the Committee of Counsel, Jacob, Medinger & Finnegan, and Shook, Hardy & Bacon regarding information and funding approval for individual CTR Special Projects. 92456261-6268 (US 75420) (A); 01335358-5359 (US 26485) (A).

1670. CTR Special Projects were funded based on contributions received from interested CTR member tobacco companies and these company contributions were specifically earmarked for Special Projects. Shook, Hardy & Bacon attorney Donald Hoel found that the CTR Special Projects were much more useful in supporting tobacco liability positions than the projects funded through the SAB. Donald Hoel PD, United States v. Philip Morris, 6/27/02, 65:9-12; 65:14-19; 67:3-7.

1671. Attorneys approved Defendants' funding of CTR Special Projects and CTR President Thomas Hoyt assigned each project a number. 11330520-0520 (US 20282) (O).

1672. Starting in the mid-1960s, Shook, Hardy & Bacon, in order to assist in such projects, developed internal smoking and health literature databases to help the lawyers pick scientists friendly to the tobacco industry liability positions so that those scientists could receive industry funding through the CTR Special Projects method. Donald Hoel PD, United States v. Philip Morris, 6/27/02, 61:10-62:7; 62:11-13.

1673. In an April 14, 1967 memorandum, Addison Yeaman, General Counsel of B&W, revealed:

> We have deliberately isolated the SAB from those areas of research which they might consider were of a controversial or adversary nature and I see no reason why that isolation cannot and should not be maintained to the fullest preservation of the scientific integrity and dignity of the SAB, but with release of funds from the SAB portion of CTR's budget to both research directly related to tobacco and to the so-called Special Projects.

670307892-7894 at 7893 (US 20967) (O).

1674. In an October 3, 1968 letter to David Hardy of Shook, Hardy & Bacon, Alexander Holtzman, Assistant General Counsel of Philip Morris, proposed that CTR Special Projects funding be approved for a scientist, Richard Hickey, whose application to CTR for funding was previously turned down but who was likely to produce data useful to Defendants. The letter stated: "Dr. Hickey is willing to prepare a statement for Congress provided that he is put in a position to complete the analysis of data which he has in-hand and he would, in my opinion, make an excellent witness." 1005084784-4786 at 4784 (US 22988) (O).

1675. A November 17, 1978 memorandum written by Robert B. Seligman, Vice President of Research and Development for Philip Morris, noted that William Shinn, a Shook, Hardy & Bacon attorney, believed "that 'special projects' are the best way that monies are spent. On these projects, CTR has acted as a 'front'. . . ." 2045752106-2110 at 2107 (US 20467) (A); Stevens WD, 33:8-34:2.

1676. A September 10, 1981 memorandum from Arthur J. Stevens was titled "CTR and Non-CTR Special Projects - General Information." Under the topic of "Special Projects," Stevens stated: "We mean those projects which are initiated by lawyers, for advocacy purposes." He further noted: "CTR's Scientific Director reviews any project which the lawyers propose for funding through CTR to be certain it will not be a scientific embarrassment to CTR – but which,

for a variety of reasons, may not be suitable for grant by CTR." 03746184-6185 (US 20600) (A).

1677. As explained by one of Defendants' lawyers, Lee Stanford, in a July 13, 1984 memorandum to David Hardy, CTR Special Projects were:

> [I]nitiated and developed through outside counsel (SHB and J&M). A major purpose is to provide research funding for scientists who might be willing to act as consultants or provide testimony on smoking and health related areas. Sometimes the research subject is outside the scope of the CTR grants-in-aid program. Also, some scientists may have published findings not supportive of the causal theory or have views along these lines and may have problems of receiving support from NIH or other funding organizations. . . . In practice, outside counsel and the scientists develop the protocol and the budget proposal for the project. This is sent to the CTR Scientific Director (currently Dr. Sommers) for review. If he has no objection, the proposal is then sent to the Generals Counsel of the companies for their approval. Once the Generals Counsel have approved the project, the scientist is advised to submit application to CTR for funding. Other than providing the funding, CTR is not further involved in the project. Monitoring of the research and contact with the scientist is done through outside counsel. Funding ranges from $20,000 to as much as $400,000 for one year of Dr. Sterling's project.

92456261-6268 at 6262 (US 75420) (A); Stevens WD 20:8-22:9.

1678. When Special Projects came under scrutiny in the 1990s, many questions persisted. On April 28, 1992, counsel for Lorillard, David M. Murphy of Wachtell, Lipton, Rosen & Katz drafted an internal memorandum to partners requesting guidance on a question raised by Arthur Stevens of Lorillard and Bill Allinder of Shook, Hardy & Bacon regarding Lorillard's participation in CTR Special Project funding of Bennett Jensen despite legal advice to discontinue Special Project contributions. Murphy explained that Jensen "faces funding problems at Georgetown that . . . have something to do with his ties to the industry . . . and could use some funds to tide him over until he finds a new home." He added that "the Jensen issue raises a larger question -- whether 'CTR Special Projects' funds . . . were used to purchase

favorable judicial or legislative testimony, thereby perpetrating a fraud on the public." 87715635-5636 at 5636 (US 21101) (A).

1679. When CTR Special Projects became the focus of a grand jury investigation in the Eastern District of New York in the 1990s, an April 21, 1992 letter to Arthur Stevens from an outside lawyer for Lorillard disclosed that Special Projects were no longer administered under the auspices of the CTR pursuant to legal advice. 87715637-5638 (US 21102) (A).

1680. However, these projects did not lack funding. Defendants continued to fund such projects by placing them directly under the auspices of their agents and attorneys, who had long been involved in control of CTR Special Projects. In fact, Defendants continued to pay for the same projects through their outside law firms on a market share basis. 2015002730-2730 (US 20305) (A) (Bick funding request to be divided among five companies on market share basis); 2501190758-0759 (US 20562) (O) (1990/1991 research projects with budgets and funding amounts); 2015002794-2794 (US 20307) (A) (Philip Morris's approval of Dr. Bick's funding on market share basis in 1991); 521100040-0040 (US 20893) (O) (copy of B&W check to Dr. Sterling as requested by Shook, Hardy & Bacon, 1990); 521100027-0027 (US 22969) (O) (copy of B&W check to Dr. Sterling as requested by Shook, Hardy & Bacon, 1991); 86003336-3338 (US 85747) (A) (Shook, Hardy & Bacon forwarding Dr. Sterling's funding request to five counsel for tobacco companies, 1990).

1681. On May 11, 1993, Kendrick Wells (B&W attorney) sent a memorandum to S.P. Chalfen (an in house lawyer for B.A.T. Industries), Peter L. Clarke (General Counsel of BATCo), Andrew Foyle (Lovell White Durrant law firm), and Mick McGraw (B&W) providing a brief description of CTR Special Projects. In this memorandum, Wells stated that in the early 1960s, "the accounting work of collecting money from the companies and paying the researchers was

moved inside CTR, where it was called CTR Special Projects. The SP research projects continued to be directed by the litigators as before, only the grant money moved through CTR." The document stated that details of the "CTR story . . . should not be told to the public during the pendency of litigation in the U.S. involving assertions of fraud in connection with CTR's operations." 536300013-0014 (US 53132) (A).

1682. The amounts of funding were large. Harmon McAllister, former Vice President of Research at CTR, admitted that industry consultant Dr. Theodore Sterling received approximately $4,760,878 in CTR Special Project funds over 17 years (on a number of ETS-related matters), which was quite large in comparison to other CTR funding. According to McAllister, "for whatever reason, the industry felt that that was worth a special consideration over and above any other consideration that had been given." McCallister PD, United States v. Philip Morris, 5/24/02, 112:9-125:15; Ward TT, 11/3/04, 5002:5-5004:4.

1683. McAllister also admitted that CTR did not include information about CTR Special Project research in its Annual Reports, which were widely distributed and contained information about current and terminated grants-in-aid, grantees, and their institutions. McAllister TT, 3/17/05, 16129:14-18; 3/21/05, 16167:18-16168:12; McAllister WD 56:11-22; 112:17-112:25. He also testified that CTR administered Special Project funding and received direction and funding from the sponsor companies or their attorneys, specifically Shook, Hardy & Bacon and Jacob & Medinger. McAllister TT, 3/21/05, 16171:5-16172:22.

(iv) The Recognition: SAB Members, CTR Employees, and Defendants' Representatives All Recognized that CTR's True Purpose Was Public Relations, Not Science

1684. By as early as 1958, Defendants recognized that TIRC was performing research that would add little in the way of constructive conclusions regarding smoking and health issues.

In May 1958, a BATCo scientist (and others from the British tobacco industry) visited representatives of the United States tobacco industry and found that:

> Liggett & Myers stayed out of T.I.R.C. originally because they doubted the sincerity of T.I.R.C. motives and believed that the organization was too unwieldy to work efficiently. They remain convinced that their misgivings were justified. In their opinion T.I.R.C. has done little if anything constructive, the constantly re-iterated "not proven" statements in the face of mounting contrary evidence has thoroughly discredited T.I.R.C., and the S.A.B. of T.I.R.C. is supporting almost without exception projects which are not related directly to smoking and lung cancer.

105408490-8499 at 8495 (US 21135) (A).

1685. As early as 1962, TIRC employees were aware that TIRC had been created as a public relations tool to help preserve the tobacco industry. In an April 9, 1962 TIRC memorandum, Associate Scientific Director J.M. Brady indicated: "Historically, it would seem that the 1954 emergency was handled effectively. From this experience there arose a realization by the tobacco industry of a public relations problem that must be solved for the self-preservation of the industry." The memorandum suggested that in the future the industry would need to revise and expand the efforts of the TIRC. Brady also made a number of suggestions, including increasing the budget of the TIRC to $5 million per year and making an educational television film. HK0039151-9152 (US 21784) (A).

1686. By 1964, members of the worldwide tobacco industry recognized that CTR research was less scientifically valid than that of other research organizations. In a trip report written in October 1964 by British tobacco scientists entitled "Report on Policy Aspects of the Smoking and Health Situation in U.S.A." it was stated that "both L&M and Lorillard scientists told us quite bluntly that they considered TRC [the British trade group] research was on the correct basis and CTR's largely without value." The report explained that RJR, American, and

B&W criticized the TRC approach to bio-assay research on three grounds: (1) "It constituted an implied admission that tobacco contained health hazards . . . [which] could be damaging in law suits . . . (2) Mouse skin painting with smoke condensate, according to Dr. Little, was scientifically unsound and based on a fallacy (though C.T.R. had contracted with Bio-Research Inc. for research of this type) . . . (3) It could present the U.S. manufacturers in a bad light to the U.S. public since they could be represented by hostile writers as being negligent of public health in comparison with U.K. manufacturers." 1003119099-9135 at 9115 (US 20152) (A).

1687. In a November 9, 1967 memorandum to Senator E.C. Clements, W.W. Bates, Director of Research at Liggett, wrote that the smoking and health problem "is basically a scientific one." Bates further stated that "[so] far, however, the major efforts of the industry to cope with this problem have been other than scientific." He also stated that "[t]he CTR and AMA programs suffer from almost the same fault. Most of their projects have only a peripheral connection to tobacco use." LWDOJ 8020110-0114 at 0110, 0111 (US 34120) (O).

1688. Each year CTR issued a report summarizing the results of its research. From 1966 until 1989, these summaries were written by one CTR employee, Dorothea Cohen. When interviewed later by *The Wall Street Journal*, the Cohen stated that "[w]hen CTR researchers found out that cigarettes were bad and it was better not to smoke, we didn't publicize that . . . The CTR is just a lobbying thing. We were lobbying for cigarettes." TI16601796-1799 at 1796 (US 21238) (O).

1689. A March 11, 1970 industry document disclosed that Thomas Osdene, a Philip Morris scientist, questioned the worth of the CTR research: "Osdene's view (Philip Morris's view?) was that the C.T.R. did virtually no useful work and cost a vast amount of money." 110316203-6205 at 6204 (US 20274) (O).

1690. In a December 8, 1970 memorandum, Helmut Wakeham, Vice President of Research and Development for Philip Morris, admitted that the industry's interest in smoking and health research was to find evidence to deny allegations of a link between cigarettes and disease, and argued, "[i]t has been stated that CTR is a program to find out 'the truth about smoking and health.' What is truth to one is false to another. CTR and the Industry have publicly and frequently denied what others find as 'truth.' Let's face it. We are interested in evidence which we believe denies the allegation that cigaret smoking causes disease." 2022200161-0163 at 0161 (US 21705) (A).

1691. A letter written by a high-level CTR employee who had retired from B&W in 1972 stated, in part:

> It is my sober judgment that CTR, as it now operates, is the greatest public relations **asset** you have in the problem of tobacco and health. But the moment CTR becomes, or the attempt is made to use it, as a public relations instrumentality, your asset will lose its value because it will have lost its scientific integrity.

682631405-1408 at 1407 (US 21025) (O) (emphasis in original).

1692. In a September 29, 1978 memorandum to C. I. McCarty, Chief Operating Officer of B&W, Ernest Pepples, Senior Vice President and General Counsel of B&W, discussed a memorandum written by William Shinn, Shook, Hardy & Bacon attorney, concerning the value of CTR to the industry. According to Pepples, "CTR is our window on the world of smoking and health research. This avoids the research dilemma presented to a responsible manufacturer of cigarettes, which on the one hand needs to know the state of the art and on the other hand cannot afford the risk of having in-house work turn sour." Pepples further stated: "The point here is the value of having CTR doing work in a nondirected and independent fashion as contrasted with

work either in-house or under B&W contract which, if it goes wrong, can become the smoking pistol in a lawsuit." 680260940-0941 at 0940 (US 20995) (A).

1693. Undated handwritten notes stated that "CTR is [the] best & cheapest insurance the tobacco industry can buy and without it the Industry would have to invent CTR or would be dead." MNAT00770694-0695 (US 21395) (A).

(3) The Reality: The Cigarette Company Defendants Actively Concealed Adverse Scientific Findings, Entered into Agreements Not to Conduct Research, and Used Lawyers to Control Research so that it Would Serve the Purposes of Litigation and Public Relations

1694. Despite their promises to the contrary, and as they had foreseen and intended, Defendants failed to conduct independent research, sequestered adverse scientific findings, and, as a result, failed to warn the public about the true results of scientific research. Because of this, many Americans, including millions of children, became addicted to cigarettes, and many people who were already smoking continued to smoke or had difficulty quitting, which resulted in profits for the Cigarette Company Defendants and damage to the health of smokers, former smokers, their spouses and dependents.

1695. Defendants' promise to conduct independent research, when coupled with their suppression of truthful information about the adverse health effects of smoking and tobacco's addictiveness, had a natural result of influencing the decisions of people to begin or continue smoking.

1696. Defendants' in-house and outside counsel acted to control scientific research in order to further the interests of the Enterprise, including:

- creating the impression that an "open question" existed regarding whether smoking caused disease;

- preventing and hiding adverse scientific findings to avoid or limit the Cigarette Company Defendants' exposure in smoking and health related products liability lawsuits; and
- creating a positive public relations position for the Cigarette Company Defendants despite the harmful effects of smoking cigarettes.

1697. The pervasive and consistent involvement in and control of science by the Cigarette Company Defendants and their lawyers demonstrates that, contrary to their continuing promise to the American public, the Cigarette Company Defendants were not engaged in independent disinterested research into the health impact of smoking.

(a) Defendants Concealed Scientific Documents, Opinions, and Findings Adverse to Their Interest

1698. The biological research that the cigarette companies did perform was closely controlled to ensure that, if it resulted in additional evidence that smoking causes disease or that nicotine is addictive, it would not become public or subject to discovery in court proceedings. Methods included (a) performing research outside the United States in order to keep documents and witnesses hidden and out of the reach of state and federal courts, and (b) taking other steps to shield documents and materials from discovery, including attempts to cloak scientific documents in the attorney-client privilege.

1699. A February 19, 1969 letter to Helmut Wakeham from W.L. Dunn, Jr. noted, "[a]nother sign that the winds are shifting. R & D is coming into its own right in the industry, being finally differentiated from the public relations activities!" Dunn further stated,

> Our position should obviously be supportive of Jet's for the primitive reason of, "Who ain't for more money?" and the more impelling urgency of generating substantive research, the results of which can be increasingly valuable as the current hysteria subsides. I predict public recoil and a readiness for a more objective look at the issue before the mid-70's. We've got 3-5 years to put Philip

> Morris in the saddle with good data.
>
> I would be more cautious in using the pharmic-medical model – do we really want to tout cigarette smoke as a drug? It is, of course, but there are dangerous F.D.A. implications to having such conceptualization go beyond these walls.

The letter concluded, "[p]erhaps this is the key phrase: the reinforcing mechanism of cigarette smoking. If we understand it, we are potentially more able to upgrade our product." 83826859-6861 at 6860, 6861 (US 55889) (O).

1700. Philip Morris conducted in-house research in Europe in the 1970s and 1980s in order to avoid disclosure of unfavorable results to the public. 501543061-3096 at 3077 (US 21462) (A); 1000119925-9933 at 9933 (US 87226) (A).

1701. In 1970, Philip Morris purchased INBIFO, a research facility in Cologne, Germany, as it had determined that through INBIFO, it could control the research conducted there and that overseas experiments could be terminated at will. Philip Morris was careful to conceal this arrangement. Company scientists shipped documents from locations in the United States to Cologne for storage in order to remove unfavorable or embarrassing research results from Philip Morris's files in the United States during and in advance of litigation and thereby to avoid discovery of adverse documents. Discussing how to handle records relating to the INBIFO arrangement, Thomas Osdene, a senior Philip Morris scientist, characterized the arrangement as follows: "Ship all documents to Cologne . . . . Keep in Cologne . . . . If important letters have to be sent please send to home – I will act on them & destroy." 1000130803-0803 (US 34424) (A); Farone WD, 142:21-143:2, 146:12-18, 149:1-151 9; Parrish WD, 103:9-16, 105:1-10, 106:24-107:17.

1702. In a February 24, 1970 internal memorandum to Helmut Wakeham concerning

Philip Morris's research activities at INBIFO, a research facility in Cologne, Germany, Joseph Cullman III, Chairman and Chief Executive Officer of Philip Morris, noted that "[t]he possibility of getting answers to certain problems on a contractual basis in Europe appeals to me and I feel presents an opportunity that is relatively lacking in risk and unattractive repercussions in this country." 1000216742-6742 (US 20081) (A).

1703. In an April 7, 1970 memorandum to Clifford Goldsmith, President of Philip Morris, regarding the acquisition of INBIFO, Wakeham stated: "Since we have a major program at INBIFO, and since this is a locale where we might do some of the things which we are reluctant to do in this country, I recommend that we acquire INBIFO either in toto or to the extent of controlling interest." 2022244451-4453 at 4451 (US 20361) (O); 2012580900-0906 (US 89328) (A); Parrish WD, 105:11-106:10.

1704. In a March 31, 1977 letter to Max Hausermann, Vice President of Research and Development of Philip Morris International, concerning procedures for sending samples to INBIFO, Robert Seligman, Vice President of Research and Development of Philip Morris, specifically noted,

> you know that Helmut [Wakeham] was requesting that we send samples directly to INBIFO. This suggested procedure is in direct conflict with our communications from the New York Office. We have gone to great pains to eliminate any written contact with INBIFO, and I would like to maintain this structure . . . . perhaps we should consider a 'dummy' mailing address . . . for the receipt of samples.

2000512794-2795 at 2794 (US 20295) (A); Farone WD, 151:10-152:15.

1705. Examples of the types of scientific work that Philip Morris was funding and carrying out at INBIFO included research during the 1980s and 1990s on sidestream smoke and

the effects of smoke on non-smokers, and various nicotine research projects. Parrish WD, 103:17-104:6. INBIFO is also discussed at US FF § III.A(2)(f)(i), supra.

1706. A 1970 legal memorandum to B&W from David Hardy of Shook, Hardy & Bacon contained a thinly veiled instruction that employees be told that they could not make statements suggesting that smoking caused health problems, regardless of their personal beliefs. Hardy wrote that:

> It is our opinion that statements such as the above constitute a real threat to the continued success in the defense of smoking and health litigation. Of course we would make every effort to "explain" such statements if we were confronted with them during a trial . . . .
>
> As you know, with the testimony of independent and well-informed doctors and scientists, it has been repeatedly demonstrated in court to the satisfaction of impartial jurors that cigarette smoking has not been scientifically proved to cause disease . . . . We have been able to show this to be the case when such suspicion has been claimed by our known enemies to be established fact. Obviously our problem becomes entirely different and far more serious when agents and employees of the defendant cigarette company or its parent become the spokesmen against us.
>
> . . . .
>
> In conclusion, I would like to emphasize that, in our opinion, the effect of testimony by employees or documentary evidence from the files of either BAT or B&W which seems to acknowledge or tacitly admit that cigarettes cause cancer or other disease would likely be fatal to the defense of either or both companies in a smoking and health case. . . .
>
> We, of course, know that the position of BAT, as well as B&W, is that disease causation by smoking is still very much an open question. Cigarettes have not been proved to cause any human disease. Thus, any statement by responsible and informed employees subject to a contrary interpretation could only result from carelessness. Therefore, employees in both companies should be informed of the possible consequences of careless statements on this subject.

301097079-7085 at 7081, 7085 (US 46580) (A).

1707. In a February 25, 1974 letter to H.C. Roemer, Vice President and General Counsel of RJR, Edwin J. Jacob, outside RJR counsel, noted that he had modified a scientific research report previously provided to him by Roemer to make it suitable for publication, and set forth his thoughts on why three other scientific research reports should not be published. He explained:

> There are several reasons, however, why the other three reports should not be published. Each deals with a specific bioassay from which it is concluded, more or less explicitly, that cigarettes made with tobacco expanded by the G-13 process are in one way or another less hazardous to smokers than those made with conventional tobacco. The problem this presents appears clearly from the Introduction to report II. There, the purpose of all three experiments is said to be to compare results with and without residual fluorotrichloromethane. But the aim of the G-13 process is suggested to be development of a "safer" cigarette in that less tobacco per rod is used – and therefore less "tar" is delivered.
>
> The myriad problems raised by the concept of a "safer" cigarette do not require elaboration here. It is sufficient to observe that, since it has not been scientifically established that cigarette smoking is "unsafe", the suggestion that certain cigarettes are "safer" than others is unwarranted. And, moreover, even those who claim that cigarette smoking is "unsafe" have been unable to demonstrate either criteria or methodology by which the comparative "safety" of cigarettes can be determined. In these circumstances, claims for a "safer" cigarette are unsound.
>
> It would be possible, of course, to edit these reports of biological research so that no explicit reference to "safer" cigarettes is made. And, further, explicit disclaimers of any such implications could be made. Even then, I believe publication would be unwise. . . .

503652147-2150 at 2147-2148 (US 29706) (O).

1708. In 1975, David Hardy advised BATCo against admitting to the public what its scientists knew internally – namely, that smoking causes disease. At the time, BATCo was considering placing a warning on cigarette packages sold in England – with no government

attribution – that stated smoking "causes lung cancer, bronchitis, heart disease." In a letter addressed to BATCo, Hardy advised that this admission of fact would impede the defense of litigation in the United States. He wrote:

> The proposed new warning removes the attribution of the warning to "H.M. Government," and instead appears to be a voluntary and direct admission by the cigarette manufacturer that the cigarettes contained in the package cause "lung cancer, bronchitis, heart disease." A wholly owned subsidiary of the manufacturer would, in our opinion, be adversely and prejudicially effected by such a voluntary warning even though it is a separate corporate entity.
>
> . . . .
>
> Once the fact and content of the warning got before a jury in the United States in a case involving the subsidiary, the defense of "no proof of causation" would be lost for all practical purposes. Such a result would indeed be unfortunate in view of the fact that in every instance where the matter has been explored in our Courts through expert testimony and otherwise, the cigarette manufacturer has prevailed.

110318156-8157 (US 34974) (A).

1709. In a July 29, 1977 memorandum to C.I. Lewis, Supervisor of the Analytical Development Section of Lorillard's Research Department, Alexander Spears of Lorillard advised him that a scientist who was to deliver a research paper must delete data in the study related to human smoking habits:

> To follow up our telephone conversation of this date, I approve the request of Walter Thompson to present a paper at the ASQC meeting in Chicago. However, the data relating to human smoking habits should be deleted or remain unidentified with respect to human smoking behavior. In other words, I do not want Lorillard to report identifiable data on human smoking behavior.

01416267-6267 (US 20287) (O).

1710. In a November 3, 1977 Philip Morris inter-office correspondence stamped

"Personal & Confidential" to Thomas S. Osdene on the subject of a "Proposed Study by Levy," W.L. Dunn stated:

> I have given Carolyn [Levy] approval to proceed with this study. If she is able to demonstrate, as she anticipates, no withdrawal effects of nicotine, we will want to pursue this avenue with some vigor. If, however, the results with nicotine are similar to those gotten with morphine and caffein[e], we will want to **bury it.** Accordingly, there are only two copies of this memo, the one attached and the original which I have.

1000128680-8680 (US 22285) (A) (emphasis added).

1711. In a February 16, 1978 memorandum to Robert Seligman, Thomas Osdene stated: "The Roper Proposal to the Tobacco Institute sounds good and I believe the thesis is probably valid. However, there are several implications inherent in such a study which lead me to conclude that the study should not be done." He noted, "[a]n admission by the industry that excessive smoking is bad for you is tantamount to an admission of guilt with regard to the lung cancer problem." 1000764700-4701 at 4700 (US 21459) (O).

1712. In a November 9, 1979 B&W memorandum to Ernest Pepples at B&W, Kendrick Wells, an in-house B&W attorney, discussed "various alternatives for handling BAT scientific reports which come to B&W in a way that would afford some degree of protection against discovery." Wells recommended routing all scientific documents from BATCo through a B&W scientist designated as an agent of the General Counsel. The scientist would then "separate the reports which were relevant to smoking and health, or otherwise sensitive, for special handling" and the documents "designated as sensitive" would be "sequestered." 521016231-6232 (US 20886) (A); 680585389-5392 at 5389-5390 (US 21008) (A); Wells WD, 11:11-14:11.

1713. In the 1980s, BATCo lawyers rewrote research reports prepared by the British

equivalent of CTR, the Tobacco Advisory Council ("TAC"), to remove what they perceived were damaging statements. Attaching a heavily edited version of the TAC annual research review, BATCo attorney Anne Johnson wrote: "There are serious concerns in the USA with regard to this document as it stands at the moment for reasons I mentioned in my note, especially as all the tobacco manufacturers in the States are now involved in litigation on the primary issue of causation of disease." 107317952-7953 at 7953 (US 20249) (O).

1714. In an August 1984 letter to BATCo's Deputy Chairman, Ernest Pepples expressed concern about a BATCo scientific report on addiction and requested that BATCo lawyers work "more closely" with the BATCo scientists involved:

> [I]n developing and carrying forward the position that a "simple" addiction model cannot explain smoking behavior, the report seems to concede that many potential criteria for addiction identification are met by smoking behavior.
>
> . . . .
>
> Throughout the report, unfortunate concessions appear regarding "tolerance and withdrawal". The report frequently expresses the view that smoking has certain "therapeutic properties" and nicotine is compared to the action of tranquilizers, alcohol, etc. In addition, smoking is referred to as one form of "drug usage", "psychoactive substance usage", or "psychoactive drug usage".
>
> . . . .
>
> As you know in the current legislative and litigation environment in the U.S., claims of addiction have been and will be used against Brown & Williamson by our adversaries. Such claims have been vigorously opposed in order not to give a claimant an unjustified weapon to use against the company or the industry.
>
> In addition, the possibility for involvement by the U.S. Food and Drug Administration would be heightened by company or industry promotion of the theme of this report, as it will be generally perceived.
>
> If such matters as the "Functional Significance" document and the

> Conference binders, enclosed herewith, are not already routinely vetted with BATCo lawyers, you may want to consider involving them more closely in both the conceptual and the drafting stages of these projects. Thank you very much for your help in this area of great concern for us.

521016787-6788 (US 22129) (A).

1715. In a January 17, 1985 File Note, J. Kendrick Wells, B&W's Associate General Counsel, directed members of the B&W Research & Development Center to collect certain documents he had identified on an attached list relating to the behavioral and biological studies area for shipment to BATCo once all such documents had been gathered. The documents included the Janus studies, a secret program of biological research on the effects of smoking which showed tumor growth in animals. Wells directed Earl Kohnhorst, Vice President for Research, Development and Engineering at B&W, to tell the research personnel that the removal of the documents "was part of an effort to **remove deadwood from the files** and that neither he nor anyone else in the department should make notes, memos or lists." 680530888-0890 at 0888, 0889 (US 21772) (A) (emphasis added); Wells WD, 40:1-41:15.

1716. In a September 10, 1985 restricted memorandum to E.A.A. Bruell and D.G. Heywood, Executive Director of Finance for BATCo, Nick Cannar and Anne Johnson, BATCo in-house lawyers, advised that the United States litigation involving B&W would inevitably result in discovery of research documents held at BATCo's research and development facility "because of the past funding arrangements . . . and the financial contribution made by B&W over the years." They added their concern about the "recent minutes of [the] biological conference in Canada" and that "elements of the draft 1986 programme . . . cause us further concern e.g. research into biological activity and the selective filtration of certain constituents of cigarette smoke." 109878079-8080 (US 16073) (O).

1717. In a February 17, 1986 memorandum to Ernest Pepples on BATCo Science, J. Kendrick Wells, Associate General Counsel of B&W, discussed the policy on B&W's receipt of reports of ongoing research from certain projects being conducted at laboratories of affiliated companies, and balanced the benefits of information against the dangers posed in light of ongoing litigation. He noted: "While the brevity of the reports will reduce the potential for receipt by B&W of information useful to a plaintiff, disadvantageous information could be included and the reports could serve as road maps for a plaintiff's lawyer." 680582253-2257 at 2253 (US 21004) (A).

1718. A June 14, 1991 memorandum to BATCo scientist Sharon Boyse on the 8th World Conference on Smoking and Health indicated that Defendants hoped to generate "controversy" among the participants and then broadcast these disputes to the public to create controversy on issues where none existed. The industry planned to be careful not to appear to sponsor any of the participants by using "independent institutions" to fund them. 321651598-1599 at 1598 (US 20590) (O).

1719. In October 1991, Bob Pages, a Philip Morris scientist, forwarded a note to Chuck Wall, Vice President and Associate General Counsel of Philip Morris Companies, and Steven Parrish, Senior Vice President and General Counsel of Philip Morris. The note related to Philip Morris-sponsored research on nicotine's role in *in vivo* nitrosamine formation (and whether presence of nitrosamines in urine supports the theory), and the decision to disallow publication of the research results at a conference. After an initial agreement was made to allow publication of the results (because no smokers were found to have nitrosamine tracer in urine), the tracer for nitrosamine was found in one out of ten smokers. After Philip Morris confirmed that the scientist would not include data about the one smoker in the abstract, the sponsoring group of

cigarette companies (WPA) approved funds. Then, the nitrosamine tracer was found in three additional smokers. "As this [sic] sensitive results were generated within the industry and not available to others, WPA decided that poster presentation based on Abstract submitted should be given [without disclosure of the conflicting subsequent results] and **project work terminated**." 2023222878-2880 at 2879 (US 20382) (A) (emphasis added).

1720. In a September 21, 1994, note to L.C.F. Blackman, Director of Research at BATCo, regarding a conversation with Ernest Pepples about the procedure for communications between B&W and the BATCo research department, H.A. Morini, BATCo in-house counsel, instructed Blackman that "'[c]ontentious' items emanating from GR&DC [BAT Group Research & Development Centre], particularly in regard to biological activity should be given legal clearance before dissemination" and that "transmission to B&W should be through me to Pepples thus maintaining the legal privilege - 'attorney work product'." Morini also advised that "[n]on 'contentious' issues can be sent direct from GR&DC to B&W care of Gil Esterle." At that time, Esterle was a B&W scientist. 503114322-4322 (US 21695) (A).

1721. During the 1990s, Liggett scientists were directed to label their work as privileged and confidential in order to prevent its discovery in civil litigation. Dietz PD, United States v. Philip Morris, 7/1/02, 150:1-155:12; Dietz TT, 3/29/05, 17157:8-17163:22, 17172:9-24.

(b) Defendants Entered into Agreements That Limited Scientific Research and Actively Policed Those Agreements

1722. Cigarette Company Defendants have been part of a Gentlemen's Agreement: that no company would perform or commission in-house biomedical research on animals investigating the relationship between smoking and health. By its very terms, this agreement prevented the promised independent and disinterested research. Although they recognized that

research and testing were essential to evaluating the health risk posed by their products, Defendants, pursuant to the Gentlemen's Agreement, generally did not perform biological research on smoking and health.

1723. Defendants agreed (1) not to conduct in-house research, including basic biological research; (2) not to compete on health issues; and (3) to share any discoveries related to reducing the harmful effects of cigarettes, which, in many cases, precluded research; while in others, destroyed the incentive to conduct research. Defendants actively enforced the agreements. Farone WD, 134:3-13, 135:4-138:7.

1724. In a 1964 secret internal Evaluation Report, Helmut Wakeham acknowledged the legal jeopardy inherent in Defendants' joint agreement, when he (unsuccessfully) recommended that "[t]he industry should abandon its past reticence with respect to medical research. Indeed, failure to do such research could give rise to negligence charges." Despite Wakeham's warning, Defendants persisted in their agreement. 1000335612-5625 at 5622 (US 63579) (A); Farone WD, 134:3-13, 135:4-138:7.

1725. With respect to the purpose of the Gentlemen's Agreement, Dr. William Farone, former Director of Applied Research at Philip Morris, explained that "I was told it was to protect the industry from lawsuits. It supported their basic position that no cigarettes were scientifically proven to cause any disease. If they had competed on health issues, and told the public that this brand is safer or potentially delivers less carcinogens than other brands, it would have implicitly acknowledged that the other brands – the ones with higher delivery of carcinogens or more potent carcinogens – were less safe." Farone WD, 2:15-19, 135:12-17.

1726. In the 1960s, RJR established a facility in Winston-Salem, North Carolina, to research the health effects of smoking using mice. In the facility that RJR nicknamed the

"Mouse House," RJR scientists researched a number of specific areas, including studies of the actual mechanism whereby smoking causes emphysema. Internally, an RJR document transcribing conversation notes favorably described the Mouse House work as the most important of the smoking and health research efforts because it had come close to determining the underlying mechanism of emphysema. 515744448-4451 (US 23011*) (O).

1727. In an October 3, 1969 internal memorandum to Helmut Wakeham, Philip Morris scientist R.D. Carpenter described the RJR biological facilities, which were shown to him on October 1, 1969. Carpenter noted, "[i]n summary, R.J. Reynolds has animal experimentation facilities, a staff of 10 - 12 people doing animal experimentation work, and is doing smoke inhalation studies." 1000220888-0891 at 0889 (US 21435) (O).

1728. In 1970, R.J. Reynolds suppressed research by shutting down its biological research division, also known as the "mouse house." Joseph Cullman III, President of Philip Morris, complained to RJR about the work going on in the Mouse House. Despite the research progress made there, RJR responded to the complaint by closing the Mouse House – disbanding in one day, without notice to the staff and the entire research division, firing all twenty-six scientists working there, and destroying years of smoking and health research. 503950745-0750 (US 21672) (O). The closure of the "mouse house" was related to the tobacco industry's "tacit agreement between the heads of the US companies" not to conduct "in-house biological research." 110315968-5971 (US 26378) (A).

1729. Defendant American Tobacco long adhered to this shared policy not to conduct in-house biological research (since the 1930s, American had performed no biological research on animals in its own laboratories). In 1965, William Harlan, American's Director of Research and Development , and Edward Harlow, American's Assistant Director of Research and

Development, proposed initiation of a Biological Research Program for Defendant American Tobacco. MNATPRIV00026861-6916 (US 21478) (A).

1730. In response to Harlan and Harlow's proposal, an August 25, 1965 American memorandum written by Janet Brown, outside counsel for American Tobacco, explained the "fundamental problems a program of the nature indicated . . . would pose for the Company in its public, medical and legal positions in the health controversy." The author claimed that any undertaking by American Tobacco of a biological research program would be an assertion of competence to conduct such research and "[s]uch a position is fundamentally in conflict with the Company's past policy and position respecting its proper function in scientific research regarding tobacco products . . . the most serious consequences appear to [be] the degree to which the Company thereby undermines and perhaps even negates its legal position respecting the 'reasonableness' of its past conduct of scientific research (including not doing such 'biological' research)." MNATPRIV00026861-6916 at 6861, 6887 (US 21478) (A).

1731. Brown's memorandum stated that American's past position and policy was one of "supporting work by independent men in independent institutions while itself pursuing the study of smoke and tobacco, its own field of special competence," essentially the same "policy hitherto enunciated in the law suits by other members of the industry [and] no jury has yet found any member of the industry negligent in pursuing such a policy with respect to biological research." Brown noted that American's sponsorship of independent investigators and institutions who chose to conduct animal experiments "carries no necessary admission in and of itself that the Company considers such research significant in terms of human health." MNATPRIV00026861-6916 at 6899, 6913 (US 21478) (A).

1732. The memorandum also contended that "[w]hen the Company asserts competence

to conduct its own biological research into certain aspects of human health it opens for jury evaluation the question whether it acted reasonably in not instituting biological research long before." The memorandum added that if a

> reasonably prudent manufacturer capable of conducting biological research would not have instituted biological testing programs in the 1920's, or 1930's or 1940's . . . it should at least have been begun in 1950-1953, with publication of the four retrospective studies showing association with lung and other cancers; or in 1953, with publication of the Wynder mouse-painting experiments, or in 1954, with publication of the first Hammond-Horn report, or in 1957, with publication of the Study Group report on Smoking and Health . . . or in 1958, with publication of the final Hammond-Horn report, or in 1959, with the publication by the Surgeon General of an official statement pronouncing a causal link between smoking and certain diseases, or in 1962, with publication of the report of the Royal College of Physicians, or [in 1964], with publication of the Report of the Surgeon General's Advisory Committee.

MNATPRIV00026861-6916 at 6892-6894 (US 21478) (A).

1733. The memorandum concluded that in-house animal research could not be initiated by American because it "would make the Company's past and current position in the health field 'untenable'" and "while the program was important and [Harlow] wanted very much to do it, he would certainly not want to do anything that 'has an impact on the Company's position or if it makes that position any less sound than it now is.'" MNATPRIV00026861-6916 at 6862 (US 21478) (A).

1734. In at least three memoranda to Clifford Goldsmith, President of Philip Morris, Helmut Wakeham stated that he believed that Defendants American, RJR, Liggett, Lorillard, and B&W were performing in-house biological research in violation of the "gentlemen's agreement." In a November 12, 1968 memorandum, Wakeham wrote that "in spite of previous arrangements

within the tobacco industry at least some of the major companies have been increasing biological studies within their own facilities." In a November 15, 1968 memorandum, Wakeham wrote that "[w]e have reason to believe that while this proposal to carry out biological research and testing may seem a radical departure from previous policy and practice, we are in fact only advocating that which our competitors are also doing." An undated Philip Morris memorandum stated: "We have reason to believe that in spite of gentlemen's agreement from the tobacco industry in previous years that at least some of the major companies have been increasing biological studies within their own facilities." Examples given were American, RJR, and B&W. 1000217064-7067 (US 86606) (O); 1002635062-5065 at 5063 (US 20139) (A); 1001607055-7061 at 7058 (US 76155) (A); 1001607055-7061 at 7058 (US 21617) (A); Farone WD, 135:20-136:13.

1735. In a September 1970 memorandum concerning a meeting between BATCo personnel and Wakeham, David G. Felton, a BATCo scientist, reported that:

> One result of the greater influence which Wakeham has with Mr. J[oseph] Cullman [President of Philip Morris] has been the agreement, albeit reluctant, to permit Philip Morris to do 'in-house' biological work. When this was first mooted, Wakeham was told that there was a tacit agreement between the heads of the US Companies that this would not be done. Wakeham had countered by saying he knew that Reynolds, Lorillard and American were all undertaking some and that Liggett and Myers had never been party to the agreement. Cullman had been incredulous and had phoned Galloway, the President of R.J. Reynolds who had denied Reynolds were doing any bioassay. When Cullman had told Wakeham this, Wakeham's response had been to quote the Reynold's work on the Senkus smoking machine and to claim that he had floor plans showing outline area allocations. This too had been relayed to Galloway by Cullman, incredible though it may seem, and Galloway had visited the Reynolds Research Dept. to find it was substantially true. There had been a sudden reorganization at Reynolds, resulting in the closure of the biological section, the severance of product development (which remained with the tobacco division) from the research department. . . .

110315968-5971 at 5969-5970 (US 26378) (A).

1736. A November 11, 1970 memorandum from Claude Teague to E.E. Vassallo made clear that RJR had engaged in research concerning smoking and health, including animal studies, but further stated that it would try to avoid any future research on smoking and health by farming such research out to industry fronts like CTR:

> Yes, we have from time to time in the past, in various circumstances, performed animal experiments in the smoking-health area, in our laboratories. These have been short term investigations made for various purposes such as: (1) monitoring of experiments published in the scientific literature, (2) evaluation of competitive products alleged to offer advantages to the consumer; and development, on behalf of the tobacco industry, of basic instrumentation for use by independent scientists engaged in basic research on the biological effects of smoking. . . . Currently, we have neither staff nor facilities for performing animal experiments, and no further experiments are planned unless special circumstances arise which may require them. This, of course, reflects our basic consistent conviction the massive, collaborative industry-wide support of long-term basic research by independent scientists and scientific organizations already expert in their fields is the most important and effective means for establishing fundamental scientific facts in the area of smoking and health. Thus, we continue our full support of the Council for Tobacco Research-USA, and the research programs of the American Medical Association.

500020977-0978 (US 20613) (O).

1737. In an August 13, 1971 note, RJR scientist Frank Colby informed H.C. Roemer, General Counsel of RJR, that Philip Morris was conducting in-house animal research. 503955904-5904 (US 20724) (O).

1738. A March 15, 1972 internal American memorandum confirmed the company's adherence to the Gentlemen's Agreement, stating: "Let me repeat. Biological and medical experimentation is outside the scope of the Department of Development and Research of the

American Tobacco Company. . . . No research project in this field may be undertaken, nor may any grant for this purpose be made, without the written permission of the Chairman or President." ATX100004728-4728 (US 58608) (A); Farone WD, 138:8-17.

1739. In a December 3, 1976 internal memorandum, Hugh Cullman, Executive Vice President of Philip Morris, reported a suggestion for a discreet meeting of the heads of certain tobacco companies, including BATCo, RJR, and Philip Morris International, "to develop a defensive smoking and health strategy." The initial objective of this group was to develop a smoking and health agreement which would include a voluntary agreement, that no concessions beyond a certain point would be voluntarily made by the members and if further concessions were required by respective governments, that these not be agreed to, and that governments be forced to legislate. These leaders met in 1977, and the meeting was called "Operation Berkshire." The group formed what was called the International Committee on Smoking Issues ("ICOSI"). 2025025286-5286 (US 20407) (A); 2501020298-0308 (US 21903) (O); 2025025288-5289 (US 20408) (O); 2025025347-5348 (US 20410) (O); 2025025369-5369 (US 20411) (O); 2501024571-4575 (US 21904) (A); 500269225-9228 (US 20622) (O); 2025024797-4803 (US 20406) (O).

1740. In a February 17, 1978 Report, Herschel H. Cudd, Jr., member of the Board of Directors of RJR, gave voice to the notion of the Gentleman's Agreement. He noted: "A wholly owned subsidiary in Cologne, Germany engages in carcinogenic biological research, such as mouse painting, in violation of the verbal agreement among domestic companies not to perform animal testing in-house." 503940653-0688 at 0669 (US 21436) (O).

1741. In a March 21, 1980 Philip Morris memorandum to Dr. Seligman on the nicotine receptor program, W.L. Dunn discussed Philip Morris's adherence to the Gentlemen's Agreement

– "the original carte blanche avoidance of all biological research" – because the legal strategy successfully employed by the tobacco industry over the years in defending deceased smoker lawsuits had been that "[w]e within the industry are ignorant of any relationship between smoking and disease. Within our laboratories no work is being conducted on biological systems." 1000127789-7790 (US 21794) (A).

1742. In an October 28, 1981 memorandum stamped "SECRET," RJR scientist Frank Colby wrote:

> There is a clear-cut agreement among all U.S. cigarette manufacturers that any scientific discovery made within the companies, or otherwise sponsored by a single company, which might have a positive impact on the smoking and health controversy, would have to be freely shared, without any costs to the other manufacturers. There would, therefore, be no incentive for RJR to sponsor the Cohen project . . . At this time, RJR does not fund directly in the U.S., any directly smoking and health related research. All such requests are answered by referring the applicants to CTR.

500534388-4389 (US 29467) (A).

1743. In a December 9, 1981 memorandum, Colby listed the research-related highlights of the week, flatly stating:

> Information was obtained that Philip-Morris-U.S.A. does not live up to the alleged 'gentlemen's agreement['] of not having animal laboratory facilities on their premises in this country. PM indeed has had such facilities for at least 3 - 4 years and continues to operate them. This information was communicated to all concerned.

501626469-6469 (US 21576) (A).

1744. On September 20, 1983, E.A.A. Bruell, Chairman of BATCo, wrote a "Letter to All No. 1s of Operating Companies" titled "Relations with INFOTAB, National Manufacturers

Associations ("NMA"s) and Competitors." Referring to a September 1983 ad placed by a Philip Morris affiliate in Holland regarding Barclay, Bruell noted that the ad "is the first occasion of which we are aware when a competitor has: 1. Raised the health issue to gain competitive advantage. 2. Quoted and thereby endorsed a report of an anti-smoking lobby . . . to attack another company in the industry." As a result and in protest of Philip Morris's violation of the Gentlemen's Agreement, BATCo pulled out of INFOTAB and affiliates were instructed to limit contacts with Philip Morris via National Manufacturing Associations in their countries of operation. 104576617-6620 at 6617 (US 78985) (A).

1745. On October 26, 1983, Bruell and Hugh Cullman, Chairman and CEO of Philip Morris, had a telephone conversation in which the participants agreed to continue the cigarette companies' internal agreement not to compete with one another on issues relating to smoking and health. 301030943-0944 (US 46577) (A).

1746. A February 18, 1987 memorandum from Charles Wall, then a Shook, Hardy & Bacon attorney, to Steven Parrish, then his colleague, and five others stated that, according to Bob McDermott, the Jones Day law firm had "uncovered some documents of Reynolds' that refer to an agreement among cigarette companies' scientists (and perhaps others) consisting of two points: (1) that the companies would not conduct any in-house animal research (sometimes this is described as no in-house smoking and health research) and (2) that the companies agreed to share any 'breakthroughs' in the smoking and health area (this is sometimes referred to as any breakthroughs on a 'safer' cigarette)." 682101328-1334 at 1331 (US 54120) (A); Parrish WD, 4:13-23.

1747. For many years, despite Defendants' promise that TIRC/CTR research would be "in addition to" in-house research, Defendants failed to perform in-house smoking and health

research relevant to the issue of the link between smoking and disease. Helmut Wakeham defined the type of research prohibited at the tobacco companies as "[s]tudying a relationship which might exist between smoking and diseases such as were tabulated in the Surgeon General's report." Wakeham PD, State of Minnesota v. Philip Morris, 5/29/97, 91:8-10.

1748. Dr. Farone explained that "Defendants' product research and development activities reflect an agreement not to perform certain biological research on commercially marketed products in their domestic facilities. I learned of the existence of such an agreement during my time at Philip Morris. As a result of this agreement, Defendants failed to perform meaningful tests on their as marketed products indicating biochemical differences in toxicity that have a bearing on the safety of their products." Farone WD, 3:23-4:5.

(c) To Prevent Adverse Scientific Findings and to Ensure That Research Focused on Litigation and Public Relations, Lawyers and Business Executives Controlled the Minimal Research Conducted by the Cigarette Company Defendants

1749. In many instances, Defendants' attorneys, not their scientists, directed the limited scientific research and other scientific matters of the Cigarette Company Defendants. Industry lawyers were the driving force behind both the direction and suppression of scientific research. Lawyer control was used in large part in an improper attempt to "create" attorney-client privilege or work product protection for scientific documents and information where none existed.

1750. For example, a 1964 trip report prepared by British scientists visiting the United States described how a powerful committee of United States lawyers were dominant in the smoking and health arena, including scientific research:

> [T]he Policy Committee of lawyers exercises close control over all aspects of the problems.

> This Committee is extremely powerful; it determines the high policy of the industry on all smoking and health matters – research and public relations matters, for example, as well as legal matters – and it reports directly to the Presidents.
>
> The lawyers are thus the most powerful group in the smoking and health situation.

1003119099-9135 at 9101, 9105, 9106 (US 20152) (A) (emphasis in original).

1751. A December 17, 1965 memo entitled "Meeting of General Counsel on 12/17/1965" made clear that the General Counsel were attempting to influence what research should be done with regard to smoking and health. 01124441-2444 (US 20034) (O).

(i) Lawyer Control of Science within the Cigarette Company Defendants

1752. **Philip Morris:** In a March 21, 1980 letter to Robert Seligman, Vice President for Research & Development at Philip Morris, William Dunn, a Philip Morris Principal Scientist, attempted to explain to Seligman why the lawyers had previously limited and would continue to limit the research that could be conducted by industry scientists. He stated that psychopharmacology of nicotine "is where our attorneys least want us to be, for two reasons." As Dunn warned, despite the fact that "[w]e are now being allowed to conduct research on the immediate effects of nicotine . . . we must not be visible about it." Dunn was quite blunt about the secret nature of research in this area when he stated: "Our attorneys, however, will likely continue to insist upon a clandestine effort in order to keep nicotine the drug in low profile." 1000127789-7790 at 7789, 7790 (US 21794) (A).

1753. In December 1989, Steven Parrish, former partner at Shook, Hardy & Bacon and Vice President of Philip Morris Corporate Scientific Affairs, received a letter about a funding

proposal for research which stated: "Dr. Syrjanen has deleted all references to cigarette smoking and no longer plans to pursue the possible role of smoking in the development of cervical cancer." The letter also stated that "[f]uture considerations suggest that we may wish to be in a position of being able to say that company scientists, not lawyers, reviewed and approved the proposal based on scientific content and merit" and raised the issue of whether Philip Morris should require access to "pre-publication manuscripts" and regular visits to be sure research was proceeding consistent with the proposal (as modified to exclude study of smoking's role in cervical cancer). 2024961742-1744 at 1742-1743 (US 22046) (A).

1754. In 1991, Covington & Burling wrote to Philip Morris about a possible recommendation that Philip Morris's Science & Technology research plan "should be developed with input from legal, corporate affairs, etc., to ensure that the program of sponsored research is consistent with product liability, regulatory and public relations considerations." 2023856321-6328 at 6322-6323 (US 22037) (A).

1755. In September 1992, when Steven Parrish was General Counsel for Philip Morris, he retained control (for a period of time) over "approval for all new S&T [Science & Technology] projects." Parrish included Philip Morris's Richard Carchman, Vice President of Research and Development and Engineering, and James L. Charles, Vice President of Research, in the review process to get scientific recommendations, but made the ultimate decisions himself. 2026227112-7112 (US 20422) (A); Parrish WD, 42:1-20.

1756. **RJR:** On December 31, 1985, industry counsel issued Volume III of "RJR Research and Development Activities Fact Team Memorandum," which included Section IX on "Monitoring Smoking and Health Literature," and Section X on "Management and Legal Supervision and Control of R&D Activities." Lawyers summarized all pertinent documents,

depositions, and attorney interviews with key RJR employees from 1950 through 1985. Section IX detailed "the function of the R&D library," the roles of RJR scientists Alan Rodgman and Frank Colby, and "the procedures by which management was kept aware" of health issues. Section X detailed management and attorney oversight of Research and Development and "publication controls imposed on . . . researchers." 515873805-3929 at 3807, 3841 (US 21922*) (O).

1757. **B&W/BATCo:** Lawyers exerted great influence over smoking and health research at B&W and BATCo. In an August 20, 1970 letter to the General Counsel of B&W, David Hardy, a Shook, Hardy & Bacon lawyer, instructed B&W on what should not be in the company's files or testified to by company scientists:

> Fundamental to my concern is the advantage which would accrue to a plaintiff able to offer damaging statements or admissions by persons employed by or whose work was done in whole or in part on behalf of the company defending the action. A plaintiff would be greatly benefitted by evidence which tended to establish actual knowledge on the part of the defendant that smoking is generally dangerous to health, that certain ingredients are dangerous and should be removed, or that smoking causes a particular disease. This would not only be evidence that would substantially prove a case against the defendant company for compensatory damages, but could be considered as evidence of willfulness or recklessness sufficient to support a claim for punitive damages.
>
> In conclusion, I would like to emphasize that, in our opinion, the effect of testimony by employees or documentary evidence from the files of either BAT or B&W which seems to acknowledge or tacitly admit that cigarettes cause cancer or other diseases would likely be fatal to the defense of either or both companies in a smoking and health case. I am afraid that any attempted explanation to a jury that

> such statements were made only in the context of a "working hypothesis" for the further development of our products would fall on deaf ears. . . . Certainly such evidence would make B&W the most vulnerable cigarette manufacturer in the United States to smoking and health suits.

301097079-7085 at 7081-7082, 7085 (US 46580) (A).

1758. A June 4, 1963 letter from BATCo consultant Charles Ellis to multiple attorney recipients stated that the results of research conducted at Battelle Memorial Institute in Geneva on the physiological effects of nicotine were being forwarded to the attorneys before any critical review by scientific experts. 110313093-3096 at 3093 (US 20272) (A).

1759. An October 27, 1976 internal memorandum from scientist S.J. Green, discussed the extent to which "legal considerations" dominated scientific research:

> The public position of tobacco companies with respect to causal explanations of the association of cigarette smoking and diseases is dominated by legal consideration . . . . By repudiation of a causal role for cigarette smoking in general they [the companies] hope to avoid liability in particular cases. This domination by legal consideration thus leads the industry into a public rejection in total of any causal relationship between smoking and disease and puts the industry in a peculiar position with respect to product safety discussions, safety evaluations, collaborative research etc.

109938433-8436 at 8433 (US 34938) (O).

1760. The BAT "Group Research and Development Centre" ("GR&DC") was a cooperative research effort of all operating tobacco companies within the BAT Group, and the companies controlling and funding GR&DC include BATCo and B&W. During a visit to B&W in 1979, GR&DC scientists were informed that GR&DC "will be supported positively in the future" by B&W only if "[w]e become more 'politically sensitive' in the areas of smoking and

health, e.g., reporting of 'nasties' and biological studies generally." To reinforce the point, the B&W hosts were directly quoted as having reminded the visiting scientists: "Remember what pays all our salaries." 107469003-9005 at 9003 (US 34849) (O).

1761. Despite repeated public statements and promises to conduct independent research on the health effects of smoking and to provide the results to the American public, BATCo acted to the contrary. In an August 5, 1980, memorandum, J. Kendrick Wells suggested revisions to a BAT position paper to avoid an invitation of "public scrutiny of all BAT research contributions" because "[t]he effect of statements against interest found in in-house research could be disastrous because it is difficult to escape them. Contrast this with the United States industry research through CTR, which was planned with the intention of publicity and designed for maximum positive public reaction[.]" 680050983-1001 at 0993-0994 (US 20981) (O).

1762. At a May 1984 meeting, B&W in-house counsel and outside litigation counsel convinced the BATCo Legal Department that lawyer involvement in Project Rio, a scientific project, was necessary to "control the risk of generating adverse evidence admissible in U.S. lawsuits." Indeed, Brown &Williamson lawyers suggested that "[d]irect lawyer involvement [was] needed in all BAT activities pertaining to smoking and health from conception through every step of activity." 521015673-5675 at 5674 (US 52687) (A).

1763. In an October 25, 1984 letter, to H.A. Morini, BATCo's corporate counsel, regarding an article proposed by BATCo scientist Lionel Blackman, J. Kendrick Wells instructed Morini that all references or citations to scientists who had concluded that smoking caused disease, including lung cancer and heart disease, or articles that referred to cigarettes as a drug be removed from the article. The references to be removed included references to a publication by Doll and Peto, who Wells admits were "two of the most highly respected and widely published

and widely regarded researchers on the cause of smoking and health[.]" 68052499-2507 (US 86881) (A); Wells WD, 26:18-30:10.

1764. In 1985, BATCo instituted a policy of having lawyers clear all scientific documents that were released outside the production group. 516003171-3171 (US 20872) (A); 516003172-3172 (US 21732) (O); 516003173-3174 (US 22076) (A).

1765. The handwritten notes of Richard Binns, the former Manager of BATCo's Group Research & Development Centre at Southampton, reveals the expansive role lawyers have taken in BATCo's science, writing that:

> I am being asked to make significant and sometimes swingeing [sic] changes in documents produced recently by R&D staff. It is suggested that this must be done by finding a 'managerial explanation' for the changes, without reference to the involvement of Legal Department. I will find this impossible to do. Senior R&D staff will not be so easily deceived. Personally, I am not prepared to lie to staff for very doubtful reasons. Therefore, the current lack of clarity about the relationship between R&D and Legal Dept. has raised questions which for me are ethically disturbing, particularly if extended beyond the present localized situation.

109878083-8089 at 8089 (US 21767) (A).

1766. In a February 26, 1986 memorandum, B&W – through its Chairman and CEO Ray Pritchard and General Counsel Ernest Pepples – requested that BATCo discontinue research on smoking and health because "discovery of such research could prejudice B&W's chances of defending litigation." Moreover, document distribution was to be kept "to a minimum to avoid documents becoming available to plaintiff in litigation." 109870594-0596 at 0594 (US 34873) (O).

1767. In 1990, the BAT Group announced a policy whereby to improve the quality of

scientific documents, they would be subject to "[r]egular lawyer reviews and audits." 202347085-7086 at 7086 (US 22032) (A); Wells WD, 45:5-46:10.

1768. A May 2, 1991 “file note” prepared by J. Kendrick Wells, B&W's Associate General Counsel, stated:

> I told Jeff [Wigand] that hiring a certified toxicologist (Scott) [Appleton] had implications for our management of him. Because of his credentials, any unfortunate statements he makes on key issues have the potential to be particularly troublesome in the hands of an adversary. This means that Scott should work especially closely with me for some time and that Jeff should be wary in how he manages Scott in terms of areas and types of assignments and authority given to Scott.

BWX0037432-7434 at 7432 (US 79219) (A); Appleton TT, 3/24/05, 16899:14-16901:8; Wigand WD, 34:11-35:10.

1769. In a November 23, 1993 letter, J. Kendrick Wells asked Robert E. Northrip, a Shook, Hardy & Bacon lawyer, and Gordon A. Smith, a King & Spalding lawyer, about the proper role for Scott Appleton:

> To further our conversation in Louisville on the subject, please put your two wise heads together and advise us on the following issues:
>
> Is Scott Appleton’s current practice regarding information about scientific developments adequate? Among other considerations, should he attend some of the scientific conferences normally attended by a toxicologist? Would it be helpful if he talked with scientists outside the companies?
>
> What answer do you recommend for Mr. Sandefur when asked how he knows causation has not been proven? Among other considerations, should the Vice President of R&d be included in Mr. Sandefur’s circle of advisors in addition to Dr. Appleton? Should Mr. Sandefur talk with some independent scientists on the

> question of causation? What routine communications should be occurring between Mr. Sandefur and his advisors?

293002121-2121 (US 28116) (A); BWX0017237-7237 (US 28116) (A).

1770. J. Kendrick Wells, B&W's Associate General Counsel, with the support of Thomas Sandefur, B&W's President, edited scientific documents to remove controversial information that would benefit an adversary in litigation. On one occasion, Mr. Sandefur directed Mr. Wells to edit the minutes of a September 1989 scientific meeting in Vancouver "to get rid of all the controversial stuff that Wigand got involved with." Wigand WD, 35:12-44:22.

1771. **Lorillard:** In 1977, Lorillard leadership advised a scientist who was to deliver a research paper that he must delete data from a study related to human smoking habits or he could not deliver the paper. 01416267-6267 (US 20287) (O).

1772. **Liggett:** In 1978, the Legal Department at Liggett took control of an important less hazardous cigarette research project known as Project XA. Joseph H. Greer, Liggett's General Counsel, sent a July 25, 1978 memorandum to several high ranking members of Liggett management, including Robert L. Kersey, Jr., the head of tobacco research at Liggett, advising them of the creation of a "Legal Project team" to take control of Project XA and that the "[t]he Legal Project team will report directly to the Law Department." LG2001538-1538 (US 21481) (O).

1773. In 1978, the creators of Liggett's experimental XA cigarette (A.D. Little, scientist, Dr. Charles Kensler, and James Mold, Director of Research) sought to present a paper relating to the XA at a public International Cancer Congress and to publish the paper in the scientific journal *Science*. Biological research on the XA had convinced Liggett that the cigarette was less carcinogenic than traditional cigarettes. While company management agreed to allow the

presentations, Liggett's attorneys did not give approval for the paper to be presented or published, and it was not allowed to go forward. LG2013608-3608 (US 21438) (O). Project XA is also discussed at US FF III.A.(3), supra.

(ii) "Independent" Scientists and Suppression of Nicotine Research

1774. Defendants' lawyers have attempted to prevent research on nicotine addiction and nicotine manipulation issues. Given that the issue of nicotine addiction was potentially explosive in smoking and health litigation, lawyers began their attempts to curtail or direct the research. As a 1980 Tobacco Institute document stated: "Shook, Hardy reminds us, I'm told, that the entire matter of addiction is the most potent weapon a prosecuting attorney can have in a lung cancer/cigarette case. We can't defend continued smoking as 'free choice' if a person was 'addicted.'" TIMN0107822-7823 at 7823 (US 21275) (O).

1775. Edwin Jacob, long-time tobacco industry counsel, "advised a total embargo on all work associated with the pharmacology of nicotine" in a meeting with the European tobacco industry. Jacob's advice was based in part on "[t]he pending California lawsuit which indicted nicotine as an addictive substance." 110083647-3650 at 3649-3650 (US 76174) (O).

1776. A March 21, 1980 Philip Morris memorandum conceded that Defendants' concerns about research into the pharmacological action of nicotine arose from fear of regulation, i.e., the "increasingly favorable prospects for the success of a legislative effort to transfer authority for the regulation of tobacco manufacture to a Federal agency (F.D.A.) known to have interests and powers antithetical to the interests of the industry." While this legislative effort was unfolding, any action on the part of the tobacco industry, such as "research on the psycho-pharmacology of nicotine, which implicitly or explicitly treats nicotine as a drug could well be

viewed as a tacit acknowledgment that nicotine is a drug." 1000127789-7790 at 7789 (US 21794) (A).

(iii) Admissions and Internal Complaints Regarding Lawyer Control and Manipulation of Science

1777. The tobacco industry's own characterization of a 1977 B&W document describes B&W's General Counsel as attempting to prevent or curtail CTR funded research which he believed was "putting the industry at risk." The danger he foresaw was that "if such tests are conducted, and the results were negative for the industry, it would be a major liability in legislative hearings or in litigation." 682764441-4461 at 4443 (US 21030) (A).

1778. Handwritten notes from an April 21, 1978 Lorillard document contained the heading "Scientific Research Liason [sic] Committee" and stated:

> Should re-convene because: 1) We have again "abdicated" scientific research directional management of the Industry to the "Lawyers" with virtually no involvement on the part of scientific or business management side of the business. 2) Lorillard's management is opposed to the total Industry future being in the hands of the Committee of Counsel - - it's reminiscent of late 1960's when Ramm's group ran the TI, CTR and everything else involved with Industry's public posture.

01346204-6205 at 6204 (US 34532) (A) (emphasis in original).

(iv) Decisions Regarding Research and Publication Were Based upon Litigation Concerns and Desires to Enhance Public Relations, Not Scientific Judgment

1779. A July 21, 1978 document contains the typewritten “confidential” notes of Charles L. Waite of the Tobacco Institute, in which he stated:

> Finally, Morgan reiterates the obvious fact that we must continue to rebutt (sic) every **major critical** study (government funded or

> otherwise) in a **timely manner** using the biggest 'scientific guns' available to us.
>
> To meet this requirement, the following conditions must prevail:
>
> a. Advanced copy of paper, speech, article, etc. must be available to comment on. This is basically an information gathering function, not scientific.
>
> b. Availability of quality credible scientific rebuttal. This requires a stable of consultants in various fields of scientific endeavor who are willing to provide such assistance. Additionally, the utmost in cooperation between all segments of the industry is required in developing and sharing such assets.

TI04280175-0176 at 0176 (US 62174) (O) (emphasis in original).

1780. On November 15, 1988, Defendants considered the dangers of issuing a new proposed Frank Statement with their law firms, including Arnold & Porter and Shook, Hardy & Bacon. It was noted that while the new Frank Statement made it appear that Defendants' position on smoking and health had changed over the years, this had not happened. Further, they argued the new statement could hurt the industry in its litigation strategies. David R. Kentoff, an Arnold & Porter attorney, noted

> the basic problem with the new Frank Statement is that it sets forth a revisionist and internally inconsistent view of history. . . . If it is still the industry's 'belief' that smoking is not injurious, how can it now contend that it is not a member of the Flat Earth Society? . . . [T]he client should be advised to share its plans for the new Frank Statement with National Coordinating Counsel. Certainly, the statement has potential litigation implications which are of legitimate interest to all members of the industry.

2021156932-6936 at 6932-6933, 6935-6936 (US 20341) (A).

1781. **Philip Morris:** Helmut Wakeham prepared a May 12, 1972, draft memorandum to Joseph Cullman III, Chairman of the Board of Philip Morris, on an "Industry-Sponsored

Smoke Inhalation Program" which was being considered for several different types of animals and would cost $1,500,000 per year for five years in order to provide the industry "with a defensive position in the field of smoke inhalation." 1005109006-9007 at 9006 (US 20210) (O).

1782. Patrick Sirridge, a Shook, Hardy & Bacon attorney, sent a July 27, 1983 memorandum to Fredric S. Newman, a Philip Morris International attorney, regarding several reports from the Philip Morris Research Center. In it, he noted:

> Research engaged in, as well as some possibly under consideration, by Philip Morris has undesirable and dangerous implications for litigation positions the industry takes in regard to smoking behavior. The pharmacological nature of the research implies strongly a view of the importance of nicotine. What is worse, research reports under Philip Morris's sponsorship contains claims of physiological tolerance to nicotine, as well as claims of unequivocal demonstrations of reinforcement by nicotine in animals. This kind of research is a major tool of our adversaries on the addiction issue; the irony is that industry-sponsored research is honing that tool. In the final analysis, the performing and publishing of nicotine related research clearly seems ill-advised from a litigation point of view.

2046754720-4731 at 4731 (US 20476) (A).

1783. **RJR:** Ralph Rowland, RJR scientist, sent an interoffice memorandum on April 20, 1971, to managers and section heads concerning rewards and recognition procedures discussed at a management meeting held March 22, 1971, and forbidding publication of certain types of papers due to the "intangible legal situation." 500910506-0507 at 0506 (US 20657) (O).

1784. In an October 17, 1973 interoffice memorandum regarding whether or not to give a grant for a proposed research program at the University of California, Frank Colby, RJR scientist, suggested to Murray Senkus, RJR's Director of Research, that "[a] decision whether or not to recommend a substantial Tobacco Industry grant for the above program should be based

more on public relations than on purely scientific grounds." 500529893-9893 (US 20637) (O).

1785. Charles W. Nystrom, assistant to Frank Colby, RJR scientist, prepared a May 1, 1978 job description for a "Research Section Head Scientific-Legal Information Section" which stated in part: "Primary areas of responsibility are to search, interpret, and evaluate information and ideas to protect the Company in the area of the smoking-health controversy." 500885570-5573 at 5571 (US 20655) (O).

1786. A September 28, 1978 document contained notes of an RJR representative's meeting with German industry representatives near London Heathrow Airport on September 11, 1978 for talks "devoted mainly to those aspects of the German nicotine research . . . [affecting] the legal position of RJR in the United States." The document noted that RJR "forcibly and deliberately . . . extracted from them an unequivocal promise that before any effort which was made to commence or in any other way start a specific research project RJR . . . would have a minimu[m] of three months to evaluate such proposals." 503240503-0514 at 0503, 0504 (US 20713) (O).

1787. A March 3, 1988 RJR document revealed the existence of the "Independent Scientists Program," which had the objective of identifying non-Reynolds scientists who would cooperate with its litigation and public relations strategies. 506254908-4921(US 87393) (A).

1788. **B&W/BATCo:** A May 2, 1963 letter from a White & Case attorney to Addison Yeaman of B&W acknowledges Yeaman's April 29, 1963 letter and its enclosure. The White & Case letter noted: "I have carefully considered the draft of a proposed report prepared by you in cooperation with Dr. Robert B. Griffith [Director of Research at Brown & Williamson], and I am of the opinion that, with the exception explained below, it contains no material which would prove detrimental to the defense of a lung cancer case." The White & Case attorney urged

Yeaman to avoid any "implied admission" because "with the passing of time, the defenses of assumption of risk and contributory negligence will loom increasingly important; yet the validity of these defenses is being whittled down by tobacco company utterances – to the effect that there is no risk, or that it is remote." 680249787-9788 at 9787 (US 23012) (O).

1789. Graham Read, BATCo's Global Head of R&D Strategy and a member of BATCo's board of directors, emphasized the volume of independent, external research that BATCo has funded over the years, resulting in "numerous publications . . . principally through peer-reviewed journals." Read WD, 65:3-12. Indeed, Mr. Read asserted that there were over 500 BATCo-sponsored research articles from 1956 to 1997. Id. at 65:9-22. However, on cross-examination, Mr. Read acknowledged that "BATCo funded quite a bit of research" where "the funding arrangement here was that any research results done by external researchers be published **without disclosing BATCo's role.**" Read TT, 3/22/05, 16413:4-10 (emphasis added).

1790. Moreover, when BATCo gave money to external researchers on condition that they not disclose BATCo's role in funding the research results, it did so precisely so that it could distance itself from the results if it didn't like them. In a February 18, 1986 memorandum to a BATCo scientific analyst, Mr. Read wrote:

> The only stipulation requested by BAT was that they publish independently of us and without acknowledgment. **This allowed BAT to distance itself from the findings and if necessary to defend this position by independent interpretation of "their" published findings.**

103368127-8127 at 8127 (US 93205) (A) (emphasis added).

1791. In addition to requiring "independent" researchers to avoid disclosing that they were being funded by BATCo, BATCo imposed a second condition when it funded external

research: It demanded that it receive pre-publication copies of the results of the "independent" research. 103368127-8127 at 8127 (US 93205) (A); Read TT, 3/22/05, 16414:25-16415:19.

1792. **Lorillard:** In a June 24, 1974 confidential memorandum, Alexander Spears, Research Director of Lorillard, acknowledged Defendants' joint industry effort to fund smoking and health research for public relations purposes:

> Historically, the joint industry funded smoking and health research programs have not been selected against specific scientific goals, but rather for various purposes such as public relations, political relations, position for litigation, etc. Thus, it seems obvious that reviews of such programs for scientific relevance and merit in the smoking and health field are not likely to produce high ratings. In general, these programs have provided some buffer to public and political attack of the industry, as well as background for litigious strategy.

01421596-1600 at 1598 (US 20049) (A).

1793. **Liggett:** Liability litigation concerns drove Liggett's research program throughout the 1990s and controlled whether or not research would be done and the type of research that would be done. Dennis Dietz, Manager of Scientific Issues for Liggett from 1991 to 1999, testified that "instead of doing independent research into the question of smoking and health, the Company focused on insuring its products were no less harmful than those of its competitors." Dietz had regular product liability meetings with Liggett's outside counsel. When Dietz began working for Liggett, he had an "orientation" meeting with outside counsel wherein they "open [ed] his eyes up to the fact that we were involved with research that wasn't just pure, really, academic, that we need to be focused on all these issues." Dietz explained that the issues he was referring to were "health related issues . . . that potentially could – could impact on – on product litigation." Dietz PD, United States v. Philip Morris, 7/1/02, 51:16-18, 169:21-177:10.

1794. Dr. Dietz testified about his meeting with Webster & Sheffield, knew they were the product liability litigation attorneys and stated: "It was probably within a very short time after I joined Liggett that we had some meetings and they – I think at the time Liggett was undergoing trial with the Cipollone case, and that the formulas were really the bread and butter of our company and **there are a lot of outstanding issues out there, and when we do science it's up to me or the Research Department to do good science, but that we should make sure that it's done in that context**." Dietz TT, 3/29/05, 17159:10-23 (emphasis added).

C. The Addictive Properties of Nicotine

(1) Nicotine and Addiction

1795. Cigarette smoking is an addictive behavior, a dependency characterized by drug craving, compulsive use, tolerance, withdrawal symptoms, and relapse after withdrawal. Underlying the smoking behavior and its remarkable intractability to cessation is the drug nicotine. Nicotine is the primary component of cigarettes that creates and sustains addiction to cigarettes. While Defendants now seek to hide behind self-serving interpretations of scientific definitions of addiction over time, the underlying known facts about the addictive quality of smoking and the importance of nicotine to the addiction have not changed.

1796. Defendants have long researched and recognized, decades before the scientific community, that nicotine is an addictive drug, that cigarette manufacturers are in the drug business, and that cigarettes are drug delivery devices. Nicotine largely explains why people use tobacco products. Moreover, Defendants have sought to exploit the addictive quality of smoking and nicotine for decades in order to develop new products and increase sales.

1797. Notwithstanding the understanding and acceptance of each Defendant that smoking and nicotine were addictive, Defendants have publicly denied and distorted the truth as to the addictive nature of their products. Defendants' public fraud has included externally relying on a self-serving definition of addiction, suppressing research showing the addictiveness of nicotine, and parroting misleading statistics as to the number of smokers who have quit.

1798. Defendants have intentionally maintained and coordinated their fraudulent position on addiction and nicotine as an important part of their overall efforts to influence public opinion and persuade people that smoking was not dangerous; in this way, the Cigarette Company Defendants (Defendants) could keep more smokers smoking, recruit more new

smokers, and maintain or increase their profits. Additionally, Defendants have sought to discredit proof of addiction in order to preserve their "smoking is a free choice" arguments in smoking and health litigation.

1799. Defendants continue to publicly deny and distort the truth as to the addictiveness of cigarette smoking and nicotine's role in the addiction. Defendants refuse to acknowledge their internal statements acknowledging and exploiting nicotine addiction. While nicotine shares many attributes of heroin, cocaine, and other drugs, Defendants continue to assert that smoking is only addictive to the same extent as coffee, chocolate, and the like, and (with the limited exception of Philip Morris) continue to deny that nicotine is addictive at all.

(a) Cigarette Smoking is Addictive and Nicotine is the Primary Component of the Addiction

1800. There is an overwhelming consensus in the scientific and medical community that cigarette smoking is an addictive behavior and that nicotine is the component in cigarettes that causes and sustains the addiction. Henningfield WD, 114:9-12; Burns WD, 13:16-14:19.

1801. The Surgeon General, the National Institute on Drug Abuse ("NIDA"), the World Health Organization ("WHO"), the American Psychiatric Association ("APA"), the Food and Drug Administration ("FDA"), the Harvard School of Public Health, and others have declared that tobacco use is a form of addiction that shares many similarities with the use of cocaine or heroin. Benowitz WD, 26:3-36:8.

1802. "Drug addiction" is a common language term for what many researchers clinically refer to as "drug dependence." The term "dependence" was never intended to imply a lesser or watered-down condition than "addiction." Henningfield WD, 110:9-22.

1803. In fact, organizations such as NIDA, the American Association of Addiction Medicine, and the College on Problems of Drug Dependence use the terms "drug addiction" and

"drug dependence" interchangeably. Id., 110:9-22.

1804. Scientific and medical literature support the conclusion that nicotine ingested via cigarette smoking has significant pharmacological effects on the structure and function of the human body - pharmacological effects that create dependence in the smoker. Industry documents show that these effects have been known to the industry since the early 1960s. Id., 136:14-22.

1805. In commonly understood terms of addiction, smokers become dependent on the significant pharmacological and psychoactive effects of the nicotine in cigarettes, resulting in craving, compulsive use, difficulty in quitting, and relapse after withdrawal.

1806. There is compelling evidence that smoking behavior is motivated by a need to maintain a preferred "fix" or level of nicotine intake, leading to the phenomenon of nicotine compensation, or titration, in response to the use of cigarettes with lower nicotine yields.

1807. Contrary to Defendants' view as expressed in numerous public statements, uncertainties concerning the addictiveness of tobacco products that existed in the 1960s and 1970s were not resolved by changing definitions of "addiction" to fit nicotine. Rather, the scientific and medical understanding of drug addiction and assembly of data has advanced considerably since the release of the 1964 Surgeon General's Report, which relied upon WHO criteria that emphasized intoxication and essentially construed drug addiction as a personality disorder. In fact, the prominence given to personality disorder and the intoxicating effects of the drug as essential determinants of addiction were abandoned by the WHO itself in 1964, but too late to serve the authors of the 1964 Surgeon General's Report. This concept and others were replaced by criteria and diagnostic techniques to measure addictive effects including physiological dependence, withdrawal, reinforcement, and psychoactive effects. Henningfield WD, 114:18-116:14.

1808. In the 1964 Report, the Surgeon General, using the criteria established for "addiction" and "habituation" by the WHO, concluded that smoking, nicotine, and cocaine were not "addictions." Smoking in particular was termed a "habituation" rather than an "addiction" because it did not induce a state of intoxication, there was no evidence of "overpowering" need to ingest nicotine, and there was no evidence of significant physical dependence. The 1964 report concluded, based on the WHO definition and the limited data available at the time, that smoking produced only a "psychiatric but not physical dependence." VXA1601844-2232 (US 64057) (A); Henningfield WD, 114:18-117:5.

1809. As described below, Defendants knew better. In-house tobacco industry research, research kept hidden from the writers of the Surgeon General's report, showed drug addiction-like effects, including tolerance, withdrawal, compulsive use, and craving. The actions of BATCo and B&W, described below, are particularly illuminating on the issue of the Cigarette Company Defendants' far superior knowledge of nicotine and its behavioral effects in 1964, as well as the uninformed conclusion of the advisory committee to the Surgeon General who acted without that research.

1810. The subsequent WHO expert committee published a report in 1964 abandoning its prior definitions of habituation and addiction, definitions that had been largely adopted in the 1964 Surgeon General's Report. Instead, the committee recommended the adoption of the term "dependence." Henningfield WD, 109:3,20; 110:8-22; 116:7-14; 122:20-123:16.

1811. Since 1964, notwithstanding Defendants' attempts to deny or distort the evidence, data has unequivocally demonstrated that nicotine in cigarettes is addictive by the same criteria that heroin and morphine were concluded to be addictive. More importantly, and regardless of the conclusion of the 1964 Report, Defendants have continued to generate internal research

results confirming their pre-1964 knowledge and acceptance that smoking and nicotine were in fact addictive. Id., 87:19-103:13.

1812. While Defendants well understood the primary role of nicotine in sustaining smoking addictiveness by the 1960s, and designed their products to deliver sufficient nicotine for this purpose, the understanding of the preeminence of nicotine developed more slowly outside the tobacco industry. For example, it was not until 1980 that clinical psychiatrists determined that there was sufficient evidence of dependence and withdrawal from smoking to include these in the APA's Diagnostic and Statistical Manual ("DSM-III"). Even then, the syndromes were called "tobacco dependence" and "tobacco withdrawal" rather than "nicotine dependence" and "nicotine withdrawal," because of psychiatrists' insufficient knowledge and understanding of the specific role of nicotine. It was clear to the developers of the DSM-III that nicotine played a role in making smoking addictive, but there were unresolved questions as to the importance of nicotine, as opposed to the numerous other constituents of tobacco smoke and behavioral components of smoking. It was not until 1982 that NIDA concluded that scientific evidence demonstrated that nicotine is addictive. Henningfield WD, 123:23-128:21, 132:10-13.

1813. Therefore, by the early to mid 1980s, leading scientists and organizations with expertise in tobacco and drug addiction had come to the conclusion that nicotine was an addictive drug and that cigarette smoking was maintained by nicotine addiction. Id., 123:23-128:21, 132:10-13.

1814. The 1988 Surgeon General's Report, entitled "The Health Consequences of Smoking - Nicotine Addiction," concluded that smokers smoke because they are addicted to nicotine. Upon an exhaustive review of the literature on nicotine and smoking behavior, the report found that cigarettes and other forms of tobacco are addicting, and that nicotine is the

substance in tobacco that causes the addiction. "The Health Consequences of Smoking: Nicotine Addiction: A Report of the Surgeon General" (1988), VXA0300208-0848 (US 64591) (A).

1815. The 1988 Surgeon General's Report set forth three primary criteria to determine whether a drug, in this case nicotine, is addicting: (1) use is highly controlled or compulsive; (2) the use of the drug produces mood altering (psychoactive) effects; and (3) the drug reinforces behavior, resulting in continued intake or drug-reinforced behavior. Henningfield WD, at 143:20-144:3; VXA0300208-0848(US 64591) (A); Benowitz WD, 27:6-13.

1816. The first criterion, highly controlled or compulsive use, refers to drug-seeking and drug-taking behavior that is driven by strong, often irresistible urges. Such use persists despite a desire to quit or even repeated attempts to do so. This type of behavior has also been described as "habitual." Benowitz WD, 27:21-28:2.

1817. Drug addiction, however, is distinguished from habitual behaviors not involving drugs -- such as habitual exercising or overeating -- by the second criterion, the presence in the blood stream of a drug with psychoactive or mood-altering effects on the brain. Food, for example, which is necessary to sustain life, is not a drug and does not satisfy the second criterion. Id., 28:3-16.

1818. Dr. Peter Rowell, one of Defendants' experts, testified that as an addiction, smoking cigarettes involves a drug and is not comparable to non-drug "habits" such as jogging, playing tennis or biting one's nails. Rowell TT, 3/23/05, 16685:5-16687:19.

1819. Finally, the mood-altering drug must be capable of functioning as a reinforcer that can directly strengthen behavior leading to further drug ingestion. Such reinforcement exists where, for instance, the drug produces pleasant or rewarding sensations like stimulation, relaxation, or euphoria, or mitigates unpleasant withdrawal sensations experienced when a

person stops using the drug. Benowitz WD, 28:17-29:7.

1820. Defendants claim that the Surgeon General discounted tolerance and withdrawal in concluding that nicotine was addictive; however, the 1988 Surgeon General report documented both tolerance and withdrawal and determined that nicotine met these additional criteria. However, neither tolerance nor withdrawal are the primary criteria of drug dependence/addiction as defined by the Surgeon General, WHO, APA, or FDA.

1821. Defendants also cling to the long outdated and abandoned idea that significant intoxication or impairment is required to sustain addiction. Intoxication was abandoned by the WHO, the APA, and the Surgeon General because many intoxicating substances are not addicting and because many addictive drugs are used and abused at doses that do not cause intoxication. Benowitz WD, 30:14-31:25; Henningfield WD, 145:20-146:5, 150:14-151:8.

1822. Defendants rely on the testimony of one of their experts, Dr. Peter Rowell, to support their arguments against calling nicotine addictive. However, as he readily admitted, Dr. Rowell, unlike the United States' experts, Drs. Henningfield and Benowitz, has never conducted or published peer-review research on human smoking behavior, addiction in humans, the role of nicotine in human smoking behavior, smoking cessation, clinical treatment of smokers, or cigarette design. Benowitz TT, 3/23/05, 16623:8-16624:22.

1823. Ironically, Dr. Rowell rejected the argument that intoxication was necessary for nicotine to be considered addicting:

> Q. And, sir, it is correct, is it not, that it's been your view since the early 1970s that to be addictive, a drug does not have to cause intoxication?
>
> A. Yes.
>
> Q. The suggestion, then, that a drug cannot be addictive because it is not intoxicating, you wouldn't agree with that statement, correct?

A. I would not.

Rowell TT, 3/23/05, 16632:4-7, 16632:23-16633:2.

1824. Dr. Rowell also rejected Defendants' argument that a drug is not addictive if it does not cause physical dependence:

Q. And similarly, sir, you agree, do you not, that it has long been recognized within the pharmacological community that the -- that there are drugs of addiction that don't induce physical dependence, so you can have addiction without physical dependence and physical dependence without addiction, correct?

A. Yes, I agree, you could do that. Actually, there is some mild physical dependence with really every substance, but it's really not a major effect and it's probably not required.

Id., 16633:3-10.

1825. In 1994, the APA published its Diagnostic And Statistical Manual of Mental Disorders-IV ("DSM-IV"). DSM IV defined "substance dependence" as "a pattern of repeated self-administration that usually results in tolerance, withdrawal, and compulsive drug-taking behavior." DSM IV continued to recognize the diagnoses of both "nicotine dependence" and "nicotine withdrawal." American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders IV* (1994) at 176-181 (JD-000460) (A).

1826. In the DSM IV section entitled "Nicotine-Related Disorders," the APA concluded that nicotine can produce dependence in people who use all forms of tobacco, including cigarettes, because the following criteria are present: tolerance, withdrawal, a desire to quit, a great deal of time spent using nicotine, and the continued use despite medical problems. APA, *DSM-IV* (1994), at 176-181, 242-247 (JD-000460) (A).

1827. Defendants long claimed publicly that nicotine and smoking were not addictive or dependence-producing because smoking did not result in tolerance. However, in describing the

diagnosis of "Nicotine Dependence," the DSM IV authors stated that, "Tolerance to nicotine is manifested by the absence of nausea, dizziness, and other characteristic symptoms despite using substantial amounts of nicotine or a diminished effect observed with continued use of the same amount of nicotine-containing products." APA, *DSM-IV* (1994) at 243; (JD-000460) (A).

1828. The DSM IV authors also met head on Defendants' oft-repeated public claim that smoking cigarettes does not produce withdrawal: "Cessation of nicotine use produces a well-defined withdrawal syndrome that is described below. Many individuals who use nicotine take nicotine to relieve or avoid withdrawal symptoms when they wake up in the morning or after being in a situation where use is restricted." In addition, withdrawal symptoms "are typically more intense among individuals who smoke cigarettes than among individuals who use other nicotine-containing products." APA, *DSM-IV* (1994) at 243-244; (JD-000460) (A).

1829. Further reflecting the consensus judgment that nicotine is addictive, the investigation by the FDA leading to its Final Tobacco Rule issued in August 1996 confirmed that even by the most stringent criteria employed by the FDA, nicotine in cigarettes is an addictive drug. Henningfield WD, 159:9-161:22.

1830. The FDA concluded in its August 1996 Final Rule that, "All major public health organizations in the United States and abroad with expertise in tobacco or drug addiction now recognize that the nicotine delivered by cigarettes and smokeless tobacco is addictive." 1996 FDA Jurisdictional Determination, 61 Fed. Reg. 44619 (August 1996) at xv, VXA1242326-3211 at 2572 (US 64323) (A).

1831. The scientific community further recognizes that nicotine is addictive under the outdated 1964 Surgeon General's Report / WHO definition as well as the 1988 Surgeon General's Report's definition. 1996 FDA Jurisdictional Determination, 61 Fed. Reg. 44619 (August 1996);

VXA1242326-3211 at 2645-2651 (US 64323) (A).

1832. Defendants' expert, Peter Rowell, not only agreed that nicotine plays an essential role in cigarette smoking, Rowell TT, 3/23/05, 16625:12-25, but that "there is clearly addiction for cigarette smoking." Rowell TT, 3/24/05, 16790:4-16.

1833. Dr. Rowell also testified that there many similarities between the properties that determined tobacco addiction and those that determined heroin and/or cocaine addiction:

> Q. And I want to direct your attention specifically to the third major conclusion expressed by the Surgeon General in 1988, which appears at page 9, and it reads, quote, the pharmacologic and behavioral processes that determine tobacco addiction are similar to those that determine addiction to drugs such as heroin and cocaine. Do you see that?
>
> A. Yes, I do.
>
> Q. Do you agree or disagree with what the Surgeon General said about similarities existing between the pharmacologic and behavioral properties that determine tobacco addiction and those that determine addiction to drugs such as heroin and cocaine?
>
> A. I agree there are similarities.
>
> Q. Have you prepared an animation that -- well, before we get to that, let me ask you a further question. When you say that there are these similarities, what is the basis for your saying that there are similarities from a pharmacological point of view? What are you focusing on?
>
> A. The dependence properties of nicotine and more dramatically cigarette smoking in regards to physical dependence, withdrawal symptoms, effects of neurochemistry in the brain on neurotransmitters, self-administration studies. Many of these things were done in the '80s just before the Surgeon General's report. So these were the similarities that led the Surgeon General to indicate that there were, in fact, these similarities between cigarette smoking and these other drugs.

Rowell TT, 3/22/05, 16549:23-16650:15.

1834. Today, most daily cigarette smokers satisfy the Surgeon General's primary criteria for addiction. The first criterion, highly controlled or compulsive use, is demonstrated by the fact

that addicted smokers smoke numerous cigarettes throughout the day. Second, the nicotine in the cigarette tobacco stimulates the nicotinic receptors in the smoker's brain, a psychoactive effect that affects the smoker's mood. Third, the smoking behavior is reinforced by the pleasurable effects of nicotine and/or by the mitigation of unpleasant withdrawal sensations triggered by the need for nicotine. Benowitz WD, 29:8-30:13.

1835. Published research indicates that 77 to 92% of smokers are addicted to nicotine in cigarettes. 1996 FDA Determination, VXA1242326-3211 at 2335, 2528 (US 64323) (A).

1836. In addition, persons who have smoked at least one cigarette are about twice as likely to develop dependence on nicotine as are persons who have ever tried cocaine or alcohol to develop a dependence on those drugs. 1996 FDA Determination, VXA1242326-3211 at 2335, 2596 (US 64323) (A).

1837. Many smokers and potential smokers are unaware of or do not fully appreciate the addictive nature of nicotine and the addictiveness of cigarette smoking, and the extent to which nicotine delivery and dosage is highly controlled and engineered. Weinstein WD, 61:5-74:2.

1838. Every year, an estimated 17 million people in the United States attempt to quit smoking, succeed in quitting. Benowitz TT, 11/1/04, 4505:2-4506:13.

1839. Most smokers smoke cigarettes regularly in order to experience nicotine's effects on the brain and the body, and therefore become addicted to nicotine. People who try to quit smoking often experience withdrawal symptoms that can be extremely disruptive. Accordingly, it is usually very difficult for the smoker to stop smoking cigarettes. Id., 4503:17-4506:13.

1840. Most smokers who desire to quit require several quit attempts before they are successfully able to give up cigarettes, and many smokers die of smoking-related diseases before they are able to quit. Id., 4505:2-4506:13.

1841. The fact that cigarette smoking is addictive is particularly troublesome in light of the fact that most smokers become addicted to smoking as teenagers. 88% of daily smokers tried their first cigarette before reaching age 18, and 70% of people who have ever smoked daily began smoking daily before they were 18 years old. Thus, because nicotine addiction develops in the first few years of cigarette smoking, most smokers become addicted to nicotine during adolescence or early adulthood. Benowitz WD, 38:15-39:2, 39:3-5, 9-10.

1842. Underage smokers and potential smokers are particularly vulnerable to nicotine addiction because they are not capable of making a fully informed decision whether to start or continue smoking for a variety of reasons, including the fact that they underestimate personal risks and lack judgment which is developed through experience. Youth also fail to appreciate the risks and consequences of addictions. "The Health Consequences of Smoking: Nicotine Addiction: A Report of the Surgeon General" (1988), VXA0300208-0848 (US 64591) (A); Benowitz WD, 47:3-48:10; Weinstein WD, 61:5-74:2.

1843. Studies demonstrate that adolescents not only underestimate the harm that results from smoking cigarettes, but are overly optimistic about their ability to quit smoking. In one peer-reviewed study of 10-18 year olds, the subjects were asked to estimate the probability of four smoking-related conditions, including heart trouble, cancer, breathlessness, and carbon monoxide in the blood. They found that adolescents rated the hypothetical risk that they would experience if they became a regular smoker to be lower than the risk for another smoker, even though the two were said to have the same amount and duration of smoking. Weinstein WD, 64:7-23.

1844. The Cohn study, which involved 376 teenagers, found that when they were asked about their risk of 19 health problems and negative risk events, one of which was becoming

addicted to cigarettes, the teenagers claimed that they were less likely than their peers to become addicted. Furthermore, when asked of their perceptions of the harmfulness of their activities including cigarette smoking, the teenagers rated these activities as significantly less harmful than did their parents. Weinstein WD, 64:7-23.

1845. Research shows that 81% of adult smokers said that if they tried to quit for just a day, they experienced strong cravings for cigarettes. Of these, 95% said that the cravings were stronger than what they had expected when they began to smoke. Fewer adolescent smokers – 46% – reported that they would experience strong cravings if they tried to quit. Among those adolescents who said they experienced such cravings, 85% said that the cravings were stronger than what they had expected when they began to smoke. Thus, people underestimate the addictive power of nicotine when they first become smokers. Weinstein WD, 66:3-69:19.

1846. As for quitting, most smokers give no thought to how long they will smoke when they first begin, apparently believing that quitting is something that can be decided later. By then, addiction can make it extremely difficult to quit. In a large national survey, 24% of youth smokers said they expected to smoke for less than a year, 10% said one to five years, and only 5% said they expected to smoke longer than five years. However, a much larger proportion, 61%, said they had never thought about it. The corresponding figures for adult smokers were: less than one year - 12%, one to five years - 5%, longer than five years - 7%, and never thought about it - 76%. Weinstein WD, 66:3-69:19.

1847. As for adolescents and quitting smoking, the data shows that they agree that it is hard for other smokers to quit, but they believe that they will be able to quit more easily than other smokers. In one study, 96% of the teen respondents believed that it is “hard,” “very hard,” or “almost impossible” for a half-pack-a-day smoker to quit, and 96% agreed that the longer you

smoke the more difficult it is to quit. However, 43% of the teen smokers in the survey reported that they, personally, would find it easy to quit and never smoke again, and a mere 16% said it would be either "very hard" or "almost impossible" for them. Teenagers' reluctance to give up this reassuring illusion is demonstrated by the finding that, even among teens who had already made a serious quit attempt and failed, 32% still said it would be easy for them to quit. Weinstein WD, 66:3-69:19.

1848. The Annenberg study asked smokers who said that they planned to try to quit in the next year, "If we called you again in a year, would you guess you would have successfully quit smoking?" A very high 83% of youths and 78% of adults said they expected to succeed in their quit attempt. The reality, however, is that only 28% of teenage quitters manage to quit smoking for a year, and only 7% of adults smokers who try to quit are able to remain cigarette free for a year. Weinstein WD, 66:3-69:19.

1849. In another study, smokers who were planning to quit in the next year, and who had tried and failed in the past, were asked about their next quit attempt. From this group, 88% of youths and 64% of adults said that they would be nonsmokers a year later. Even among those who stated that quitting was very hard or almost impossible for others, 83% of youths and 57% of adults predicted their own success. Weinstein WD, 66:3-69:19.

1850. Finally, in the University of Michigan's Monitoring the Future survey, high school seniors were asked, "Do you think you will be smoking cigarettes 5 years from now?" These same seniors were contacted 5 years later. The results showed that both light smokers and heavy smokers overestimated the likelihood that they would have quit. Of seniors who smoked less than one cigarette per day, approximately 85% stated that they probably or definitely would not still be smoking after 5 years. When the same group was polled five years later, 58% were still

smoking. Almost one third of seniors who smoked a pack a day thought that they, too, would quit within five years. But, only 13% actually quit. Weinstein WD, 66:3-69:19.

1851. As a general concept, smokers and nonsmokers agree that quitting is difficult. Nevertheless, teenage and adult smokers greatly overestimate the likelihood that their own quit attempts will succeed. In fact, nearly half of teenage smokers say that quitting will be easy for them. Furthermore, the evidence indicates that people fail to consider the difficulty of quitting when they start to smoke and do not recognize how strong the cravings produced by addiction can be. What this research demonstrates is that people have insufficient understanding of the difficulties of avoiding the harms of smoking to make an informed decision about beginning to smoke. Weinstein WD, 66:3-69:19.

(b) Within the Tobacco Industry and Among These Defendants, Internal Documents and Statements by Defendants Establish That Each Defendant Well Knew That Smoking and Nicotine Are Addictive

1852. The chronicle of documentary evidence in this section reveals that for decades Defendants knew and internally acknowledged that nicotine is an addictive drug, cigarettes are a nicotine delivery device, and that addiction can be enhanced and perpetuated through manipulating both nicotine and nicotine delivery. Much of Defendants' wealth of nicotine knowledge was procured via in-house and industry-funded research into the pharmacological effects of the drug. This knowledge rendered their public statements over this same period of time on the subjects of addiction and nicotine false, deceptive, and fraudulent when made.

1853. For example, internal documents reveal that Philip Morris researchers knew that nicotine was "a powerful pharmacological agent" and that the company operated on the "premise that the primary motivation for smoking is to obtain the pharmacological effect of nicotine." 1003033413-3417 at 3413 (US 20143) (O); 1003287836-7848 at 7837 (US 22848) (A). RJR's

lead nicotine researcher stated that nicotine is the "sine qua non of smoking" and that the industry was based on the sale of "attractive dosage forms of nicotine." 500915683-5691 at 5684-5685 (US 20659) (A). BATCo's sophisticated research from the early 1960s demonstrated that "smokers are nicotine addicts." 301083862-3865 at 3863 (US 20577) (A). B&W, BATCo's subsidiary, had the BATCo data, and marketed cigarettes with the understanding that they "must provide the appropriate levels of nicotine." 501011512-1515 at 1513 (US 85309) (O). Lorillard researchers accepted the scientific consensus in the 1970s that "the most probable reason for the addictive properties of the smoke is the nicotine." 82396938-6939 (US 22012) (A). Liggett, like its larger cigarette manufacturer counterparts, was actively seeking ways to manipulate the nicotine delivery to smokers. LG0262125-2126 (US 59994) (O).

1854. Defendants claim that they defrauded no one because the federal government never officially said nicotine was "addictive" until the 1988 Surgeon General's Report. This is not relevant. Defendants' own knowledge and acceptance is what made their public statements fraudulent. Moreover, had Defendants come forward and disclosed their physiological and behavioral research on nicotine, the Government and other medical authorities would likely have placed nicotine in the addiction/dependence category decades earlier. Henningfield WD, 87:19-103:13.

1855. Defendants have studied nicotine and its effects since the 1950s, and the documents describing their examination and knowledge of nicotine's pharmacological effects on smokers – whether they characterized that effect as "addictive," "dependence" producing or "habituating," –demonstrate unequivocally that Defendants understood the central role nicotine plays in keeping smokers smoking, and thus its critical importance to the success of their industry.

1856. Additional internal records demonstrate that Defendants knew that cigarette smoking and tobacco generally was the vehicle for delivering nicotine, which was the critical component in maintaining the addiction (sometimes referred to as "satisfaction") necessary to sustain and enhance their profits. Indeed, Defendants purposefully designed and sold products that delivered a pharmacologically effective dose of nicotine in order to create and sustain nicotine addiction in smokers. Henningfield WD, 87:19-103:13.

1857. Other documents demonstrate Defendants' understanding and acceptance of nicotine's role in maintaining cigarette smoking by showing their recognition that smokers adjust their smoking behavior in order to obtain their necessary nicotine intake. This behavioral adaptation of smokers is known as "compensation," or "titration," a concept Defendants have been well aware of for many years. Henningfield WD, 49:14-55:5.

1858. As evidenced by these documents, Defendants understood that their cigarettes did produce powerful pharmacological effects on the user, that nicotine was the principal agent responsible for these effects, and that to have a chance at success in the marketplace, a cigarette had to be able to deliver enough nicotine to trigger the desired physiological effects.

1859. These industry documents also support the conclusion that Defendants knew early on in their research that if a cigarette did not deliver a certain amount of nicotine, new smokers would not become addicted, and "confirmed" smokers would quit.

1860. Defendants recognized that while genuinely low-yield cigarettes could lead smokers away from smoking altogether because they would lack sufficient levels of nicotine to keep smokers addicted to cigarettes, smokers were nonetheless concerned about their exposure to tar and nicotine. Henningfield WD, 35:16-36:16.

1861. To address smokers' concerns and to avoid losing consumers from the

marketplace, Defendants took advantage of the Federal Trade Commission ("FTC") testing system by designing purportedly low-yielding cigarettes to register low FTC tar and nicotine yield values that would be acceptable to cigarette smokers while at the same time facilitating the efforts of smokers to get their desired levels of nicotine. That is, the cigarettes were designed to make it easy for consumers to obtain higher tar and nicotine yields than those obtained using the FTC testing method. Id., 47:11-68:4.

1862. Defendants also collectively concealed their knowledge and understanding of nicotine because they wished to avoid liability for diseases caused by their products and to avoid FDA regulation of their products.

1863. The following statements demonstrate Defendants' vast scope of knowledge regarding nicotine's addictive effects on smokers since the 1950s, their use of that information to maintain and increase the sale of cigarettes, and their decades-long efforts both to deny the truth and to conceal internal research.

(i) Philip Morris

1864. Internal documents show Philip Morris's extensive history of conducting nicotine research, acknowledging addiction, and exploiting nicotine for commercial advantage.

1865. In a September 22, 1959 memorandum, Philip Morris's Vice President for Research and Development, Hugh Wakeham, emphasized the importance of nicotine, stating: "One of the main reasons people smoke is to experience the physiological effects of nicotine on the human system." 10005039423-9424 (US 21657) (A).

1866. In a November 15, 1961 presentation, Mr. Wakeham addressed the company's ability to control the nicotine content of its cigarettes. He stated that "low nicotine does stimulate, but high doses depress functions," and "continued usage develops tolerance." Wakeham further

stated that: "Even though nicotine is believed essential to cigarette acceptability, a reduction in level may be desirable for medical reasons." 1000277423-7447 at 7438, 7441 (US 20088) (A).

1867. On March 5, 1964, William L. Dunn, a Philip Morris scientist/psychologist who later became the Principal Scientist for the company, commented at length on the possibility of developing a "surrogate" for cigarettes based on the importance of nicotine. He wrote:

> The pharmacological need [for cigarettes] is readily definable. The smoker seeks the subjective state that results from the introduction of nicotine into the bloodstream. There are some specifiable, some not specifiable changes in the physiological state accruing from the presence of nicotine. . . . There are undoubtedly other physiological reactions which are responsible for the sense of euphoria, or well-being, that the novice smoker experiences in the exaggerated form of dizziness. Without belaboring a most complex and little understood set of phenomena, suffice it to say that it is this subjective state which is sought by the smoker as he lights up.

1003700128-0133 at 0129 (US 20177) (A).

1868. In the same document, Dunn also stated that any less hazardous cigarette product developed by Philip Morris "must induce the psychopharmacological state now induced by nicotine absorption into the bloodstream." 1003700128-0133 at 0132 (US 20177) (A).

1869. A handwritten summary by Philip Morris researcher Ronald Tamol of a February 1, 1965 brand development meeting/presentation recorded the conclusion that the cigarette manufacturer who could come up with a "flavorful" low tar cigarette with "enough nicotine to keep smokers hooked . . . will reap huge benefits." 0002862-2867 at 2867 (US 88761) (O).

1870. In a June 1966 report entitled "Market Potential of a Health Cigarette," Philip Morris researchers Dunn and Myron Johnston stated that without nicotine, a health cigarette would not sell: "[A]ny health cigarette must compromise between health implications on the one hand and flavor and nicotine on the other. . . . Flavor and nicotine are both necessary to sell a

cigarette. A cigarette that does not deliver nicotine cannot satisfy the habituated smoker and cannot lead to habituation, and therefore would almost certainly fail." 1001913853-3878 at 3860 (US 20123) (A).

1871. With this understanding in the mid-1960s and armed with the knowledge of nicotine's addictiveness, Philip Morris was already manipulating the pH of tobacco to enhance the psychoactive effects of nicotine on the brain. In fact, RJR was able to verify that Philip Morris had been increasing the nicotine "strength" of its Marlboro brand by increasing its pH since 1964. 500606138-6153 (US 48334) (O); 509314122-4154 (US 51456) (O).

1872. In a May 7, 1968 Philip Morris memorandum entitled "TPN Intake by Smokers," Dunn wrote that "since there is evidence that the smoker adapts his puff, it is reasonable to anticipate that he adapts to maintain a fairly constant daily dosage." This document demonstrates that Philip Morris has known for over 35 years that smokers would "compensate" in order to maintain a constant intake, or dosage, of nicotine. 1003293548-3555 (US 35743) (O).

1873. Philip Morris was well aware that nicotine shared many attributes of an addictive drug. In a February 19, 1969 memorandum from Dunn to Wakeham, Dunn cautioned that nicotine was a drug with FDA implications. He also discussed the "dual action" of nicotine as a drug with pharmacological "stimulant-tranquilizer" effects that caused a "pleasant state of dizziness so clearly experienced by the beginning smoker and by the habituated smoker following abstention." 1003289921-9922 at 9921 (US 20167) (A).

1874. In a Fall 1969 draft of the annual report entitled "Why One Smokes," and presented to the Philip Morris Board, Wakeham emphasized the role of nicotine in smoking. He flatly stated:

> We share the conviction with others that it is the pharmacological effect of inhaled smoke which mediates the smoking habit. . . .

> We have then as our first premise, that **the primary motivation for smoking is to obtain the pharmacological effect of nicotine.**
>
> In the past we at R & D have said that we're not in the cigarette business, we're in the smoke business. It might be more pointed to observe that the cigarette is the vehicle of smoke, smoke is the vehicle of nicotine, and nicotine is the agent of a pleasurable body response.
>
> This primary incentive to smoking gets obscured by the overlay secondary incentives, which have been superimposed upon the habit. Psychoanalysts have speculated about the importance of the sucking behavior, describing it as oral regression. Psychologists have proposed that the smoker is projecting and ego-image with puffing and his halo of smoke. One frequently hears "I have to have something to do with my hands" as a reason. **All are perhaps operative motives, but we hold that none are adequate to sustain the habit in the absence of nicotine.**
>
> We are not suggesting that the effect of nicotine is responsible for the initiation of the habit. To the contrary. The first cigarette is a noxious experience to the noviate. To account for the fact that the beginning smoker will tolerate the unpleasantness, we must invoke a psychosocial motive. Smoking for the beginner is a symbolic act. The smoker is telling the world, "This is the kind of person I am. . . . "
>
> As the force from the psychosocial symbolism subsides, the pharmacological effect takes over to sustain the habit . . . .

1003287836-7848 at 7837-7839 (US 22848) (A) (emphasis added).

1875. Wakeham stated further in the same report that the purpose of Philip Morris smoking psychology research was to "discover ways to exploit the benefits of smoking to the advantage and profitability of our major company business." 1003287836-7848 (US 22848) (A).

1876. In the final version of Wakeham's presentation, dated November 26, 1969, he largely restated material from the draft quoted above. In summarizing nicotine's dual effect as stimulant and depressant, Wakeham stated that smoking maintenance depended solely on the pharmacological effects on smokers:

> We are of the conviction, in view of the foregoing, that the ultimate explanation for the perpetuated cigaret habit resides in the pharmacological effect of smoke upon the body of the smoker, the effect being most rewarding to the individual under stress.

1000273741-3771 at 3752 (US 26080) (A).

1877. Philip Morris also produced a February 16, 1970 Research and Development report entitled "Some Methods Notes on the Past Research on Cigarette Smoker Motivation" in which the author acknowledged that the smoking "pattern is strongly resistant to extinction." Later in the report, the author referred to the "puffing act" as an "injection of nicotine." 1003287849-7856 at 7849, 7853-7854 (US 85246) (O).

1878. Philip Morris's awareness of nicotine as the crucial ingredient in cigarettes was also made plain in a November 1, 1971 research report authored by Thomas Schori and approved by Dunn. The report accepted a 1943 scientific study's results which suggested that a habitual smoker continues to smoke because of the pharmacological effects of nicotine in the cigarettes. 1000350158-0188 (US 20176) (A).

1879. Notwithstanding its longtime public denials that smoking cessation induces withdrawal – one of the classic hallmarks of addiction – Philip Morris knew the extreme difficulty of quitting and the physical and mental effects of cessation attempts on the smoker. Scientists Dunn and Frank Ryan described some of the withdrawal effects of nicotine in a 1971 study on cessation in the following colorful terms:

> Even after eight months quitters were apt to report having neurotic symptoms, such as feeling depressed, being restless and tense, being ill-tempered, having a loss of energy, being apt to doze off. They were further troubled by constipation and weight gains which averaged about five pounds per quitter . . . This is not the happy picture painted by the Cancer Society's anti-smoking commercial which shows an exuberant couple leaping into the air and kicking their heels with joy because they have kicked the habit. A more appropriate commercial would show a restless, nervous,

> constipated husband bickering viciously with his bitchy wife who is nagging him about his slothful behavior and growing waistline.

1000348671-8751 at 8676, 8708 (US 20097) (O).

1880. With respect to the phenomenon of nicotine "compensation," Schori and Dunn wrote in a January 1972 Report entitled "Tar, Nicotine, and Cigarette Consumption" that their research:

> supports the notion that smokers develop a daily nicotine intake quota and that when smoking cigarettes differing in nicotine delivery from that to which they are accustomed they tend to modify their consumption rate in order to maintain their normal quota. No support was found for the analogous notion of a daily tar intake quota, however.

1003285403-5416 at 5403 (US 20159) (A).

1881. In a 1972 "Confidential" research report entitled "Motives and Incentives in Cigarette Smoking," Dunn asserted that people smoke in order "to obtain nicotine," and that nicotine "is the industry's product," adding that "without nicotine, the argument goes, there would be no smoking." In the "Confidential" report, Dunn summarized a 1972 CTR-sponsored conference held on the Caribbean island of St. Martin. He wrote:

> The majority of the conferees would go even further and accept the proposition that nicotine is the active constituent of cigarette smoke.
> Without nicotine, the argument goes, there would be no smoking.
> Some strong evidence marshaled to support this argument:
>
> 1) No one has ever become a cigarette smoker by smoking cigarettes without nicotine.
>
> 2) Most of the physiological responses to inhaled smoke have been shown to be nicotine-related.

2023193286-3304 at 3289 (US 22967) (A); 503654881-4885 (US 88413) (A); 105394371-4388 (US 88414) (O).

1882. Most graphically, Dunn urged the industry to view the cigarette pack as the "storage container for a day's supply of nicotine," the cigarette as the "dispenser for a dose unit of nicotine," and the puff of smoke as the "vehicle of nicotine":

> The cigarette should be conceived not as a product but as a package. The product is nicotine. The cigarette is but one of many package layers. There is the carton, which contains the pack, which contains the cigarette, which contains the smoke. The smoker must strip off all these package layers to get to that which he seeks. . . .
>
> Think of the cigarette pack as a storage container for a day's supply of nicotine. . .
>
> Think of the cigarette as a dispenser for a dose unit of nicotine: it is readily prepped for dispensing nicotine. . . .
>
> Think of a puff of smoke as the vehicle of nicotine . . . .
>
> Smoke is beyond question the most optimized vehicle of nicotine and the cigarette the most optimized dispenser of smoke.

2023193286-3304 at 3290-3291 (US 22967) (A).

1883. During a presentation of his paper delivered at St. Martin and at the 1972 CORESTA/TCRC Joint Conference, Dunn summarized his conclusions from current research on why people smoke. Dunn wrote that, "It is contended in this paper that nicotine, specially packed, is the cigarette industry's product." Dunn added that, "The smoker takes nicotine into his system in order to obtain the salutory effects of nicotine upon body function." 1001820498-0500 at 0498 (US 26121) (A); 2021423403-3497 at 3484 (US 36743) (A); 89285181-5188 at 5181 (US 23583) (O).

1884. In another version of his paper, Dunn replaces "nicotine" with "cigarette smoke" when describing the "salutory effects" sought by smokers. 2024273959-3975 at 3961 (US 21461) (O).

1885. A March 1973 Philip Morris Research Report entitled "Smoking Behavior: Real World Observations," written by Philip Morris scientists Dunn, Thomas Schori and Janet Duggins, reported that a Philip Morris in-house study had shown that, "the smokers in this study are now smoking cigarettes delivering less tar and nicotine than those they smoked in 1968 and that they are smoking both more rod per cigarette and more cigarettes." This demonstrates that Philip Morris's research continues to confirm the existence of nicotine compensation in the early 1970s. 1000353355-3410 at 3361 (US 35242) (O).

1886. In a presentation to Philip Morris USA President Clifford Goldsmith dated May 8, 1974, Dunn explained how in-house research suggested that smokers titrate or regulate their smoke intake to get what they want out of the smoke. In recommending additional research, Dunn also attributed titration and the hold of cigarettes to more than a mere habit:

> I'm sure you are aware of our belief that people smoke for rewards they get from smoke at the pharmacological level. . . . It's simply not an adequate explanation to say that smoking is a habit, or that it is social behavior. A smoker is introducing something into his system that he wants. Certain components of smoke, most likely nicotine, act upon his system in some undetermined way to give him some undetermined pleasure. If this is true, then we expect the smoker to seek to take in that amount of smoke that does the job best for him. He is going to regulate his intake to suit his need. . . We are hypothesizing that the smoker titrates (regulates) his smoke intake to suit his dosage needs.

100324972-4976 at 4972-4973 (US 85248) (O).

1887. Research conducted at the Philip Morris Research Laboratory in June 1974 using high nicotine and low nicotine cigarettes "showed the existence of a definite compensation mechanism" among smokers. According to the report, entitled "Human Smoking Habits," these findings were consistent with:

> evidence in literature that the nicotine of cigarette smoke exerts a distinct pharmacological effect on the smoker which reinforces the

> smoking behavior. **The smoker doses himself with nicotine according to his personal needs** which depend on the level of arousal, external stress, his personality and, possibly, a number of other factors.

1001812883-2903 (US 85249) (O) (emphasis added).

1888. In an undated handwritten memo, likely penned in the 1970s, Dunn voices his surprise that the industry could not fully separate nicotine from tar, given what the company knew of nicotine at that time:

> It is also remarkable that nicotine delivery has not been liberated from tar delivery, particularly in view of the importance of nicotine as the significant, if not the primary gratification component of the smoke. This is not to say that the task is simple: it is not simple. Consider the ways currently available for altering the nicotine delivery level, with accompanying reasons why these ways do not readily permit independent nicotine variation.

1003285420-5424 at 5420 (US 85250) (O); 2021423403-3497 at 3464 (US 36743) (A).

1889. Dunn then listed the methods at Philip Morris's disposal to manipulate nicotine delivery in its products, including air dilution, filtration, nicotine extraction/addition, leaf selection, and base additives to increase pH. 1003285420-5424 at 5421-5422 (US 85250) (O).

1890. RJR studied Philip Morris's efforts to deliver nicotine to smokers and concluded that "Philip Morris has been closely controlling the pH level of its products for several years, and appears to place emphasis on maintaining a high level of 'free nicotine,' the nicotine actually available to the smoker." 503940669-0672 at 0669 (US 50541) (O).

1891. In March 1975, Helmut Wakeham proposed an industry scientific conference on "The Regulatory Influence of Smoking Upon Human Behavior" to discuss research ideas into the effects of stimulant and calming effects of smoking on the smoker. LWODJ9056332-6332 (US 87072*) (O); LWODJ9056318-6323 (US 87071) (O).

1892. Philip Morris knew that nicotine delivery translated not only into addiction among

"seasoned" smokers, but into bottom line sales. In a May 14, 1975 report evaluating the relationship between a steep short-term decline in sales of Marlboro to a concurrent decline in nicotine, Dunn wrote:

> Nicotine has been singled out for attention because many investigators of smoking behavior, including some P.M. R&D people, have contended that the seasoned cigarette smoker smokes for the nicotine in the smoke. In view of that contention, the question has been raised as to whether the declining nicotine delivery values reported for Marlboro Red could be responsible for the declining sales increment.

0000024914-4920 (US 26072) (A).

1893. In a September 8, 1975 letter to Philip Morris-funded researcher Stanley Schachter, a psychology professor at Columbia University, Dunn discussed a reduction in nicotine in Marlboro cigarettes and acknowledged the existence of smoker's compensation to obtain more nicotine, which he referred to as "the goodies":

> Thus to accommodate to the 15% reduction in available Marlboro nicotine, the smoker who was getting 50% of the available nicotine into his blood from the Marlboro delivering 1.3 mg of nicotine into a smoking machine and now must get 59% of what the current Marlboro offers him. He can take bigger puffs, or inhale more from the supply drawn into the mouth (we have varying quantities of residual smoke in the mouth at the end of an inhalation) or for more efficient extraction of the goodies, he can draw it in deeper or hold it in longer.

1000738509-8510 at 8510 (US 85251) (O).

1894. Schachter was a Philip Morris-funded researcher for many years. However, his studies of nicotine and human behavior led him to conclude eventually that smoking was indeed addictive. He reported to Philip Morris in 1977 that, "We propose instead that virtually all long-time smokers, heavy or light, are addicted and suggest that many, perhaps all, exceptions to the addiction model can be understood in terms of such notions as self-control, concern with health,

restraints, etc." 1003291155-1191 at 1189 (US 87074) (O); 1003291151-1153 (US 87075) (O).

1895. An October 1, 1975 Philip Morris research memorandum entitled "Smoke Impact, Part I: Cigarette Smoking and Heart Rate" stated that: "Nicotine is the main determinant for sustaining the smoking habit" and "there is an optimal dose of nicotine, too little or too much is rejected by tobacco smokers." 1003294245-4261 at 4246 (US 20170) (A).

1896. In approximately 1976, Philip Morris researcher Frank Ryan explained why people smoke in terms of habit versus need. In Ryan's view, the habit of smoking was very distinct from a smoker's need for nicotine. In a November 11, 1977 memorandum entitled "Smoker Psychology," Ryan described nicotine intake as the "critical mainstay of tobacco consumption," and provided the following background for research to be carried out at Virginia Commonwealth University:

> Many of [a smoker's] cigarettes will be smoked out of habit (i.e., will be conditioned responses triggered by external cues) rather than out of any nicotine need (i.e., will be conditioned responses triggered by internal cues). All these cigarettes contribute to the total nicotine in the system, so that **a cigarette smoked out of habit will delay the time until a cigarette is smoked out of need**.

1003287995-7995 (US 35702) (O) (emphasis added).

1897. In a March 1, 1977 memorandum, Philip Morris-funded researcher Stanley Schachter described a smoker as an "addict" who smokes to maintain his nicotine levels:

> To the extent that [he is] an addict, he is probably smoking to keep nicotine or one of its active metabolites at some optimal level. If, then, the heavy smoker does switch to low nicotine brands, he may very well end up smoking more cigarettes and taking more puffs of each.

1003724353-4387 at 4353 (US 21887) (O).

1898. In a November 29, 1977 memorandum, Philip Morris Director of Science and

Technology, Thomas Osdene, discussed his concerns about statements made by a CTR staff member who had acknowledged that "Opiates and nicotine may be similar in action," "We accept the fact that nicotine is habituating," and "There is a relationship between nicotine and the opiates." 1005045000-5000 (US 20194) (O).

1899. In a December 19, 1977 interoffice memorandum sent to Osdene and entitled "Behavioral Research Accomplishments - 1977," Dunn acknowledged the importance of nicotine for the smoker, when he listed as one of Philip Morris's 1977 successes the fact that the company had "shown that [it] can distinguish between regulator and nonregulator smokers and that after being deprived, the regulators do indeed try to make up for lost intake." "Regulators" were defined as smokers who "smoke for nicotine." 1003293322-3330 at 3322, 3324-3325 (US 35741) (O).

1900. From approximately 1977 to 1981, Philip Morris carried out internal nicotine behavioral research establishing that nicotine functioned as a positive reinforcer of smoking. This research, conducted by Dr. Victor DeNoble and others, demonstrated that both nicotine and acetaldehyde in cigarette smoke were positive reinforcers and that animals self-administered nicotine to obtain its effects. 1003293284-3293 (US 85252) (O); 1002973585-3614 (US 35632*) (A).

1901. Aware of nicotine's importance to the company and the industry, Osdene voiced concerns at a meeting with the scientific director of CTR in New York on January 5, 1978. Philip Morris had sent Osdene and Seligman to CTR to discuss several contract research programs, one of which concerned nicotine antagonists (as opposed to nicotine analogs). Seligman's comments revealed the importance of nicotine to the future of cigarette manufacturing. According to Osdene's memorandum of the meeting:

> Dr. Seligman brought up the grant by Dr. Abood in which one of the stated aims was to make a clinically acceptable antagonist to nicotine. This goal would have the potential of putting the tobacco manufacturers out of business.

1000286213-6214 at 6213 (US 35204) (O).

1902. A December 1, 1978 Philip Morris report by researcher James L. Charles entitled "The Nicotine Program" stated that "[n]icotine, a powerful pharmacological agent with multiple sites of action, is the most important component of cigarette smoke" and that "[n]icotine and an understanding of its properties are important to the continued well-being of our cigarette business." 1003033413-3417 at 3413 (US 20143) (O); 2022954924-4929 at 4925 (US 85253*) (O).

1903. The ongoing "Nicotine Program" described in the 1978 report was carried out by Philip Morris well into the 1980s. This major research initiative studied nicotine's effects on the central and peripheral nervous systems, nicotine analogs, and "behavioral effects" of nicotine. 1003033413-3417 (US 20143) (O); 1003289974-9975 (US 21553) (A); 1000125871-5872 (US 34273) (A); 1000127789-7790 (US 34422) (A); 2022150943-0951 (US 85254) (A).

1904. A January 10, 1978 memorandum authored by Thomas Osdene summarized a meeting held at CTR offices in New York and was sent to a number of Philip Morris executives and employees, including President Clifford Goldsmith. Osdene mentioned a grant that had been awarded, apparently to an outside scientist, to create an antagonist to nicotine, i.e., a compound that would block nicotine's effects. Osdene responded to this area of study by stating, "This goal would have the potential of putting the tobacco manufacturers out of business." 1000041904-1905 (US 35103) (A).

1905. In a March 1978 report entitled "Exit-Brand Cigarettes: A Study of Ex-Smokers," scientist Frank J. Ryan of the Philip Morris Research Center in Richmond again flatly admitted

Philip Morris's substantial understanding of the role of nicotine in tobacco use at that time: "We think that most smokers can be considered nicotine seekers, for the pharmacological effect of nicotine is one of the rewards that come from smoking. When the smoker quits, he foregoes his accustomed nicotine. The change is very noticeable, he misses the reward, and so he returns to smoking." 1000368057-8080 at 8060 (US 20098*) (A).

1906. In the same March 1978 report, Ryan stated that, "If the industry's introduction of acceptable low-nicotine products does make it easier for dedicated smokers to quit, then the wisdom of the introduction is open to debate." 1000368057-8080 at 8060 (US 20098*) (A) (emphasis in original).

1907. Wakeham, having apparently read a review of the Philip Morris Nicotine Program by Dunn, wrote a memorandum of concern to Seligman dated February 22, 1979. While Wakeham disagreed with the primary focus of the program on nicotine, he admitted that, "I do not deny that many smokers maintain the habit for psychopharmacological reasons." 1003293238-3239 at 3238 (US 26150) (O).

1908. In a February 3, 1979 letter to Philip Morris President and CEO Hugh Cullman entitled "The Slow Motion Self-Suicide of the Tobacco Industry," D. Todorovic, a retired Philip Morris International researcher, stressed the negative impact of "cigarette substitutes" on conventional cigarette sales and recommended against their development:

> It is obvious that such a tremendous sales gain of 'cigarette substitutes' is done at the expense of normal, conventional cigarettes, and there lies all the danger in the near future for the very survival of [the] Tobacco Industry, because these 'cigarette substitutes' are unable to make smokers addicts to tobacco. The present smokers of 'cigarette substitutes' are the future smoker quitters.

2010064696-4699 at 4697 (US 20303) (O).

1909. Given the company's understanding of the importance of nicotine in maintaining smoking addiction, and thus its profits from cigarette sales, this anti-"cigarette substitute" sentiment was prevalent at Philip Morris. Ian Uydess, a Philip Morris scientist from 1977 until 1989, commented that Philip Morris knew that a cause and effect relationship existed between market performance and nicotine delivery levels. The document also makes clear that nicotine was distinct from taste:

> This belief . . . was reflected in many of the comments made at a number of internal meetings at which zero and "ultra low" delivery products were being discussed. Some scientists even predicted that products made with "no" or "too low" a level of nicotine would probably fail in test markets, "no matter what they tasted like."

521102262-2286 (US 30497) (O).

1910. Clearly nicotine was not a necessary component of cigarettes for its taste. Indeed, Philip Morris scientists understood very well that as far as "taste" was concerned, nicotine had an "acrid burning taste" standing alone. 2060537042-7045 (US 87077) (O).

1911. In a March 21, 1980 memorandum to Seligman, Dunn described in detail the Philip Morris-directed "Nicotine Receptor Program," a research initiative whose aim was the "understanding [of] the specific action of nicotine which causes the smoker to repeatedly introduce nicotine into his body." However, Dunn stated cautiously that, "Any action on our part, such as research on the psychopharmacology of nicotine, which implicitly or explicitly treats nicotine as a drug, could well be viewed as a tacit acknowledgment that nicotine is a drug." 0000127789-7790 at 7789 (US 21794) (A); 2022249518-9518 at 9518 (US 35152) (O); 1000127789-7790 (US 34422) (A).

1912. Dr. Dunn also revealed the concerns of the industry's attorneys regarding the issue of nicotine:

> The psychopharmacology of nicotine is a highly vexatious topic. It is where the action is for those doing fundamental research on smoking, and from where most likely will come significant scientific developments profoundly influencing the industry. Yet it is where our attorneys least want us to be, for two reasons. It is important to have these two reasons expressed and distinguished from one another. The first reason is the oldest and most implicit in the legal strategy employed over the years in defending corporations within the industry from the claims of heirs and estates of deceased smokers: "We within the industry are ignorant of any relationships between smoking and disease. Within our laboratories no work is being conducted on biological systems." That posture has moderated considerably as our attorneys have come to acknowledge that the original carte blanche avoidance of all biological research is not required in order to plead ignorance about any pathological relationship between smoke and smoker.

1000127789-7790 (US 34422) (A).

1913. These excerpts support the opinions of United States expert Dr. Jeffrey Harris that Defendants denied that cigarette smoking and nicotine were addictive because they feared FDA regulation and/or smokers' lawsuits against the manufacturers. Harris WD, 217-15-23.

1914. Dunn pointed out to Seligman that "the acute, transient, short-lived effects of nicotine upon a physiological system" were the "effect sought by the smoker." In the attachment to his memo, Dunn summed up the relationship between his company and nicotine as follows: "PM sells cigarettes. Cigarettes deliver nicotine." 0000127789-7790 at 7789 (US 21794) (A); 1000127791-7792 (US 34422) (A); 2022249518-9518 at 9518 (US 35152) (O).

1915. Dunn's memorandum to Seligman was preceded by that of another Philip Morris scientist, James L. Charles, who also provided Seligman an assessment of the "Nicotine Receptor Program" on March 18, 1980. Charles opened his memorandum with the following observations:

> Nicotine is a powerful pharmacological agent with multiple sites of action and may be the most important component of cigarette smoke. Nicotine and an understanding of its properties are

> important to the continued well-being of our cigarette business since this alkaloid has been cited often as "the reason for smoking" and theories have been advanced for "nicotine titration" by the smoker.

100328974-8975 at 8974 (US 87078) (O).

1916. Charles had made similar observations about nicotine in an earlier memorandum outlining the Philip Morris Nicotine Program dated December 1, 1978. He stated that his views had not changed in the intervening years. 1003033413-3417 (US 20143) (O).

1917. Dunn wrote another memorandum dated March 24, 1980 to Seligman relating to a parallel effort at Philip Morris to create cigarettes with even higher nicotine to tar ratios, given his belief that smokers smoked only for nicotine. He wrote:

> If even only some smokers smoke for the nicotine effect (I personally believe most regular smokers do) then in today's climate we would do well to have a low TPM [total particulate matter, or tar] and CO [carbon monoxide] delivering cigarette than can supply adequate nicotine.

1003285586-5586 (US 22029) (A).

1918. Dunn wrote a memorandum to Osdene dated June 2, 1980, in which he stated that the Behavioral Research Lab was conducting "particularly exciting and promising" tests demonstrating "self-administration of nicotine by rats." 1000017375-7375 (US 85258) (O).

1919. In an August 12, 1980 memorandum to the Vice President of Research and company directors, Thomas Osdene ranked nicotine research - and specifically the Philip Morris Nicotine Program - as one of the company's top Research and Development priorities because "the thing we sell most is nicotine":

> Nicotine Program. This program includes both behavioral effects as well as chemical investigation. My reason for this high priority is that I believe the thing we sell most is nicotine.

1003030124-0125 at 0124 (US 26132) (O).

1920. Philip Morris's nicotine research included studies beginning before 1980 and continuing until 1984 to develop nicotine analogs as part of a purposeful effort to find a nicotine-equivalent drug that would retain nicotine's effects on the brain without nicotine's known adverse cardiovascular effects. DeNoble WD, 5:7-11; 7:8-13; 1003033413-3417 (US 20143) (O); 1003289974-9975 (US 21553) (A); 1000127789-7790 (US 34422) (A); 2022150943-0951 (US 85254) (A); 2020154437-4437 (US 85266) (A). This was the same goal of nicotine analog research by BATCo that began in the early 1960s, described infra.

1921. The premise of the research was that "people smoke primarily because of nicotine's rewarding effects on the brain." This research could then, in theory, assist Philip Morris in removing nicotine from tobacco, substituting the analog that lacked nicotine's cardiovascular effects, and thus produce a "safer" cigarette that still possessed nicotine's reinforcing effects on the smoker. DeNoble WD, 8:10-13; 9:13-16. As Dr. Farone testified, this was the second part of a "two-step process" of internal research, neither of which was pursued by Philip Morris to commercialization for reasons unrelated to the merits of the research. See, Farone TT, 10/7/04, 2023:10-17.

1922. As Paul Mele, a Philip Morris scientist who performed nicotine-related rat research in Philip Morris's behavioral pharmacology lab from 1981-1984, stated in unchallenged testimony in this case, the work he personally conducted demonstrated "tolerance" to nicotine, or diminished effects of nicotine after repeated exposure to the drug. A quarterly report by Dunn and a progress report by DeNoble, both from 1980, illustrate tolerance in rats given intraventricular injections of nicotine in the Philip Morris labs. Mele WD, 11:6-15:4; See also, DeNoble WD, 27:1-28:13; 1003293104-3106 (US 85259) (O).

1923. In fact, Dr. DeNoble's research was able to demonstrate that rats would self-

administer nicotine intravenously in an effort to obtain their necessary levels of nicotine. DeNoble WD, 16:7-20:2; Mele WD 6:21-7:10. Intravenous self-administration by animals is a hallmark of drugs of abuse. Henningfield WD, 133:18-134:5; DeNoble WD, 17:1-4, 19:22-20:2.

1924. Philip Morris shared its extensive nicotine and smoking behavior knowledge with BATCo. According to an October 12, 1979 "RESTRICTED" report from BATCo scientist L.C.F. Blackman, he accepted Philip Morris's invitation to visit the Philip Morris Research Center, and was briefed by scientists Osdene, Seligman, and Levy on the company's work, including the development of nicotine alternatives, nicotine discrimination studies, and EEG research. 109877492-7499 (US 87079*) (O).

1925. With respect to tolerance, a March 16, 1983 memorandum from Dr. Charles to Dr. Osdene stated that, "We can successfully defend the absence of withdrawal under controlled experiments, but we cannot defend tolerance. Tolerance to nicotine is a well-established fact." 1005061346-1346 (US 20199) (A); 2022252680-2680 (US 36873) (A).

1926. Philip Morris's sales director in the United Kingdom, George Mackin, wrote an article for a British tobacconist magazine dated December 4, 1981, in which he admitted that cigarettes were addictive and that smokers developed tolerance. Mackin wrote that cigarettes were important to overall sales British convenience stores because:

> **Cigarettes are not just habit forming - the body builds up a requirement for them.** Twenty million smokers cannot do without their weed. Take the example of a man going to work in the morning. It's pouring with rain. There are six cars already parked outside the shop. So, there are at least 90 yards to walk back. Would he stop for a newspaper? Would he get out for a Kit Kat?
>
> The answer is probably No, but he would stop for his fags, **because he is addicted to cigarettes.** And while he is buying a pack, he takes a morning paper and a Kit Kat.

2501013567-3568 (US 27920) (O) (emphasis added); 504336658-6658 (US 85261) (O).

1927. The Mackin article caused a stir among several cigarette manufacturers, as well as Shook, Hardy & Bacon, when news of his statements became known. However, none of the lawyers who commented on the article disagreed with it. For example, one Philip Morris attorney in Switzerland noted that the Mackin's admissions were only "very unfortunate" and "could cause a lot of problems for US." Another attorney wrote more to the point that "**in the product liability context these concepts are important, particularly as regards issues of risk assumption.**" 024950721-0721 (US 20404) (O) (emphasis added); 2501013567-3568 (US 27920) (O); 2024950723-0723 (US 37175) (O); 501626662-6662 (US 85264) (O).

1928. In 1982 and 1983, Philip Morris conducted a study on high school students that not only showed an "encouraging upward trend in smoking" but also a link between cigarette smoking and the use of amphetamines. In his report dated February 18, 1983, Philip Morris's Byron Johnston tied cigarette smoking to drug use :

> The third chart shows the percent who used stimulants (amphetamines) or smoked marijuana or cigarettes during the past month. What I find intriguing is that marijuana and stimulant use increased as cigarette smoking declined, and that as marijuana use began to decline, the rate of decline in cigarette smoking slowed, and that stimulant use is virtually a mirror image of cigarette usage. **It almost looks as though stimulants and cigarettes are interchangeable to these kids (a notion that has some intuitive validity).** If so, and if stimulant use continues to decline, we should be able to expect smoking prevalence to continue to increase.

1003285174-5178 at 5174 (US 20157) (O) (emphasis added).

1929. Philip Morris knew a significant portion of its customers wanted to quit but could not do so. A March 29, 1985 presentation at a "meeting of top management" was entitled "The Perspective of PM International on Smoking and Health Issues." In this presentation,

management was told that only 5% of smokers would likely vote to assist the industry. This was because: "There are some 50 million smokers today in the U.S. I realize that research tells us that **the majority of smokers wished they did not smoke** and are, therefore, unlikely to be of much help to the industry." 2023268329-8337 at 8331 (US 26784) (A) (emphasis added).

1930. Dr. William Farone, a scientist for Philip Morris from 1976 to 1984 and a United States expert in this case, testified that "Defendants have long understood that cigarettes are addictive and that nicotine is the agent in cigarette smoke primarily responsible for addiction...." Farone WD, 72:10-11; Farone TT, 10/07/04, 1984:19-24.

1931. Farone further testified that "when I was at Philip Morris, there was widespread acceptance internally throughout the company – among executives, scientists, and marketing people – that nicotine was the primary component of tobacco and cigarette smoke responsible for smoker's addiction to smoking." Farone WD, 72:21-73:1.

1932. According to Dr. Farone, he had discussions with other Philip Morris scientists about whether smoking was addictive, and there "was widespread agreement among scientists in R&D that smoking is addictive." Id., 74:10-23.

1933. Not only was there widespread agreement among Philip Morris scientists that smoking was addictive, but among such scientists "there was a widespread conviction that nicotine is the chemical agent delivered by cigarettes that is primarily responsible for addiction to smoking." Farone WD, 75:1-6. This widespread agreement on the addictiveness of smoking came from "both internal and external research, about nicotine and its primary role in keeping people smoking." Id., 75:17-23.

1934. The understanding of the addictiveness of smoking and nicotine's role in addiction was not limited to the Philip Morris scientists. Dr. Farone also participated in discussions with

Philip Morris executives where they "candidly acknowledged smoking's addictiveness." Id., 80:15-81:14.

1935. Philip Morris's intensive internal research on nicotine continued into the 1990s. For example, a May 22, 1990 report stamped "PERSONAL AND CONFIDENTIAL" to scientific director Richard Carchman from company chemists/scientists Frank Gullotta, C.S. Hayes, and B.R. Martin reported on the "Stereospecific Effects of Nicotine and Electrophysiological and Subjective Responses." This research contrasted the physiological effects of two forms of nicotine, "d-nicotine" and "l-nicotine" using human smokers. 2025986606-6612 (US 20421) (O).

1936. Many other Philip Morris documents reveal the company's in-depth knowledge of nicotine and a desire to exploit nicotine's effects on the human body. 2025986350-6401 (US 87080) (A); 1000385483-5522 (US 87311) (O); 1000221722-1726 (US 87081) (O); 1003290519-0531 (US 87082) (O); 1003287880-7890 (US 20163) (O); 2023069596-9604 (US 87083) (O); 1003294165-4180 (US 87084) (O); 2062951465-1477 (US 87312) (O); 1003292806-2811 (US 87086) (O); 1003295309-5310 (US 87087) (A); 1000128672-8672 (US 87088) (O); 2022163557-3560 (US 87089) (O).

1937. A November 8, 1990 Philip Morris memorandum to Research and Development Vice President Cathy Ellis from Frank Gullotta entitled "Raison d'etre" stated: "We have shown that **there are optimal cigarette nicotine deliveries for producing the most favorable physiological and behavioral responses.** Our laboratory has demonstrated that all forms of nicotine are not behaviorally or physiologically equal. This observation is important for evaluating research cigarettes where the addition of nicotine is necessary." 2028813366-3368 at 3366 (US 20430) (A) (emphasis added).

1938. The Philip Morris Nicotine Program was described in detail in a lengthy 1992 review prepared by outside counsel Shook, Hardy & Bacon entitled "Philip Morris Behavioral Research Program." In this review, counsel summarized many aspects of the company program, directed by Dunn, and cited specific documents showing a major internal research initiative that began in 1969 only to end abruptly in 1984. The Shook, Hardy & Bacon report provided the following chronology:

Date	Event
1969	Hutchinson funded
1972	Berntson funded
	Hutchinson funding ceased
1974	Waldbillig funded
1975	Levy hired
1977	Berntson hired as consultant
	Gullotta hired
	Electrophysiology and comparative psychology programs initiated
	Waldbillig funding terminated
1979	Abood funded
1980	DeNoble hired
1981	Egle funded
	Berntson research terminated
1984	Egle funding terminated
	Berntson consultancy lapses
	Abood funding terminated

2021423403-3461 at 3408-3409 (US 36743) (A).

1939. The Shook, Hardy & Bacon document described how Philip Morris Nicotine Program scientists demonstrated tolerance to nicotine, behavioral effects, nervous system effects, and other results consistent with dependence and addiction. 2021423403-3461 at 3440-3443 (US 36743) (A).

1940. The 1992 report also made clear that the program generated results and was still generating data in 1984 related to nicotine receptors, analogs, peripheral nervous system effects, central nervous system effects, effects on animal behavior, and differences between high nicotine

delivery and low nicotine delivery cigarettes. With respect to the reasons why the Nicotine Program was ended in 1984, the report states ominously the following: "For reasons never stated in any internal documents, Philip Morris cancelled the Nicotine Program in spring 1984. The decision to cancel the program may have been the result of outside counsel's legal advice." 2021423403-3461 at 3408 (US 36743) (A).

1941. A similar 1994 Shook, Hardy & Bacon report entitled "Philip Morris Research on Nicotine Pharmacology and Human Smoking Behavior" also reviewed and detailed much of the same Philip Morris nicotine research described above. The report, while at times attempting to place favorable "spin" on company actions, acknowledged many Philip Morris documents and statements consistent with the company's awareness of nicotine addiction. 2046819241-9265 (US 85265*) (O).

1942. For example, the 1994 report summarized DeNoble's research showing that nicotine and acetaldehyde were synergistically reinforcing: "It was DeNoble's experience with acetaldehyde that it condensed in the brain to form Dopamine-like compounds and made the animal somewhat 'euphoric.'" Philip Morris was able to link this noted "euphoric" effect to cigarette sales. In fact, DeNoble and fellow researcher Frank Ryan generated research indicating "that acetaldehyde and nicotine data could be used to predict cigarette sales at a 96% accuracy." 2046819241-9265 at 9249 (US 85265*) (O).

1943. The 1994 report also described how DeNoble was able to demonstrate both "behavioral tolerance" and "metabolic tolerance" to nicotine, other important aspects of addiction. 2046819241-9265 at 9250-9251 (US 85265*) (O).

1944. The report later noted that "additional research on nicotine/acetaldehyde synergism may have shown that cigarettes were in fact addictive." Unfortunately, Philip Morris

terminated DeNoble and ended his research, effectively ending the likelihood of such "additional research." The Shook, Hardy & Bacon lawyers who prepared this report after reviewing their client's documents wrote: "Laboratory Shutdown [CAVEAT: Significance is self-evident.]" 2046819241-9265 at 9254, 9256-9258 (US 85265*) (O).

1945. Dr. DeNoble and Dr. Mele gave unchallenged fact testimony describing the research objectives and projects undertaken by the Philip Morris Behavioral Research Program in the 1970s and 1980s. DeNoble WD; Mele WD. In addition, the planning, findings, and significance of Dr. DeNoble's research in particular are described in numerous Philip Morris documents. 1002973585-3615 (US 35632*) (A); 2056145924-5927 (US 87090) (O); 1003293284-3293 (US 85252) (O); 1003060443-0503 (US 87091) (A); 1003582081-2082 (US 35826) (A); 1002973179-3180 (US 87092) (O); 1001894698-4705 (US 87093) (O); 1000052405-2413 (US 87094) (A); 1000017985-8021 (US 87095) (O); 1003293138-3144 (US 87096) (O); 1000017375 (US 85258) (O); 1003060638-0643 (US 87099) (O); 1003186849-6854 (US 87101) (O); 1000128665-8667 (US 87102) (O); 1000128662-8663 (US 87103) (O); 1000128664-8664 (US 87104) (O); 1000128668-8671 (US 87105) (O); 1003293241-3243 (US 87106) (O); 1003293216-3217 (US 87107) (O); 1000413881-3964 (US 20100) (A); 1003198459-8461 (US 20156) (A); 1003720350-0352 (US 87108) (O); 2047340075-0079 (US 87109) (O); 2022955358-5361 (US 87110) (O); 2022955501-5502 (US 87111) (A); 2057069742-9769 (US 88762) (O).

1946. Philip Morris was conducting secret nicotine and smoking behavior research in Europe during this time frame as well. 1000012310-2346 (US 35065) (O); 1000301691-1720 (US 87112) (O).

1947. Philip Morris Planning Director Barbara Reuter prepared an analysis of the

company's plans to market an alternative nicotine delivery product under the code name "TABLE" in 1993. The 20-page plan, dated October 1992 and stamped "CONFIDENTIAL," stated the following in the "Background" section:

> Different people smoke cigarettes for different reasons. But, **the primary reason is to deliver nicotine into their bodies.** Nicotine is an alkaloid derived from the tobacco plant. It is a physiologically active nitrogen containing substance. **Similar organic chemicals include nicotine, quinine, cocaine, atropine, and morphine**. While each of these substances can be used to affect human physiology, nicotine has a particularly broad range of influence.
>
> During the smoking act, nicotine is inhaled into the lungs in smoke, enters the bloodstream and travels to the brain in about eight to ten seconds. The nicotine alters the state of the smoker by becoming a neurotransmitter and a stimulant. Nicotine mimics the body's most important neurotransmitter, acetylcholine (ACH), which controls heart rate and message sending within the brain. The nicotine is used to change psychological states leading to enhanced mental performance and relaxation. A little nicotine seems to stimulate, while a lot sedates a person. A smoker learns to control the delivery of nicotine through the smoking technique to create the desired mood state. In general, the smoker uses nicotine's control to moderate a mood, arousing attention in boring situations and calming anxiety in tense situations. Smoking enhances the smoker's mental performance and reduces anxiety in a sensorially pleasurable form.

2020154466-4486 at 4467 (US 26722) (A); 2020154437-4437 (US 85266) (A) (emphasis added).

1948. Altria General Counsel Murray Bring acknowledged the addictiveness of smoking in a July 31, 1992 internal memo on PMC letterhead to William Campbell and Bill Murray which discussed recent research on cocaine, and posed these questions from then-PM CEO Michael Miles: "First, how do we stay up to date on the state of smoking cessation technology; second, what effect would a reliable, readily available "habit breaker" have on our business; and third, what – if any – contingency plans should we be making now?" 2074091232-1232 (US

27480) (O).

1949. An October 2, 1992 memorandum from Carolyn Levy to William Campbell reviewed the efficacy of nicotine patches coupled with behavioral therapy to achieve smoking cessation success. Levy stated that the company was almost ready with an alternative nicotine delivery device. She concluded that, "This suggests that at the very least we should have contingency plans for a change in the predominant form of nicotine usage. . . . If these circuits do mediate nicotine intake and they could be blocked, then it is possible that cigarettes' appeal would decline." 2023012974-2975 (US 36943) (A).

1950. Other documents show that during the 1970s and 1980s, researchers at Philip Morris attempted to find an analogue of nicotine, i.e. a substance of similar chemical structure, that had the same effect on the brain but no side effects on the cardiovascular or cerebral systems. 1000403178–3604 at 3237–3238 (US 20099) (O); 2020154437-4437 (US 85266) (A).

1951. Philip Morris filed its first nicotine-analogue patent application in June 1976, stating only that the patented compounds had "utility as intermediates for the production of ultimate compounds of known utility." 2026403670-3673 (US 20426) (O).

1952. In June 1977, the company applied for a second patent on the synthesis of 2-alkyl nicotinoids, stating only that ". . . the synthesis of ortho-alkylated nicotinoids and their evaluation as insecticides is of considerable interest." There followed a number of additional patents on the synthesis of other nicotine analogues. 2060489246-9255 (US 21918) (O).

1953. Some of these later patents, including the last two patents filed in 1989 (No. 5,015,741) and 1990 (No. 5,138,062), noted the pharmacologic effects of nicotine in experimental animals, specifically the tranquilizing and sedating effects of the drug when it was instilled directly into the rat brain. 89283587-3614 at 3598 (US 85267) (O).

1954. During the late 1970s, Philip Morris International established a clandestine screening program to determine whether particular chemical variants of nicotine affected the brain differently than the rest of the body. 0000127789-7790 (US 21794) (A).

1955. Among the screening tests used were tests that could also be used to evaluate a drug's potential as a reinforcer: torpedo fish membrane binding (a test developed in the 1960s); the guinea pig ileum model (developed in the 1950s); prostration test (developed in 1977-1978, in which nicotine was directly injected into a test animal's brain); discrimination testing (in which a test animal already trained to press a lever after receiving nicotine was then given an intramuscular injection of a test compound); and finally self-administration, in which rats were observed to see if they would repeatedly give themselves intravenous injections of the test drug. DeNoble WD, 13:7-20:2.

1956. Many of the above Philip Morris documents are acknowledged by Philip Morris attorneys in several Bliley documents recently disclosed during the State of Minnesota litigation. 2021423403-3497 (US 36743) (A).

1957. Even lawyers for Philip Morris recognized that the scientific consensus was that nicotine and smoking were addictive. One Philip Morris document apparently prepared by a law firm is entitled "REJECTED WITNESSES (ADDICTION)." This table lists approximately 120 addiction experts recommended by industry lawyers and scientists, then probed by industry lawyers as possible witnesses. The vast majority of the witnesses were "rejected" on the basis of their conclusions that nicotine and smoking were addictive or dependence-producing, or on the basis of other "anti-industry" views. The remainder were rejected on the basis of lack of experience. 2025005260-5275 (US 88763) (O).

(ii) R.J. Reynolds

1958. In a November 16, 1967 response to an inquiry on a nicotine inhibitor patent, RJR scientist Eldon D. Nielson wrote that the tobacco companies would not want such an item, as they were "selling a nicotine effect, not fighting it." 502001177-1177 (US 29547) (O).

1959. Because it understood the importance of retaining sufficient nicotine to maintain dependence on its so-called "low tar/low nicotine" cigarettes, RJR scientist Anders H. Laurene internally proposed in 1971 that the company undertake research into determining more exactly the "habituating level of nicotine." Laurene asked the question, "How low can we go?" 504210018-0018 (US 50577) (O); 522598277-8277 (US 80744) (O).

1960. In a March 28, 1972 memorandum regarding the development of new products, RJR scientist Claude Teague stated that for the typical smoker, "nicotine satisfaction is the dominant desire" and that "[i]n designing any cigarette product, the dominant specification should be nicotine delivery." 5002504536-4544 at 4538 (US 21747) (O), Langenfeld TT, 3/14/05, 15309:20-15310:4.

1961. Claude Teague was the RJR equivalent/counterpart to William Dunn at Philip Morris. In an April 14, 1972 report entitled "Research Planning Memorandum on the Nature of the Tobacco Business and the Crucial Role of Nicotine Therein," Teague stated:

> In a sense, **the tobacco industry may be thought of as being a specialized, highly ritualized and stylized segment of the pharmaceutical industry**. Tobacco products, uniquely, contain and deliver nicotine, a potent drug with a variety of physiological effects. . . . Nicotine is known to be a habit-forming alkaloid, hence the confirmed user of tobacco products is primarily seeking the physiological "satisfaction" derived from nicotine - and perhaps other active compounds. His choice of product and pattern of usage are primarily determined by his individual nicotine dosage requirements and secondarily by a variety of other considerations including flavor and irritancy of the product, social patterns and needs, physical and manipulative gratifications, convenience, cost,

> health considerations and the like. **Thus a tobacco product is, in essence, a vehicle for delivery of nicotine, designed to deliver the nicotine in a generally acceptable and attractive form. Our industry is then based upon design, manufacture and sale of attractive dosage forms of nicotine**, and our Company's position in our Industry is determined by our ability to produce dosage forms of nicotine which have more overall value, tangible or intangible, to the consumer than those of our competitors.

500915683-5691 at 5684-5685 (US 20659) (A) (emphasis added).

1962. Teague later stated in his report that:

> If nicotine is the sine qua non of tobacco products and tobacco products are recognized as being attractive dosage forms of nicotine, then it is logical to design our products – and where possible, our advertising – around nicotine delivery rather than 'tar' delivery or flavor. To do this we need to develop new data on such things as the physiological effects of nicotine, the rate of absorption and elimination of nicotine delivered in different doses at different frequencies and by different routes, and ways of enhancing or diminishing nicotine effects and "satisfactions."

500915683-5691 at 5685-5686 (US 20659) (A) (emphasis in original).

1963. Teague also refuted the industry's often-heard "nicotine is for taste" argument by stating that, "I believe that for the typical smoker nicotine satisfaction is the dominant desire, as opposed to flavor and other satisfactions." 500915683-5691 (US 20659) (A).

1964. Later in the same report, Teague noted the vital role of nicotine to the fundamental existence of the cigarette industry:

> If, as proposed above, nicotine is the sine qua non of smoking, and if we meekly accept the allegations of our critics and move toward reduction or elimination of nicotine from our products, then we shall eventually liquidate our business. If we intend to remain in business and our business is the manufacture and sale of dosage forms of nicotine, then at some point we must make a stand.

500915683-5691 at 5688 (US 20659) (A) (emphasis in original).

1965. At the close of his April 14, 1972 memorandum on nicotine, Teague

recommended the following courses of action for RJR:

> 1. Recognize the key role of nicotine in consumer satisfaction, and design and promote our products with this in mind.
>
> 2. More precisely define the minimum amount of nicotine required for 'satisfaction' in terms of dose levels, dose frequency, dosage form, and the like. This would involve biological and other experiments.
>
> 3. Sponsor in-depth studies of the physiological, psychological and other effects of nicotine, aimed at demonstrating the beneficial effects of nicotine and at disproving allegations that nicotine produces major adverse effects.
>
> 4. Study, design and evaluate new or improved systems for delivery of nicotine which will provide the minimum satisfying amount of nicotine in attractive form, free of allegedly harmful combustion products.
>
> 5. Study means for enhancing nicotine satisfaction via synergists, alteration of pH, or other means, to minimize dose level and maximize desired effects.
>
> 6. Monitor developments in materials and products which may compete with nicotine products or which might be combined with nicotine products to provide added advantages or satisfactions.
>
> 7. Monitor work by others which might be aimed at improved nicotine delivery systems of the type proposed here.
>
> 8. Search for and evaluate other physiologically active components of tobacco or its smoke which may provide desired effects to the smoker.

500915683-5691 at 5690-5691 (US 20659) (A).

1966. In a 1973 "SECRET" report entitled "Implications and Activities Arising From Correlation of Smoke pH with Nicotine Impact, Other Smoke Qualities, and Cigarette Sales," Teague reiterated to company executives RJR's knowledge of the importance of effective nicotine delivery in its competition with Marlboro and Kool:

> In essence, a cigarette is a system for delivery of nicotine to the

> smoker in attractive, useful form. At "normal" smoke pH, or at below about 6.0, essentially all of the smoke nicotine is chemically combined with acidic substances, hence is non-volatile and relatively slowly absorbed by the smoker. As the smoke pH increases above about 6.0, an increasing proportion of the total smoke nicotine occurs in "free" form, which is volatile, rapidly absorbed by the smoker, and believed to be instantly perceived as nicotine "kick". . . .
>
> As a result of its higher smoke pH, the current Marlboro, despite a two-thirds reduction in smoke "tar" and nicotine over the years, calculates to have essentially the same amount of "free" nicotine in its smoke as did the early WINSTON. . . .
>
> In addition to enhancing nicotine "kick," increasing the pH (increasing alkalinity) of smoke above about 6.0 causes other changes, particularly when the increase in smoke pH is achieved by adding ammonia to the blend.

509314122-4148 at 4125 (US 20828*) (O).

1967. Teague also described the different "current and planned" methods RJR was utilizing to increase the nicotine delivery and nicotine "kick" to smokers. His description revealed that the nicotine work was directed by and reported to company management:

> As its part in this collaborative effort, Research has: (1) collected, correlated, interpreted, and described to Management data on smoke pH of various brands, (2) developed and put into routine use improved methods for measurements of smoke pH . . . . [and] (4) evaluat[ed] various methods whereby smoke pH may be increased, with emphasis on ammonia treatments of stem materials.
>
> Methods which may be used to increase smoke pH and/or nicotine "kick" include: (1) increasing the amount of (strong) burley in the blend, (2) reduction of casing sugar used on the burley and/or blend, (3) use of alkaline additives, usually ammonia compounds, to the blend, (4) addition of nicotine to the blend, (5) removal of acids from the blend, (6) special filter systems . . . and (7) use of high air dilution systems.

509314122-4154 at 4127 (US 20828*) (O); 511223463-3484 at 3468 (US 20840) (A).

1968. Teague's nicotine research was important to the long-term success of the

company. In fact, his 1973 secret report was written at the request of RJR President William D. Hobbs. Teague provided Hobbs the report under cover memo dated October 2, 1973, stating, "I hope the attached report is about what you had in mind." 501136993-6993 (US 85269) (O).

1969. Other RJR memoranda, dated July 3 and December 26, 1973, reported the results of an internal "Correlation Study" confirming the "correlation between free nicotine to sales previously reported by Research." 501011401-1401 (US 20668) (O); 501327013-7013 (US 21434) (O).

1970. Teague's observations and conclusions were accepted at RJR thereafter. Some ten years later, Teague sent the very same report to company Vice President of Research and Development Bob DiMarco with a short note: "Bob - This is where we were in '73. You may want to skim/scan the first 4 pages. Claude." DiMarco returned the report to Teague with the following response printed under Teague's words: "Thank you Claude. **Looks like we're still there in 1983**. Bob" 511223460- 3462 at 3461 (US 85270) (O) (emphasis added); 511223463-3484 (US 20840) (A).

1971. Teague turned his 1973 paper on smoke pH and nicotine into a presentation he apparently delivered to the company. In a 14-page document entitled "Outline for Smoke pH Presentation," Teague covered many of the same points in his paper. Teague, whose own handwriting is on several of the outline pages, stated that his work was directed by company president William Hobbs. While much of the content of Teague's presentation is described above, he also explained in more detail his conclusion that RJR needed to create a nicotine-enhanced cigarette to compete in the beginning smoker market:

> What has emerged then, or may still be emerging, is a new and distinguishably different type of cigarette -- **perhaps a type with 1955 nicotine impact and 1973 tar and nicotine numbers.** . . . We need to worry about the many beginning smokers, learning to

> like a different type of cigarette. . . . Therefore, if indeed a new and relatively distinct type of cigarette is emerging and selling well --particularly to large numbers of beginning smokers – I would think that we would want to develop new brands or brand variants of our own to compete in that market.

500917535-7548 at 7544-7545 (US 48662) (A) (emphasis added) .

1972. A "CONFIDENTIAL" May 10, 1973 report from RJR chemists John Woods and Gloria Harllee studied pH of tobacco and the success of competitor brands Kool and Marlboro. The report, consistent with other RJR documents, showed the critical importance of "free" or "unbound" nicotine actually delivered to and absorbed by the smoker to both the "physiological strength" and growing market share of the brands. The researchers concluded the following:

> 1. A historical review of smoke pH of competitive brand cigarettes has shown that the Marlboro and Kool cigarettes have had higher smoke pH than the other competitive brands since 1964.
>
> 2. The smoke pH for Kool has been high due to the use of relatively low levels of sugar in the casing. The Marlboro has maintained a high pH by using a relatively low sugar and ammonium phosphate additive on the reconstituted tobacco.
>
> 3. Over the years studied there was a very strong positive correlation between smoke pH and sales. An even better correlation was observed between free nicotine in the smoke and sales.
>
> 4. The physiological strength of a cigarette, which may be controlled to some degree with smoke pH, is extremely important.

500606138-6153 at 6142 (US 48334) (O).

1973. With respect to RJR's success with ammoniation, one document disclosed that ammonia produced a "cleaner taste with more free nicotine" and a "stronger physiological impact." As for the widespread utilization and success of adding ammonia at RJR, the document stated:

> RJR introduced ammoniated sheet material in the CAMEL filter

> product in 1974. Better market performance was indicated in the subsequent years. Low "tar" products at RJR were designed with ammoniated sheet material beginning in 1974. RSM studies showed that ammoniation was one of the major consumer recognized product attributes tested. Ammoniated sheet was introduced into the WINSTON KS product in 1979. Market tests indicated significant product improvement.

500990999-1004 (US 20666) (O); 509018864-8865A (US 20820) (A).

1974. Defendants have claimed that nicotine is only necessary for taste or flavor. However, RJR has distinguished between nicotine and flavor in its internal documents for decades. One example is a December 4, 1973 memorandum from Frank Colby to marketing director R.A. Blevins entitled "Cigarette Concept to Assure RJR a Larger Segment of the Youth Market." Colby recommended in his memorandum that RJR begin manufacturing a new cigarette with "more flavor (tar)" and "more 'enjoyment' or 'kicks'" to appeal to youth. Colby also added that "any desired additional nicotine 'kick' could be easily obtained through pH regulation" in the manufacturing of these new "youth-appeal cigarettes." 501166152-6153 (US 23051) (A).

1975. Defendants have stated or implied that they did not employ any methods to increase nicotine delivery or "kick." However, these methods (some described above by Teague) were not only studied and summarized by the companies, they were employed. For example, an April 12, 1994 list of "Ingredients Added to Tobacco in the Manufacture of Cigarettes" by the six largest United States manufacturers (including RJR) disclosed that the companies added ammonia and other ammonium compounds to their cigarettes during the manufacturing process. 606000841-0889 at 0842 (US 53325) (O).

1976. Teague wrote another "Confidential" memorandum, dated February 2, 1973, entitled "Some Thoughts About New Brands of Cigarettes for the Youth Market." In this memorandum, Teague contrasted novice smokers with "confirmed" or addicted smokers. He

stated that while "pre-smokers" and "learners" start smoking for psychological reasons (fitting in with the crowd, self-image, boredom relief), "once the 'learning' period is over, the physical effects become of overriding importance and desirability to the confirmed smoker, and the psychological effects, except the tension-relieving effect, largely wane in importance or disappear." 502987357-7368 at 7359 (US 21475) (A).

1977. In an August 4, 1976 speech to RJR's international division, Director of Research, Murray Senkus, affirmed the indispensable role of nicotine, stating, "In smoking the effect produced on the human body is ascribable to nicotine" and "Without any question, the desire to smoke is based on the effect of nicotine on the body." Many of Teague's prior documents on nicotine had been sent to Senkus. 501525355-5366 at 5356, 5358 (US 29531) (O).

1978. In a RJR August 1976 "Three-Year Action Plan for New Products," nicotine was described as a "traditional need," and "very basic to the cigarette industry's existence." 500672011-2172 at 2078-2105, 2107 (US 20645) (A).

1979. In a September 21, 1976 internal memorandum from John L. McKenzie to A.P. Ritchy entitled "Product Characterization Definitions and Implications," nicotine was defined as "the psychopharmacological agent in tobacco which is one of the key factors in satisfaction . . . ." 500380562-0564 at 0563 (US 20630) (O).

1980. A November 9, 1976 memorandum on nicotine circulated among RJR scientists reviewed the known physiological effects of nicotine on the body and admitted the company's ongoing desire to increase or hold steady the nicotine content of its cigarettes while reducing tar. The memo, entitled "Nicotine Research," also acknowledged tolerance to nicotine: "Habituated smokers, both male and female, metabolize nicotine more rapidly that non-smokers, indicating the bodily metabolic acclimation to nicotine." Finally, the memo contradicted industry claims

that smokers seek nicotine only as a matter of "taste": in-house studies concluded that detectable nicotine produced the taste described as "foul, rotten rubber" and that "Nicotine is definitely an irritant in smoke and its taste must be blended out or modified by other constituents in the TPM to make smoke acceptable." 509078812-8820 at 8814-8815 (US 85271) (A).

1981. RJR's detailed knowledge of the physiological and pharmacological effects of nicotine is contained in an undated document that appears to be a scientific presentation on nicotine. 502824762-4800 (US 50257) (O).

1982. In a February 7, 1978 memorandum entitled "Nicotine Satisfaction – Consumer Test," RJR researchers C.L. Neumann and J.P. Dickerson stated that the focus of the consumer satisfaction program would be on nicotine, as it was "probably the most important satisfaction variable," and because nicotine had "known physiological activity." 504479948-9954 at 9549 (US 20729) (O).

1983. In another example, a February 5, 1980 interoffice memorandum from H.E. Guess stated the concern that the reduced level of nicotine in RJR's Winston B Cigarettes would make them less attractive to Winston smokers. 504675307-5307 (US 21549) (O).

1984. RJR scientist D.H. Piehl reviewed the scientific literature on nicotine and maintenance of the smoking habit in a "Confidential" internal paper for the company entitled "Smoking Behavior - A Review." In his paper, Piehl summarized with approval many studies finding the preeminent importance of nicotine to smokers, the various "need" levels of nicotine, nicotine dependence, and addiction. At the close of the paper, he sarcastically wrote:

> It continues to be reported in the popular press that 4 out of 5 smokers have tried to quit smoking and failed. Perhaps they should listen to Mark Twain who said, "It's the easiest thing in the world to stop smoking. I should know because I've stopped over 1000 times.

504972347-2362 at 2362 (US 50710) (A).

1985. In fact, scientists at RJR had known for years that most smokers get "hooked" and are unable to quit. Teague wrote a memorandum dated December 1, 1982 to Research and Development Vice President Robert DiMarco where he stated that RJR needed to tailor its marketing to the reality that "most of those who have smoked for any significant time would like to stop," and most smokers "would stop using **if they could**." Teague also stated that RJR needed to contemplate the future scenario where smokers who want to stop can stop; if this happened, RJR would "go out of business." Therefore, RJR "cannot be comfortable marketing a product which most of our consumers would do without **if they could.**" 500898255-8257 at 8256 (US 48652) (O) (emphasis added).

1986. An April 15, 1983 RJR draft document entitled "Smoker Compensation Review" reiterated the company's knowledge that smokers of low tar/nicotine products compensated to obtain more nicotine, and that the FTC method of measuring nicotine was flawed. The document included the following in a section entitled "Impact of Known Compensatory Behavior On Cigarette Rankings":

> Based on the results of studies similar to those summarized above, it has been stated that low –'tar' smokers use their cigarettes differently than smokers of higher – 'tar' products. Different 'usage' includes propensity to block vents or otherwise manipulate the cigarette, increasing the number of puffs and the number of cigarettes smoked, puffing more frequently or with larger volumes and inhaling more deeply or holding smoke in the lungs longer. These usage patterns are consistent with the theory that low – 'tar' smokers seek to maintain a given nicotine level in the body, regardless of the cigarette. The patterns cited are instances which would tend to increase the 'dosage' of nicotine to the smoker.

This statement revealed RJR's continuing view of smokers as "nicotine seekers," in this case, seekers who alter their smoking method to obtain the necessary "dosage" of nicotine. 501524500-

4514 at 4506 (US 85272) (O).

1987. An undated RJR document entitled "R&D Outline" listed "Nicotine as a drug" as a topic for departmental discussion. The outline provided for a "discussion of a string of industry memos and reports, dating back to at least the early 1970's, in which industry scientists and execs seem to admit to nicotine's qualities as a drug." The document described several examples, including a 1971 B&W letter, a 1972 RJR report and a 1972 Philip Morris summary of a meeting of industry scientists. This document demonstrated that despite its public denials, the industry had in fact internally admitted nicotine's addictiveness and its importance for cigarette smoking. 522606315-6317 at 6316 (US 85273) (O).

1988. Another undated RJR document is a Biobehavioral Department presentation entitled "Biobehavioral Aspects of Smoking." In this presentation, the speaker discussed how "maintenance" of the smoking habit for 80% of smokers was related to the "tranquilizing effects" of nicotine. The speaker emphasized at various points that "nicotine is the substance people desire in their use of tobacco," "animals will self-administer nicotine in a laboratory setting," evidence that "smokers smoke to maintain a constant level of nicotine in the body," and that "the fact remains that smokers do not continue to smoke unless their cigarettes contain nicotine." 517214547-4557 (US 87113*) (O).

1989. After Benowitz published his 1983 paper on compensation by smokers of low nicotine yield products, RJR scientist John Robinson wrote a critique of the paper to Dr. Alan Rodgman in which he stated:

> The paper itself expresses what we in Biobehavioral have felt for quite some time. That is, smokers smoke differently than the FTC machine and may very well smoke to obtain a certain level of nicotine in their bloodstream. If a given level of nicotine in the blood is the final goal of a smoker, one would predict that he would smoke an FFT [full flavor tar] and ULT [ultra low tar]

cigarette differently.

510994429-4429 (US 85274) (O).

1990. Robinson wrote that the Benowitz paper brought to mind a past industry study comparing German Camel cigarettes with Marlboro cigarettes, where "smokers apparently obtained almost exactly the same amount of nicotine no matter which of the four cigarettes they smoked." Robinson recalled that the study "was one of the first indications that smokers may in fact smoke to obtain a certain level of nicotine in their bloodstream." 510994429-4429 (US 85274) (O).

1991. In preparation for a RJR "brainstorming session" at the company's Flavor and Biobehavior Divisions, Donald L. Roberts told employees in an October 13, 1983 memorandum that, "The functions a cigarette serves are many fold involving social, psychological and physiological. A short definition is that a cigarette supplies nicotine to the consumer in a palatable and convenient form." Roberts clearly distinguished nicotine from taste, stating that, "The cigarette's taste is a relatively unimportant benefit of smoking. Its taste is primarily a delivery vehicle[.]" 503602711-2714 at 2712 (US 85275) (O).

1992. A June 3, 1985 RJR document was entitled "Report on Medical and Scientific Issues - Addiction." In this review, the scientist authors attempted to examine current scientific literature to assist the industry with respect to the scientific consensus on nicotine addiction. As part of their review, the scientists reviewed literature compiled by the tobacco law firms of Jacob, Medinger & Finnegan, Shook, Hardy & Bacon and Jones Day. The scientists wrote in their report that, "Both Mr. Wrobleski [Jacob, Medinger & Finnegan] and Mr. Sirridge [Shook, Hardy & Bacon] warned, however, that there is very little literature favorable to the industry's position on addiction." 515878492-8522 at 8494. (US 30251) (O).

1993. RJR's R&D department embarked on a large-scale nicotine research program in 1988, as described in a lengthy October 7, 1988 project report entitled "An Integrated Research Program for the Study of Nicotine and Its Analogs," to continue looking into the "pharmacological potency," "biological activity," and central nervous system effects of nicotine and nicotine analogs. The researchers posited that:

> What is known about nicotine is that it elicits the typical consequences of sympathoadrenal activation when administered in doses that produce plasma concentrations similar to those achieved during smoking. Among these are tachycardia, increases in blood pressure, cardiac output, and stroke volume . . . . In addition, there is a fair amount of tolerance induced with regard to sympathetic activation by smoking or chronic nicotine administration.

514894567-4676 at 4586-4587 (US 20862) (A)**.**

1994. Summing up RJR's knowledge of the importance and addictive quality of nicotine was one line from a May 3, 1991 RJR Research and Development report on a tobacco modification and nicotine manipulation project code-named the "REST Program." One key objective of the program was to "Independently control nicotine delivery, from very low to elevated levels, to address consumer wants and as a research tool." The basis for the Controlled Nicotine Process component of "REST" was that

> **We are basically in the nicotine business**. It is in the best long term interest for RJR to be able to control and effectively utilize every pound of nicotine we purchase. Effective control of nicotine in our products should equate to a significant product performance and cost advantage.

509479574-9587 at 9577, 9584 (US 20829) (A) (emphasis added).

1995. According to the Wall Street Journal, former RJR Nabisco CEO F. Ross Johnson stated during a 1994 interview that, "Of course it's addictive. That's why you smoke the stuff." *Wall Street Journal*, "Big Spender Finds a New Place to Spend," October 6, 1994.

WAS0491982-1985 (US 61440) (O).

1996. In a 1998 memorandum entitled "ECLIPSE Taste and Satisfaction Improvements," D.E. Townsend stated with regard to the Eclipse product that R&D staffs were "encouraged to pursue diligently Eclipse designs with increased nicotine yield in an effort, in part, to increase consumer acceptance of the product." He later added: "If increased nicotine yield helps give improved consumer acceptance in the market, then possible benefits of this potentially reduced risk product would be greater." 526013569-3569 (US 85276) (O); 700245849-5849 (US 85277) (O).

1997. In a June 4, 1999 email communication (Subject: Tobacco Beer) to Mickey Smith, Don deBethizy discussed the creation of nicotine-laden beer. This communication demonstrated RJR's continuing understanding that nicotine is (in Claude Teague's words) the "sine qua non" of any tobacco product:

> Crazy idea: Researchers at Duke University have found that nicotine added to beer provided nicotine in a palatable form which was enjoyable to subjects. I wonder if tobacco could be added to beer in a palatable way? Since beer is only used in adult venues, it might be a way for people to use tobacco and beer together. The toxicity of nicotine may be a problem, but these researchers thought that it was worth exploring nicotine in beverages.

700007868-7868 (US 54412) (O).

1998. RJR's lawyers at Jones Day knew that addiction was the Achilles heel of smoking and health litigation, and that their client has long since acknowledged the addictiveness of nicotine and smoking. The lawyers' concern that addiction would undermine their and their client's attempts to portray smoking as a free choice, and therefore a smoker's smoking-caused injuries were the result of voluntary assumption of a known risk, were reflected in several "trial strategy" documents produced by Defendants. For example, in an August 10, 1985 Jones Day

memorandum entitled "Smoking and Health Litigation, Tactical Proposals," the authors wrote that, "If a jury were likely to conclude that addiction overcame the plaintiff's ability to make a free choice, it would obviously be necessary to address this point directly." 680712261-2337 at 2308 (US 87114) (O).

1999. The lawyers were aware, however, that RJR and the industry knew that "free choice" took a back seat to the driving force of nicotine addiction. In another illuminating Jones Day litigation memorandum, the authors described the threat of addiction to the core trial strategy of "trying the plaintiff," and conceded the following:

> "Addiction" has received little industry research attention. Nevertheless, many industry documents support the contention that there are types of persons whose psychological profile and smoking behavior is such that they have great difficulty in quitting. For example, documents describe a British American Tobacco Company sponsored conference in 1978, attended by PM and B&W representatives. One of the findings of the conference was: "Serious smokers smoke to prevent withdrawal symptoms. Another study which Dr. Piehl (RJRT) cites recognizes "addictive" smokers: "People who find it unbearable to run out of cigarettes are described as using addictive-type smoking." The industry has also recognized that some smokers, especially smokers of high nicotine cigarettes "compensate" or regulate nicotine intake if it is lowered in individual cigarettes.

681879254-9715 at 9302-9303 (US 21020) (A).

2000. Later in the same Jones Day memorandum, the authors provide examples from Defendants' files where the companies (with emphasis on RJR) and their employees admit the primacy of nicotine to cigarettes and the addictiveness or dependence-producing quality of their products. Additionally, the authors conclude that "internal documents describing the effects of nicotine are also problematic" and "the Industry may be faulted for not monitoring the addiction literature, for not conducting addiction research, and for not warning of addiction." 681879254-9715 at 9601-9643 (US 21020) (A).

(iii) BATCo

2001. Many documents disclose that BATCo had an intimate understanding of nicotine's role in smoking and its effects on smokers long before the outside medical community. Moreover, many BATCo documents disclose how BATCo and the United States cigarette industry, in particular B&W, used BATCo's knowledge of and secret code-named research into nicotine for commercial gain.

2002. BATCo knew nicotine was an essential component of cigarettes as early as the 1950s. A June 1959 BATCo internal document pointed out that the company must consider "the question of nicotine and its effect on the smoker." The author stated that the company had to choose between maintaining current nicotine content "in order to maintain the firmly entrenched nicotine habit developed by the majority of smokers," or reducing the nicotine content to meet consumer demand for lower nicotine products. However, the writer cautioned that, "[T]o lower nicotine too much might end up destroying the nicotine habit in a large number of consumers and prevent it from ever being acquired by new smokers." 100099115-9117 at 9117 (US 20112) (A); Henningfield WD, 88:21-89:10. Thus, BATCo recognized very early that smoking was not simply a “habitual” behavior, but rather one caused by nicotine, and that reduction of nicotine to a point that could not sustain or induce addition would threaten the industry’s viability. Henningfield WD, 89:7-10.

2003. In a November 15, 1961 memorandum reviewing secret nicotine research and development projects under code names "MAD HATTER" and "HIPPO," Sir Charles Ellis, scientific advisor to the BAT Board of Directors, acknowledged BATCo's understanding that nicotine is addictive:

> Experiments of Hippo have led to a great increase in our knowledge of the effects of nicotine. . . . Smoking demonstrably is

> a habit based on a combination of psychological and physiological pleasure, and it also has strong indications of being an addiction. It differs in important features from addiction to other alkaloid drugs, but yet **there are sufficient similarities to justify stating that smokers are nicotine addicts**.

301083862-3865 at 3863 (US 20577) (A) (emphasis added).

2004. In the same 1961 internal document reviewing BATCo's secret nicotine research, Ellis emphasized the company's need to determine what made smoking and nicotine addictive:

> If the competition is to be met successfully, it must be important to know how the tranquilizing and stimulating effects of nicotine are produced and the relation of addiction to the daily nicotine intake. These are the reasons for proposing that Project Hippo be continued with the particular object of finding the causes of the pleasurable physiological effects and the causes of addiction.

301083862-3865 at 3863 (US 20577) (A).

2005. The comprehensive research conducted by and funded by BATCo in the early 1960s placed the company at the forefront of nicotine knowledge and exploitation, long before nicotine was well understood in the medical community. In perhaps the most telling document on the question of the industry's early knowledge and acceptance of addiction, Sir Charles Ellis provided an overview of the company's massive nicotine research program in a February 13, 1962 "Private and Confidential" memorandum entitled "The Effects of Smoking." Ellis recited in his memorandum that BATCo research into the "physiological and psychological effects of smoking" via Batelle actually began in 1959, and was carried out in the intervening years under various project "code names" including "MAD HATTER I," "MAD HATTER II," "MAD HATTER III," "HIPPO I," "HIPPO II," and "ARIEL." 301083820-3835 at 3820-3824 (JE-46579) (A).

2006. In the February 13, 1962 memorandum, Ellis devoted a lengthy section to the commercial importance of the company's nicotine research objectives. He explained that the

reason BATCo commissioned the "MAD HATTER" and "HIPPO" research projects was "to understand addiction . . . [and to] appreciate the strength and vulnerability of our position." Ellis wrote further in detail:

> However, the force of the habit or the strength of addiction is not such as to give any grounds for complacency in the face of alternative methods of stimulating the body to meet stress, and that is just where the danger lies since alternatives are becoming available. In the last few years there has been a quite remarkable increase in the production of tranquilliser drugs, and while most of these need a doctor's prescription there is already one on free sale in Switzerland (Librium made by Hoffman LaRoche). If such drugs become more freely available they will compete with nicotine, which is a natural tranquilliser, and will leave smoking primarily dependent on its psychological effects for the maintenance of the habit.
>
> **What we need to know above all things is what constitutes the hold of smoking, that is, to understand addiction**. . . .
>
> These are the reasons for the study of the physiological effects of nicotine carried out under the MAD HATTER and HIPPO contracts, and they have sufficient force alone to justify this expenditure . . .

301083820-3835 at 3826-3827 (JE-46579) (A) (emphasis added).

2007. Ellis described in another section of his memorandum the outcome of BATCo's drive to learn about nicotine and its role in smoking. He further delineated some of the concrete conclusions of the BATCo research to date, reiterating unequivocally that BATCo believed nicotine was addictive and explaining graphically the relationship of the research to addiction:

> As a result of these various researches **we now possess a knowledge of the effects of nicotine far more extensive than exists in published scientific literature. It is indeed so extensive and represents so much new thought that it is not easy to condense the material** of these several reports and working papers without over-simplification.
>
> Nicotine, however administered, rapidly gets into the blood stream and the lymph system, and once there has a number of varied

> effects. . . . By far the most important effect is that of mobilising the resources of the body to resist stress. That this occurs has been known from the earliest days of smoking but no explanation exists in the published literature. Battelle have now carried out experiments which are beginning to show how nicotine enters into the mechanism of this vital reaction. . . .
>
> The stimulation to resist stress occurs almost immediately on absorption of nicotine, and the effect - that is, the extra supply of cortico steroids in the blood - falls off markedly within a matter of thirty minutes. Addiction is something quite different from this since it is well known that the craving for nicotine in a confirmed smoker who stops smoking persists for ten, twenty or thirty days.
>
> We believe that we have found possible reasons for addiction in two other phenomena that accompany steady absorption of nicotine.

301083820-3835 at 3828-3829 (JE-46579) (A) (emphasis added).

2008. The two additional "phenomena" that Ellis stated in his February 1962 memorandum were responsible for nicotine addiction were tolerance and withdrawal:

> Experiments have so far only been carried out with rats, but with these it is found that certain rats become tolerant to repeated doses and after a while show the usual nicotine reactions but only on a very diminished scale. The interesting point is that these tolerant or nicotine-conditioned rats are found to have a greatly enhanced power of detoxification of nicotine in their liver. Crudely put, they can stand up to high continuous doses of nicotine just because their liver has developed the ability to dispose of it more rapidly and efficiently. . . . As long as the smoker keeps to his normal regime and the nicotine level in his blood remains high there is a steady job for these [liver] enzymes, and the whole situation is normal and under control. But if now the smoker stops smoking and there is no longer nicotine in his blood then in the liver there is this supply of enzymes with nothing to work on. In fact, they proceed to work on other material passing through the liver, with consequent disturbance of the body's working and with all sorts of alarm signals sent back to the brain. The effects of unbalanced enzymes is not unlike unbalanced nicotine, and the abstaining smoker experiences physiological reactions as acute as a novice who starts smoking. When to this one adds the longing for that immediate stimulation to resist stress that comes from smoking a cigarette **it would appear that we are making progress towards**

> **understanding addiction.** . . . .
>
> Thus we have already greatly increased our knowledge of the manifold ways in which nicotine affects the body and, in particular, have identified and studied separately the stress resisting mechanism and the other effect on the liver which we believe is responsible for addiction.

301083820-3835 at 3829-3830 (JE-46579) (A) (emphasis added).

2009. In the final section of his paper, Ellis discussed some particulars of the nicotine projects code named "PROJECT HIPPO II" and "PROJECT ARIEL." He stated that the secret "physiological and biochemical" PROJECT HIPPO research "should lead to an understanding of the mechanism which creates addiction" and confirm that "addiction depended on the enzymes involved in the metabolism of nicotine in the liver." 301083820-3835 at 3832 (JE-46579) (A).

2010. "PROJECT ARIEL," on the other hand, was a secret project to develop an alternative nicotine delivery device to compete with work that Ellis claimed was being carried out at the American Tobacco Company and RJR. Ellis also justified the project with his concern that the "drug industry" could "at any time attempt to invade the cigarette smoke field by alternative drugs." He stated that the final product "must have within it the ultimate possibilities of meeting the psychological demands of smokers as well as the physiological ones." 301083820-3835 at 3833-3835 (JE-46579) (A).

2011. The concluding section of Ellis' memorandum revealed the high level of secrecy accorded the company's nicotine research:

> FUTURE POLICY.
> For good reasons the results of Battelle's work have been kept at a high level of secrecy, but they are now building up to such a comprehensive picture of the action of nicotine that I suggest they should soon be made available in detail to a few of our top scientists.

301083820-3835 at 3835 (JE-46579) (A).

2012. Therefore, as early as 1962, BAT had established its internal corporate position of smoking as a straight "addiction" produced by nicotine, a drug addiction in terms of cravings, compulsive use, physiological effects on the body, tolerance, and withdrawal. Sir Charles Ellis stated further in a paper presented to a 1962 BAT conference in Southampton, England, attended by B&W representatives that "smoking is a habit of addiction." Ellis's presentation was preceded by an introduction from the chairman of BAT himself, A.D. McCormick. The substance of the conference was included in a BAT conference report entitled, "Smoking and Health - Policy on Research." The conference report has been produced in this litigation with a stamp indicating that it was found in the B&W Research Department. 650344433-4493 (US 53468) (A).

2013. McCormick told attendees at the 1962 conference that the "best way to deal with the [smoking and health] matter was on an industry rather than an individual company level." He then introduced Ellis. In his presentation, Ellis stated:

> **Smoking is a habit of addiction that is pleasurable**; many people, therefore, find themselves sub-consciously prepared to believe it must be wrong.

650344433-4493 at 4439 (US 53468) (A) (emphasis added).

2014. Ellis later added:

> One result of the recent public discussions on smoking and health must have been to make each of us examine whether smoking is just a habit of addiction or has any positive benefits. It is my conviction that nicotine is a very remarkable beneficent drug that both helps the body to resist external stress and also can as a result show a pronounced tranquillising effect. . . . Nicotine is not only a very fine drug, but the techniques of administration by smoking has considerable psychological advantages and a built-in control against excessive absorption.

110070785-0842 (US 20270) (A); 650344433-4493 at 4450-51 (US 53468) (A).

2015. Ellis later added in a May 1962 note to S.J. Green that "a problem that is therefore

worth considering is how to provide the smoker with his customary amount of nicotine." 100159216-9217 at 9216 (US 88764) (O).

2016. BATCo's early interest in understanding why and how nicotine affected smokers' bodies was immense. In January 1962, Batelle scientists working for BATCo submitted their "Final Report on Project HIPPO I." The purposes of the project were to study: (1) the action of nicotine in the diuresis mechanism; (2) the possible interference of nicotine in the "stress" mechanism; (3) the inhibiting effect of nicotine on body weight; and (4) the possible activity of nicotine on other hypothalamic functions. The report stated in the introduction the working question: "It is an everyday experience to each smoker that smoking a cigarette helps mastering the numerous stressful stimuli of modern life. This effect is probably one of the most powerful reasons which make one smoke. How does nicotine exert this action?" 105620620-0683 at 0622-0625 (US 20247) (A).

2017. The "HIPPO I" researchers concluded that:

> From all our data it seems that the effect of nicotine in the "stress reaction" is a very prominent and very complicated one. The understanding and thorough investigation of this effect seems of the greatest importance: it is by this very effect that nicotine acts as a "tranquilliser."

105620620-0683 at 0683 (US 20247) (A).

2018. Near this same time, Battelle drafted a January 3, 1962 research proposal regarding "Project Ariel" for BATCo in London. According to the proposal, the proposed new smoking device would administer nicotine while "avoiding the well-known disadvantages inherent in actual cigarette smoking," but it needed to resemble a tobacco smoking product "to avoid interference with the legislation in force about drugs," and "it should also create addiction in the same relative amounts." 100335808-5816 at 5811, 5814 (US 20173) (O).

2019. Throughout the 1960s, BATCo continued to discuss and research the "ARIEL" product that was known simply as a nicotine delivery device that would allow the smoker to "obtain a satisfying dose of nicotine" without any of the harmful effects from smoke. 100335894-5918 at 5897 (US 20174) (O).

2020. By 1964, BATCo had developed the prototype of "ARIEL" which allowed for "a reasonably even release of nicotine" for the smoker. 100175613-5617 at 5616 (US 20115) (O).

2021. BATCo continued its Project HIPPO for several years. In a March 1963 study entitled "Final Report on Project HIPPO II," scientists C.H. Kaselbach and O. Libert reported the results of their sophisticated comparison of nicotine to tranquilizers, a comparison that built on the earlier findings of HIPPO I. Their report to BATCo stated at the outset that:

> The aim of the whole research "HIPPO" was to understand some of the activities of nicotine - those activities that could explain why cigarette smokers are so fond of their habit. It was also our purpose to compare these effects with those of the new drugs called "tranquillizers," which might supercede tobacco in the near future. . . . The reasons for the "pleasure of smoking" must be found partly in the relief of anxiety that cigarette smoking brings so constantly, and in such a very short time.

105620569-0605 at 0572 (US 20246) (A).

2022. Later in the "Final Report on Project HIPPO II," the researchers revealed their conclusion that while nicotine differs in some respects from tranquilizers, nicotine causes both tolerance and addiction, and is in fact addictive:

> A quantitative investigation of the relationship with time of nicotine - and of some possible brain mediators - on adreno-corticotropic activity could give us the key to the explanation of both phenomena of tolerance and of addiction, in showing the symptoms of withdrawal.

105620569-0605 at 0575 (US 20246) (A).

2023. Nicotine addiction was thus known and accepted; therefore, BATCo research

targeted and sought to understand the mechanism of addiction. In a May 30, 1963 report entitled "A Tentative Hypothesis on Nicotine Addiction," Dr. G. Haselbach and Dr. O. Libert, scientists performing work for BATCo, discussed nicotine's ability to produce tolerance and postulated a sophisticated explanation for nicotine addiction:

> The hypothalamo-pituitary stimulation of nicotine is the beneficial mechanism which makes people smoke; in other words, nicotine helps people cope with stress. In the beginning of nicotine consumption, relatively small doses can perform the desired action. Chronic intake of nicotine tends to restore the normal physiological functioning of the endocrine system, so that ever-increasing dose levels of nicotine are necessary to maintain the desired action. Unlike other dopings, such as morphine, the demand for increasing levels is relatively slow for nicotine.
>
> In a chronic smoker the normal equilibrium in the corticotropin releasing system can be maintained only by continuous nicotine intake. . . . If nicotine intake, however, is prohibited to the chronic smokers, the corticotropin-releasing ability of the hypothalamus is greatly reduced, so that these individuals are left with an unbalanced endocrine system. **A body left in this unbalanced status craves for renewed drug intake in order to restore the physiological equilibrium. This unconscious desire explains the addiction of the individual to nicotine. . . .**
>
> In conclusion, a tentative hypothesis for the explanation of nicotine addiction would be that of an unconscious desire to restore the normal physiological equilibrium of the corticotropin-releasing system in a body in which the normal functioning of the system has been weakened by chronic intake of nicotine.

536480912-0914 at 0912, 0914 (US 20928) (A) (emphasis added).

2024. In a 1963 research report entitled "The Fate of Nicotine in the Body," BATCo researchers reported their conclusions as to nicotine pharmacology and mechanisms of tolerance and addiction. The scientists emphasized that nicotine was a key part of "tobacco habituation and/or addiction" and that the tobacco industry should focus its future research on the effects of nicotine in the bodies of smokers:

> There is increasing evidence that nicotine is the key factor in controlling, through the central nervous system, a number of beneficial effects of tobacco smoke, including its action in the presence of stress situations. In addition, the alkaloid appears to be intimately connected with the phenomenon of tobacco habituation (tolerance) and/or addiction. Detailed knowledge of these effects of nicotine in the body of smokers is therefore of vital importance to the tobacco industry, not only in connection with their present standard products, but also with regard to future potential uses of tobacco alkaloids.

501012199-2255 at 2202 (US 21562) (A).

2025. On the specific issue of nicotine tolerance, the researchers stated, "We believe that both tolerance and addiction are intimately connected, and that it would be most useful to investigate the two phenomena with regard to cellular adaptation, especially in target organs of the central nervous system." 501012199-2255 at 2228 (US 21562) (A).

2026. BATCo also played a part in the nicotine research carried out at the Huntington Research Centre in Huntington, England. An undated BATCo or Imperial-commissioned scientific study from Huntington is described in an undated report from the late 1960s entitled "Effects of Nicotine on Electrocortical Activity and Acetylcholine Release from the Cerebral Cortex of the Squirrel Monkey." In this report, researchers stated at the outset that, "The habitual use of tobacco may be related to numerous factors amongst which the pharmacological effects of nicotine on the central nervous system figure dominantly." The report then went on to describe the complex and significant effects of nicotine on acetylcholine release in animal brains. Importantly, the scientists stated that "The doses of nicotine used in these experiments are based on the reported smoking dose.'" 680050472-0485 (US 53985) (O).

2027. Another "Confidential" Huntington in-depth study focusing on nicotine's drug-like effects on the primate brain was entitled "Effects of Nicotine on the Central Nervous System." Although this study was addressed to Imperial Tobacco, a copy of the report was forwarded to

BATCo. The authors of this study explained the tests they planned to conduct to understand how nicotine affects "physiological processes and behavioural functions of the central nervous system of the primate" and described some preliminary results 680050504-0521 (US 53986) (O).

2028. BATCo was also provided nicotine research funded by its Australian affiliate, BATAS. For example, BATCo had knowledge of a 1970 University of Melbourne study entitled "The Absorption and Effects of Nicotine from Inhaled Tobacco Smoke." The Australian study program assessed nicotine blood levels and physiological effects, the transfer of nicotine to the blood, and the absorption of nicotine in the mouth. 680050575-0589 (US 53987) (O).

2029. The addictive impact and potential of any drug, in this case nicotine, is enhanced by the speed at which and form in which it reaches the brain. BATCo scientists understood and appreciated this concept. An August 7, 1964 memorandum from H.D. Anderson, Vice President of Research and Development, to BATCo President, Sir Richard P. Dobson, discussed the enhancement of nicotine "kick" through the addition of potassium carbonate to tobacco:

> There seems no doubt that the "kick" of a cigarette is due to the concentration of nicotine in the blood-stream which it achieves and this is a product of the quantity of nicotine in the smoke and the speed of transfer of that nicotine from the smoke to the blood-stream.
>
> Nicotine is in the smoke in two forms as free nicotine base (think of ammonia) and as a nicotine salt (think of ammonium chloride) and it is almost certain that the free nicotine base is absorbed faster into the blood-stream. Thus the effect of this potassium carbonate treatment, even though it does reduce the total quantity of nicotine in the smoke, may be to enhance the effect of what is left until it is equal or maybe greater in physiological effect than in the original smoke.

100059066-9067 at 9067 (US 20102) (O).

2030. A 1966 internal tobacco industry report issued by BATCo scientist I.W. Hughes also emphasized that the effects of nicotine on the human body were a function of speed in

reaching the brain and the form of the nicotine itself:

> It would appear that increased smoker response is associated with nicotine reaching the brain more quickly . . . . On this basis, it appears reasonable to assume that the increased response of a smoker to the smoke with a higher amount of extractable nicotine may be either because the nicotine reaches the brain in a different chemical form or because it reaches the brain more quickly.

00039304-9490 at 9306, 9310 (US 34187) (O).

2031. BATCo understood that it was in essence a drug company for its customers who depended on nicotine. In a March 2, 1967 memorandum from BATCo Chief Scientist S.J. Green to Deputy Chairman Desmond Hobson, Green broadly evaluated BATCo scientific research. With respect to nicotine, he bluntly reported the following:

> Work on the psychopharmacology and pharmacology of nicotine is accelerating. There is now no doubt that nicotine plays a large part in the action of smoking for many smokers. It may be useful, therefore, to look at the tobacco industry as if for a large part of its business is the administration of nicotine (in the clinical sense). . . . The main objective of our research is to make the administration of nicotine better by . . . making the administration pleasanter or more convenient.

WAS0433494-3500 at 3497 (US 86690) (O).

2032. In a March 20, 1967 document entitled "First Meeting with U.S. Company Lawyers," R.M. Macrae, Tobacco Research Council assistant director and BATCo employee, recalled that at the March 8, 1967 meeting, representatives from the United Kingdom made the point that "the major section in the U.K. industry believes that nicotine content of cigarettes should not be greatly lowered if consumer acceptance is to be maintained." This once again illustrates that the importance of nicotine for cigarette sales has been known by BATCo for decades. 301080659-0662 at 0661 (US 22896) (O).

2033. In fact, "consumer acceptance" was tied to addiction, a word that company

executives and directors continued to use internally to describe the necessity of nicotine to smokers. According to the report of the October 1967 BATCo (Group) Research and Development Conference in Montreal, one of the company's research "assumptions" was that, "[t]here is a minimum necessary level of nicotine. Smoking is a habit attributable to nicotine. The form of nicotine affects the rate of absorption by the smoker." And later in the conference report, the BATCo R&D department stated the following as research objectives, revealing the company's intent and ability to manipulate nicotine:

> The development of low T.P.M. [total particulate matter, or tar], normal nicotine cigarettes should continue. In this connection, the use of filter additives . . . might be helpful since it might render the nicotine more available to the smoker.
>
> The development of a low T.P.M., low nicotine cigarette should be expanded. This raises the question of the level of nicotine required . . . .

100051950-1963 at 1952, 1957 (US 85279) (A).

2034. An earlier version of the BATCo Montreal Research and Development Conference report even stated that, "There is a minimum level of nicotine. **Smoking is an addictive habit attributable to nicotine** and the form of nicotine affects the rate of absorption by the smoker." 500014079-4085 at 4080 (US 47776) (A) (emphasis added).

2035. The BATCo R&D conference acknowledged that the department's general objectives included "insur[ing] the continuation of the industry and the prosperity of the company within the industry," and "sustaining and increasing the profits of the company." Thus, even the scientists realized and accepted the link between nicotine and the future of both the industry and the company. 100051950-1963 at 1955 (US 85279) (A).

2036. The minutes of a BAT Group Research Conference held at Hilton Head, South Carolina, from September 24-30, 1968, recorded similar statements. The conference group,

which included representatives of B&W as well, noted that:

> In view of its pre-eminent importance, the pharmacology of nicotine should continue to be kept under review and attention should be paid to the possible discovery of other substances possessing the desired features of brain stimulation and stress-relief without direct effects on the circulatory system. The possibility that nicotine and other substances together may exert effects larger than either separately (synergism) should be studied and if necessary the attention of the Marketing Departments should be drawn to these possibilities.

682633150-3156 at 3152 (US 54206) (A).

2037. Thus, the critical role in addiction played by nicotine was never in doubt at BATCo. The recognition of nicotine's singular importance in smoking was the basis for an October 1969 BATCo report entitled "Future Work on Nicotine and Compounds With Related Pharmacology," in which J.G. Underwood detailed company efforts to search for compounds that would mimic the pharmacological effects sought by smokers with fewer toxic properties. The introduction states:

> At the physiological level the major part of the satisfaction of smoking is derived from nicotine and the first section of this note is concerned with optimising nicotine usage, increasing the delivery of smoking mixtures deficient in nicotine, and attempting to anticipate some "health" problems that may arise with changes in current practices.
>
> At present the cigarette industry depends on nicotine as the principal pharmacological agent in confirming the smoking habit. This could be dangerous commercially, since it may well be that legal restrictions are imposed on the nicotine delivery of cigarettes if the medical evidence shows beyond reasonable doubt that the long-term effects of nicotine are harmful. The industry is far more vulnerable to restrictions on the use of nicotine, than attempts at restricting, say, carcinogens or "tar." Consequently, the second sections considers some possibilities of finding alternatives to nicotine that could supplement or replace nicotine in a cigarette.

680050592-0608 at 0593 (US 85280) (O).

2038. BATCo's recognition of nicotine's psychoactive effects is reflected in Underwood's report as well, where the following "work area" was emphasized: "Elucidation and exploitation of the desirable pharmacological response, i.e., the biphasic action of brain stimulation and relief of stress (tranquillisation) and its relation to the subjective response (acetylcholine excitation of sympathetic ganglia cells)." 680050592-0608 at 0601 (US 85280) (O).

2039. In 1969, BATCo researcher D.J. Wood gave a presentation for company executives in which he detailed the company's pursuits in pharmacological research focusing on nicotine. He stated that BATCo researchers believed nicotine was responsible for the "satisfaction of smoking," and that future research was aimed at finding out more about how the human body absorbed nicotine. 322043204-3207 at 3207 (US 20592) (A).

2040. BATCo's acknowledgment of nicotine and addiction continued into the 1970s. In a June 30, 1971 memorandum entitled "Comments on Nicotine," BATCo scientist R.R. Johnson reported on a Research & Development meeting held to discuss the results of nicotine research code named "Project MAD HATTER" and "Project HIPPO." BATCo director Sir Charles Ellis led the meeting; and according to Johnson:

> The purpose of the meeting was to discuss the results from Projects MAD HATTER and HIPPO, and to stimulate further discussion of the importance of nicotine to the industry. Sir Charles started the meeting by saying that he had first brought out the concept that **we are in a nicotine rather than a tobacco industry** and then set up the above projects to sell this concept to management.

2065128907-8909 at 8908 (US 85281) (A) (emphasis added) .

2041. BATCo's research into nicotine substitutes is telling as well. In a November 9, 1972 report entitled "Preparation and Properties of Nicotine Analogues," BAT Group scientists K.D. Kilburn and J.G. Underwood recommended for commercial reasons that work continue into

finding nicotine analogs, or substitutes. The basis for this recommendation, the researchers stated, was that, "Should nicotine become less attractive to smokers, the future of the tobacco industry would become less secure." Specifically:

> It has been suggested that a considerable proportion of smokers depend on the pharmacological action of nicotine for their motivation to continue smoking. If this view is correct, the present scale of the tobacco industry is largely dependent on the intensity and nature of the pharmacological action of nicotine. A commercial threat would arise if either an alternative product became acceptable or the effect of nicotine was changed.

750009046-9098 at 9049 (US 88066) (A).

2042. An undated BATCo document most likely from the 1970s from scientist D.G. Felton entitled "Smoking and Health Research in the U.S.A." summarized some internal industry positions on scientific research and nicotine. The report recalled that American Tobacco Company's Scientific Director, Dr. Hanmer, stated that it was "important to keep up the nicotine content of the smoke, while reducing anything that ought to be reduced," that RJR's scientific director Dr. Galloway stated that "a reasonable amount of nicotine was necessary in a cigarette," and that Liggett's representative's (Mr. Blount) position was that "people smoked because of the nicotine." 105407187-7190 (US 34738) (O).

2043. In an undated document, S.J. Green, one of BATCo's top scientists in its Research & Development Department, provided advice to the corporate leadership as to the future direction the company should take with respect to smoking and disease, research, and even addiction. The presentation was delivered at the October 1972 BAT Group R&D Conference where B&W representatives were also in attendance. 680048899-8903 at 8903 (US 85284) (O).

2044. In his presentation, Dr. Green stated that BATCo was aware that smokers compensated for lower nicotine products "by increasing the number of cigarettes smoked" and by

"changing the way they smoked." He then discussed the "health conscious smokers who chose the low delivery cigarettes," frankly telling the BAT Group executives (including B&W) that:

> A suggestion is made both for the health conscious smoker and the smoker whose prime smoking requirement is physiological satisfaction. Surely many nicotine-dependent smokers are health conscious . . . .
>
> Smoking is fairly irrational like other drug dependencies. If there is a positive side to smoking, and I think there is, it is not easy for the smoker to articulate. He "votes with his feet" and continues with this irrational act.

110069983-9987 at 9985 (US 20269) (O).

2045. In an earlier version of Dr. Green's paper, dated July 26, 1972, he included as one of his assumptions: "The tobacco smoking habit is reinforced or dependent upon the psycho-pharmacological effects mainly of nicotine." 401024232-4236 at 4234 (US 47530) (A).

2046. In 1974-1975 the Research and Development Division at BATCo embarked on a project code-named "Project WHEAT" to classify smokers in terms of their "Inner Need" for nicotine and to study smokers' needs for varying levels of nicotine. The "Project WHEAT" researchers sought to determine if a relationship existed between a smoker's "Inner Need" and his "preferred nicotine delivery." To test this hypothesis, smokers were classified in Part I of "Project WHEAT" into low, medium, and high "Inner Need" categories. Researchers concluded in their July 10, 1975 Part I report that the greater a smoker's "Inner Need," the greater the smoker's "cigarette consumption, depth of inhalation, and the anticipated difficulty in giving up smoking." 757001395-1487 at 1396, 1432 (US 85285) (O).

2047. The "Inner Need" concept was based on BATCo's understanding that smokers smoked for pharmacological and psychological reasons. A November 6, 1974 report from BATCo scientists based "Inner Need" on many factors, including ones under the heading

"Automatic/Addictive." The report stated that some smokers smoke because they find it "almost unbearable" to run out of cigarettes, and because of a "gnawing hunger" to smoke. 670593721-3739 (US 53864) (O).

2048. In Part II of the BATCo research code-named "Project WHEAT," smokers were again grouped according to their "Inner Need." According to their January 30, 1976 "Restricted" Part II report, researchers demonstrated that smokers in the higher "Inner Need" categories required cigarettes with higher nicotine levels: "[A]s predicted by the hypothesis, High Need clusters tend to prefer relatively high nicotine cigarettes, their optimum nicotine delivery being higher than that of Low Need clusters." Through their research, the authors postulated a "model of the market . . . in which the two major determinants of the type of cigarette which best suits a smoker's requirements are Inner Need and concern for health." 650016374-6466 at 6376-6377 (US 85286) (O).

2049. BAT scientists published the results of a study entitled "The Effect of Smoking Deprivation on Smoking Behaviour" in a report dated September 11, 1975, and written by D.E. Creighton. The report was produced in this litigation both from BATCo and B&W, the latter copy bearing the stamp of the B&W Research Library. In assessing the behavior of the subjects, the research assumed that smokers need nicotine, that smokers experience withdrawal symptoms without it, and that smokers compensate to obtain the nicotine they need:

> It is probable that interference with an established behavioural pattern would cause different effects on different subjects according to their need for the stimulation of nicotine or suppression of the withdrawal symptoms that accompany a lack of nicotine. . . . If the subject is smoking for the pharmacological effects of nicotine he would be expected to take more smoke in a shorter time. He may do this by taking larger puffs, taking more puffs, reducing the interval between them or smoking more of the butt where the nicotine delivery is higher. He might also draw harder on the cigarette or for longer.

650014873-4901 at 4881 (US 53405) (O).

In the discussion section of the report, the authors stated:

> These results may be interpreted on the basis that some subjects have a greater demand for nicotine than others. It is also clear that the dose of nicotine required per unit of time is very variable. Some subjects require a small intake of nicotine taken frequently. . . . others require a large amount but infrequently . . . . These differences in nicotine demand and the pattern of nicotine intake may reflect metabolic differences between smokers.

650014873-4901 at 4885-86 (US 53405) (O).

2050. BATCo, like the other Cigarette Company Defendants in the 1970s and 1980s, undertook research to manipulate or maintain nicotine delivery while reducing the tar in its cigarettes. This research was based on the corporate knowledge that nicotine delivery above some minimum level was an essential part of cigarette smoking for smokers. For example, the basis for studies carried out in 1973 to assess the use of additives to reduce tar but actually increase nicotine to smokers was stated as follows: "The increased importance being placed on the lowering of TPM [total particulate matter, or tar] and the controlling of nicotine delivery has made it necessary to investigate the different methods available for producing these changes in smoke." 402390265-0282 at 0268 (US 85288) (O).

2051. The 1973 study also utilized "ADDITIVES FOR NICOTINE CONTROL," including nicotine tartrate, sodium bicarbonate, and diammonium hydrogen phosphate to increase the "extractable nicotine" in the smoke. The researchers found that certain combinations of additives successfully reduced tar while "maintaining the impact and physiological strength levels" of nicotine. 402390265-0282 at 0280 (US 85288) (O).

2052. As another example, BATCo's W.B. Fordyce circulated a report called "The Addition of Nicotine to Tobacco Products" written by company scientist Terry Mitchell to

BATCo directors under cover memo dated May 2, 1980. In his paper, Mitchell discusses three means of intentionally increasing the nicotine content of cigarettes, including the use of specialized high nicotine tobaccos (such as N. rustica), direct addition of nicotine and nicotine extracts, and the chemical "augmentation of smoke nicotine." Mitchell noted that smoke nicotine could be augmented via improving the nicotine transfer to smoke and by increasing the alkalinity/pH of smoke. 110088143-8155 (US 34965) (O).

2053. In 1975, BATCo scientist A. Kay Comer acknowledged that only those within the industry disputed the label addiction as applied to smoking and nicotine, and that the evidence showed the industry's denials were wrong. Comer stated that:

> In summary, it appears that most workers who are not directly concerned with the tobacco industry use the terms addiction or dependence rather than habituation and can be considered quite correct in doing so. If cigarette smoking is as addictive as the evidence suggests, it is not surprising that antismoking campaigns are so ineffective. . . ."

105392361-2368 at 2366 (US 22038) (O).

2054. BATCo's D.E. Creighton performed a "Restricted" written review of BAT's own "Group" research in January 1976, in order to evaluate the concept of compensation. The review found that compensation occurred - for example, via taking larger puffs or inhaling the smoke deeper into the lungs - when smokers of high-nicotine cigarettes smoked low-nicotine products and vice versa. Creighton found that, "On balance, it is concluded that many established smokers do compensate for changed delivery in an attempt to equalise nicotine delivery, when this is possible." 650008449-8480 at 8451 (US 76192) (O).

2055. Creighton stated that compensation for reduced nicotine delivery was evidence that smokers smoked for nicotine, and evidence that regular smokers are "nicotine dependent":

> [T]he majority of smokers who actually buy cigarettes and smoke

> them regularly are directly or indirectly seeking the effects of the nicotine content of the smoke . . . . The majority of smokers who are smoking for the nicotine content of smoke may still be smoking for different effects of nicotine. They may seek the pharmacological stimulation of nicotine which has both peripheral and central stimulating effects or to allay the uncomfortable effects of not having nicotine in the system, which Russell describes as relief from or avoidance of withdrawal effects. Most smokers when deprived of nicotine for a period of time during the day feel and increase in stress, tension, restlessness and irritability. A cigarette quickly restores the equilibrium.
>
> A subject who does not suffer the mild withdrawal symptoms, when unable to smoke and only seeks the occasional stimulation of nicotine, or some other attribute of smoking, is less likely to compensate for changed nicotine delivery than a subject who is more nicotine dependent.

650008449-8480 at 8462-8464 (US 76192) (O).

2056. Other sections of Creighton's 1976 report discussed an "estimation of self dosing with nicotine" and various factors that influence "the daily dose of nicotine taken by a nicotine dependent smoker." 650008449-8480 at 8465, 8468 (US 76192) (O).

2057. In a memorandum dated March 29, 1976, BATCo scientist S.J. Green detailed his forecast for "The Product in the Early 1980s." In this document, Green addressed "the main threats to the smoking habit." One major threat to smoking was that lower nicotine products would lead to more smokers being able to quit: "Taking a long-term view, there is a danger in the current trend of lower and lower cigarette deliveries - i.e. the smoker will be weaned away from the habit. . . . [W]e should be aware of the long-term dangers of following the crowd into ultra-low nicotine deliveries." 110069974-9982 at 9975 (US 20268) (A).

2058. Green then evaluated "potential rivals," that is, "cigarettes in which nicotine has been replaced by an alternative pharmacological agent." In this context, he referred to smokers as "members of the nicotine-dependent majority." 110069974-9982 at 9975, 9977 (US 20268)

(A).

2059. In 1976, BATCo held a conference on smoking behavior whose central theme was the pharmacological importance of nicotine on the central nervous system as the basis for smoking. In a conference report, Kay Comer wrote that tobacco is only used in ways that delivered unmetabolized nicotine to the brain:

> [C]igarette smokers who are forbidden to smoke, for instance in a lumber mill or down in a mine, will resort to chewing tobacco instead of smoking.
>
> The common factor in all the types of tobacco usage mentioned is nicotine, either absorbed through the lungs or the lining of the nose or mouth. Taken in these ways nicotine will quickly enter a direct route, in the blood, to the brain. Tobacco has never been used as a substance of ingestion. The probable reason for this is that when it is absorbed in the stomach or intestines, nicotine travels in the blood to the liver, where it is metabolised to cotinine before passing to the brain. It would therefore be surprising if nicotine, which is known to be pharmacologically active in the brain (unlike cotinine), and which is obtained in the ways most likely to enable it to reach the brain unchanged, were not involved in the reasons why people smoke.

650376684-6703 at 6694 (US 85289) (O); 100430004-0005 (US 87115) (O).

2060. A cover letter from BATCo dated December 31, 1976, showed that the conference report containing the Comer presentation was sent to B&W. 650376684-6684 (US 85289) (O).

2061. In another BATCo document entitled "Smoking Enjoyment," scientist Dr. J.A. Jagger wrote to B. Fordyce that smokers were persons who "carry out a practice which they are unable to stop (by and large) and which they would basically prefer to stop (if they could)." 105657941-7944 (US 34812) (O).

2062. BATCo also produced a November 24, 1977 report entitled "A Note on Smoker Motivation and Dependency." In the introductory section of the report, the author stated that smoking can be characterized by "a dependency factor which is, in a restricted sense,

independent of other motivational influences" that would keep a smoker smoking who desires to quit. The motivation to smoke even when one desires to quit "more closely resembles an urge or drive and **might be described as an addictive behaviour beyond cognitive control and likely to be associated with pharmacological dependency.**" 102698343-8361 at 8343 (US 85290) (O) (emphasis added) .

2063. BATCo held an "International Smoking Behaviour Conference" from November 27-30, 1977 at Chelwood, England. The company invited its own scientists and executives, along with representatives of its affiliate companies (B&W, Imperial Tobacco, Gallaher Limited, Souza Cruz, Rothmans, BAT-Germany and others), industry trade groups, and industry-funded researchers to exchange information. BATCo's own Dr. Green delivered the introduction, followed by presentations to the conference over the next several days into the central nervous system effects of nicotine, nicotine impact on human attention span, the role of nicotine in maintaining smoking, and many other topics directly related to the central importance of nicotine to the smoking behavior. 103505372-5399 (US 87116) (O); 103505453-5513 (US 87117) (O); 103518290-8401 (US 87118) (O).

2064. B&W produced from its company research library a BAT scientific report entitled "Dependence on Cigarette Smoking" dated December 15, 1977. The report was written by A. Kay Comer and distributed to BAT executives. In the introductory section of the paper, the author summarized, "It is concluded that the majority of smokers are to some extent dependent on smoking but that behavioural, social and psychological factors may be as important as those of a pharmacological nature." 650015112-5304 at 5114 (US 53406) (A).

2065. A document by BATCo's P.L. Short dated February 22, 1978 and entitled "Product and Process Innovation" recognized that "the problem of addiction via nicotine [is]

increasing." Two days later, his meeting notes recorded that, "Those seeking nicotine gratification where smoking is banned and the subsequent risk of purchasing tobacco by prescription or registration of addicts in the future, will lead to greater use of smokeless tobaccos . . . " He also wrote that there was a segment of smokers "wanting to quit but unable to, hooked onto cigarettes at present but seeking a cigarette/nicotine substitute." 100566925-6926 at 6926 (US 88765) (O); 100566919-6924 (US 88766) (O).

2066. In a June 27, 1978 document entitled "Compensation for Changed Delivery," BATCo scientist D.E. Creighton stated that:

> Numerous experiments have been carried out in Hamburg, Montreal, and Southampton within the company as well as many other experiments by research workers in independent organizations, that show that generally smokers do change their smoking patterns in response to changes in the machine smoked deliveries of cigarettes. . . . In general, a majority of habitual smokers compensate for changed delivery, if they change to a lower delivery brand than their usual brand. If they choose lower delivery brand which has a higher tar to nicotine ratio than their usual brand (which is often the case with lower delivery products) the smokers will in fact increase the amounts of tar and gas phase that they take in, in order to take in the same amount of nicotine.

10553905-3915 at 3906, 3913 (US 76170) (O).

2067. The connection between addiction and profitability continued to guide BATCo research and marketing. In an August 28, 1979 memorandum entitled "Key Areas – Product Innovation Over Next 10 Years for Long-term Development," BATCo scientific director L.C.F. Blackman stated that nicotine dependence was the key to the company's future viability and profitability. In coming to this conclusion, Dr. Blackman charted the stages of smoking from "starting the habit" (Stage 1) to "acknowledgment of pleasure"(Stage 2) to "dependence on the smoking habit" (Stage 3). He flatly stated that nicotine "initiates a dependence in the confirmed smoker" and that "**the high profits additionally associated with the tobacco industry are**

directly related to the fact that the customer is dependent upon the product." 109872505-2508 at 2508 (US 21530) (A) (emphasis added).

2068. BATCo continued its search for nicotine substitutes into the 1970s. A November 30, 1978 BATCo report entitled "Alkaloids That Have a Pharmacology Like Nicotine" reviewed all relevant research in depth and concluded that, "For smoking products, nicotine is the alkaloid of choice." The BATCo scientists reached this conclusion by comparing the known physiological qualities of nicotine to other alkaloids, including nicotine's effect on the central nervous system, respiration, blood pressure, and heart rate. 680009683-9700 at 9684 (US 53979) (O).

2069. The Appendix to the 1978 BATCo report was entitled "The Effects of Nicotine" and described nicotine as "the most abundant and potent of the several alkaloids present in tobacco." The Appendix also contained the following section:

> The Pharmacological Mechanisms of Nicotine
>
> The mode of action through which nicotine achieves its effects on the body is very complex. The complexity arises from nicotine's simultaneous and varying degree of activity on the different nerve centers, organs and muscles of the body. Nicotine causes its effects not only by central and peripheral stimulation (i.e., at the brain and spinal cord, and nerve organ or nerve muscle junctions, respectively), but also by the stimulation of intermediate nerve ganglia. . . .
>
> While smokers describe the effects of nicotine as calming and relaxing, all the accumulated evidence indicates that it cause physiological excitation and stimulation. One theory that attempts to explain this paradox suggests that the smoker becomes accustomed to the stimulated condition that nicotine produces; he then uses this condition as the norm from which to judge his well being. If the condition is not maintained, discomfort and anxiety are felt.

680009683-9700 at 9697-9698 (US 53979) (O).

2070. In light of the addictiveness of nicotine and noted differences between smoking and other habits such as alcohol, coffee, and candy, BATCo's long-term goals and interests included the following: "We are searching explicitly for a socially acceptable addictive product involving . . . the essential constituent most likely to be nicotine or a 'direct' substitute for it." 109872505-2508 at 2507 (US 21530) (A).

2071. In an undated BATCo document most likely created in the 1970s, an executive summarized the "usable data" on smoking and nicotine addiction, and related addiction to BATCo's and the industry's marketing plans. The memorandum did not disagree with any of the studies cited, and concluded that smokers are dependent on the pharmacological effects of nicotine, smokers develop tolerance to and dependency on nicotine, and that smokers deprived of nicotine experience withdrawal symptoms:

> SUMMARY and IMPLICATIONS to the INDUSTRY
>
> The rush of nicotine into the blood stream and nervous system is short-lived; therefore, reducing consumption would cause withdrawal and all of its unpleasant side effects so long as the smoker is restricted from smoking. Nicotine vacates the system in 30 minutes or so and at that time withdrawal starts. . . .
>
> The sensorimotor manipulation aspect of smoking is important to people but perhaps not as important as nicotine. . . . Cigarettes allow people to self-administer nicotine at a self-determined rate.

680096095-6110 at 6096 (US 53993) (O).

Later in the paper, when describing children and adults who were "regular smokers," the author wrote:

> Only an exceptional 2% smoke occasionally and intermittently. **Nearly all regular smokers are nicotine dependent.** . . . As the novice acquires tolerance to the irritation of the smoke over a period of two or three years, he becomes conditioned to a high and regular intake of nicotine.

680096095-6110 at 6099, 6101 (US 53993) (O) (emphasis added).

2072. One section of the BATCo memorandum was subtitled "Physical Dependence," in which the author detailed the process by which a smoker becomes addicted:

> Physical dependence involves changes which are physiological. Firstly, this is shown by the smoker's tolerance to the effects of nicotine. This is due to changes at the synapses. The smoker also has an increased capacity to metabolise and excrete the drug, mainly in the liver. . .
>
> Secondly, when the intake of nicotine is reduced or discontinued, the smoker may experience withdrawal symptoms, resulting from the lessening of overactivity at the synapses. . . Thus, withdrawal of cigarettes from heavy smokers may reduce them to a subjectively distressed state, with symptoms of anxiety, depression, irritability, restlessness, intense craving as well as difficulty in concentration. More will be discussed about the addictive quality of nicotine in the following section. . . .
>
> Research has shown that stimulation of the medial forebrain bundle of the hypothalamus can pleasurably occupy an animal to the exclusion of all other basic activities, e.g., eating, drinking, sexual activities. It seems likely that nicotine and other dependence-producing drugs owe part of their effectiveness to influencing this centre.
>
> The blood-brain barrier is no barrier to nicotine which reaches the brain within a minute of a person lighting up. Its effect is short lived. In twenty to thirty minutes after the smoker has finished his cigarette, most of the nicotine has left his brain for other organs - stomach, liver and kidneys - and this is just about the time that the heavily dependent smoker needs his next cigarette.

680096095-6110 at 6103-6104 (US 53993) (O).

2073. The BATCo memorandum once again documented the company's knowledge and acceptance of "compensation," that is, the means employed by smokers of lower nicotine cigarettes to obtain higher doses of nicotine:

> If the nicotine level of cigarettes fails to completely achieve the desired mood change, that cigarette will be drawn on deeper, the smoke held longer, and consumption will rise. . . . Reductions in nicotine are therefore compensated for by consumers but the limit to which they can compensate for the diminished nicotine /

> diminished therapeutic efficacy is unknown. R&D is studying this subject at the present time.

680096095-6110 at 6095 (US 53993) (O).

2074. BATCo knew from scientific studies using its own employees that smokers smoked for nicotine and compensated, or changed their smoking behavior, when smoking lower nicotine cigarettes. Compensation was again demonstrated by two such studies carried out by BATCo in 1974 and 1978 using reduced nicotine cigarettes. D.E. Creighton's report of these studies stated that smokers compensated for reductions in nicotine yield by smoking more intensely:

> Comparison of the two data sets shows that the lower delivery cigarette has been smoked more intensively . . . . It can be reasonably inferred that the smokers in this panel received similar amounts of nicotine from both cigarettes . . . .
>
> The fact that smokers have changed their smoking patterns to take more smoke from a cigarette with lower nicotine delivery but similar TPM [total particulate matter, or tar] delivery adds support to the contention that nicotine is a major determinant of smoking behaviour . . . .

650008946-8960 at 8948, 8954 (US 85318) (O).

2075. A March 1, 1979 "Restricted" BAT report written by Creighton summarized a collaborative scientific study between BATCo and British scientist M.A.H. Russell at the "Addiction Research Unit." The research project studied smoker compensation to obtain more nicotine, and utilized a standard low tar/low nicotine cigarette and a modified low tar/high nicotine cigarette. BATCo and Russell determined that smokers compensate less when given low tar/high nicotine cigarettes, and compensate more when given low tar/low nicotine cigarettes. According to the report, while Dr. Russell's interest in the study was "from the health point of view," BATCo participated in the work "from a commercial point of view." 650010157-

0193 at 0174, 0183 (US 85292) (O).

2076. The BATCo/Russell study also reported that the high nicotine cigarettes produced "giddiness," a reflection of the intoxicating properties of nicotine:

> Some smokers, in fact, felt giddy while smoking the [low tar, high nicotine] cigarette, presumably because they used the mouth sensations as cues to estimate their smoke intake. As a result of taking sufficient smoke to cause acceptable mouth sensations, they would receive nearly twice as much nicotine as usual, resulting in the feeling of giddiness.

650010157-0193 at 0179 (US 85292) (O).

2077. BATCo also produced a January 1980 document in this litigation entitled "B.A.T. Board Strategies," a document that, at the Board of Directors level, reviewed future influences and possible innovations for the industry. One of the "Assumptions" behind the "Strategies" was that, "Throughout the next 10 years smoking will continue to produce a dependency on the habit and hence there will still be a significant, albeit reducing, number of smokers who choose to smoke 'full-flavour' non-health reassurance products." 109883023-3026 at 3024 (US 85293) (O).

2078. In an April 11, 1980 BATCo document entitled "What Three Radical Changes Might, Through the Agency of R & D, Take Place in this Industry by the End of the Century," a team of BATCo scientists (Crellin, Ferris, Greig, and Milner) provided a forecast of what the industry would have to cope with in the near future. The scientists stated that:

> **B.A.T. should learn to look at itself as a drug company rather than as a tobacco company.** The mood affecting drug requirements of the population will in the future increase but the range of requirements will encompass tranquillisers e.g. valium, endorphin/enkephalin (brain opiates), marijuana, nicotine analogues, etc. At present, the taking of many of these drugs is either medically prescribed or regarded as deviant behaviour, but could be "socialized" like alcoholic drinking and tobacco smoking.

109884190-4191 at 4190 (US 21557) (A) (emphasis added).

2079. In a January 3, 1980 report by Creighton entitled "TN 80-01-008 Project Gypsy," the company acknowledged Dr. Russell's observation that: "Smokers smoke for nicotine and die for tar." 1022166881-6893 at 6882 (US 88767) (O); 536501866-1867 at 1866 (US 75986) (O).

2080. According to the April 1980 typed notes of BATCo scientist Dr. Lionel Blackman, the company needed to address the anticipated issue that, "Although nicotine will be considered by some doctors to be less harmful than tar, there will be increasing recognition by some medical authorities that smoking is a nicotine dependent activity." 301140125-0128 at 0126 (US 85294) (O).

2081. In a "Strictly Private and Confidential" document authored by T.W. Kidd, whom BATCo identifies on its privilege log glossaries as "BATCo - Employee, Public Affairs" from 1948-1983, Kidd provided the following information to assist the company in formulating a new company position on smoking and health:

> Addiction/Habituation
>
> This is another aspect of the smoking and health issue which cannot be overlooked. Unlike dangerous sports and other high risk activities (except the drinking of alcohol) smoking is addictive/habituative in addition to being an additional risk and many smokers would like to give up the habit if they could. This does not mean that we must contribute to health education or to "quitting clinics" but it does mean we have to act even more responsibly than if the consumption of our products were purely involving a minority of consumers in an additional risk.

109881332-1335 at 1335 (US 34929) (O). Despite Mr. Kidd's recommendations for a corporate position that reflected the addictiveness of cigarettes, no new company position was ever announced.

2082. A March 31, 1981 "Restricted" research report entitled "Nicotine Studies: A Second Report, Estimation of Whole Body Nicotine Dose by Urinary Nicotine and Cotinine

Measurement" documented BATCo's research into accurately measuring nicotine intake by rats forced to inhale cigarette smoke. The authors, BATCo scientists G. Read, I.G.M. Anderson, and R.E. Chapman, wrote that the studies were "particularly relevant to the development of an understanding of an individual smoker's daily nicotine requirement and the relationship between nicotine dose and smoking behaviour under conditions of brand switching/delivery modification." 650030769-0802 at 0779-0780 (US 53428) (O).

2083. The March 31, 1981 report built on an earlier BATCo scientific study into "nicotine dose" dated May 21, 1980, and entitled "Method for Nicotine and Cotinine in Blood and Urine" and written by the same scientists. In this earlier study into methods to measure nicotine in humans, the authors accepted that "the pharmacological response of smokers to nicotine is believed to be responsible for an individual's smoking behaviour, providing the motivation for and the degree of satisfaction required by the smoker." 650032386-2428 at 2389 (US 87119) (O).

2084. A 1981 BATCo document stamped "SECRET" and entitled "BAT Board Strategies" made clear the company's internal acceptance of nicotine addiction, as well as the drug-like effects of nicotine, at the highest levels of the company. Under the "Nicotine" subsection of the document, BATCo conceded that "Nicotine is a major active element in smoking. Because of its effects, smoking can stimulate and provide relief from stress as well as giving great pleasure to many people." Then in a later subsection, BATCo stated: "**It must be admitted that heavy and 'chain smokers' have demonstrated addiction symptoms.** In this respect we are totally opposed to smoking in excess and do not encourage it in any way. We believe that moderation in smoking, as in other pleasures, is in the best interest of the smoker." 503092365-2428 at 2399, 2404 (US 85296) (O) (emphasis added).

2085. Under cover letter dated April 7, 1982, BATCo's G. O. Brooks forwarded an internal nicotine study by Creighton entitled "Human Smoking Behaviour" to researchers at B&W. In Creighton's report, he restated the "sine qua non" role of nicotine in smoking and discussed withdrawal and compensation:

> Nicotine is the most pharmacologically active constituent in tobacco smoke and is probably the most usual factor responsible for maintaining the smoking habit. . . .
>
> Nicotine has pharmacological effects both in the brain and other parts of the body. Some of these effects are due to nicotine itself whereas others are due to nicotine causing a release of other substances within the body such as adrenaline. . . .
>
> The smoker . . . who smokes to maintain a constant blood level of nicotine is most likely trying to avoid the unpleasant sensations that he feels when he is not smoking. Without a cigarette he will become nervous, irritable and likely to make mistakes in his work. Such a smoker is likely to compensate for changed delivery if given a cigarette with different standard machine smoked deliveries to his usual brand so that as far as possible he maintains a constant blood level of nicotine. . .
> It is possible to consider nicotine as the component of cigarette smoke that controls the amount of smoke that a smoker takes from a cigarette.

660913609-3633 at 3616-3618 (US 22763) (O).

2086. Brooks' April 7, 1982 memorandum and the attached report also provided insight into the companies' (both BATCo's and B&W's) intimate knowledge of compensation and their goal to maintain the addiction through maintaining a minimum "dose" of nicotine delivered in their products:

> The simple answer would seem to be to offer the smoker a product with comparatively high nicotine deliveries so that with a minimum of effort he could take the dose of nicotine suitable to his immediate needs. . . . If delivery levels are reduced too quickly or eventually to a level which is so low that the nicotine is below the threshold of pharmacological activity then it is possible that the smoking habit would be rejected by a large number of smokers.

660913609-3633 at 3619-3620 (US 22763) (O).

2087. The paper attached to Brooks' 1982 letter resembled and borrowed from the 1978 paper by Dr. Creighton entitled "Compensation for Changed Delivery." (see above) In this earlier paper, Dr. Creighton stated that the company's knowledge of compensation by smokers of low nicotine yield cigarettes came from research "carried out in Hamburg, Montreal, and Southampton within the company," research showing that "smokers do change their smoking patterns in response to changes in the machine smoked deliveries of cigarettes." 105553905-3915 at 3906 (US 34799) (A).

2088. In 1997, B&W's corporate designee on addiction and cigarette design under Minnesota's equivalent of Fed. R. Civ. P. 30(b)(6), M. Lance Reynolds, who was also the company's former Director of Research and Director of Product Development, agreed in sworn testimony with Dr. Creighton's opening statement that "Nicotine is the most pharmacologically active constituent in cigarette smoke and is most probably the usual factor responsible for the maintenance of the smoking habit." Reynolds PD, State of Minnesota and BCBS v. Philip Morris et al., 9/30/97, 64:6-20.

2089. A May 7, 1982 marketing study report prepared for BAT Group member (and B&W sister company) Imperial Tobacco Limited contained the results of an extensive study into smoking behavior. The study, code-named "Project Sixteen," described how and why teens begin smoking cigarettes, and then progress on to becoming addicted. The study found specifically that, "Once addiction does take place, it becomes necessary for the smoker to make peace with the accepted hazards [of smoking]. This is done by a wide range of rationalizations." 566627751-7824 at 7753 (US 20938) (A).

2090. The Imperial smoking behavior study described how adolescents start smoking

based partly on the naive belief that they will not become addicted:

> Thus we have a pattern that shows how and why the health hazards do not really enter into the decision to start. It's no longer because they [the health hazards] are sincerely disbelieved (shows of rebellious bravado aside) but because they are assumed as not applicable to the person who won't become addicted. But addicted they do indeed become . . . what then? . . .
>
> [C]onfronted by an addiction that's difficult to break and also by the hazard of not breaking it, the young smoker (and probably the not-so-young too) has no choice but to play down this conflict by whatever convenient ploy that works.

566627751-7824 at 7780, 7783 (US 20938) (A).

2091. In a March 25, 1983 memorandum entitled "Project Recommendations," which described the relationship of nicotine level to switching behavior, BATCo researcher Andrew J. Bellman stated that "nicotine is the addictive agent in cigarettes." 514110006-0009 at 0007 (US 21745) (A).

2092. In a January 26, 1984 research paper, BATCo researcher Colin C. Greig stated that because nicotine "is the major or sole pharmacologically active agent in smoke, it must be presumed that this is the preferred method of absorption and thus why people inhale smoke." 650547777-7787 at 7786 (US 20950) (A).

2093. In 1984, the BATCo Research and Development Centre in Southampton prepared a report evaluating a proposed "non-combustible cigarette" to be manufactured by a company called Advanced Tobacco Products. The cigarette, called "Favor," was designed to deliver nicotine as an inhaled vapor. BATCo's recognition of the central role of nicotine to the tobacco industry is revealed in this evaluation, which focused in large part on the pharmacological characteristics of the proposed product. The primary advantage of the "Favor" product to consumers was that it was "capable of delivering nicotine"; the primary advantage to the industry

was that it would "help satisfy the needs of the smoker during periods of enforced smoking abstinence." 505005425-5442 at 5427-5428 (US 85297) (O).

2094. A noted disadvantage of "Favor" was that the product produced "no central nervous system response: implying that the pharmacological potential of the product is small." Moreover, the product would "highlight perceived dependence of smokers on the drug nicotine" and was "open to possible abuse" similar to "glue sniffing." 505005425-5442 at 5428-5429 (US 85297) (O).

2095. A March 22, 1984 report entitled "Receptors for Nicotine in the Central Nervous System" and authored by BATCo scientist W. W. Templeton, documented the company's research into the psychoactive effects of nicotine and specific sites (receptors) in the brain where nicotine binds within the central nervous system. The study "confirm[ed] the existence of specific binding sites for nicotine in the CNS" and speculated that the results "may help to explain the development of tolerance to nicotine." The Executive Summary described the research and its link to the design and manufacture of cigarettes:

> This report is the first in a series of studies designed to identify and characterize how nicotine derived from cigarette smoke can interact with the body, and in particular the active centres of the brain. This specific interaction is believed to form an essential element of a smoker's satisfaction.
>
> The report describes in detail the development and application of techniques to identify and characterise regions within brain tissue where nicotine can bind and elicit a pharmacological response. . . .
>
> The findings will be used as appropriate in the process of developing lower delivery products with full smoking characteristics.

650000996-1034 at 0998, 1011, 1014 (US 53388) (O).

2096. Later in the 1984 report, the author reviewed the evidence on smoking

"motivation" and concluded:

> Taken together, the evidence suggests that **self-administration of nicotine may be the primary motivation for smoking.** While this may not be true for every smoker, each smoker (who inhales the smoke) absorbs a quantity of nicotine during each puff sufficient to have extensive physiological and pharmacological effects, regardless of the motivation for smoking. . . .
>
> Primarily, nicotine is taken for its effects on the CNS, the peripheral consequences of nicotine administration, such as increased heart rate and blood pressure, being unwanted side effects.

650000996-1034 at 1001-1002 (US 53388) (O) (emphasis added).

2097. In June 1984, BATCo held a three-day "Nicotine Conference" attended by representatives of BATCo and B&W. According to the conference agenda, one topic for discussion was "A Smoker's Requirement for Nicotine - A Smoking Behaviour and Marketplace View." The agenda later stated that "Considerable indirect evidence has been accumulated that suggests inhaling cigarette smokers smoke for nicotine and presumably the pharmacological effects of nicotine." 512106427-6437 at 6428, 6433 (US 20846) (O).

2098. Another topic at the BATCo "Nicotine Conference" was called "Product Modification for Maximal Nicotine Effects." Under this heading, the authors stated that in order to "maximise nicotine effects," the company must understand "what constitutes an adequate and suitably 'packaged' dose of nicotine to satisfy a smoker's 'requirements.'" 512106427-6437 at 6435 (US 20846) (O).

2099. A final report of the Nicotine Conference was also prepared by BATCo. The report contained summaries of many of the presentations made by BATCo researchers and executives to conference attendees. These summaries revealed BATCo's intimate knowledge of smoker regulation of nicotine (compensation), smokers' "threshold requirement" of nicotine,

"product elacticity," "nicotine dose" measurements, "pharmacokinetics of nicotine," "the sensory and psychological effects of nicotine," central nervous system effects of nicotine, and "smoke manipulation involving pH modification" and other product design modifications. 101234971-5018 (US 21645) (O).

2100. One month after its landmark "Nicotine Conference," BATCo held a conference on smoking behavior and marketing. In Session III of the July 1984 conference, again attended by B&W representatives, C. I. Ayres summarized information from the earlier nicotine conference, including the following:

> Many smokers appear to smoke to a constant intake of nicotine. As yet, however, we do not know whether most smokers are aiming to achieve a "satisfactory" average level of nicotine circulating in the body, or whether they are seeking an optimum peak nicotine level after each cigarette. . . .
>
> The presentation was concerned with summarising and outlining the central role of nicotine in the smoking process and our business generally . . . . The extent to which smokers smoke for nicotine was discussed and it was agreed that it is unlikely that all smokers smoke for nicotine. However, only products containing nicotine have widespread use . . . .

536000308-0507 at 0330-0332 (US 85298) (O); 109869361-9369 (US 87120) (O).

2101. Presentations and statements from the July 1984 BATCo "Smoking Behaviour-Marketing Conference are discussed in other documents as well. Of note was a comforting report to attendees in Session IV of the conference that, "Although intentions and attempts to quit are relatively high (30-40% of smokers) the actual success rate is relatively low and stable." 402426650-6677 at 6676 (US 87121) (O).

2102. A review of the conference agenda, reports and other documents makes clear that nicotine was the focal point of nearly every presentation and discussion. For example, BATCo Group Leader Graham Read delivered a presentation entitled "Current Status and Future

Direction of Smoking Behaviour Research." In his presentation, Read observed the "strong indirect evidence of smokers smoking for nicotine" as representing a "cause and effect" relationship. Read stated that the significance of his observation was that "smoking maintenance" is accomplished through nicotine, and that "in its simplest sense puffing behaviour is the means of providing nicotine in a metered fashion." 536000000-0090 at 0045-0063 (US 22338) (A).

2103. A BATCo report of the company's Research and Development conference in September 1984, prepared by BATCo Scientist/Director Dr. Lionel Blackman, emphasized the need for further research related to smoker behavior and nicotine. The report advised that BATCo needed to research whether smokers smoked for the "transient peak effects" of nicotine or instead sought "threshold base-line levels throughout the day." The report also recommended research into means of "influencing nicotine transfer from the product to the smoker - and the commercial viability of such means." According to the R&D conference report, "Nicotine remains a top priority." 109872430-2447 at 2439, 2443 (US 23340) (A).

2104. In an October 8, 1984 letter to David Schechter, Vice President and General Counsel for BATUS, Inc. (B&W's immediate parent company in Louisville), Roy Reardon, an attorney with Simpson, Thacher & Bartlett (counsel for B&W), discussed the effect upon future product liability lawsuits against B&W of RJR's recently launched "Open Debate" ad campaign. The handwritten comments on the letter made by BATCo in-house counsel showed BATCo's understanding that addiction was the key to whether the industry could prevail in raising the assumption of risk defense, a defense that Simpson, Thacher advised was the strongest available to the industry. Handwritten notations throughout the 44 page letter indicate BATCo's concern that such a defense could be ineffective in light of the addiction issue. For example, concerning

the statement, "in our view, assumption of risk is realistically the strongest defense presently available to the industry," the words "Jesus" and "ADDICTION" appear. These handwritten notations demonstrate BATCo's knowledge of the addictiveness of its cigarette products and the impact of the addiction issue on the industry's litigation strategy. 3010609994-1037 at 9997, 1005, 1015, 1021, 1035 (US 28153) (O).

2105. A September 1984 BATCo document entitled "Research Conference, GR&DC Research Programme" stated some objectives of BATCo's in-house behavioral/nicotine research. For example, the memorandum summarized planned nicotine/pH modification experiments, research focusing on the "mechanisms of nicotine interaction with the central nervous system," and human studies to better determine "the minimum dose of smoke nicotine that can provide pharmacological satisfaction for the smoker." 109869520-9522 at 9521 (US 87122) (A).

2106. BATCo Group research was premised on the position that nicotine was the critical component of cigarettes that kept smokers smoking. In an October 15, 1985 memorandum from German BAT scientist E. Kausch to B&W's Vice President of Research and Development, Kausch followed up on a recent "Oxford Conference" with the statement: "There is no daupt [sic] that nicotin is the compound which makes tobacco use to such a widespread habit. This means that nicotin research should be a central part of BAT's research efforts.[sic]" 510000642-0644 at 0643 (US 85300) (O).

2107. In December 1985, BATCo scientist K. Battig visited a number of laboratories in the United States, engaged in nicotine research, both within and without the industry. In his December 9, 1985 synopsis memorandum, Dr. Battig described "acute tolerance" to nicotine as the need of a regular to intensify his smoking to make up for a nicotine "deficit." Dr. Battig concluded his paper with the following observation on nicotine withdrawal:

> Psychological effects of nicotine. There is still no definitive answer to the question whether favourable psychological effects of nicotine or the fear of withdrawal effects are the reasons why smokers do not change their smoking behaviour. . . . In the time to come, it might be particularly important to clarify this question in connection with the dosage of nicotine (problem of acute tolerance).

102206198-6210 at 6210 (US 85301) (O).

2108. A June 1988 internal BATCo report entitled "The Significance of pH in Tobacco and Tobacco Smoke" summarized BATCo's in-depth knowledge with respect to manipulating smoke pH and increasing "free base" nicotine in order to increase the nicotine delivery to smokers in the mouth and lungs. 500104402-4424 (US 21492) (O).

2109. A 1988 BATCo document entitled "A Meeting of Scientific Research Group, Montreal, August 6th-8th 1988" reported on the results of a U.S. smoking behavioral study that "strongly point[ed] to nicotine as the basis of the smoking habit." The document also demonstrated the existence of compensation, reporting that "plasma nicotine levels were almost constant, regardless of measured nicotine delivery levels, as were the number of cigarettes smoked per day". 100993169-3173 at 3169 (US 34677) (A).

2110. BATCo described a 1990s project code named "PROJECT GREENDOT" in a BATCo report stamped "SECRET" and "CONFIDENTIAL." The report recalled that the company collaborated with Battelle some 25 years before with Project "ARIEL" to develop a modified smoke delivery project that would give the smoker "sufficient nicotine" without the unwanted products of combustion. According to this document, Project "ARIEL" was discontinued in 1967. In the 1990s, "PROJECT GREENDOT" was planned, similar to the impetus for "ARIEL," to give smokers the nicotine they need without unwanted tar and sidestream smoke, via an "alternative" device with certain specifications:

> Work has shown that smokers obtain nicotine equivalent to 0.8 mg per cigarette, independent of design and tar yield. It is therefore realistic to assume that a product targeted at a nicotine delivery of 0.8 mg will satisfy the consumers' pharmacological requirements for nicotine.

400452855-2865 at 2856 (US 47504) (O).

2111. At an August 22-24, 1990 BAT Group conference entitled "Product Development Conference," representatives of Group members (including BATCo and B&W) discussed ongoing Group research projects and priorities. The "SECRET" conference report recited that the companies were in the process of several high priority projects designed to maximize nicotine in low tar products (such as Project "GREENDOT") and maintain nicotine "satisfaction." 400459297-9343 (US 87123) (O).

2112. A January 15, 1991 BATCo document entitled "BATCo Operating Group Five Year Plan 1991-1995" contained a section entitled "The Fundamental Research Centre." In this section, when discussing key research projects regarding "tar/nicotine ratio reduction," the plan stated that:

> Basic research will continue into products delivering adequate levels of nicotine with minimum levels of other components, focusing on: tobacco treatments leading to reduced tar formation; novel sheet materials capable of controlled release of nicotine/flavourants; and enhancement of the transfer of nicotine/flavourants of smoke.

201752783-2899 at 2838 (US 85452) (O). This document demonstrates BATCo's knowledge of the importance of nicotine for its products' sales as well as its continued efforts to maintain smokers' addictions through manipulation of the amount of nicotine received by smokers of its products.

2113. In an undated 1992 marketing document entitled "Structured Creativity Group," BATCo's Colin Greig described cigarettes as a "'drug' administration system for public use" with

"very very significant advantages over other drugs." Because "nicotine is the lowest dose 'common' drug available," it compared favorably to other "slower" drugs such as marijuana, amphetamines, and alcohol." Greig wrote that, "Within 10 seconds of starting to smoke, nicotine is available in the brain." The memorandum also admits BATCo's acceptance that smokers of low tar products "compensate," or modify their smoking behavior, in order to obtain more nicotine. 100503495-3506 at 3496, 3499 (US 76168) (emphasis in original) (O).

2114. Greig described tobacco as "a fast, highly pharmacologically effective and cheap 'drug'" contained within a "relatively cheap and efficient delivery system." At the close of his memorandum, Greig observed that because cigarettes leave smokers unsatisfied and always craving more, "all we [BATCo] would want then is a larger bag to carry the money to the bank." 100503495-3506 at 3497, 3505 (US 76168) (O).

2115. In 1997, B&W's corporate designee on addiction and cigarette design under Minnesota's equivalent of Fed. R. Civ. P. 30(b)(6), M. Lance Reynolds, who was also B&W's former Director of Research and Director of Product Development, agreed in sworn testimony with the Colin Greig statement in the 1992 document that "the cigarette is a good way of delivering this pharmacologically active substance [nicotine] to the brain." Reynolds PD, Minnesota, 9/30/97, 55:3-6.

2116. BATCo understood that it, like the other Cigarette Company Defendants, had to mask that it was truly in the nicotine business. A meeting was held at BATCo's parent BAT Industries on February 10, 1992, to discuss proposed research into the beneficial effects of smoking on Alzheimer's Disease patients. BATCo scientists Dr. Thornton and Dr. Rudge attended the meeting. Dr. Thornton's written summary of the meeting stated that while Alzheimer's research had potential benefits for the company, he cautioned that: "If there was a

satisfactory outcome to this research this would further activate research into options for delivering nicotine to people and again would require decisions as to which business we are in." 300555800-5803 (US 87124) (O).

2117. An undated BATCo memorandum written by D.E. Creighton, entitled "Structured Creativity Group Presentation," listed the following as one of smoking consumers' needs:

> High on the list of consumer needs is nicotine, which I believe to be the main motivator and sustainer of smoking behaviour. Without nicotine in sufficient quantity to satisfy the needs of the smoker, the smoker can (a) give up altogether, (b) cut back to a low purchase level, (c) keep switching brands.

102690336-0350 at 0340 (US 21681) (A).

2118. In his memorandum, Creighton was careful to distinguish the need for nicotine from the importance of flavor and quality to cigarette consumers. At the close, he noted that BATCo had "tried the low [nicotine] delivery product route with limited success. This might be because the nicotine in such products is below the pharmacological threshold of effectiveness." 102690336-0350 at 0345, 0350 (US 21681) (A).

2119. BATCo carried out and/or funded voluminous internal studies on nicotine and its effect on the human body, studies that are too numerous to discuss each in detail in this section. However, the clear import of these studies, taken as a whole, was that BATCo knew that nicotine was essential to cigarettes, essential to addiction, and essential to its business of selling cigarettes. Many of these reports bear stamps indicating they were shipped to B&W. Additional BATCo research reports include: "Nicotine in Smoke and Human Physiological Response," dated March 26, 1970, 682638843-8864 (US 25454) (O); "Relative Contributions of Nicotine and Carbon Monoxide to Human Physiological Response," dated November 15, 1971, 682638479-8516 (US 25451) (O); "The Transfer of Nicotine From Smoke Into Blood Using a

Perfused Canine Lung," dated February 28, 1967, 750003524-3551 (US 87125) (A); "Subjective Evaluation of Select Flue-Cured Tip Grades," dated August 20, 1968, 750067063-7084 (US 87126) (O); "The Absorption of Nicotine Via the Mouth: Studies Using Model Systems," dated May 9, 1965, 750004644-4702 (US 87127) (O); "The Effect of Puff Volume on 'Extractable Nicotine' and the Retention of Nicotine in the Mouth," dated August 21, 1969, 750040142-0159 (US 87128) (O); "Further Studies on the Effect of Nicotine on Human Physiological Response," dated June 5, 1973, 750009778-9808 (US 87129) (O); "Acute Effect of Cigarette Smoke on Brain-Wave Alpha Rhythm - First Report," dated October 31, 1974, 750055087-5106 (US 87130) (O); "Interaction of Smoke and the Smoker Part 3: The Effect of Cigarette Smoking on the Contingent Negative Variation," dated December 12, 1974, 750012293-2319 (US 87131) (O); "Some 'Benefits' of Smoking," dated January 26, 1977, 750016323-6339 (US 87132) (O); "Further Work on 'Extractable' Nicotine," dated September 30, 1966, 83916527-6596 (US 55968) (A); 650010113-0156 (US 53397) (O); 566632813-3254 (US 87134) (O); 110083654-3673 (US 87135) (O).

(iv) Brown & Williamson

2120. Like the other Defendants, B&W was also well aware of the addictive quality of smoking and nicotine. Despite the company's public denials, it has consistently exploited and admitted internally that smoking is an addiction, smokers need nicotine, and smokers suffer withdrawal when deprived of nicotine.

2121. Much of B&W's knowledge of nicotine and its addictive qualities originated at its parent company, BATCo, who regularly communicated its research results to B&W and other BAT Group affiliates. As one of the earliest examples of the trans-Atlantic exchange of knowledge, Sir Charles Ellis forwarded both BATCo's "Project HIPPO" results and the BATCo

report entitled "The Fate of Nicotine in the Body" to B&W's chief executives Bill Cutchins and Ed Finch under cover letter stamped "Received" on July 1, 1963. 689033419-3419 (US 87136) (O). [Project HIPPO I and II, as well as the report entitled "The Fate of Nicotine in the Body" are discussed in detail above under the BATCo heading.]

2122. Shortly thereafter in 1963, B&W Executive Vice President and General Counsel Addison Yeaman commented in writing on the BATCo nicotine research carried out in England under the code names HIPPO I and HIPPO II. In a July 17, 1963 memorandum marked "Strictly Private and Confidential," Yeaman was persuaded by the findings of the research, in particular the researchers' conclusions on the "tranquillising" effects of nicotine. Yeaman concluded simply that, "Moreover, nicotine is addictive." He further wrote: "We are, then, in the business of selling nicotine, an addictive drug effective in the release of stress mechanisms." 689033412-3416 at 3415 (US 22034) (A).

2123. Yeaman's conclusions and the sophisticated nicotine research in BATCo's and B&W's possession were intentionally concealed from the Surgeon General's Advisory Committee then in the process of writing what would be the 1964 Surgeon General's Report. See U.S. FF § III.(C)(1), infra.

2124. B&W scientist Robert B. Griffith authored a September 13, 1963 letter to BATCo's John Kirwan in response to questions as to the importance of nicotine. Dr. Griffith wrote: "[N]icotine is by far the most characteristic single constituent in tobacco and the known physiological effects are positively correlated with smoker response. . . . [W]e have a research program in progress to obtain, by genetic means, any level of nicotine desired. 102630333-0336 (US 23000) (O).

2125. B&W participated in a Tobacco Chemists Conference in October 1964.

According to the "CONFIDENTIAL" report of the conference, tobacco company scientists delivered a number of papers to conference attendees. One paper called "Do We Know What We Are Talking About?" was presented by W. S. Paige of the Imperial Tobacco Company. In his presentation, Paige described the "Physiological Strength or Potency" of tobacco suggesting very early knowledge among tobacco industry scientists of nicotine's psychoactive effects, if not intoxication, and the connection to subconscious smoker compensation:

> S. Physiological Strength or Potency
>
> This is the property of tobacco which makes your head swim, and makes you feel 'weak at the knees' after rapid smoking. It is a direct effect on the metabolism which does not come through the sense organs. It affects muscular co-ordination, pulse rate and peripheral circulation . . . . It is very difficult to assess S by these reactions because a subconscious mechanism usually controls the rate of smoking to keep these effects small.
>
> [Physiological Strength or Potency] is usually assessed by considering whether the cigarette was "satisfying." "The cigarette satisfied my need for a cigarette (even though it may have tasted horrible), I did not want to light another cigarette immediately afterwards.

650378968-9132 at 9036 (US 85303) (O).

2126. Representatives of Philip Morris, RJR, B&W, BATCo, Lorillard, and Liggett attended and presented papers at the same October 1964 conference. 2012614167-4279 at 4176-4182 (US 85304) (O).

2127. In August 1967, B&W commissioned a report on addiction entitled "A Psychological Map of the Cigarette World." The stated purpose of the report was "to provide a resource of information regarding those consumer needs, habits, and attitudes which shape the current cigarette market" and to "serve as a platform for the development of responsive marketing and advertising strategies." Thus, B&W recognized the important link between the

addictiveness of its products and sustaining the cigarette market. 680282619-2668 at 2620 (US 85305) (O).

2128. This 1967 report commissioned by B&W summarized the responses of some 1,400 smokers and included the following:

> Most smokers see themselves as addicts. . . . Many fear they'd "fall apart" if they quit. . . . Interpretively, the typical smoker feels guilty and anxious about smoking but impotent to control it. Psychologically, most smokers feel trapped.
>
> Speculatively, the decision to smoke is psychologically motivated. Once that decision is made, smoking frequency is physiologically determined, with the addiction becoming more severe as smokers grow older.
>
> People who smoke plain cigarettes are strongly addicted but deny anxiety about smoking. . . . [They] hate to run out of cigarettes. . . . [They] admit they'd be a nervous wreck if they ran out of cigarettes."

680282619-2668 at 2625, 2632, 2635 (US 85305) (O).

2129. The 1967 report focused in part on smokers of B&W's Viceroy and Kool brands. With respect to the Viceroy market, the report found that "attractions to Viceroy are strong, but its appeals represent a threat to the addicted mass." With respect to Kool, the report concluded that "The Kool smoker feels he smokes too much - but does not want to stop . . . is 'hooked' and more openly anxious than menthol smokers generally." 680282619-2668 at 2656, 2660 (US 85305) (O).

2130. B&W has long known that nicotine is the most important component of cigarettes, that nicotine is the most important component of addiction, and that without nicotine, people would not smoke. For example, B&W's Director of Research and Development, I.W. Hughes, responded with the following in his March 13, 1970 comments on an article raising questions as to a link between nicotine and coronary heart disease:

> This section of the paper is of some interest in that (a) there is the lead to take pressure off nicotine. This is very important to us; we can cope with reducing carbon monoxide, however difficult, but **reduction or deletion of nicotine could be death to us.**

680252107-2109 at 2108 (US 85306) (O) (emphasis added).

2131. A February 22, 1972 "Private and Confidential" report by B&W researcher J.E. Kennedy and distributed to executives, including General Counsel Yeaman, was entitled "Beneficial Aspects of Smoking." Kennedy's paper reviewed a number of studies, including studies focusing on nicotine's effects on animal behavior. Kennedy described studies showing that monkeys developed a "strong preference for tobacco smoke" over air, and would "spend time smoking in preference to other available activities," and even learned to self-inject nicotine. 690008455-8462 (US 54320) (O).

2132. B&W was also privy to internal nicotine reports from other cigarette manufacturers. In a 1973 "Confidential" marketing long-term planning memorandum, the company summarized BATCo and Philip Morris research, as well as some secondary studies. The memorandum acknowledged the drug-like effects of nicotine, and that "cigarettes allow people to self-administer nicotine and at a self-determined rate." The memorandum flatly stated that "Nearly all regular smokers are nicotine dependent" and described the smoking behavior of addicted smokers. 680096095-6110 at 6096, 6099, 6106 (US 53993) (O).

2133. The 1973 "Confidential" memorandum accepted and described tolerance to nicotine:

> As the novice [smoker] acquires tolerance to the irritation of the smoke over a period of two or three years, he becomes conditioned to a high and regular intake of nicotine . . . .
>
> Physical dependence involves changes which are physiological. Firstly, this is shown by the smoker's tolerance to the effects of nicotine. This is due to changes at the synapses. The smoker also

> has an increased capacity to metabolise and excrete the drug, mainly in the liver.

680096095-6110 at 6095, 6101, 6103 (US 53993) (O).

2134. The memorandum also accepted and described the adverse withdrawal symptoms experienced by smokers who abstain:

> The rush of nicotine into the blood stream and nervous system is short-lived; therefore, reducing consumption would cause withdrawal and all of its unpleasant side effects so long as the smoker is restricted from smoking. Nicotine vacates the system in 30 minutes or so and at that time withdrawal starts.

680096095-6110 at 6096 (US 53993) (O).

2135. The memorandum further accepted and described the concept of nicotine "compensation" by smokers to obtain the desired amount of nicotine:

> If the nicotine level of cigarettes fails to completely achieve the desired mood change, that cigarette will be drawn on deeper, the smoke held longer, and consumption will rise. . . . Reductions in nicotine are therefore compensated for by consumers but the limit to which they can compensate for the diminished nicotine / diminished therapeutic efficacy is unknown. R&D is studying this subject at the present time.

680096095-6110 at 6095 (US 53993) (O).

2136. Finally, the memorandum summarized and accepted disturbing outside research that suggested drug addiction among smokers:

> [M]onkeys can be trained to inject themselves with nicotine for its own sake, just as they will inject other dependence-producing drugs, e.g., opiates, caffeine, amphetamine, cocaine. . . . **This effect in the case of nicotine is rapid but passing. The absorption of nicotine through the lungs is as quick as a junkie's "fix."** In twenty to thirty minutes after the smoker has finished his cigarette, most of the nicotine has left his brain for other organs - stomach, liver, and kidneys - and this is just about the time that the heavily dependent smoker needs his next cigarette.

680096095-6110 at 6104 (US 53993) (O) (emphasis added).

2137. Minutes from a 1974 B&W/BATCo conference included the conclusion: "Whatever the characteristics of cigarettes as determined by smoking machines, the smoker adjusts his pattern to deliver his own nicotine requirements." 2502272091-2096 at 2092 (US 45990) (O).

2138. In January 1974, B&W hired an advertising agency to study the market for its new cigarette Raleigh Extra Milds. The specific goal of the study was to "aid in the development of future marketing and creative planning for the new Raleigh cigarettes." The advertising strategy presented to B&W included the following broad observations:

> Obviously the negative aspects of smoking outweigh the positives, so much so that many of the men and women interviewed had attempted to quit or at least considered quitting smoking. Apparently the Surgeon General's warnings have had a considerable impact upon smokers' attitudes toward their habit if not their behavior.
>
> However, as additional evidence of the addictive qualities of smoking, those who tried to quit, both male and female, admitted great difficulties in overcoming the psychological and/or the physiological urge or craving to smoke. Their presence in these discussions attests to their lack of success.
>
> The inability to quit or even attempt to quit often results in some degree of guilt and the admission to one's self of a "dependency" on cigarettes or a lack of willpower.

680289650-9743 at 9665 (US 85307) (O).

2139. In August 1975, B&W commissioned a marketing report entitled "New Product Ideas Developed for B&W." One exhibit to the study created an "Addiction Profile" to describe the relative intensity of smoking motivation. The study then divided smokers into three groups, "Mainstream" smokers, "Compromisers," and "Justifiers." "Compromisers" were defined as those "heavily addicted" smokers who have made "many attempts to quit" and were "searching

for a solution to their problem." "Justifiers," in contrast, referred to those who were "less addicted" and who were "quick to rationalize." 680287748-7895 at 7770, 7773 (US 85308) (O).

2140. In a section of the report entitled "Background Information on Cigarette Smoking Habits," the report emphasized a smoker's "need" for cigarettes:

> At times, a person smokes because it is something he depends on to keep going, in order to be able to function and to face the problems in daily life. This is when a cigarette is needed. . . . Let's take first the situations where a cigarette is needed. This is usually characterized by its being smoked quickly, where the smoker is hardly aware that he is smoking. It serves to relieve tension, frustration, irritation, or insecurity. It has a calming effect. Here the relaxation is of the type of a quick, crucial shot in the arm.

680287748-7895 at 7835 (US 85308) (O).

2141. The report also found that: "There are obviously strong motivations which drive people to smoke in the face of the overwhelming evidence that it is, at best, hazardous to their health." 680287748-7895 at 7834 (US 85308) (O).

2142. In an October 31, 1974 internal study by the B&W Research and Development Department entitled "Acute Effect of Cigarette Smoke on Brain Wave Alpha Rhythm," company scientists assessed the immediate physiological responses of smokers to cigarettes with varying deliveries of nicotine. The report documented the "striking, fundamental human response to cigarette smoke" and recommended follow-on studies using more sophisticated equipment. 650379764-9786 at 9772 (US 53525) (O).

2143. Less than two years later, a B&W advertising conference was held at the company headquarters in Louisville to review company research and discuss the company's advertising for a "Low Tar High Nicotine Cigarette." The conference report included the following under the heading "Goals/Wishes":

- MULTIPLY NICOTINE RUSH

- get across to consumer that what he likes (NICOTINE) is not what hurts (TAR)
- have FREE NICOTINE as opposed to BOUND
- show VALUE OF NICOTINE (lift, A.M. Starter)
- market an ADDICTIVE PRODUCT in an ETHICAL MANNER

777125397-5403 at 5398 (US 54625) (O) (emphasis in original).

2144. In the years that followed, according to September 30, 1997 testimony by B&W's corporate designee on cigarette design and addiction, the company "did a lot of work on trying to develop a quote, low-tar, normal nicotine, closed quote, cigarette." Indeed, the same witness, Lance Reynolds, former Director of Product Development and Director of Research, testified that from the beginning of his career at B&W in 1968 onwards, the company and other BAT Group member companies had "projects to try and increase nicotine delivery with respect to tar, for many years." Reynolds attended the 1977 advertising meeting on the "Low Tar High Nicotine Cigarette," and testified that he "can't debate or dispute" the advertising agency conference report which stated that one of B&W's wishes was to "market an ADDICTIVE PRODUCT in an ETHICAL MANNER." Reynolds PD, Minnesota, 9/30/97, 137:10-137:15; Reynolds PD, United States v. Philip Morris et al., 9/12/02, 301:1-301:23; 777125397-5403 at 5398 (US 54625) (O).

2145. The importance of nicotine was also emphasized in the Research and Development department. In a November 28, 1977 memorandum by researcher G. E. Stungis entitled "Long-Term Product Development Strategy," one of the overarching stated objectives was that "products must provide the appropriate levels of nicotine . . . ." 501011512-1515 at 1513 (US 85309) (O) (emphasis in original). Moreover, a significant part of the overall B&W strategy was the ability to: "Recognize that nicotine is a vital component to overall smoker satisfaction. Methods to optimize the mainstream smoke nicotine delivery with respect to pharmacological effects will be explored/developed." 501011512-1515 at 1513 (US 85309) (O).

2146. An August 24, 1978 B&W memorandum to M. J. McQue from Assistant Brand Manager H. David Steele entitled "Future Consumer Reaction to Nicotine" stated: "Very few consumers are aware of the effects of nicotine, i.e., its addictive nature and that nicotine is a poison." 665043966-3966 (US 21485) (A); 776078962-8962 (US 87137) (O).

2147. B&W knew that the difference between "free" and "bound" nicotine was integral to the delivery of enough nicotine to insure "physiological satisfaction." In a January 4, 1980 B&W Process Department "file note" entitled "Observation of Free Nicotine Changes in Tobacco Smoke," C.F. Gregory discussed pH and nicotine delivery in Philip Morris's competing brands Merit and Marlboro. Gregory's data revealed that Merit and Marlboro delivered equal amounts of "free" nicotine, although Marlboro's total nicotine content was almost double that of Merit. 654005805-5807 (US 85447) (O); 689201723-1770 at 1751 (US 31049) (O).

2148. Gregory commented on this data that, "In theory, a person smoking these [Merit and Marlboro] cigarettes would not find an appreciable difference in physiological satisfaction from either based on the amount of free nicotine delivered." He then gave other examples where cigarette manufacturers could maintain "free" nicotine despite reducing machine-measured nicotine yield. Gregory suggested this information could be used to gain B&W a competitive advantage in marketing "Light" cigarettes:

> Is there not some way open now to use the knowledge we have gained in this area of tobacco and smoke research to give B&W a competitive advantage over its competition? It appears that we have sufficient expertise available to "build" a lowered mg tar cigarette which will deliver as much "free nicotine" as a Marlboro, Winston, or Kent without increasing the total nicotine delivery above that of a "Light" product.

654005805-5807 at 5806 (US 85447) (O).

2149. B&W scientist Tilford Riehl, who later became Vice President of Research and

Development, received Gregory's "file note" and commented on an alternative to Gregory's proposal to increase "free" nicotine to boost "physiological satisfaction." Riehl's suggestion, while accepting Gregory's data and concept, proposed maximizing the effects of nicotine on smokers in a different way. Riehl wrote in the margin:

> Several of us have proposed an alternative (almost opposite) approach – design a low tar cig with high <u>total</u> nicotine / low to moderate <u>% free</u> nic. Theory: provide cig with "appropriate" level of sensory satisfaction/higher than usual "pharmacological" satisfaction. (emphasis in original)

510000667-0670 (US 51496) (A).

2150. B&W produced an attorney-prepared (Shook, Hardy & Bacon) November 1995 document compiling and quoting from company materials that admitted nicotine manipulation via increasing "free" or "bioavailable" nicotine delivered by cigarettes. The report commented on the two 1980 documents written by Gregory and Riehl, documents that supported accusations by the FDA that B&W (and the other cigarette manufacturers) intentionally made and marketed cigarettes with nicotine effects greater than the FTC machine-measured yields:

> Gregory appears to be urging that B&W engage in a manufacturing and marketing practice of which the FDA accuses the company – that accusation being that the company designs, manufactures and markets cigarettes with a pharmacological impact which is greater than FTC yields imply. Thus, Gregory's comments are of interest in the regulatory and litigation context.

689201723-1770 at 1753-1754 (US 31049) (O).

2151. With respect to Riehl's written comments on Gregory's memorandum urging a low tar product with high total nicotine with moderate "free" nicotine, the Shook, Hardy & Bacon report stated that: "[T]his marginalia comment, of course, raises an issue of the motivations of the company in designing cigarettes to provide 'pharmacological satisfaction' to smokers." 689201723-1770 at 1754 (US 31049) (O).

2152. A January 19, 1978 internal B&W product development memorandum from E.F. Litzinger to E.T. Parrack and copied to R.A. Sanford and M. L. Reynolds stated that, "Some people trying to give up smoking attempt to appease their craving for a cigarette by eating candy." 650510607-0607 (US 85029) (O).

2153. In February 1980, BATUS, Inc. (B&W's immediate holding company co-located in Louisville) commissioned a detailed marketing plan for a "less hazardous cigarette" tentatively named "Limits." The proposal reflected the company's belief that smoking was both hazardous and addictive. The new cigarette would address the problem of addiction by offering "higher nicotine content to satisfy smokers' needs with fewer cigarettes . . . thus less potential harm." The report proposed advertising to physicians that, "Recent studies show that even under optimal conditions, it is unlikely you will persuade more than 5% of smokers to quit. So for the other 95%, do the next best thing. Switch them to new LIMIT." 501025519-5609 at 5564-65 (US 85310) (O).

2154. The background research relied on in the 1980 BATUS marketing proposal found that physicians had a "little or no success in getting patients to stop smoking cigarettes" and even suggested that providing the smoker with a less harmful cigarette product is equivalent to providing a heroin addict methadone. The less harmful cigarette, like methadone, was referred to as the "lesser evil," a "compromise" for the smoker who cannot quit the addiction. The writers asked rhetorically, "Why won't we help a cigarette addict get his 'fix' in the least damaging way possible?" Not surprisingly, the "Limits" product would be made available only through pharmacies and would be introduced via physicians "in the same way that a new drug is presented." 501025519-5609 at 5544-45, 5573 (US 85310) (O).

2155. The 1980 BATUS proposal specifically emphasized the smoker's "physical need,"

"withdrawal" effects, and the high rates of recidivism. A model promotion letter to physicians even instructed that, "Low nicotine cigarettes are not a viable compromise. Studies have shown . . . that when patients switch to low nicotine brands, they usually increase the number of cigarettes they smoke daily. . . . Finally there is an alternative . . . for those patients whose sincere and dedicated efforts to stop have ended, again and again, in frustration, self-deprecation, and recidivism[.]" 501025519-5609 at 5560-5561 (US 85310) (O).

2156. A January 1982 B&W market analysis of smokers of its Belair brand reported in the section entitled "Smoking Behavior and Attitudes" that: "Overall, the evidence shows that Belair smokers are extremely addicted to smoking and they know it." Belair also scored very high in factors indicative of dependency and "[a]ddiction." In fact, 94% of Belair smokers surveyed agreed with the statement, "I get a real urge for a cigarette when I haven't smoked for a while." (emphasis in original) 514107196-7249 at 7225, 7228 (US 85311) (O).

2157. In a similar January 1982 B&W market analysis for its Viceroy brand of cigarettes, the company was told that, "Smokers of brands in Viceroy's competitive set are more addicted to smoking than smokers in general." 514107251-7302 at 7281 (US 85312) (O).

2158. B&W Group Product Director A.J. Mellman wrote a project memorandum on March 25, 1983, to other industry executives, including Senior Vice President for Marketing R.A. Blott, stating explicitly that nicotine is "addicting." The memorandum proposed several project ideas for the company, including a low tar cigarette with free nicotine added to the filter, based on the underlying premise that:

> Nicotine is the addicting agent in cigarettes. It, therefore, seems reasonable that when people switch brands, if they have a certain smoking pattern (i.e. number of sticks/day), they will switch to a brand at the same nicotine level.
>
> I am currently examining all brands by nicotine level and by

> nicotine/tar ratio levels, comparing those correlations to switching patterns.

514110006-0009 at 0007 (US 21745) (A) .

2159. In 1982, B&W carried out a "Smoker Personality Study" that segmented the cigarette market in terms of the level of addiction of the smokers. The stated purpose of the study was to provide the company "new insights helpful in the development and positioning of new and/or established brands." With respect to the market segments, smokers who fit into Segment IV were described as "somewhat addicted" and smokers in Segment VI were described as "addicted to smoking and often wish they had never started." Smokers in Segment VIII, however, were described as "heavily addicted to smoking. To run out of cigarettes would be a real problem for them . . . from the moment they wake up they smoke." 514107303-7417 at 7336, 7350, 7364 (US 85313) (O).

2160. A 1987 B&W patent application for a "Non-Combustible Simulated Cigarette Device" again revealed the company's recognition that smoking depended on nicotine alone, and that nicotine delivery could be enhanced through pH manipulation. The patent description was reviewed and modified by BATCo. The description of the "Device" stated that it would "provide nicotine delivery to the user without the combustion of tobacco." In fact, the "Device" used purified nicotine, not tobacco leaf; the description stated that it was "a non-combustible simulated inhaler device wherein volatilisable nicotine is present in the inhaler as a free base," and would, after contact with an acid, supply "volatilised nicotine to the user's mouth in the form of a salt having a pH in the range of approximately 5 to 7." 400230781-0790 at 0781 (US 85314) (O); 400230802-0813 (US 85315) (O).

2161. According to the record of a January 4 and 5, 1988 meeting in New York, B&W scientists Tilford Riehl and Lance Reynolds met with scientists from BATCo's other affiliates to

discuss the progress of internal company nicotine research code-named "Project GREENDOT" and "Project AIRBUS," and to chart the course of the research for the 1990s. This meeting again revealed the company's obsession with nicotine exploitation. "Project AIRBUS" sought to develop a device similar to a non-combustible nicotine delivery product manufactured by RJR. "Project GREENDOT" sought "to produce a highly modified cigarette which maintains the delivery of nicotine to the smoker whilst reducing the delivery of tar." The goal of "GREENDOT" was to modify a 10mg tar / 0.8 mg nicotine cigarette to deliver 1mg tar / 0.8 mg nicotine. 620208779-8784 at 8782-8783 (US 85317) (O).

2162. BATCo regularly forwarded its nicotine research reports to the B&W Research and Development Department and the company library for use by the company. Knowledge of the information and conclusions contained in these nicotine reports (discussed above under BATCo) therefore can be charged to B&W as well. The critical importance of nicotine to the companies is evident in the titles and content of the many reports. See, e.g., "Preparation and Properties of Nicotine Analogues - Part II," October 11, 1973, 657006301-6327 (US 53532) (O); "Alpha Waves and Smoking: The Effect of Cigarette Smoking on the Alpha Density of Subjects," December 6, 1974, 657007342-7416 (US 53535) (O); "The Effect of Smoking Deprivation on Smoking Behaviour," September 11, 1975, 650014873-4901 (US 53405) (O); "Compensation for Changed Delivery," January 30, 1976, 650008449-8480 (US 76192) (O) ; Dr. M.A.H. Russell's "Safer Cigarette" Study Report No. RD. 1652 (Restricted), March 1, 1979, 650010157-0193 (US 85292) (O); "Preparation and Properties of Nicotine Analogues - Part III," June 20, 1979, 657006435-6487 (US 53534) (O); "A Comparison of Smoking Surveys Separated by Four Years," June 28, 1979, 650008946-8960 (US 85318) (O); "Method for Nicotine and Cotinine in Blood and Urine," May 21, 1980, 6650032386-2428 (US 53430) (A); "Nicotine

Studies: A Second Report, Estimation of Whole Body Nicotine Dose by Urinary Nicotine and Cotinine Measurements," March 31, 1981, 650030769-0802 (US 53428) (O) ; "Receptors for Nicotine in the Central Nervous System," March 22, 1984, 650000996-1034 (US 53388) (O); "The Functional Significance of Smoking in Everyday Life," April 24, 1984, 650000563-0740 (US 85393) (A).

2163. B&W also produced in this litigation a document entitled "B&W - Addiction Notebook" prepared for the company by the law firm of Shook, Hardy & Bacon. The Addiction Notebook identifies numerous company documents (both B&W documents and documents sent to B&W by BATCo) that admit that (1) smoking is addictive, (2) nicotine is the primary addictive drug responsible for making smoking addictive, and (3) BATCo and B&W conducted and funded research over decades into the physiological and pharmacological properties of nicotine as a drug, as an essential element of smoking, and as a commercial element necessary to the cigarette industry . 689103834-4108 at 3980-4078 (US 75988) (O).

2164. B&W also produced an attorney-prepared November 1995 document compiling and quoting from company materials that admit nicotine manipulation via increasing "free" or "bioavailable" nicotine delivered by cigarettes. 689201723-1770 at 1753-1754 (US 31049) (O).

2165. B&W also produced a lengthy compilation document database prepared by outside counsel for Scientific Director Scott Appleton, under cover letter dated November 27, 1995, analyzing many BATCo and B&W documents cited by the FDA when it proposed asserting jurisdiction over cigarettes. While some of the explanations for documents in the database attempt to minimize or rationalize what BATCo and B&W have done, numerous other entries acknowledge that the FDA correctly cited the documents for its propositions, and that the documents mean exactly what they say. 566632813-3254 (US 87134) (O).

2166. Indeed, "it was most definitely understood, throughout the entire BAT organization, that nicotine was addictive." Wigand WD, 84:14-15.

2167. These B&W documents, taken as a whole, show that B&W and their attorneys appreciated the fact that the company and the sale of its products depended on nicotine and addicting smokers.

(v) Lorillard

2168. Many internal documents show that Lorillard also has also been aware for decades of nicotine's addictive properties and the importance of nicotine to cigarette smokers.

2169. In an August 1964 national survey entitled "A Market Target - Buying Incentive Study of Cigarette Market," Lorillard found that 66% of qualified respondents gave habit/addiction as a reason for continuing to smoke. 03492841-3067 at 2884 (US 21432) (O).

2170. In an August 7, 1964 memorandum regarding "Potassium Carbonate," H.D. Anderson told Lorillard's legal counsel that "[t]here seems no doubt that the 'kick' of a cigarette is due to the concentration of nicotine in the blood-stream which . . . is a product of the quantity of nicotine in the smoke and the speed of transfer of that nicotine from the smoke to the blood-stream." 100059066-9067 at 9067 (US 20102) (O).

2171. Like the other cigarette manufacturer defendants in the 1970s and 1980s, Lorillard knew that the issue was not only nicotine, but "free" nicotine actually delivered to smokers. In a February 8, 1973 report to the research department executives, Lorillard scientist A. M. Ihrig concluded that nicotine in alkaline smoke (high pH) is absorbed in the mouth and lungs far more rapidly than nicotine in low pH smoke, and that this phenomenon was due to the fact that the "free," or readily absorbable, nicotine increased dramatically with pH. According to Ihrig, "a change in pH from 5.7 to 8.0 results in an increase of free nicotine from 0.69% to 58.3%."

00776238-6250 at 6239 (US 21477) (O).

2172. Ihrig also noted the importance of "free" nicotine to the company bottom line: "Furthermore, the cigarette brands which are enjoying the largest sales increase generally have smoke pH's in the 6.5-7.0 range." He later adds that, "The smoke pH for Kool and Marlboro are 7.12 and 6.98, respectively, confirming the relationship between high smoke pH and cigarette sales increase." 00776238-6250 at 6239, 6245 (US 21477) (O).

2173. Alexander Spears, Lorillard's Vice President of Research and later Lorillard Chairman and CEO, wrote a paper on the "elements of product acceptance" dated November 13, 1973. In his paper, Dr. Spears stated that one of the main elements of cigarette acceptance was "Physiological, being comprised largely of the nicotine-induced stimulation and thought coordination effects." Dr. Spears then continued on the importance of nicotine, stating that "it would be useful to have a wider range of control over nicotine than now exists," and that "[i]t is our present intent to develop low nicotine brands, with the maximum physiological impact, within the next year." 80634635-4642 (US 21063) (O).

2174. Dr. Spears took part in the Tobacco Smoke Inhalation Workshop held at the National Cancer Institute in June 1974. Spears and other participating scientists made presentations during the workshop. In one summary from the workshop, one scientist concluded:

> Thus we are more concerned with the adverse effects of cigarette smoking than we are with the beneficial effects. Nevertheless, pharmacologists and psychologists ought to be interested in both aspects of what is essentially a drug-taking type of behavior. . . .
>
> There is a sad story of a company based in Texas, which made a cigarette called Bravos. There was also an offshoot of this company which made another cigarette called Triumphs. Both of these companies went bankrupt this past year. . . . My theory is, and a lot of people will agree with me, that they lacked the one central ingredient: nicotine. . . .

> As far as nicotine is concerned, there exists quite a large body of data concerning its toxicity and its pharmacological effects. Its investigation goes back to the late 19th century and the studies of Langley. It is generally agreed that nicotine is the most important pharmacological component of cigarette smoke. There are few other chemical components which are present in sufficient quantities or which have the potency to compete with it for effectiveness.

501620069-0085 at 0077, 0079 (US 85320) (O).

2175. Lorillard knew that nicotine was distinct from and not essential to the taste of a cigarette. In a March 2, 1976 presentation, the Will Graham Company advised Lorillard that "the taste of tobacco may be one of the least significant reasons why a person smokes," adding that, "it certainly ranks well below the impact of nicotine" for smokers. 01771073-1207 at 1079 (US 20052) (O).

2176. A 1976 Lorillard internal review of nicotine scientific literature by H.S. Tong reported the following with respect to smoker compensation:

> A review has been made of the literature on the pharmacology of smoke-dose nicotine with the goal of discovering some indications of threshold dose and optimum doses of nicotine in the average cigarette smokers. . . . It seems that, within limits, smokers can and do control their nicotine intake from smoke by varying their smoking techniques. Nicotine has numerous sites of action and the response is an algebraic sum of its actions. . . . It seems that smokers smoke for both calming and stimulant effects. In a subjective study, test subjects reported that the found cigarettes of 0.8 mg to be acceptable.
>
> Despite the lack of definitive knowledge, it seems probable that smokers choose cigarette smoking for sensual, psychological, social, cultural, and pharmacological effects. The pharmacological effects are most likely due to the action of nicotine since the presence of a variety of other chemical components in the smoke in all probability is below their threshold level. . . . It is well known that the pharmacologic effects of nicotine at various sites are dependent on the dose, the dose schedule, and duration of exposure. Smoke dose nicotine has a stimulant action. It stimulates ganglia, and, therefore, it activates both the sympathetic

> and parasympathetic nervous systems simultaneously, the ultimate effects are the algebraic sum of its actions. Research in drug addiction indicates that the CNS [central nervous system] is the prime site of drug action. In order to understand the precise action of nicotine in the smoke habit, the CNS should be the logical site for study. . . .
>
> The purpose of this review is to determine if there were data which would indicate a threshold dose and an optimum satisfaction dose of nicotine for the majority of smokers.

83250863-0873 at 0863-0865 (US 55673) (O).

2177. A July 16, 1976 Lorillard research proposal memorandum to H.J. Minnemeyer from M. S. Ireland, entitled "Research Proposal -- Development of Assay for Free Nicotine," again acknowledged the scientific consensus that nicotine was the source of the addiction to smoking:

> Cigarette sales are made for one reason. The customer is satisfied with the product either from the taste or the physiological satisfaction derived from the smoke. The consensus of opinion derived from a review of the literature on the subjects indicates that the most probable reason for the addictive properties of the smoke is the nicotine. Indications are that the smoker adjusts his smoking habits to satisfy the desire of nicotine either by frequent or large puffs on the cigarette, or smoking a large number of cigarettes. . . . [I]t is generally agreed at this time that a 'small' amount of free nicotine is more desirable than a 'large' amount of bound nicotine.

82396938-6939 at 6938 (US 22012) (A) (emphasis added).

2178. In a June 16, 1976 Lorillard memorandum entitled "Progress Report on Nicotine Augmentation Project," H. J. Minnemeyer, the lead researcher on the company's nicotine augmentation programs, updated Spears on the progress of efforts to solve "the problem of delivering more nicotine in the smoke of low tar cigarettes." The memorandum described the various research projects being conducted by Defendants as well as the medical and science research articles that had been published on the subject. This document demonstrates that

contrary to their public claims, Defendants had indeed been actively attempting to manipulate the nicotine content of their cigarette products for many years. 95539652-9655 (US 56825) (A).

2179. In the mid-1970s, Lorillard had embarked on another project called the "Lowered Nicotine Project." According to a November 9, 1976 memorandum from company Vice President for Marketing R.E. Smith to the research department, the project was abandoned. However, the memorandum disclosed that, despite Lorillard's contrary public declarations, the company was well aware of the importance of nicotine in sustaining smoking:

> After discussing the 50% Lower Nicotine Project with Dr. Spears, I agree that we should discontinue work. We all understand that this concept has considerable consumer trial appeal; as quantified by the NPSS concept study. However, it is our judgment that a cigarette with substantially lowered nicotine could not deliver the smoking satisfaction to sustain consumer purchase.

01244504-4504 (US 20042) (O).

2180. According to the same document and many others, Lorillard then reversed course, moving instead toward a goal of fortifying its cigarettes with nicotine, under project names such as the "RL Enrichment Project." 00050509-0509 (US 85321) (O).

2181. The idea of packaging nicotine in an alternate form occurred to Lorillard representatives as it had with the other Defendants. Lorillard marketing manager Benito Vila wrote a letter on November 3, 1977, to marketing vice president Richard Smith in response to a request for new product ideas. In the letter, he listed certain marketing themes and their rationales:

> 1. <u>To quit smoking</u>. I don't know of any smoker who at some point hasn't wished he didn't smoke. If we could offer an acceptable alternative for providing nicotine, I am 100% sure we would have a gigantic brand. The only trick is to price/size/formulate the product to produce the same margin per user as we get from the average smoker.

01244294-4300 at 4294 (US 21419) (A) (emphasis in original).

2182. Lorillard knew that nicotine shared attributes of opiates, and sought to use this knowledge to its advantage. A March 16, 1978 memorandum by Lorillard scientist R.S. Marmor summarized a lecture given at Lorillard by industry-funded scientist Leo Abood entitled "In Search of a Site and Mechanism for Nicotine's Action on the Brain." Marmor reported that:

> Prof. Abood's lecture here on "In Search of a Site and Mechanism for Nicotine's Action on the Brain" was well attended and well received. . . . Theorizing that nicotine's activity is due to an accidental mimicry of some normally present but as yet unknown brain peptide (analogous entirely to the recent opiate-enkephalin research findings), it might be possible to determine the structure of this peptide from information about the receptor site. In any case, information we gain on the mechanism of nicotine activity may be useful in determining how to adjust physiological impact in our cigarettes. We intend to support Prof. Abood by supplying samples and performing some synthetic and computer work.

00110371-0371 (US 34404) (A).

2183. In a February 13, 1980 Lorillard memorandum stamped "SECRET," marketing vice president Smith described the goal of the ongoing Lorillard nicotine research project called the "RT Information Task Force." The memorandum provided Lorillard executives, including Dr. Spears, details of the secret project:

> Goal – determine the minimum level of nicotine that will allow continued smoking.
>
> We hypothesize that below some very low nicotine level, diminished physiological satisfaction cannot be compensated for by psychological satisfaction. At this point smokers will quit, or return to higher T&N [tar and nicotine] brands.

01394380-4381 at 4380 (US 21543) (O).

2184. Senior Lorillard researcher S. T. (Tom) Jones prepared a lengthy "confidential" report dated July 30, 1980, for the research leadership in Greensboro entitled "Five-Year Plan

Preparation," in which he reviewed current literature on the "psychology of smoking." Jones wrote in a section entitled "A Review of Behavioral and Psychopharmacological Factors in Smoking" that, "Undoubtedly, nicotine serves a primary role in cigarette smoking." He also noted that, "A real problem in this whole area is the diversity of terms employed to say essentially the same thing." He later stated that:

> Considerable research in both the relative importance and mechanistic pathway of nicotine have been conducted. Although the role of nicotine is not completely understood, it is obviously one of the major factors associated with tobacco usage. Consumption of nicotine, administered either orally, intravenously, or via smoking elicits numerous responses including increased pulse rate, variations in skin temperature, and changes in brain wave patterns. Hutchinson and Emely take the position that nicotine is a powerful chemical reinforcer which reduces stressful and unpleasant stimulation.

01105000-5021 at 5001, 5002, 5009 (US 20030) (O).

2185. Lorillard scientists also knew and accepted the phenomenon of nicotine compensation. Jones concluded in his memorandum that smokers of low tar products compensated ("titrated") to achieve a greater "nicotine dose":

> The evidence to date clearly indicates that smokers titrate or regulate their intake of nicotine, e.g. smokers of cigarettes which deliver large amounts of nicotine will adjust - when given low nicotine cigarettes - their smoking to get a larger nicotine dose than the machine determined values indicate. Also, smokers regulate their nicotine intake over time when smoking their regular brand.

01105000-5021 at 5010 (US 20030) (O).

2186. Finally, Jones summarized research findings that "withdrawal is an identifiable syndrome" characterized by "anxiety and irritability," "an inability to concentrate and an intense craving for tobacco." 01105000-5021 at 5013 (US 20030) (O).

2187. Long-time Lorillard general counsel Arthur Stevens acknowledged the 1980

Diagnostic and Statistical Manual - III (DSM-III) inclusion of "tobacco dependency" in the chapter on drug addiction. DSM-III was published by the American Psychiatric Association. Stevens recommended "getting some publication" to defend against DSM-III, which also classified tobacco use as a "dependence disorder." 03746884-6884 (US 29324) (A).

(vi) American Tobacco Company

2188. The corporate understanding of American that nicotine was essential to its products and was responsible for the characteristics of addiction stretches back to at least 1940. An April 1940 document written by H. R. Hanmer, American's Director of Research, was entitled "Memorandum on the Nicotine Content of Lucky Strike and Other Leading Brands of Cigarettes." The document contained a section called "Importance of Nicotine in Tobacco and Tobacco Products." Hanmer observed that the following "facts" were "long common knowledge" at the company:

> The presence of nicotine as a universal constituent of tobacco leaf differentiates it from other plant material. Nicotine contributes to the gratification of smoking. Tobacco substitutes, devoid of nicotine, have not been accepted. . . .
>
> That any physiological response to the constituents of smoke is due to nicotine is generally accepted and has recently been confirmed. **The malaise after over-smoking is due to an excess of nicotine beyond one's individual tolerance. The pleasure, euphoria, or pacification from smoking are due to the sedative action of nicotine.**
>
> With such facts long common knowledge to the Research Staff, the incorporation of nicotine control into the selection of tobaccos was a logical development.

ATX300006425-6468V at 6428 (US 85324) (O) (emphasis added).

2189. These "facts" and the company's ability to control nicotine were important to the development and maintenance of American's most popular brand at the time. Indeed, Hanmer

later wrote in the same memorandum, with respect to American's Lucky Strike brand, that its success was the result of the company's "nicotine control policy":

> A recognition of the facts presented above led to the institution of a method of scientific control of tobacco purchased by the Company . . . .
>
> That the favorable position of LUCKY STRIKE in comparison with other leading brands is not fortuitous but the result of a comprehensive nicotine control policy is demonstrated by the material exhibited in this memorandum.

ATX300006425-6468V at 6440 (US 85324) (O).

2190. Between 1940 and 1970, the American Tobacco Company sponsored 111 studies on the biological effects of cigarettes, with 93, or over 80%, related to the effects of nicotine on the body. The FDA proposed rule and jurisdiction determination annex, i.e., "Regulations Restricting the Sale and Distribution of Cigarettes and Smokeless Tobacco to Protect Children and Adolescents," 1996 FDA Jurisdictional Determination, HHA 0680950-1649 (US 33031) (A); VXA1242326-3211 (US 64323) (A).

2191. For example, American funded a study in 1945 entitled "The Role of Nicotine in the Cigarette Habit." In this study, smokers were given extremely low-nicotine cigarettes. The study found that half of the subjects "definitely missed the nicotine." 1996 FDA Jurisdictional Determination, HHA 0680950-1649 (US 33031) (A); VXA1242326-3211 (US 64323) (A).

2192. Well aware of the addictive effects of nicotine on smokers, American focused its efforts on increasing the amount of nicotine in its tobacco products. While extensively detailed in Section III. (C) of these findings, See U.S. FF § III.(C)(2), infra, some examples of these efforts are detailed here.

2193. In 1963, American experimented by adding commercial nicotine to reconstituted tobacco. MNAT00316688-6693 (US 21219) (O).

2194. Later, in 1967, American investigated the production of nicotine from tobacco plants (N rustica) with almost double the concentration of nicotine. MNAT00881318-1323 (US 21221) (O).

2195. In 1969, American researchers, along with researchers from Philip Morris, RJR, and Liggett, conducted experiments to determine if genetically different tobacco varieties differed "in their ratio of nicotine to FTC 'tar.'" Also in that same year, American test-marketed modified Lucky Strike cigarettes in which nicotine malate was added to increase their nicotine levels. MNAT 00533294-3295 (US 21665) (O); Staff Report prepared by the Majority Staff Subcommittee on Health and the Environment of the Committee on Energy and Commerce House of Representatives entitled "Evidence of Nicotine Manipulation by the American Tobacco Company" (December 20, 1994), HHA1261348-1354 at 1349-1350 (US 76044) (O).

2196. In a June 19, 1963 letter, American's Assistant to the President (and later company president) Robert K. Heimann labeled nicotine as "the characteristic and essential element in tobacco and tobacco smoke." Heimann asserted that the "reduction of nicotine to very low levels results in an unsatisfactory smoke." MNAT00787182-7182 (US 85325) (O); ATC2471666-1666 (US 86691) (O).

2197. In a February 14, 1967 letter, Gallaher, Ltd. notified Virgil Hager, Executive Vice President of the American Tobacco Company, that the United Kingdom's Tobacco Research Council would send a delegation of scientists to the United States the following month to discuss nicotine issues with scientists designated by CTR, as well as with "the lawyers from the major American tobacco manufacturers." The main reason for the visit was "to discuss the commercial implications of tar and nicotine, and methods of measurement – particular stress will be laid on the importance of nicotine." This letter is yet another example of Defendants' long held

knowledge of the critical role of nicotine in cigarettes. 0060293378-3378 (US 85326) (O).

(vii) Liggett

2198. Like the other Cigarette Company Defendants, Liggett was well aware of the importance of nicotine, and in particular "free base" nicotine, in the manufacture of its products and the effects on smokers. The company, like other Defendants in the 1970s and 1980s, studied methods to increase the delivery of nicotine to smokers via manipulation of smoke pH. In a December 16, 1971 project summary by scientist Robert K. Williams, it was reported that:

> Increasing the pH of a medium in which nicotine is delivered increases the physiological effect of the nicotine by increasing the ratio of free base to acid salt form, the free base being more readily transported across physiological membranes. We are pursuing this project with the eventual goal of lowering the total nicotine present in smoke while increasing the physiological effect of the nicotine which is present, so that no physiological effect is lost on nicotine reduction.

LG0262125-2126 at 2126 (US 59994) (O).

2199. In a July 13, 1972 letter, Philip Morris's Tom Osdene summarized conversations with other company research directors, including Liggett's William Bates, related to the "addition of nicotine to the low nicotine blend." Osdene recorded that Bates "felt that it would be reasonable to use a combination of nicotine oxalate, citrate, and malate on the blend." 2060532173-2174 (US 85327) (O).

2200. Bennett LeBow testified that the United States tobacco industry took a "party line" in smoking and health litigations denying that smoking cigarettes is addictive. LeBow WD, 17:12-17. He testified that is was "absurd and ridiculous" for United States tobacco companies and their high level officials to take the public position in the mid-1990's that smoking was not addictive. LeBow WD, 58:18-59:6.

(viii) CTR

2201. Similar to the nicotine research conducted by the Cigarette Company Defendants, nicotine research funded by CTR also shows "that the cigarette manufacturers have acted like traditional pharmaceutical companies," studying the pharmacokinetics (absorption, metabolism, and excretion) of nicotine, the pharmacodynamics (effects on body chemistry) of nicotine, and the clinical effectiveness (whether drug is effective in producing the desired effects) of nicotine. VX1242326-3211 at 2806-2087 (US 64323) (A).

2202. CTR sponsored a 1972 Caribbean conference on nicotine and the reasons why smokers smoke. It was at this conference that William Dunn of Philip Morris presented a paper entitled "Motives and Incentives in Cigarette Smoking." In this paper (also discussed above), Dunn reported that most conferees agreed that "nicotine is the active constituent of cigarette smoke," without which "there would be no smoking." Dunn also presented his concept of the cigarette as a "package" for nicotine, and the "cigarette pack as a storage container for a day's supply of nicotine." 2023193286-3304 at 3290-3291 (US 22967) (A).

2203. The 1972 conference results were passed on to ICOSI members, including BATCo and RJR scientists, at a September 1977 meeting. The record of this joint industry meeting also showed that the companies were already working in the area of smoker "compensation" to obtain increased nicotine punch from low yield cigarettes. 503656218-6222 (US 85328) (O).

2204. On November 22, 1977, CTR Associate Research Director Donald H. Ford stated the following with respect to nicotine in a proposal for further CTR-funded nicotine research:

> [I]t now seems evident that nicotine, like narcotics, influences the CNS in multiple ways involving effects related to most known neurotransmitters. Further, the dependence which develops to tobacco in humans (and withdrawal symptoms during the cessation

> of smoking) and the degree of tolerance to nicotine which occurs in certain animal paradigms strongly suggest that nicotine is a habituating agent.

1000041912-1918 at 1912 (US 20073) (O).

2205. Ford presented his nicotine observations and proposed research at the November 1977 CTR meeting. His proposed avenues of research related to "Receptors and sites of nicotine action," neurochemical studies, the effects of nicotine on fetal development, neuroendocrinology, and behavioral responses to nicotine. 1000036584-6590 (US 21417) (O); 01113272-3272 (US 85329) (O); 01113280-3284 (US 85330) (O).

2206. As recited in the May 10, 1978 notes of the CTR Industry Technical Committee, Chairman Preston Leake (also Scientific Director for of American Tobacco), to American Tobacco general counsel Arnold Henson, the proposed nicotine work was "ruled out" by outside counsel Ed Jacob. Jacob claimed that the nicotine work had antitrust implications because it might be subject to "misinterpretation as product development." 955017148-7154 at 7149-7150 (US 87142) (A).

2207. The November 1977 CTR meeting was attended by lawyers and executives from all the member cigarette manufacturers, along with several outside counsel (Don Hoel, Janet Brown, Ed Jacob). According to notes of the meeting taken by Philip Morris's Tom Osdene, Dr. Ford explained his nicotine research in detail. This presentation was introduced by CTR scientific director Dr. Gardner, who told the attendees that, "Opiates and nicotine may be similar in actions," and that there was a "relationship between nicotine and opiates." The notes of attendees indicate that no one questioned Dr. Ford's premise or Dr. Gardner's introductory remarks. 1000036584-6590 at 6584 (US 21417) (O); 01113280-3284 at 3280 (US 85330) (O).

2208. However, the November 1977 presentations of the intensive CTR nicotine

research presentations drew the concern of Philip Morris's Tom Osdene, who later wrote to Bob Seligman that the nicotine "work being taken by CTR is totally detrimental to our position and undermines the public posture we have taken to outsiders." 2022246952-6952 (US 36865) (O).

2209. At a November 2, 1978 meeting of the Tobacco Advisory Council (the Tobacco Institute's European equivalent) research committee, representatives of the cigarette manufacturers discussed past, present, and future research. Among the specific topic areas was the importance of nicotine as a subject for intensive future research: "It was important for the industry to continue work on the role of nicotine because this was the most fundamental constituent of their product." 1000038108-8117 at 8111 (US 20072) (O). For more discussion on the Tobacco Advisory Council, see Section I. supra.

2210. A June 20, 1984 memorandum, written by Shook, Hardy & Bacon attorney Wendell L. Stone, summarizes CTR-funded nicotine research for industry clients. In his memorandum, Stone conceded that:

> Of the three areas pertinent to Cipollone (lung cancer, emphysema, and addiction) the abstracts and CTR commentary regarding addiction are the most consistently adverse. Through the years, CTR has funded psychopharmacological and neuropharmacological studies which emphasize and leave clear the points that CTR views nicotine as a "psychoactive" or "psychotropic" drug (terms which CTR has used), and that the research approach most appropriate to studying smoking behavior involves the pharmacology of nicotine. Among the undesirable research claims which appear in abstracts which acknowledge CTR support: the identification of specific central nervous system structures (nicotine receptors) at which nicotine acts; effects of nicotine on a variety of different purported neurotransmitters involved in learning, memory, etc.; various behavioral effects of nicotine from which can be inferred central nervous system effects, some of which might be used to support assertions regarding "tolerance" and "withdrawal."

515709297-9340 at 9298 (US 20866) (O).

2211. The Shook, Hardy & Bacon memorandum further discussed how contract researcher Dr. Leo Abood's nicotine receptor research could be held up as an example of how CTR would terminate "incriminating" smoking and health research. 515709297-9340 at 9299 (US 20866) (O).

(ix) Tobacco Institute

2212. The Tobacco Institute was sensitive to the importance of addiction to its member companies' litigation positions. A September 9, 1980 memorandum from Tobacco Institute editor Paul Knopick to Senior Vice President William Kloepfer commented on the desire by the National Institute of Drug Abuse ("NIDA") to add the word "addictive" to the cigarette warning. Knopick briefly summarizes some of the history of NIDA's previous statements on declaring smoking addictive and comparing smoking to heroin use, and questions how the Tobacco Institute was apparently caught "off guard." He concluded the memo with the following observation:

> But I don't think the questions I now raise are academic. Shook, Hardy reminds us, I'm told, that the entire matter of addiction is the most potent weapon a prosecuting attorney can have in a lung cancer/cigarette case. We can't defend continued smoking as a "free choice" if the person was addicted.

TIMN0107822-7823 at 7823 (US 21275) (O).

(c) Defendants Publicly Disseminated False, Deceptive and Fraudulent Statements Denying Nicotine Dependence and Addiction

2213. Despite their knowledge, acceptance, and exploitation of the addictive qualities of nicotine and smoking, for decades, Defendants have publicly engaged in a pattern of making false, fraudulent, and misleading statements, including half-truths, as well as suppressing information regarding the addictiveness of smoking and nicotine's role in causing that addiction. The decades of denial were carried out on a concerted and united front.

2214. As stated by industry counsel Covington & Burling, in a once-confidential May 1988 summary of industry statements, "Tobacco industry statements deal only sparsely with the issue of addiction. To the extent such statements exist they generally deny outright any addictive effect." BWX0007189-7297 at 7200 (US 36237) (O).

2215. Defendants' statements denying addiction described in the May 1988 Covington & Burling memorandum, along with many other examples of Defendants' making similar denials of smoking and nicotine addiction, were used to convey to the public four different positions regarding the addiction issue:

1. Smoking cigarettes is not addictive because some smokers can, and have, quit smoking on their own;
2. Smoking cigarettes is not addictive because it does not lead to physical "dependence;"
3. Smoking cigarettes is not addictive because it does not lead to "intoxication;"
4. Smoking cigarettes is not addictive because cigarettes are not like other addictive drugs, but rather smoking cigarettes is merely a "habit" like playing tennis, jogging, eating candy or listening to rock music, etc..

These statements are detailed below.

(i) Philip Morris

2216. Philip Morris Chairman James C. Bowling denied that cigarette smoking was an addiction in a July 18, 1973 "60 Minutes" interview. Instead, Bowling compared the choice to stop smoking to the choice to eat eggs or not. 503665743-5757 at 5752 (US 50417) (A).

2217. In a 1992 pamphlet, Philip Morris stated that "those who term smoking an

addiction do so for ideological, not scientific, reasons." 2023916742-6776 at 6745 (US 20396) (A).

2218. In 1994, counsel for Philip Morris prepared a document entitled "Smoking and Health Questions and Answers," in which an attachment entitled "Smoking and Addiction" deceptively defined "addiction" and cited the ineffectiveness of nicotine gum and patches as evidence that nicotine was not addictive. 682639225-9281 at 9277 (US 21028) (O).

2219. In a 1994 published statement in the *New York Times*, Philip Morris asserted that it "does not believe cigarette smoking is addictive." 2023011263-1263 (US 20371) (A).

2220. On April 14, 1994, the President and Chief Executive Officer of Philip Morris, William I. Campbell, testified under penalty of perjury in a nationally televised hearing before the House Subcommittee on Health and the Environment. During this hearing, Campbell affirmatively denied that nicotine is addictive:

Rep. Ron Wyden:	Let me ask you . . . . Do you believe that nicotine is not addictive?
Mr. Campbell:	I believe nicotine is not addictive, yes.

Regulation of Tobacco Products (Part I) Hearings before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, 103rd Congress April 14, 1994, 2023195738-5892 (US 21990) (A).

2221. Campbell's prepared written statement made the same claim that "cigarette smoking is not addictive" and that "Philip Morris has not hidden research which says that it is." In response to accusations of addiction by Dr. David Kessler, head of the Food and Drug Administration ("FDA") and others, Campbell wrote: "The presence of nicotine, . . . does not make cigarettes a drug or smoking an addiction" and "Smokers are not drug addicts." Campbell's

statements made clear that he was speaking on behalf of both the industry and Philip Morris USA: "I would like to take this opportunity to set the record straight on charges that have recently been leveled against the industry and Philip Morris." ATC2746877-6887 (US 59009) (A), Keane TT, 1/18/05, 10442:9-10442:24.

2222. On May 9, 1994, a telefax letter from Cathy Ellis, Director of Research at Philip Morris, was sent to The Honorable Henry Waxman, Chairman, Subcommittee on Health and the Environment, Committee on Energy and Commerce, denying nicotine's addictiveness under an outdated definition of addiction that the scientific and medical community had abandoned by 1964. She claimed that nicotine could be described as addictive only if it caused smokers to experience "intoxication, pharmacological tolerance, and physical dependence in a manner that would impair the smokers' ability to exercise a free choice to continue or to quit smoking." 2029200293-0294 at 0294 (US 21537) (O).

2223. After the 1994 hearing before the Congressional subcommittee, Philip Morris placed an advertisement in magazines using an open letter to "smokers and nonsmokers" entitled "FACTS YOU SHOULD KNOW." One of the "facts" was that "Philip Morris does not believe cigarette smoking is addictive. People can and do quit all the time." 2023011263-1263 (US 20371) (A).

2224. In a lengthy August 2, 1994 submission to the Drug Abuse Advisory Committee, Philip Morris (along with the American Tobacco Company) once again asserted that "neither cigarette smoking nor the nicotine delivered in cigarettes is addictive" and denied that smoking was a "form of 'drug-seeking' behavior." 92486960-7040 (US 88560) (O).

2225. Altria and ACS employees Geoffrey Bible, Steve Parrish, Murray Bring, Marc Firestone, Victor Han, David Nicoli, and Charles Wall were all involved in crafting PM’s 1994

submission to the FDA Drug Abuse Advisory Committee. 2047096727-6727 (US 26974) (O).

2226. Then-Altria Vice President and Associate General Counsel Marc Firestone oversaw research in 1995 into "the possibility that the industry may have made representations about addiction through ads or statements appearing in the news media." 2074836020-6021 (US 27524) (O).

2227. In Philip Morris's January 2, 1996 written submission in opposition to FDA jurisdiction over tobacco products, the company denied it knew nicotine was addictive, disputed that its documents showed that nicotine was addictive, and denied that smokers smoke to obtain nicotine. HHA0660489-0538 (US 87145) (O).

2228. PMC Corporate Affairs Senior Vice President Steven Parrish issued the January 2, 1996 "Industry Statement" accompanying the Cigarette Manufacturer Defendants' comments on the FDA rule; this statement also disputed the addictiveness of cigarettes. 2041220158-0163 (US 26936) (A).

2229. In the May 12, 1997 issue of *Time* magazine, then President and CEO of Philip Morris, James Morgan, was quoted from his deposition testimony as stating, "If [cigarettes] are behaviorally addictive or habit forming, they are much more like . . . Gummi Bears, and I eat Gummi Bears, and I don't like it when I don't eat my Gummi Bears, but I'm certainly not addicted to them." Myron Levin, "Jury Views CEO's 'Gummy Bear' Tobacco Deposition: Philip Morris Executive Testifies Cigarettes Aren't Any More Addictive Than Coffee or the Candy," *Los Angeles Times*, July 18, 1997, at D3; Morgan, PD, Broin v. Phillip Morris, et al., 4/17/97, 77:20-78:23.

2230. The October 2, 1997 so-called "Hatch Statement" (actually entitled "Philip Morris' Statement of Position) in which Philip Morris agreed to stop debating the addictiveness

of nicotine was issued on PMC letterhead. In this statement, Philip Morris once again disputed addiction and claimed that cigarettes were addictive only under definitional changes that can be used to "describe many different kinds of behavior." Philip Morris also stated that it nonetheless agreed to cease all public debate on the issue. 2063123083-3084 (US 39734) (A).

2231. In January 1998, Geoffrey Bible, CEO of Philip Morris Companies, submitted testimony that stated in part:

> We recognize that nicotine, as found in cigarette smoke, has mild pharmacological effects, and that, under some definitions, cigarette smoking is "addictive." The word "addiction" has been and is currently used differently by different people in different contexts, and the definition of the term has undergone significant changes over the past several decades. In 1964, for example, the Advisory Committee to the Surgeon General of the United States concluded that smoking, although "habit forming," did not fit within its definition of "addiction." However, in 1988, the Surgeon General redefined the term, and concluded that smoking is "addictive." We have not embraced those definitions of "addiction" which do not include such as historically accepted and objective criterion, such as intoxication and physical withdrawal, as important markers.

Bible acknowledged that Philip Morris Companies' position was "at odds . . . with the public health community," and said that for the sake of a consistent public health message, Philip Morris Companies would not debate the addictiveness of nicotine except insofar as it was "necessary to defend ourselves and our opinions in the courts." 83623323-3347 at 3343-3344 (US 21820) (O).

2232. Even now, Philip Morris representatives do not believe that smoking meets the "physiological definition of addictiveness," and only accept that smoking is addictive when "addiction" is broadly defined to include anything that is habit-forming. Merlo PD, United States v. Philip Morris, et al., 6/12/02, 500:24-503:22.

(ii) R.J. Reynolds

2233. At hearings before a Congressional subcommittee from March 5 through March 12, 1982, RJR Chairman and CEO Edward Horrigan stated under oath that "with regard to addiction, there is absolutely no proof that cigarettes are addictive." At the time of this statement, he was also chairman of the Tobacco Institute executive committee. 521056398-6557 at 6411 (US 85334) (O); 201830983-0993 (US 36327) (O).

2234. In a May 8, 1990 revised draft response to a letter from Elaine Moss, a cigarette smoker, Jo Spach, a Manager of Public Information for the RJR Public Relations Department, stated that: "The fact is that there is nothing about smoking, or about the nicotine in cigarettes, that would prevent smokers from quitting. Unlike heroin, cocaine or even alcohol, cigarettes do not impair a smoker's ability to think clearly – about smoking or about quitting. If a smoker wants to quit, it may take will power, but that is all it takes." 507707454-7455 at 7455 (US 22069) (O).

2235. In January 1992, two RJR employees, John Robinson and Walter Pritchard, published an article entitled "The Role of Nicotine in Tobacco Use." The article compared nicotine to caffeine and wholly disputed that nicotine was addictive. The Robinson and Pritchard paper was cited in industry submissions to Congress in 1994 and to the FDA in 1996, led to several letters in response, and created a false perception that the issue of nicotine addiction was in serious dispute. 190211472-1482 (US 88561) (O); 190211719-1724 (US 88562) (O); 2505597781-7998G at 7804 (US 23028*) (A).

2236. The Cologne office of RJR International faxed a December 14, 1992 draft statement entitled "Arguments Against The E. C. Cigarette Warning Label 'Smoking Causes Addiction'," which stated that "on an 'addiction scale,' nicotine is less addictive than food" and

that "nicotine improves performance, renders the user more alert and increases the efficiency of performance and reduces anxiety." 400729374-9380 at 9376 (US 29354) (O).

2237. Counsel for RJR prepared an anticipated "Q & A" for company Chairman and CEO James Johnston dated April 6, 1994, which said that nicotine was "not addictive," and that the term "addiction" was misused in the context of cigarette smoking. 512688562-8571 at 8564 (US 20849) (O).

2238. On April 14, 1994, Johnston testified under penalty of perjury in a nationally-televised hearing before the House Subcommittee on Health and the Environment. During this hearing, Johnston affirmatively denied that nicotine is addictive:

Rep. Ron Wyden:	Let me ask you . . . . Do you believe that nicotine is not addictive?
Mr. Johnston:	Congressman, cigarettes and nicotine clearly do not meet the classic definitions of addiction. There is no intoxication.

Regulation of Tobacco Products (Part I) Hearings before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, 103rd Congress April 14, 1994, 2023195738-5892 at 5780-5781 (US 36975) (O).

2239. An article in the August 2, 1994 *New York Times* reported that RJR scientist John Robinson "contests the consensus view of nicotine as addictive." Robinson stated that he could not differentiate "crack smoking from coffee drinking, glue sniffing from jogging, heroin from carrots, and cocaine from colas." 970260581-0581 (US 85337) (A).

2240. A November 1994 RJR document entitled "Media Tips" denied that smoking was addictive using factors that are not relevant to any accepted scientific definition. The "Media Tips" binder was intended to be used by RJR employees to answer press inquiries. With respect to addiction, the document stated that:

> Regardless of how you define addiction, cigarettes are clearly not in the same class as addictive, mind-altering drugs like heroin and cocaine. The physiologic, pharmacologic and behavioral effects of nicotine, like caffeine, are fundamentally different from drugs like alcohol, heroin and cocaine. . . .
>
> Smokers do not become intoxicated. Their smoking does not cause them to hallucinate, have blackouts, commit immoral or criminal acts, abuse their families, or cause trauma and psychological damage to their loved ones.

525412344-2488 at 2374 (US 88563) (O).

2241. This "Media Tips" document also claimed that "[l]abeling tobacco products 'addictive' was a political public-health decision, not a scientifically driven determination." 525412344-2488 at 2374 (US 88563) (O).

2242. The company prepared and distributed a similar document, called "Issues Guide," for use by company representatives worldwide in responding to media, public, and government inquiries. In this document, employees were instructed to deny addiction as well. 510345185-5358 at 5232-5235 (US 88046) (O).

2243. In a proxy statement filed with the Securities and Exchange Commission ("SEC") on April 12, 1995, the Board of Directors of RJR Nabisco Holdings Corporation publicly made a false and misleading statement to its shareholders and to the SEC. A group of shareholders filed a proposal to the Board that the company issue a public report regarding "whether nicotine content in and absorption from its tobacco products are deliberately controlled by the [c]ompany and if the reasons for any such control include the delivery of a reliable dose of nicotine to and/or the promotion of nicotine absorption by the customer." In recommending a vote against the proposal, the Board argued, "In RJRT's opinion, cigarette smoking does not meet the classic definitions of 'addiction,' and the forty-five million Americans who smoke are not 'addicts.' To call nicotine 'addictive' is to ignore significant differences between cigarettes and truly addictive

drugs." The Board repeated these averments in a proxy statement filed with the SEC in 1996, adding, "there is no accurate evidence establishing that any specific yield of nicotine causes 'addiction.'" Schedule 14A of RJR Nabisco Holdings Corp., - Proxy Statement, Dated 4/12/95, Disclosure, 525735695-5730 at 5710 (US 88004) (O); Schedule 14A of RJR Nabisco Holdings Corp., - Proxy Statement, Dated 4/17/96, Disclosure; 2048767992-8041 at 8027 (87747*) (O).

2244. An undated RJR magazine advertisement used industry-funded, Special Account 4 recipient psychologist Dr. Theodore Blau to dispute that smoking is addictive. In the advertisement, RJR not only denied any addictive aspects of smoking, but also blamed smokers for not being able to quit: "It's not that they can't stop; it's because they don't want to." 501926233-6233 (US 87148) (O); 517214542-4557 (US 87149) (O).

2245. In a March 1995 article in the periodical *World Tobacco*, despite the Surgeon General's Report and the overwhelming scientific consensus that cigarette smoking and nicotine were addictive and that physical intoxication was not necessary for a substance to be declared addictive, Robinson stated that nicotine was not addictive because it did not cause any physical intoxication. 519274569-4573 at 4572 (US 85339) (O).

2246. Along with Philip Morris, B&W, Lorillard, and the Tobacco Institute, RJR filed a joint submission opposing FDA jurisdiction over cigarettes. In its public statement on the FDA submission, RJR stated that, "Under scientifically verifiable criteria, nicotine and cigarette smoking are not addictive." 522626648-6651 (US 87150) (O).

2247. RJR has more recently joined the concerted industry effort to dilute the definition of "addiction" and distort the truth as to the addictive quality of smoking and nicotine. For example, in a September 9, 1997 draft document, the company stated that "if you broadly define 'addiction' as engaging in an activity that is hard to quit once you start, then certainly, smoking

can be considered addictive. The simple fact is many people find that once they have started smoking cigarettes, it can be difficult to quit. And some people find it extremely difficult." However, the document went on to distort the addictiveness of smoking, adding that "despite this difficulty, the number of Americans who have quit smoking is as large as the number who currently smoke. The 1990 Surgeon General's Report stated that nearly 45 million Americans had quit smoking, most of them on their own without any outside help. Based on this fact, we believe that any smoker with a sincere desire to quit smoking can - and should- quit." RJR's position on addiction failed to mention nicotine at all. This failure to acknowledge nicotine as the drug underlying the addiction continues to the present day. 522879046-9047 at 9046 (US 85340) (O).

2248. A May 4, 1999 draft RJR document denied the addictiveness of smoking, stating that "the word addiction means different things to different people and to some people it is a very emotive word. It's true that some smokers may find it very difficult to stop smoking and there are some smokers who believe that they are addicted to cigarettes. But the fact is that cigarettes do not have the addictive qualities of hard drugs such as heroin." 321309118-9133 at 9118 (US 85341) (O).

2249. RJR CEO Andrew Schindler testified in 1997 and 2000 that smoking is not an addiction like heroin or cocaine. Schindler WD, 31:22-32:18. RJR made the same statement in responding to discovery requests in this litigation. Schindler WD, 34:24-35:7.

2250. In a May 2002 RJR document entitled "Guiding Principles," the company stated its position regarding addiction in a section entitled "Quitting and Addiction." In this section, the company again demonstrated the cigarette industry's refusal to unqualifiedly admit that cigarette smoking is addictive: "Many people believe that smoking is addictive, and as that term is

commonly used today, it is. Many smokers find it difficult to quit and some find it extremely difficult." RJR later added that "[h]owever, we disagree with characterizing smoking as being addictive in the same sense as heroin, cocaine or similar substances." This attempted admission was misleading in that it discounted the term "addiction." In addition, there was no mention of RJR's knowledge of the central, "sine qua non" (to borrow from Reynolds researcher Claude Teague) importance of nicotine in maintaining addiction to smoking. 524946045-6088 at 6049 (US 52966) (O).

(iii) BATCo

2251. In comments published in the *Wall Street Journal* on October 31, 1996, the CEO of BAT Industries and Director of BATCo, Martin Broughton, denied any concealment of research linking smoking and addiction, saying that, "We have no internal research which proves that . . . smoking is addictive." State of Minnesota v. Philip Morris, Inc., et al., C1-94-8565, Exhibit No. 2909. 700428854-8856 at 8854 (US 85342) (O). This statement, made to analysts, investors, and journalists, was confirmed in a BATCo "Company Notice" to employees dated October 31, 1996.

2252. The statement by Broughton had been earlier promulgated by BATCo as a Press Announcement. 800113810-3812 at 3810 (US 85343) (O).

2253. Along with several other major international tobacco concerns (including Defendants Philip Morris and RJR), BATCo was a member of INFOTAB (International Tobacco Information Center), a Europe-based pro-industry association with goals similar to the Tobacco Institute and the CTR. In April 1990, INFOTAB published a pamphlet called "Children and Smoking: The Balanced View," which contained the following on the subject of addiction:

> Cigarette smoking is not addictive and cannot be equated to hard drug use. Many millions of smokers have been able to quit

> smoking.
>
> The smoker decides if, when and how much he wishes to smoke and is not motivated as is the hard drug user to get a "fix" by whatever means possible, including criminal acts. Most smokers are able to quit without assistance.

2070052572-2578 at 2577 (US 87151) (A).

2254. Dr. Jeffrey Harris, an expert for the United States, testified that this document supported his opinion that Defendants denied cigarette smoking and nicotine were addictive because they did not want the general public to associate smoking with heroin, cocaine, alcohol and other drugs of abuse. Harris WD, 26:4-217:23.

2255. Also in 1990, there existed a "Spokesperson's Guide" for tobacco industry use. The introduction stated that the manual is for the use of the recipient and that no copies were to be made. The manual addressed each and every claim against the industry and provided the standard script that all users were to use to respond to such claims. The manual stated that cigarette smoking was not addictive. 2023479861-0048 (US 37015) (A).

2256. BATCo promulgated a company notice on January 4, 1997, in response to Liggett's settlement with a group of state attorneys general. The notice contained the following: "As to addiction, of course you can construct a broad subjective definition of addiction that includes cigarette smoking. Equally, under a meaningful objective definition, cigarette smoking is not an addiction. Regardless of the definition, smokers who want to quit do." 321007259-7260 (US 85344) (O).

2257. In a December 3, 1990 document, BATCo prepared "Q&As" to respond to public inquiries. The answer to expected questions denied evidence of the addictiveness of cigarettes: "Whilst the US Surgeon General has claimed that nicotine is addictive, he has also claimed that video games are addictive. This is a prime example of the misuse of the term 'addiction' . . . .

[C]igarette smokers bear no resemblance to addicts . . . . Smokers smoke because they enjoy smoking." 536502262-2266 at 2262 (US 20930) (O).

2258. In a similar document entitled "Smoking Issues; Claims and Response," BATCo denied that smoking was addictive and asserted that, "Smokers do not experience most of the symptoms of addiction." This booklet also referenced industry-paid consultants who testified – at the industry's behest – in front of Congress and in the media. 601037850-7862 at 7853 (US 85345*) (O).

2259. Throughout the 1990s and beyond, BATCo has stubbornly clung to a stance that smoking and nicotine are not addictive. In a June 29, 1994 letter to the editor of *The Daily Telegraph*, in response to an earlier article published by the paper concerning the addictiveness of smoking, BATCo scientist Dr. Sharon Boyse-Blackie, provided the company's position on addiction:

> As to the claim that smoking is addictive: this has been widely challenged by scientists working in the field. Those working with drug addicts in the USA, for example, complained that the US Surgeon General's claim that smoking was as addictive as heroin and cocaine back in 1988 trivialized the whole problem of drug addiction. It is easy to see why. Tobacco is not intoxicating, in direct contrast to any other substance that has been claimed to be addictive, from heroin and cocaine through to alcohol. Smokers are perfectly capable of continuing a normal social and family life and holding down a job – there is little evidence of this with users of drugs of dependence. Nicotine does not induce physical dependence or tolerance (a fact recognised by the US Surgeon General when he attempted to redefine addiction to incorporate nicotine and decided to relegate these two previously crucial criteria to the bottom of the list!) and as even the Surgeon General acknowledged, millions of smokers all around the world have given up without any professional help.

500810940-0941 at 0940 (US 23036) (A).

2260. In this same document, Ms. Boyse wrote that "It has been suggested that smoking

must be addictive because it contains nicotine. So do many common vegetables, including tomatoes, aubergines and potato skins. Are vegetable eaters also drug users -- physically dependent on their ratatouille, perhaps, in the same way that heroin addicts are dependent on their heroin?" 500810940-0941 at 0941 (US 23036) (A).

2261. Experts for the United States, as well as one of Defendants' experts, Dr. Peter Rowell, agreed that based upon Defendants' knowledge at the time, as well as documents revealing this knowledge, these statements were knowingly false and misleading when made by Ms. Boyse. Rowell TT, 3/22/05, 16549:23-16650:15; 3/23/05, 16625:12-15, 16632:4-7, 16632:23-16633:10, 16685:5-16687:19; 3/24/05, 16790:4-16; Offer of Proof In Connection with Redirect Examination of Jack Henningfield, Ph.D. Pursuant to Order #471, 12/3/04 (R.4434).

2262. Also in 1994, BATCo spokesperson Michael Prideful stated that BAT's current position on nicotine was that cigarette smoking was habit forming, but not addictive. "British Tobacco Companies Hushed up Health Dangers," The Independent, June 19, 1994 502576028-6030 (US 86882) (O).

2263. In a March 21, 1997 statement posted for its staff on the British American Tobacco electronic bulletin board, BATCo again criticized Liggett's concession that nicotine was addictive, stating that Liggett's CEO was "simply brokering this deal in a desperate attempt to force one of the cigarette manufacturers to take over his financially troubled and failing tobacco interests." The statement added that "Liggett's action is not based on any new scientific discovery and does not affect British American Tobacco's attitude to its defense of litigation in either the US or other parts of the world." 321007261-7262 (US 46651) (O).

(iv) American Tobacco Company

2264. On April 14, 1994, the Chief Executive Officer of American, Donald S. Johnston,

testified under penalty of perjury in a nationally televised hearing before the House Subcommittee on Health and the Environment. During this hearing, Johnston affirmatively denied that nicotine is addictive:

> Rep. Ron Wyden: Let me ask you . . . . Do you believe that nicotine is not addictive?
>
> Mr. Johnston: And I too, believe that nicotine is not addictive.

Regulation of Tobacco Products (Part I) Hearings before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, 103rd Congress April 14, 1994, 2023195738-5892 at 5780-5781 (US 21990) (A).

(v) Brown & Williamson

2265. While B&W knew internally that smokers were addicts who smoked for nicotine, the company understood that their and the industry's "free choice" arguments in litigation would be undermined by any suggestion that smoking and nicotine were addictive. In the words of long-time general counsel Ernest Pepples, who described in a February 14, 1973 "Confidential" memorandum to public relations director John Ballock, one of the "salient problems now facing the cigarette industry" was:

> ADDICTION - Some emphasis is now being placed on the habit forming capacities of cigarette smoke. To some extent the argument revolving around "free choice" is being negated on the grounds of addiction. The threat is that this argument will increase significantly and lead to further restrictions on product specifications and greater danger in litigation.

696001196-1199 at 1198 (US 85346) (O).

2266. On April 14, 1994, the Chairman and Chief Executive Officer of B&W, Thomas Sandefur, also testified under penalty of perjury in a nationally televised hearing before the House Subcommittee on Health and the Environment. At this hearing, Sandefur, consistent with

his industry brethren, affirmatively denied that nicotine is addictive:

> Rep. Ron Wyden: Let me ask you . . . . Do you believe that nicotine is not addictive?
>
> Mr. Sandefur: I believe nicotine is not addictive.

Regulation of Tobacco Products (Part I) Hearings before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, 103rd Congress April 14, 1994, 2023195738-5892 at 5780-5781 (US 21990) (A).

2267. In a 1994 press release entitled "The Media Frenzy. Truth Vs. Distortions," B&W attacked the press coverage of its CEO's testimony before Congress, stating that he was merely providing his personal opinion that nicotine is not addictive. 800335973-5975 (US 31913) (O).

2268. In its January 2, 1996 supplemental submission to the FDA in opposition to FDA jurisdiction over tobacco products, B&W (speaking for itself and BATCo) denied addiction and the prominence of nicotine in the smoking habit. The supplemental comments, signed by B&W's Director of Scientific and Regulatory Affairs Scott Appleton, stated, "[U]nder scientifically verifiable criteria, neither cigarette smoking nor the nicotine in smoke is addictive." 490107317-7366 at 7364 (US 87152) (O).

2269. In 1999, B&W posted on its website a contradictory and confusing document called "Hot Topics: Smoking and Health Issues." While this document did admit that "by some definitions, including that of the Surgeon General in 1988, cigarette smoking would be classified as addictive," it went on to state that:

> Brown & Willliamson believes that the relevant issue should not be how or whether one chooses to define cigarette smoking as addictive based on an analysis of all definitions available. Rather, the issue should be whether consumers are aware that smoking may be difficult to quit (which they are) and whether there is anything in cigarette smoke that impairs smokers from reaching and implementing a decision to quit (which we believe there is

not.)

Response of Brown & Williamson Tobacco Corporation to the United States' First Set of Requests for Admission to All Defendants, RFA# 390, April 19, 2002, USX6390001-0400 at 0094 (US 89555) (O).

2270. As Jeffrey Wigand testified, upon the commencement of employment with B&W, he was coached by lawyers on the "company line" for addiction - that "nicotine had not been shown to be addictive." Wigand WD, 30:10-19.

(vi) Lorillard

2271. On April 14, 1994, the Chairman and CEO of Lorillard, Andrew H. Tisch, also testified under penalty of perjury in a nationally televised hearing before the House Subcommittee on Health and the Environment. During this hearing, Tisch also affirmatively denied that nicotine is addictive:

Rep. Ron Wyden:	Let me ask you . . . . Do you believe that nicotine is not addictive?
Mr. Tisch:	I believe that nicotine is not addictive.

Regulation of Tobacco Products (Part I) Hearings before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, 103rd Congress April 14, 1994, 2023195738-5892 at 5780-5781 (US 21990) (A).

2272. In a proxy statement filed with the Securities and Exchange Commission ("SEC") on May 14, 1996, the Board of Directors of Loews Corporation publicly made a false and misleading statement to its shareholders and to the SEC. A group of shareholders filed a proposal to the Board relating to nicotine in tobacco products in which it they stated, "virtually every major health organization in the United States of America as well as throughout the world has concluded that cigarette smoking and smokeless tobacco-use [sic] are addictive." In

responding to the proposal, the Board countered, that "the use of the term 'addiction' ignores the well-known fact that millions of people have stopped smoking in recent years." Schedule 14A of Loews Corp., - Proxy Statement, Dated 5/14/96, Disclosure, 91762567-2592 at 2586-2587 (US 22080) (A).

2273. In an October 1, 1997 letter to Senators Edward Kennedy and Orrin Hatch, Lorillard Chairman and CEO Alexander Spears disputed the need for a warning on cigarettes stating that cigarettes are addictive. Spears wrote, "Although Lorillard does not believe that cigarettes are 'addictive' in a stricter pharmacological sense, as the use of cigarettes does not result in euphoric intoxicating effects, we have no desire to engage in a public debate over the definition of the word 'addiction.'" 83699666-9668 (US 85348) (O).

2274. According to Lorillard CEO Martin Orlowsky, Lorillard's recent "acceptance" that cigarette smoking is addictive is dependent on a loose definition that includes any "pleasurable activity that can be difficult to stop." Orlowsky WD, 116:14-23.

2275. Dr. Christopher Coggins, Lorillard's Senior Vice President of Science and Technology agreed that cigarette smoking falls only within this loose definition of addiction at his deposition in this litigation, adding that cigarette smoking is only as addictive as "sugar and salt and Internet access." Coggins PD, United States v. Philip Morris, 8/16/01, 116:22-117:14.

2276. With respect to nicotine, CEO Orlowsky stated that Lorillard does not "take a public position one way or the other" on whether nicotine is an addictive drug and that the company still does not know whether nicotine is addictive or not. Orlowsky WD, 121:15-22.

2277. Coggins claimed the same lack of knowledge of whether nicotine was addictive at his deposition, adding that nicotine may or may not be an addictive agent in tobacco. In fact, according to Dr. Coggins, the addictiveness of smoking may be the result of a "simple physical

repetitive pleasurable activity." Coggins PD, United States v. Philip Morris, et al., 8/16/01, 117:15-120:11.

(vii) Liggett

2278. On April 14, 1994, the Chairman and Chief Executive Officer of the Liggett Group, Inc., Edward A. Horrigan (formerly of RJR), also testified under penalty of perjury in a nationally televised hearing before the House Subcommittee on Health and the Environment. During this hearing, Horrigan affirmatively denied that nicotine is addictive:

Rep. Ron Wyden:	Let me ask you . . . . Do you believe that nicotine is not addictive?
Mr. Horrigan:	I believe nicotine is not addictive.

Regulation of Tobacco Products (Part I) Hearings before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, 103rd Congress April 14, 1994, 2023195738-5892 at 5780-5781 (US 21990) (A).

(viii) Tobacco Institute

2279. The Tobacco Institute was by far the Defendants' most vocal spokesperson in the industry's quest to deny addiction and conceal internal research and knowledge. Over the decades, the Tobacco Institute, on behalf of the Cigarette Company Defendants, publicly disseminated countless false, deceptive, or misleading statements disputing the addictiveness of nicotine and cigarette smoking. Denial was a large part of its mission. The following are representative of the role of the Tobacco Institute's statements in denying and distorting the truth.

2280. When the Director of NIDA, Dr. William Pollin, testified before Congress in 1982 that the Tobacco Institute had concluded that nicotine met all the standard criteria used by NIDA, the Drug Enforcement Administration ("DEA"), and the WHO to define a dependence-producing drug, Defendants did not come forward with their corroborative evidence. Instead, Defendants,

through the Tobacco Institute and outside counsel, sent representatives and paid researchers to testify that NIDA was wrong and that nicotine did not cause addiction or dependence. Defendants made statements and sent their own experts to testify that nicotine was more like hamburgers than an addictive drug. Henningfield WD, 132:10-134:22.

2281. One of the witnesses Defendants produced to the Congressional subcommittee was Theodore Blau, who stated on behalf of the Tobacco Institute and its members that, "There is no scientific basis for a statement that cigarette smoking is addictive." 680584197-4204 at 4201 (US 85349) (O); TIMN0170757-0765 (US 85351) (O).

2282. On March 12, 1982, the Tobacco Institute's William D. Toohey authored a press release summarizing the tobacco company-funded testimony of Blau before a Congressional subcommittee. According to the release, Blau criticized the characterization of smoking as addictive, claiming that he placed the "attachment" to smoking in the same category as "tennis, jogging, candy, rock music, Coca-cola, members of the opposite sex and hamburgers." The press release went on to claim that "removal of these activities, persons or objects can cause sleeplessness, irritation, depression and other uncomfortable symptoms, similar to those felt by some with abstinence from tobacco." TIMN0120729-0730 (US 65625) (O).

2283. The March 1982 Tobacco Institute press release was misleading in that it wholly omitted the fact that Blau was paid by the Cigarette Company Defendants to testify, and that he was a member of, in Tobacco Institute President Sam Chilcote's words, the "Tobacco Institute Team." Instead, the press release indicated only that Blau was a "Florida psychologist," creating the false impression that he had no tie to the tobacco industry. TIMN0120729-0730 (US 65625) (O).

2284. In fact, Blau was a Special Account 4 recipient of thousands of Cigarette

Company Defendant dollars through the law firm of Shook, Hardy & Bacon. Also, he was one of the many industry-funded scientists whose testimony was reviewed and approved by Shook, Hardy & Bacon prior to presentation before Congress. 1005125796-5796 (US 36096) (A); 01335087-5087 (US 85352) (O); 01335086-5086 (US 26842) (O); TIMN197541-7581 (US 85353) (O); 1005064612-4612 (US 85354) (O); 01335102-5102 (US 26483) (O); 1005061616-1625 (US 35959) (O); 03746309-6316 (US 85355) (O); 503655215-5215 (US 85356) (O); 1005125795-5795 (US 85357) (O).

2285. The April 1982 edition of TI's newsletter, *The Tobacco Observer,* also quoted Dr. Blau's addiction denial before Congress in an article entitled "Smoking Said Not Addictive." TIMN0126427-6438 (US 85358) (O).

2286. When the Department of Health and Human Service's Office on Smoking and Health produced a pamphlet stating that cigarette smoking was addictive, the Tobacco Institute went to the media with the statement denying addiction. The Tobacco Institute President informed industry general counsel in a memorandum dated March 7, 1983, that the Tobacco Institute "drilled" the media with the industry message that cited "substantial refutation of the addiction claim," including the 1982 testimony of Blau. Once again, the Tobacco Institute press release failed to acknowledge that Blau was an industry paid spokesman for the Tobacco Institute and its members. TIMN0350773-0775 at 0773 (US 85359) (O).

2287. The Tobacco Institute then sent Curtis Judge, Lorillard President and Chairman of the Tobacco Institute Executive Committee, to speak for the industry before a Senate subcommittee on March 12, 1983, in opposition to legislation that would require additional warnings on cigarette packages, including a warning that smoking was addictive. Accompanying Judge were several industry-paid scientists, including Blau, who once again denied and disputed

addiction and the mounting scientific evidence behind the NIDA pamphlet and the basis for the warning. TIMN0049411-9548 (US 85360) (O).

2288. Blau also submitted a March 17, 1983 written statement denying addiction, free of tobacco industry attribution, to a House subcommittee considering the same issue. TIMN0384222-4231 (US 85361) (O).

2289. On the same date, the Tobacco Institute distributed a press release to newspapers and other news outlets across the United States, and quoted Blau, with no industry attribution, disputing the addictiveness of cigarette smoking. TIMN0138444-8446 (US 85362) (O).

2290. A May 12, 1983 Tobacco Institute press release quoted Dr. Blau's apparently "independent" denial of addiction again, who had yet again been paid by the industry to testify before a Senate committee: "Dr. Theodore H. Blau, a clinical psychologist in Tampa, Florida, and past president of the American Psychological Assiciation, sharply disputed an assertion in pending legislation that cigarette smoking is 'addictive.'" The Tobacco Institute did not provide the general public with the fact that Blau had testified on behalf of the tobacco industry and the Tobacco Institute. TIMN0120772-0773 (US 85363) (O).

2291. In a November 21, 1983 letter to Patrick Sigrid, a lawyer from Shook, Hardy & Bacon (outside Lorillard counsel), Arthur Stevens, Lorillard's Senior Vice President and General Counsel, criticized a Tobacco Institute addiction position paper drafted by the firm, calling it "poorly written; awkwardly phrased in places; highly technical in some parts for the intended 'common sense' approach; and so overly lawyer-like in its basic approach as to defy acceptance or understanding by the lay audience to whom it would be addressed." This letter demonstrates that instead of having its scientists draft its position denying nicotine addiction, Defendants chose to have their lawyers complete the task, thus ensuring unity in their categorical denial: "Some

anti-smoking government officials and others have gone so far as to brand smoking a 'drug addiction.' This claim is clearly false." 508074767-4771 at 4768 (US 85364) (O).

2292. In conduct reminiscent of 1982 and 1983, the industry again denied addiction through the TI in its submissions and testimony leading up to the 1988 Surgeon General's Report. Henningfield WD, 134:23-136:1.

2293. In 1988, the Surgeon General released a report entitled "The Health Consequences of Smoking: Nicotine Addiction." The Tobacco Institute quickly responded with a series of advertisements, press releases, and public statements attacking and denying the Surgeon General's findings, findings that reflected the overwhelming medical and scientific consensus on the subject. For example, the Tobacco Institute, on behalf of the Cigarette Company Defendants, immediately issued a May 16, 1988 press release stating:

> CLAIMS THAT CIGARETTES ARE ADDICTIVE CONTRADICT COMMON SENSE . . . Smoking is truly a personal choice which can be stopped if and when a person decides to do so. . . . The claim that cigarette smoking causes physical dependence is simply an unproven attempt to find some way to differentiate smoking from other behaviors. In fact, any feelings persons might have upon giving up smoking are those that would be expected when one is frustrated by giving up any desired activity . . . . The claims that smokers are 'addicts' defy common sense and contradict the fact that people quit smoking every day.

TIMN0019963-9963 (US 21239) (A); Dawson WD, 38:18-23.

2294. A second Tobacco Institute press release dated May 16, 1988 carried the headline, "CLAIMS THAT CIGARETTES ARE ADDICTIVE IRRESPONSIBLE AND SCARE TACTICS." This press release also attacked the Surgeon General's Report and specifically denied any dependence on nicotine, stating:

> After years of well-funded research, it has not been established that cigarette smoking produces a physical dependence to nicotine. In fact, it has been impossible to establish that the feelings persons

> have upon giving up smoking are anything but that which would be expected when one is frustrated by giving up any desired habit.

TIMN0019964-9965 at 9964 (US 85366) (A).

2295. Tobacco Institute President Samuel Chilcote reported to the member companies that same day that its "staff responded to just over 50 media inquiries, having earlier distributed our brief and carefully cleared response statement. . . . Media handling of our responses at this hour remains to be seen of course. But the staff reports seemingly fair and understanding reception of a 'contradiction of common sense' approach." TIMN214666-4667 (US 85367) (O).

2296. In a July 29, 1988 press release, the Tobacco Institute stated that the Surgeon General's declaration that smoking is an addiction was "[an escalation of anti smoking rhetoric . . . without medical or scientific foundation." TIMN0125189-5189 (US 77065) (A).

2297. The 1988 press release utilized Tobacco Institute spokesmen/scientists Blau and Stephen Raffle to deny addiction as well. For example, Tobacco Institute quoted Raffle in the press release, stating, "Clinically, cigarette smoking does not result in addiction-like behavior." Blau was quoted in the press release as saying that the Surgeon General's report was "misleading and unfortunate." TIMN00125189-5189 (US 77065) (A).

2298. Blau and Raffle were internally referred to by Samuel Chilcote in a memo to the Executive Committee as members of the "Tobacco Institute Team." 506615894-5896 (US 85368) (O). Raffle also provided a statement to the House subcommittee denying addiction. The statement was made at the Tobacco Institute's request, but omitted any Tobacco Institute connection or sponsorship. TIMN207378-7384 (JD-080049) (A).

2299. The July 29, 1988 press release failed to indicate in any manner that Raffle and Blau were industry selected, managed, and paid consultants to Defendants and their law firms, and that their statements to the House subcommittee had been reviewed by Covington & Burling

and several Defendants prior to being delivered to Congress. Instead, the press releases implied that both scientists testified independently before the House Subcommittee. TIMN0125189-5189 (US 77065) (A); 506419103-9103 (US 85372) (A); 87701893-1903 (US 32065) (O); 2025875995-5997 (US 85375) (O).

2300. The Tobacco Institute's use of Blau and Raffle was done with the knowledge of the Cigarette Manufacturer Defendants. 2025875995-5997 (US 85375) (O).

2301. An industry-funded June 13, 1988 report written by consultant Gerald E. Wagner, Ph.D., entitled "Health and Smoking Nicotine," rejected the findings of the Surgeon General's 1988 Report, where Dr. Wagner claimed the addictive properties of nicotine could not be proven "scientifically." 511068152-8176 (US 20835) (O).

2302. In a 1989 nationally broadcast interview on "Good Morning America," Tobacco Institute spokesman Brennan Dawson stated: "I can't allow the claim that smoking is addictive to go unchallenged. . . . The majority of people who smoke make that decision, they can quit if they want to do it. It's a matter of willpower." TIME 389474-9479 at 9476 (US 21286) (A).

2303. The Tobacco Institute published a brochure in March 1989 entitled "The Anti-Smoking Campaign: Enough is Enough." In this document, the Tobacco Institute denied that smoking is addictive, emphasizing as "a fact" that: "The fact is that there is nothing about smoking, or about the nicotine in cigarettes, that would prevent smokers from quitting. . . . If a smoker wants to quit, it may take will power, but that's all it takes." TIMN0130559-0578 at 0574 (US 85376) (A).

2304. In another nationally-broadcast interview, in 1990 on "Larry King Live," Ms. Dawson stated on behalf of the Tobacco Institute:

> [About 95 percent of those people have quit cold turkey. They've walked away from cigarettes and they've not gone through formal

> treatment centers or anything else. It's not like alcoholism or drug abuse. It's not an addiction. . . .
>
> There's nothing about nicotine that prevents you from quitting. And that's the whole difference.

TIMN341405-1422 at 1420 (US 21363) (A).

2305. On February 20, 1990, the Tobacco Institute issued a press release stating that Charles Whitley had appeared before the Senate Committee on Labor and Resources on behalf of Tobacco Institute, had criticized proposed legislation, and had stated that requiring an addiction warning label on cigarette packages and advertisements "defies all logic, when, according to the Surgeon General, nearly half of all Americans who ever smoked have quit and most of the 41 million smokers who quit did so without formal treatment programs or smoking cessation devices." TIMN341503-1504 (US 85377) (O).

2306. During a February 27, 1990 appearance on the program, Nightwatch, Ms. Dawson stated on behalf of the Tobacco Institute that

> Well, the fact is that now in the United States there are as many ex-smokers as there are smokers. And 95 percent of the people who have quit smoking have done it cold turkey. That is, they've just put down their cigarettes and walked away. And that's not the picture of the addictive drugs that we see, at least certainly not with the illegal substances, much less alcohol, that we see in terms of problems in society.

CORTI1731-1738 (US 87735) (A).

2307. The Tobacco Institute published another press release dated July 12, 1990, a document stating that Blau had once again testified before a House subcommittee denying the addictiveness of cigarettes. The Tobacco Institute provided the following in its press release, once again omitting any tie between Blau and the Cigarette Manufacturer Defendants:

> The proposed "addiction" warning label is likewise unjustified. Dr. Theodore H. Blau, a practicing clinical psychologist from

> Tampa, Florida, said that, "In my view, labeling tobacco use 'addictive' is misleading and potentially harmful to the American public." Blau noted that - unlike heroin addicts, cocaine addicts and alcoholics who are in the process of giving up these drugs - the alleged "withdrawal symptoms" which some smokers report when giving up smoking are "generally the same kinds of frustrations that one would expect to see when someone discontinues any well-established and well liked habit. Such symptoms as missing the habit and mild irritability are similar to the reactions experienced by those who give up coffee or sweets.

TIMN0026755-6757 at 6757 (US 85379) (A).

2308. The Tobacco Institute paid Dr. Raffle to speak out again in 1994 following the sworn testimony of FDA Commissioner Dr. David Kessler that smoking was addictive. In a March 25, 1994 Tobacco Institute press release, the Tobacco Institute Media Relations department restated Raffle's industry-funded and industry-prepared comments that smoking was not "truly addicting" and that "in order to include smoking as an addiction, one must redefine that term, water down its meaning, and ignore critical differences involving every aspect of these behaviors." The press release did not disclose any connection between Raffle and the Tobacco Institute or the Cigarette Manufacturer Defendants. TIMN328214-8215 (US 77090) (A).

2309. During the nationally broadcast news show "Crossfire" of March 10, 1994, Brennan Dawson, Vice President of Public Affairs at the Tobacco Institute, was asked by host Michael Kingsley, "Is nicotine addictive?" Dawson responded, "Absolutely not. Nicotine is first of all- I mean nicotine occurs naturally in cigarettes. Nicotine is also found in things as scary as potatoes." TI10720452-0464 at 0455 (US 87155*) (A).

2310. During this same interview, Ms. Dawson admitted making the following statement regarding the addictiveness of nicotine:

> Well, first of all, let’s understand that – that sometimes we use the word "addiction" in very broad terms. We talk about being, you know, news junkies. We talk about being chocoholics. We – you

> know, we – we put all these broad terms[.] . . . But when we talk about addiction in a classical sense, we're talking about things like, you know, heroin and alcohol, for example, where you're either intoxicated and you can't make a decent decision, or you're in such physical withdrawal that you're probably in the hospital. And there's nothing about nicotine specifically that classifies it as such.

TI10720452-0464 at 0459-0460 (US 87155*) (A); Dawson WD, 45:7-48:23.

2311. She added that "[t]here is no chemical addiction" to nicotine. TI10720452-0464 at 0460 (US 87155*) (A), Dawson WD, 45:7-48:23.

2312. During the nationally broadcast news show "Face the Nation" of March 27, 1994, Ms. Dawson of the Tobacco Institute was asked by host Robert Schieffer, "[D]oes the industry take the position that cigarettes are not addictive?" She responded, "The industry does take that position." (US 89319) (A).

2313. During an April 1, 1994 appearance on the MacNeil/Lehrer Newshour, when asked, "[d]o you - do you, in the industry, concede that nicotine is an addictive drug?" Ms. Dawson responded, "[n]o we don't." (US 89300) (A), Dawson WD, 45:7-48:23.

2314. On April 13, 1994, Dawson again appeared on the CNN program "Larry King Live." When she was asked whether nicotine was addictive, she responded, "No, nicotine is not addictive." TIMN0010649-0650 at 0650 (US 62778) (A).

2315. In this case, Ms. Dawson testified that the Tobacco Institute's public position was that smoking and nicotine were not addictive and that this position remained unchanged over the years. Dawson WD, 36:8-13; Dawson TT, 1/12/05, 9938:3-9940:19.

2316. Dawson, on behalf of the Tobacco Institute, also testified that there was no scientific basis for the public statements denying the addictiveness of nicotine, Dawson WD, 49:5-50:4, and that the Cigarette Manufacturer Defendants never provided the Tobacco Institute with information that nicotine was a drug with a variety of physiological effects and was thought

to be responsible for the addictive properties of cigarette smoking. Dawson WD, 53:9-12, 54:8-12, 55:10-14, Dawson TT, 1/12/05, 9958:1-11.

2317. The Tobacco Institute joined Defendants Philip Morris, RJR, B&W, Lorillard, and Liggett to oppose Food and Drug Administration jurisdiction over cigarettes as drug (nicotine) delivery devices in 1996. In Volume III of the filing prepared and submitted on behalf of the Tobacco Institute and the Cigarette Manufacturer Defendants, the group denied that nicotine in tobacco was addictive, denied any significant pharmacological effects of nicotine, denied that smokers smoke primarily for nicotine, denied any "threshold" amount of nicotine necessary for addiction, and denied compensation by smokers of low tar products. 2505597781-7998G (see e.g. 7793-7795) (US 23028*) (A).

2318. The submission of the Tobacco Institute and the five manufacturers named above was publicized via a Tobacco Institute press conference on the morning of January 2, 1996. While the Tobacco Institute's Brennan Dawson led the press briefing, she was accompanied by Philip Morris's Steven Parrish, RJR's Charles Blixt, and Lorillard's Arthur Stevens. TI01750819-0820 (US 87156) (A).

(ix) CTR

2319. Sheldon Sommers, Research Director of CTR and member of CTR's Scientific Advisory Board, told a Congressional subcommittee in hearings held in April 1969 that "smoking tobacco is not considered an addiction." 500925974-5998 at 5976 (US 85382) (O); BWX0007189-7297 (US 36237) (O).

2320. Robert Hockett, a subsequent CTR Research Director, stated during Congressional hearings held October 5 and 6, 1978, that while "there is an adjustment " to smoking over time, the issue of tobacco dependence was "a very tough question." 500925974-

5998 at 5976 (US 85382) (O).

2321. Statements such as these, frequently repeated by Defendants, their surrogates, and their agents, were misleading and intentionally deceptive when made. These statements are contradicted by decades of scientific research conducted by or funded by Defendants, and by a myriad of internal statements by company representatives.

(d) Defendants' Misrepresentations and Attempts to Confuse the Public as to the Facts of Cigarette and Nicotine Addiction Continue Today, Even Following the MSA

2322. Even today, although certain Defendants have acknowledged, to varying degrees, the overwhelming evidence that smoking is addictive, no Defendant accepts the Surgeon General's definition of addiction and no Defendant admits that nicotine is the drug delivered by cigarettes that creates and sustains addiction.

2323. On its website, Philip Morris states that "[w]e agree with the overwhelming medical and scientific consensus that cigarette smoking is addictive" and that it can be difficult to quit smoking. However, there is no mention of the established fact that the nicotine in cigarettes is what causes the smoker's addiction. TLT0770066-0088 (US 72408) (A); Szymanczyk WD, 63:3-7; Parrish TT, 1/25/05, 11038:23-11039:8.

2324. On its website, BATCo states that "[w]e accept the common understanding today that smoking is addictive." Yet, when discussing quitting smoking, the company makes no mention of the role nicotine plays in maintaining the addiction, downplaying the success of nicotine replacement therapy in helping smokers quit, and stating that the most important factor in successful quitting is "having the motivation and the self-belief that you can quit." http://www.bat.com/oneweb/sites/uk3mnfen.nsf/wwPageswebLive/BEDB4BB/FDD4F7CE80256BF4000ee157?open document, TLT0231984-1984 (US 86692) (O); (US 89563) (O).

2325. On its website, RJR states that, "Many people believe that smoking is addictive, and as that term is commonly used, it is." However, RJR later equivocates on this statement, stating its disagreement with the opinion in the health and scientific communities that smoking is as addictive as heroin or cocaine. RJR does not disclose the role of nicotine in the addiction. TLT0770095-0128 (US 72410) (A); Beasley WD, 67:16-23.

2326. On its website, B&W recites its new public position that it "agrees that, by current definitions of the term 'addiction,' including that of the Surgeon General in 1988, cigarette smoking is addictive." Two paragraphs down from this, however, B&W reverts to its former denials, omitting any reference to nicotine and stating the following :

> Although smoking can be very difficult to quit, we do not believe that the term "addiction" should be used to imply that there is anything in cigarette smoke that prevents smokers from reaching and implementing a decision to quit. Smoking may indeed be difficult to quit, but people can quit and do so in large numbers. The scientific literature demonstrates that smokers who believe they can quit, and who believe that the benefits of quitting outweigh the enjoyment of continuing to smoke, can do so.

TLT1020158-0158 (US 87157) (A). Ivey WD, 94:16-96:1.

2327. B&W's current Nicotine and Addiction section does not even discuss nicotine or its effects on the human body. In sum, the B&W current, post-MSA position continues to deny that any aspect of smoking "prevents" a smoker from quitting. Moreover, the position continues to confuse and distort the facts on addiction, namely that smoking is very difficult to quit primarily because of nicotine. At the same time, the position refers to "the enjoyment of continuing to smoke," suggesting that smokers smoke simply for continued "enjoyment," as opposed to a craving or need for nicotine. TLT1020158-0158 (US 87157) (A); Ivey WD, 94:16-96:1

2328. In her live testimony, Susan Ivey, former president and CEO of B&W and current

CEO of RJR and Reynolds American, stated that while B&W believed that nicotine is a "significant contributor to addiction," it would not agree that nicotine is an addictive drug. Ivey TT, 11/16/04, 6194:21-6195:5.

2329. Lorillard's current position is that smoking is addictive but only in the same way as "repetitive pleasurable activities that can be difficult to stop." Lorillard believes that smoking is not addictive in a "pharmacological sense." Orlowsky WD, 116:14-117:18. With respect to nicotine, President and CEO Martin Orlowsky stated, on behalf of Lorillard, that the company does not take a public position" and does not know if nicotine is an addictive drug or not. Id., at 121:15-22.

2330. The Lorillard website has recently added a statement from Orlowsky on its website that includes the sentence, "Cigarette smoking can also be addictive." However, this statement does not define the term "addictive," and omits any reference to nicotine. (JD-024979) (A).

2331. In a May 28, 2003 press release on the Louisiana Scott verdict, also made available on Lorillard's website, company general counsel Ron Milstein contradicted the statement that smoking can be addictive by stating that simple willpower "always works" for those who want to quit smoking: "Liability to fund smoking cessation programs should not be tried in class action lawsuits. Research has shown time and time again that willpower is the only smoking cessation aid that always works." TLT0961610-1610 (US 86693) (A).

2332. In his testimony, Martin Orlowsky demonstrated Lorillard's evasiveness on this issue, testifying that while Lorillard's position was that smoking is addictive, he "did not know what a 'drug addiction' is." Orlowsky WD, 119:21-121:6.

2333. Orlowsky also would only say that "nicotine is an important part of smoking,"

refusing to accept that nicotine was the ingredient in cigarettes that made cigarette smoking addictive. Orlowsky WD, 119:21-121:6, 121:15-122:6.

2334. While Philip Morris has now superficially accepted that smoking and nicotine are addictive, its new position surfaced for the first time relatively recently after the filing of this lawsuit. After decades of consistent corporate public denials, Philip Morris USA President and CEO Michael Szymanczyk first stated in June 2000 that nicotine was addictive during the damages phase in Engle v. Liggett. Philip Morris USA subsequently added a statement on their website in October 2000 agreeing that "cigarette smoking is addictive, as that term is most commonly used today." That statement has since been modified to read, "We agree with the overwhelming medical and scientific consensus that cigarette smoking is addictive." However, the Philip Morris USA website omits any information on nicotine, and Philip Morris still publicly states that smoking does not meet the "traditional definition" of addiction. Szymanczyk PD, United States v. Philip Morris, et al., 6/13/02, 249:15 - 254:8; 267:10 - 270:3.

2335. The website language acknowledging that smoking is addictive was developed by Mark Berlind and distributed on the Philip Morris Law Department Intranet as a PMC Statement of Position. 2085189723-9724 (US 86925) (O).

2336. Geoffrey Bible, former CEO of Philip Morris Companies, was the ultimate authority on the content of public statements on smoking and health made by Philip Morris Companies' subsidiaries, including Philip Morris USA. Bible PD, U.S. v. Philip Morris, et al., 8/22/02, 83:9-84:9, 85:22-86:25.

2337. Philip Morris International changed its public position to agree with the public health community's conclusions that smoking is addictive at the same time (October 2000) that Philip Morris USA did so. 2078850517 (US 45218) (O).

2338. Philip Morris adopted its current position that nicotine in cigarette smoke is addictive for the first time in January 2003, in a supplemental response to a United States Request for Admission in this case. USX639001-0400 (US 89555) (O). Philip Morris's 30(b)(6) deponent, Richard Carchman, stated that the company's definition of addiction is "a repetitive behavior that's associated with an adverse outcome." The "adverse outcome" is disease associated with smoking; according to Carchman, Philip Morris believes that if the risk of disease were eliminated, cigarette smoking would no longer be an addiction. In addition, Philip Morris continues to dispute that nicotine is addictive outside of smoking. Carchman PD, United States v. Philip Morris, et al., 6/6/03, 14:6-15:12, 22:3-23:3, 23:19-20, 25:4-26:24, 29:1-13, 85:17-86:10.

2339. In this case, Denise Keane, general counsel for Defendant Philip Morris USA, testified that Philip Morris never publicly stated that cigarette smoking was not addictive because it should properly be characterized as a drug dependence. Keane TT, 1/18/05, 10447:23-10448:7.

2340. Ms. Keane also testified that when Philip Morris purchased three Liggett brands, L&M, Lark and Chesterfield, it removed information from the packages that stated that smoking is addictive. Keane TT, 1/18/05, 10457:5-10460:16.

2341. While Philip Morris had placed fact onserts on these packages, these onserts did not contain the statement that Philip Morris agrees that smoking is addictive, even though Philip Morris had publicly stated this agreement in 2000. Keane TT, 1/18/05, 10460:17-10462:15.

2342. Ms. Keane testified that while Philip Morris had told people that it agrees that cigarette smoking is addictive, it has not told people that it agrees that the nicotine delivered in cigarette smoking is addictive, a fact that Ms. Keane herself admitted was material information

that the public should possess. Keane TT, 1/18/05, 10533:5-10534:4.

2343. Ms. Keane also admitted that nowhere on the Philip Morris website's link to the FDA's findings related to addiction, appears the fact that nicotine is a drug and that nicotine is not addictive. Keane TT, 1/19/05, 10643:3-10649:17.

2344. In spite of the overwhelming medical and scientific evidence, only one cigarette manufacturer defendant, Liggett, has placed a warning on its packages stating that nicotine is addictive. Liggett advertising and packaging state, "Smoking is Addictive." LeBow TT, 2/7/05, 12375:21-12376:1.

2345. Moreover, no Cigarette Company Defendant other than Liggett and Philip Morris, has admitted that nicotine in cigarette smoke is addictive. Liggett is the only Defendant to do so publicly.

(e) Internal Documents and Statements Reveal That Defendants Concealed and Suppressed Research and Other Evidence Consistent With Nicotine Addiction

2346. Not only have Defendants' conduct and research reflected a sophisticated understanding of nicotine and its role in smoking addiction, but Defendants have also deliberately withheld such information from the general public. It is clear that Defendants intentionally withheld from public dissemination, and from public health authorities, accurate information regarding the addictiveness of nicotine in cigarettes. Henningfield WD, 87:10-88:20, 161:23-167:6.

2347. Defendants accomplished this through the suppression of their own critical and corroborative research findings and by fostering controversy about the scientific knowledge concerning nicotine and its addictive effects that was publicly available. Henningfield WD, 134:23-136:9, 161:23-167:6.

2348. Defendants have offered a misrepresentation of the history of tobacco-dependence related research by implying that the scientific basis for understanding tobacco dependence was known for many decades, if not centuries, and that until recent years, organizations which considered the question appropriately, concluded that the evidence was not sufficient to draw such conclusions. Henningfield WD, 87:10-88:20, 102:21-104:13.

2349. In fact, Defendants themselves possessed, from their own experiences and research, internal studies and other information that led them to conclude, long before public health bodies did, that the primary reason people keep smoking cigarettes is to obtain the drug nicotine, which has addictive effects. Defendants intentionally withheld this data (including many of studies on the physiological effects of nicotine in animals and humans, and much of its research on the determinants of nicotine dosing in cigarettes) when there were major public efforts to review and synthesize all available information, such as Surgeon General's Reports or congressional investigations. Defendants also engaged in a public relations offensive, relying on self-serving definitions of addiction, to deny the consensus conclusion that smoking is addictive primarily because cigarettes effectively deliver nicotine. Henningfield WD, 87:10-103:13, 104:14-110:8, 134:23-136:1, 150:14-159:8, 161:23-167:6. See also 490010042-0044 at 0043 (US 79285) (A) (presenting "Addiction Statement," prepared by Shook, Hardy & Bacon, concluding that smoking is not addictive and that, as crafted, "Statements in company documents cannot refute this conclusion.").

2350. The 1988 Surgeon General's Report, entitled "Nicotine Addiction," affirmed the conclusions of the clinical community that nicotine in cigarettes is an addictive drug. Had Defendants disclosed their internal knowledge, research results, and conclusions, this information would likely have permitted nicotine to be placed into the addiction category far

earlier. Henningfield WD, 149:12-20.

2351. Defendants publicly denied the addictiveness of smoking and nicotine's role therein, because they feared that public acknowledgment of what was so well documented and widely accepted internally would potentially expose them to governmental (FDA) regulation and adverse liability judgments from addicted smokers. Defendants thus took steps to limit the nature and dissemination of nicotine-related research.

2352. A September 9, 1980 Tobacco Institute internal memorandum revealed the recognition by the member companies that a public admission that nicotine was addictive would undermine their litigation defense that a person's decision to smoke is a "free choice": "[T]he entire matter of addiction is the most potent weapon a prosecuting attorney could have in a lung cancer/cigarette case. We can't defend continued smoking as 'free choice' if the person was 'addicted.'" TIMN0107822-7823 at 7823 (US 21275) (O).

2353. Another reason Defendants denied addiction was to avoid regulation by the FDA. Not surprisingly, none of the companies' internal research and evidence suggesting (or finding) addiction was submitted in 1996 when the FDA sought to assert jurisdiction over cigarettes as drug (nicotine) delivery devices. Instead, Defendants (including Liggett) vigorously denied every aspect of addiction. 25055597781-7998G (US 23028*) (A).

2354. The following are examples of the scope of the actions Defendants undertook to strike and limit the nature and dissemination of nicotine-related research, as well as any evidence suggesting addiction.

(i) Philip Morris

2355. Philip Morris studied nicotine and both its pharmacological and physiological effects on smokers - sometimes called addictive, dependence-producing, or reinforcing effects -

intensively in an effort to increase its market share within the industry. However, Philip Morris's internal knowledge and acceptance that smoking, through nicotine, was addictive was kept from the public. Similarly, Philip Morris's research demonstrating the addictive impact of nicotine on the bodies of animals and humans was suppressed, and in some cases terminated.

2356. In a 1992 memorandum entitled "Philip Morris Behavioral Research Program," the company's long-time outside counsel, Shook, Hardy & Bacon, reviewed and summarized much of Philip Morris's nicotine research conducted from 1969 to 1984 under the direction of William L. Dunn. The research into nervous system effects and smoking behavior was conducted both internally (by scientists such as Dunn, Berntson, Gullotta, DeNoble and others) and by outside researchers (including scientists Hutchinson, Abood, Egle and others). 2021423403-3497 at 3406-3409 (US 36743) (A).

2357. The funding for the Behavioral Research Program, or Nicotine Program as it was sometimes called, was terminated in 1984. According to a Shook, Hardy & Bacon report, "**Philip Morris cancelled the Nicotine Program in spring 1984. The decision to cancel the program may have been the result of outside counsel's legal advice**." 2025768108-8166 at 8113 (US 36743) (A) (emphasis added).

2358. As explained below, the decision to abort the Nicotine Program, muzzle its scientists, and suppress much of its research was intentional and indeed driven by legal concerns.

2359. Discussing Philip Morris's research into the pharmacological effects of nicotine, Principal Scientist and psychologist William Dunn wrote the following in a "CONFIDENTIAL" memorandum to Research & Development Vice President Helmut Wakeham on February 19, 1969: '[D]o we really want to tout cigarette smoke as a drug? It is, of course, but there are dangerous F.D.A. implications to having such a conceptualization go beyond these walls."

1003289921-9922 at 9921 (US 20167) (A).

2360. Dunn wrote a "CONFIDENTIAL" memorandum dated October 19, 1977 entitled "Smoker Psychology Program Review" summarizing his program for Tom Osdene. Dunn made three observations that represented the Philip Morris position on smoker behavior and nicotine research. First, the mission of the Philip Morris program was to "study the psychology of the smoker in search of information that can increase corporate profits." Second, Dunn admitted that while "[t]here is a general realm of psychological inquiry that would not make our lawyers nervous were the findings to be made public," there is "legal concern" with any scientific inquiry into the dependency-producing compound, or "reinforcing mechanism," of smoking. Third, Dunn stated that his research assumed that nicotine was the compound in question, a compound that without which "the cigarette market would collapse, P.M. would collapse, and we'd all lose our jobs and consulting fees." 1000046538-6546 at 6538-6542 (US 26074) (A); 2021423403-3497 at 3488 (US 36743) (A).

2361. Dunn also compared smokers seeking nicotine to Pavlov's dogs and to hungry laboratory rats who press levers seeking food pellet "rewards": "Consider the smoker. Smoking the cigarette is the lever press. The effect of that smoking act upon the person is the reward. That effect reinforces the smoking act. He comes to push the smoking lever 10 to 60 times per day." 1000046538-6546 at 6543 (US 26074) (A); 2021423403-3497 at 3485 (US 36743) (A).

2362. Shortly thereafter, in a November 3, 1977 memorandum, Dunn provided his strategy for concealing any unfavorable nicotine research results. Regarding a proposed study of nicotine withdrawal in rats to be undertaken by Philip Morris scientist Carolyn Levy, Dunn stated that he approved the study. However, he cautioned that, "If she is able to demonstrate, as she anticipates, no withdrawal effects of nicotine, we will want to pursue this with some vigor. **If,**

however, the results with nicotine are similar to those gotten with morphine and caffeine, we will want to bury it." 1003293588-3588 (US 20168) (O) (emphasis added).

2363. The terms of Levy's "Proposed Study of Nicotine Withdrawal in Rats" are contained in a November 1, 1977 memorandum from her to Dunn, where Levy states that her intent was not to conduct objective research but to generate favorable evidence in support of the external industry position that there are no withdrawal symptoms associated with nicotine. Levy intended to compare known morphine and caffeine withdrawal symptoms to nicotine's effects. Levy stated, however, that while she predicted favorable results, she understood that "it is dangerous to set out to prove the null hypothesis." 1003293589-3591 (US 21421) (A).

2364. In a November 29, 1977 memorandum to Bob Seligman, Philip Morris Scientific Director Tom Osdene stated his concerns with the direction CTR was taking with its research into nicotine, saying that with "the progress that has been claimed, we are in the process of digging our own grave," adding that he feared that "the direction of the work being taken is totally detrimental to our position and undermines the public posture we have taken to outsiders." 2022246952-6952 (US 36865) (O).

2365. The industry's goal was to stop the public health community from concluding that nicotine was addictive. Seligman wrote a memorandum to company general counsel Alex Holtzman dated June 27, 1978, attaching Dunn's report of a conference Seligman and Dunn attended called "Cigarette Smoking as a Dependence Process." The conference was apparently put on by the National Institute on Drug Abuse. Seligman prophetically warned Holtzman that:

> It is my impression that at some time in the future, nicotine will be listed as a dependency drug (or smoking will be listed as a dependence process). Thus, it might be wise to contemplate the future <u>legal</u> ramifications of such an inevitability. Additionally, you might want to consider some mode of action which might forestall such a designation by the drug abuse community.

1003726420-6420 (US 85384) (O) (emphasis in original).

2366. BATCo scientist D.G. Felton summarized a visit to Philip Morris in a report on his visit to North America in October 1979, part of which was devoted to the industry's nicotine research efforts:

> During the trip, I also responded to an invitation from Drs. R.B. Seligman and T.S. Osdene to visit the Philip Morris Research Center. The terms of the visit were that I should take no notes and make no report. I can merely record that the discussions were very open and helpful on the subjects covered during the visit.

650032772-2786 at 2775 (US 85385) (O).

2367. Dunn wrote an internal memorandum to Seligman dated March 21, 1980, describing Philip Morris's "Nicotine Receptor Program," an internal company research program focusing on the psychopharmacology of nicotine. The research was "aimed at understanding that specific action of nicotine which causes the smoker to repeatedly introduce nicotine into his body." While Dunn stated that the nicotine research would likely produce "significant scientific developments," he noted that it was "a highly vexatious topic" that company lawyers did not want to become public because nicotine's drug properties, if known, would support regulation of tobacco by the FDA. Dunn wrote, "Yet this is where our attorneys least want us to be." Moreover, lawyers were concerned that new "knowledge of nicotine" might permit "therapeutic breakthroughs to reduce the incidence of smoking." 0000127789-7792 (US 35152) (O).

2368. Consequently, Dunn observed that while Philip Morris would continue its research program "to study the drug nicotine, **we must not be visible about it.**" And while the program depended on a "heavy commitment" by Philip Morris, Dunn wrote that "**our attorneys, however, will likely continue to insist on a clandestine effort in order to keep nicotine the drug in low profile**." Dunn mentioned Shook, Hardy & Bacon's Don Hoel and Jacob &

Medinger's Ed Jacob by name in his memorandum. 0000127789-7790 (US 21794) (A) (emphasis added).

2369. A memorandum to Seligman from J.I. Seeman, dated March 18, 1980, provided additional commentary on the Philip Morris "Nicotine Receptor Program." In Seeman's memorandum, he implied that any outside scientist working with Philip Morris had to share the company's interest. He wrote that, "An additional, and perhaps fundamental, requirement was that the individual(s) chosen to work with us is acceptable from a 'political' perspective." 1003289974-9975 (US 87078) (O).

2370. In a December 4, 1981 article, George Macklin, Director of Sales for Philip Morris in the United Kingdom, summarized and published a presentation he had made to a Retail Confectioners and Tobacconists convention. In the article he said that "cigarettes are not just habit forming – the body builds up a requirement for them," and that if it was raining, a smoker would still stop to buy cigarettes because "he is addicted to cigarettes." In response to an angry inquiry from Don Hoel of Shook, Hardy & Bacon about this public admission, Jules Hartog at Philip Morris Europe wrote that he had explained to Macklin's boss that "this sort of mistake could create a lot of problems for us" and that he had been promised that "such unfortunate incidents will not happen again" 2501013567-3568 (US 27920) (O); 2024950721-0721 (US 20404) (O); 2024950723-0723 (US 37175) (O).

2371. A March 16, 1983 memorandum from researchers James Charles and Victor DeNoble concerning their critiques of the Public Health Service's Report entitled "Why People Smoke" acknowledged that Philip Morris had research results with implications contrary to Philip Morris's publicly stated opinions on nicotine, but that Philip Morris had not disseminated its findings publicly: "Recent experiments in Vic's [DeNoble's] project have shown that there is

a behavioral component to tolerance (a learned phenomenon), but this work has not been published." 1005061346-1346 (US 20199) (A). This was the work, led by Dr. Mele and described in his testimony, that Philip Morris actively precluded him from publishing. Mele WD, 11:6-15:4.

2372. In at least one case, Philip Morris threatened to take legal action against scientists who sought to publish their research on addiction. Philip Morris had developed an important method for demonstrating that rats press levers and work for nicotine. Such studies had earlier been done with monkeys, but there had not previously been a good rat model. Philip Morris was one of the first to develop a valid rat model of nicotine intravenous self-administration.

2373. Yet, Philip Morris prevented the publication and presentation of this work. Henningfield WD, 161:23-167:6; DeNoble WD, 17:1-18:6, 22:6-23:18, 39:12-45:11; Mele WD, 20:3-22:12, 28:13-32:4.

2374. Under the guidance of Dr. Paul Mele, a former Philip Morris research scientist, the Philip Morris Biochemical Research Division demonstrated that tolerance to nicotine occurs. Dr. Paul Mele WD, 11:6-12:11. By administering nicotine to rats, Dr. Mele's study demonstrated both physiological and behavioral tolerance. Id., 11:13-13:5. Behavioral tolerance - when tolerance develops to a behavioral effect of a drug - had not been shown prior to Dr. Mele's research. Id. at 12:16-13:10. When Dr. Mele sought to publish this groundbreaking research in 1983, Philip Morris informed him that the tolerance study could not be published "because the study showed tolerance and physical dependence to nicotine." Id. at 14:2-10. Instead, Philip Morris would only allow Dr. Mele to write an internal paper. Id.; 1000413881-3964 (US 20100) (A). Dr. Mele's testimony was unchallenged by Defendants, as they elected not to cross-examine him.

2375. A 1983 memorandum written by a Shook, Hardy & Bacon lawyer working for Philip Morris provided comments relating to "several reports (unpublished, published or in press) from the Philip Morris Research Center." Regarding an unpublished manuscript from Drs. DeNoble and Mele entitled "Development of Behavioral Tolerance Following Chronic Nicotine Administration," the memorandum commented that "[t]he bottom line is that the authors are maintaining that there is tolerance to nicotine, which involves both behavioral and physiological factors." The memorandum noted that such a finding would be detrimental to the cigarette industry:

> It is obvious that such a report has undesirable implications for smoking and health litigation. Tolerance is frequently cited as one of the hallmarks of addiction. It is the industry's position that one of the classic criteria for addiction is tolerance, and that such has not been demonstrated in the case of nicotine. While it is true that the Mele and DeNoble paper does not discuss smoking in particular or attempt to extrapolate their experimental findings beyond the laboratory, there is nevertheless the implication simply by the fact that Philip Morris is doing this research, that it is viewing this research as relevant to smoking behavior.

2021424402-4412 at 4404-4405 (US 22847) (A).

2376. This same Shook, Hardy & Bacon memorandum arrived at the following assessment of the "unfavorable" Philip Morris internal nicotine research:

> **Research engaged in, as well as some possibly under consideration, by Philip Morris has undesirable and dangerous implications for litigation positions the industry takes in regard to smoking behavior.** The pharmacological nature of the research implies strongly a view of the importance of nicotine. What is worse, research reports under Philip Morris' sponsorship contain claims of unequivocal demonstrations of reinforcement by nicotine in animals. This kind of research is a major tool of our adversaries on the addiction issue; the irony is that industry-sponsored research is honing that tool. **In the final analysis, the performing and publishing of nicotine related research clearly seems ill-advised from a litigation point of view.**

2021424402-4412 at 4412 (US 22847) (A); 2021423403-3461 at 3422 (US 87038*) (A) (emphasis added).

2377. DeNoble testified in this case that the intravenous self-administration rat model is a classical hallmark to indicate that a substance has abuse potential; and that the significance of his self-administration research finding was due, in part, to the fact that it was a rat model. Indeed, the Philip Morris DeNoble study predicted nicotine abuse potential with the exact same procedure that NIDA uses to demonstrate a drug's abuse potential. DeNoble WD, 17:9-20:2; See also, 2023963269-3341 at 3312-2213 (US 20398) (A) (DeNoble testimony at 1994 Waxman hearings).

2378. DeNoble also testified that prior rat self-administration studies had a compounding variable of inducement that made interpretation of their results unclear with respect to whether nicotine is truly a reinforcing agent. DeNoble WD, 17:9-18:6. Therefore, his own study succeeded where others had failed and clearly was very significant at this point in history. As DeNoble put it in 1994:

> The work that we did with nicotine was clearly some years ahead of the external community, scientific community. It wasn't until 1989 that Bill Corgal (sp) demonstrated that nicotine would function as an intravenously delivered reinforcer for rats, using the same models that I used – that Paul [Mele] and I used. The work that we did on self administration, on dependence, on tolerance, on frustration, clearly would have moved the scientific community much further along than it had been moved by that work not getting out.

2023963269-3341 at 3285 (US 20398) (A). Dr. Henningfield testified about the significance of the DeNoble and Mele self-administration research and the adverse impact of Philip Morris's concealment of this work on the scientific research community. Henningfield WD, 162:10-167:6.

2379. DeNoble's former research colleague at Philip Morris, Paul Mele, added these points:

> . . . [S]ome of these studies were the first to be done with nicotine. I have no doubt that other people would have performed these studies subsequently just as has been done recently in Toronto. But they weren't being done at the time, and to quote a recent review article in Science . . . it basically took six or seven years for the nicotine self-administration model to be developed and come out. Whereas, it would have been out much earlier had this work been allowed to go out and stay out.

2023963269-3341 at 3286 (US 20398) (A).

2380. Philip Morris management clearly knew the scientific significance of the DeNoble rat self-administration nicotine study. In fact, approval was obtained to submit it to a leading peer review scientific journal, *Psychopharmacology*, and plans were in place to have the study presented at the 1983 American Psychological Association meeting in Anaheim. 2023963269-3341 at 3303 (US 20398) (A).

2381. Jack Henningfield, an addiction researcher at NIDA during the period that DeNoble and Mele were performing this research at Philip Morris, has testified as to the significance such work would have had to the scientific and medical communities had it been published in 1983. Henningfield WD, 103:22-103:13.

2382. Prior to publication, however, at a New York briefing designed for the purpose of having DeNoble report on the activities of the behavioral pharmacology laboratory, including the results of the rat self-administration nicotine study, DeNoble was asked only one question, by the President and CEO of Philip Morris, Ross Millhiser:"Why should I risk a billion-dollar industry on rats pressing a lever to get nicotine?" DeNoble WD, 24:8-25:1.

2383. The saga of the Philip Morris Nicotine Program is described in detail in a lengthy 1992 document prepared by outside counsel Shook, Hardy & Bacon entitled "Philip Morris

Behavioral Research Program." In this report, counsel summarize many aspects of the program and cite specific documents showing a major internal research initiative that lasted from 1969 to 1984 involving many scientists, including DeNoble. The report acknowledged that DeNoble was terminated in 1984, the year the entire program was ended. 2021423403-3497 at 3408-3409 (US 36743) (A).

2384. With respect to the reasons why the Nicotine Program was terminated, the 1992 report prepared by outside counsel Shook, Hardy & Bacon makes clear that the program generated results and was still generating data in 1984 related to nicotine receptors, analogs, peripheral nervous system effects, central nervous system effects, effects on animal behavior, and differences between high nicotine delivery and low nicotine delivery cigarettes. The report ominously stated the following: "For reasons never stated in any internal documents, Philip Morris cancelled the Nicotine Program in spring 1984. The decision to cancel the program may have been the result of outside counsel's legal advice." 2021423403-3497 at 3408 (US 36743) (A).

2385. In fact, in a July 27, 1983 letter to the head of Philip Morris, Shook, Hardy & Bacon attorney Patrick Sigrid summarized the nicotine research being conducted by DeNoble and recommended its suppression. 2046754720-4731 (US 20476) (A).

2386. In April 1984, a few months after a top Philip Morris executive and lawyer visited the behavioral pharmacology lab, his laboratory was suddenly shut down and the animals killed. DeNoble WD, 38:4-16, 39:3-9; Mele WD, 25:19-26:21. In DeNoble's own words, "[O]ur laboratory was terminated in one day." 2504099642-9666 at 9660 (US 22708) (A).

2387. Subsequently, DeNoble was told by several representatives of Philip Morris management that his lab was generating information that the company did not want generated

internally. As DeNoble testified:

> Apparently, at that same time, some litigation had come out, some law suits, and we were told that the data we were generating, the types of studies that we were doing would not be favorable in that litigation. . . . They just said that if the work were removed from the company connecting it back to the company would be, you know, more difficult to do than if it's being done right in the company itself.

2023963269-3341 at 3305-3306 (US 20398) (A); See also, DeNoble WD, 38:12-14.

2388. In 1986, Dr. DeNoble and Dr. Mele presented their findings on behavioral tolerance development to nicotine in rats to the Federation of American Societies for Experimental Biology in St. Louis, Missouri. Subsequently, Philip Morris Companies Assistant General Counsel Eric A. Taussig sent each scientist a letter which stated in part:

> As you are aware, upon your employment at Philip Morris . . . you signed an agreement (a copy of which is enclosed) requiring you to keep confidential, unless expressly permitted otherwise, research developed while an employee of the Company. The disclosure of such information as a result of your employment at Philip Morris without permission constitutes a breach of your agreement with the Company. In the future, you are expected to comply with the terms of the agreement.

DeNoble WD, 39:12-42:20; Mele WD, 28:13-30:22; 2047340350-0350 (US 22772) (A); 2077541354-1354 (US 44603) (A).

2389. In a September 10, 1986 letter, Taussig again threatened DeNoble and Mele with suit if they published, or presented, their findings on nicotine self-administration and brain effects, accusing DeNoble of disclosing "information relating to research on a project entitled 'Brain Sites Involved in the Mediation of Behavioral Effects of Intraventricularly Administered Nicotine." Taussig wrote that Philip Morris was aware that they had on two occasions presented the results of their nicotine research, allegedly in violation of their employment termination agreement. He informed them that "the Company cannot tolerate this type of conduct," and

reiterated that "if you wish to publish or otherwise utilize research from Philip Morris, you must request and receive permission from the Company." He ended the letter by stating that "[a]ny further breach of your agreement will result in action being taken." 2023192361-2362 (US 20380) (A).

2390. An April 6, 1994 Shook, Hardy & Bacon document entitled "Philip Morris Research of Nicotine Pharmacology and Human Smoking Behavior" described the DeNoble controversy and admitted, via marked "CAVEATS," the evidence showed admission of nicotine's addictive effects by Philip Morris or suppression of important research. 2046819241-9268 (US 85265*) (O)

2391. For example, the 1994 Shook, Hardy & Bacon memorandum stated that the Philip Morris research into smoker "Motivation/Quitting" from 1964-1981 was "concerned with motivations sustaining the smoking habit" and "marketing the ultimate cigarette." The research concluded: "[M]ost smokers can be considered nicotine seekers, however, psychosocial and cultural factors are involved." Moreover, from its "Human Smoker Simulation Studies," Philip Morris determined that "standard [FTC] smoke test conditions are not indicative of how people smoke." 2046819241-9268 at 9242-9243 (US 85265*) (O).

2392. The 1994 report described how the outside research was ended in 1983 and 1984. In fact, portions of Dunn's own research was inexplicably discontinued. Dunn explained in the Cipollone litigation was that "all the people who were working with him were reassigned to other functions," and that he "had no idea why they [Philip Morris] made [the] reassignments." 2046819241-9268 at 9245 (US 85265*) (O).

2393. The 1994 report pinpoints exactly which research was suppressed and the relationship of the research to Philip Morris products. When describing the

"Nicotine/Acetaldehyde" research conducted by DeNoble in 1982, research that showed that acetaldehyde and nicotine functioned as "positive reinforcers," the Shook, Hardy & Bacon report admitted that the research was never published:

> CAVEAT: This research has never been published. There is nothing in the literature regarding the synergistic effects of nicotine and acetaldehyde. In addition, see description below re: Frank Ryan data on predicting sales.
>
> Upon learning that acetaldehyde functions as a positive reinforcer, they endeavored to study the combined effects of nicotine and acetaldehyde on self-administration. Results indicated that reinforcing effects of these agents are additive.
>
> Research done by Frank Ryan indicated that acetaldehyde and nicotine data could be used to predict cigarette sales at a 96% accuracy. . . . Frank Ryan ran a program and was able to predict blindly which cigarettes would sell and which wouldn't based on the combination of nicotine and acetaldehyde delivery.

2046819241-9268 at 9249-9250 (US 85265*) (O).

2394. In a later section of the 1994 report, Shook, Hardy & Bacon wrote the following to illustrate how nicotine research was stopped because it undermined Philip Morris's public position denying addiction, and because it may have invited regulation by the FDA:

> D. Why Was Research Stopped
>
> 1. Sensitivity. [CAVEAT: Significance is self-evident.]
>
> According to DeNoble, "we were the only tobacco company that I knew of, or that anybody else knew of, doing work with whole animals, live whole animals, and because of the nature of the research, that is, looking at self-administration, looking at the effects of nicotine on the brain function, the research was held restricted to upper management only."
>
> DeNoble discussed the effect of his research on the company with Dr. Charles, Dr. Osdene, Dr. Pages, Mr. McDow, Max Hausermann, Mr. Pollock, and Jim Remington. . . . "The downside was that we were doing whole animal research, which looked to them like we were doing Federal Drug Administration [sic]

> research."
>
> DeNoble understood that the research he was doing could undermine the public posture Philip Morris was taking with outsiders.
>
> **DeNoble discussed with Jim Charles and Tom Osdene the potential damage to the company of continuing animal research**.

2046819241-9268 at 9256 -9257 (US 85265*) (O) (citations omitted) (emphasis added).

2395. The 1994 Shook, Hardy & Bacon report also acknowledged the sudden DeNoble "Laboratory Shutdown," adding "[CAVEAT: Significance is self-evident.]". The report does not deny or even attempt to explain this event. The report then acknowledges that DeNoble's research was suppressed: "[H]e was not allowed to publish the research regarding the effects of nicotine and acetaldehyde." This occurred "after a letter from Shook, Hardy to the Philip Morris Legal Department and discussions between [attorney] Alex Holtzman and [scientist] Jim Charles." 2046819241-9268 at 9258-961 (US 85265*) (O).

2396. None of the results or conclusions from the Philip Morris Nicotine Program or Behavioral Research Program were included in Philip Morris's and the industry's collective submission to the FDA in 1996. In fact, Volume III of the industry's "Comments" deny and respond to FDA assertions and research showing that nicotine is addictive. 2505597781-7998G (US 23028*) (A).

2397. In addition, Philip Morris's innovative research in the area of the physiological brain effects of nicotine was withheld from publication or distribution. In a February 9, 1983 memo from William Dunn to Max Hausermann, Philip Morris's Vice President of Research & Development, Dunn critiqued a paper on smoking, nicotine, and brain effects, and stated:

> We know here at R&D that for work on the immediate neural effects of smoking the most promising area for investigation is the

> average evoked potential. Edwards and Warburton [the authors of the critiqued report] mention the phenomenon but **(thanks to our tight security)** are unaware that a relationship has been demonstrated (repeatedly) between the latency of the response and smoke inhalation.
>
> **The results to date of our own electrophysiological research program (Frank Gullotta's work) are substantive and if published would 1) constitute a contribution to knowledge** and 2) be, in my judgment, in the best interest of P.M. I would recommend, therefore, in the context of considering the significance of the Edwards/Warburton paper, that **the legal feasibility of publishing our own findings be reevaluated.**

2022252842-2842 (US 87162) (A) (emphasis added).

2398. Philip Morris was not only interested in suppressing research that suggested nicotine addiction, but consumer products that combated nicotine addiction as well. In 1984, Philip Morris became aware that one of its major humectant suppliers, Merrell Dow Pharmaceuticals, was marketing a new smoking cessation product called Nicorette. Philip Morris understood the threat Nicorette posed, namely allowing nicotine-addicted smokers to quit, and took action:

> **Dow was told that we were discontinuing all humectant purchases because of Dow-Merrell's attack on cigarette smoking associated with the introduction of Nicorette**, a nicotine-containing prescription chewing gum which reportedly aids patients in quitting smoking. . . .
>
> Through a series of meetings over the past few years, Dow had been repeatedly advised of our displeasure over the anti-smoking nature of Dow-Merrell's Nicorette Program. . . . Dow was informed that the recent spate of activity can only be interpreted as a conscious corporate decision that Nicorette is more important than the Philip Morris (and other tobacco) business. That is, they cannot realistically expect a customer to spend millions of dollars for materials, when the profits from those sales, directly or indirectly, are used to attack that customer's product and perhaps reduce the customer's sales.

2023799799-9800 at 9799 (US 26801) (O) (emphasis added).

2399. Philip Morris's representatives met with Merrell Dow on several occasions and attempted to shut down the marketing and sale of Nicorette. An October 25, 1984 Philip Morris document recorded the following threat at one of the Philip Morris/Dow meetings: "It was reiterated that Dow had been a superior supplier and that we desired to maintain our relationship. However, future purchases would be predicated on Dow's performance as a supplier as well as the course of the Nicorette program." 2023799801-9802 at 9802 (US 37048) (A); Henningfield WD, 167:7-168:22.

2400. Philip Morris's threats against and intimidation of Merrell Dow are described in other documents as well. 2023799804-9804 (US 26802) (O); 2023799803-9803 (US 37049) (O).

(ii) R.J. Reynolds

2401. According to a May 24, 1977 memorandum entitled "Research Department: Long Range Planning Phase I," a key goal of the RJR R&D department was to combat scientific literature unfavorable to smoking and to generate data favorable to smoking: "Protection against the claims of the professed enemies of the tobacco industry." It was hoped that if RJR took the offensive in presenting information favorable to both RJR and the industry as a whole, "the impact of the oft-repeated arguments of anti-tobacco forces may be partially offset." 502314530-4547 at 4531, 4533 (US 21917) (O).

2402. An October 7, 1988 report entitled "An Integrated Research Program for the Study of Nicotine and Its Analogues," drafted by RJR researchers, indicated that RJR was well aware of the importance of nicotine in cigarettes and promoted the development of an extensive in-house program for the detailed study of the drug. 514894567-4676 (US 20862) (A).

2403. In the mid-1990s, RJR took steps to promote its claim that smoking was not

addictive. RJR's longtime nicotine science expert Donald DeBethizy organized and led a "Positive Aspects of Nicotine Team." This team was established to "defend the industry" by creating a debate around the issue of why people smoke, and had the main goal of fighting efforts to classify nicotine as addictive. 514829670-9670 (US 20861) (A); DeBethizy PD, United States v. Philip Morris, et al., 4/17/02, 164:7-21, 170:14-177:15, 177:21-179:12, 184:19-189:1.

2404. In addition, RJR carried out public opinion and communications work, the goal of which was to communicate the positive role of smoking. To this end, RJR did not hire a neutral survey research company, but rather an organization run by a noted pro-smoking activist, David Warburton. 514829670-9670 (US 20861) (A); DeBethizy PD, United States v. Philip Morris, et al., 4/17/02, 185:1-189:1

(iii) BATCo

2405. BATCo's concealment of its nicotine research carried out at Battelle Labs dates back to at least 1963. In a May 29, 1963 letter to the Tobacco Research Council ("TRC"), Sir Charles Ellis enclosed several nicotine research reports, but stated that the BATCo Board "wish me to ask you that these reports should be kept strictly confidential" by the TRC executive committee. Ellis' letter is marked "STRICTLY PERSONAL AND CONFIDENTIAL." 105620759-0761 (US 85387) (A).

2406. In an October 25, 1978 memorandum entitled "Notes on BAT/ITL Joint Meeting," Ed Jacob, a longtime tobacco industry counsel in the United States, advised that there be "a total embargo on all work associated with the pharmacology of nicotine and the benefits conferred by smoking for three reasons," including "a pending California lawsuit which indicted nicotine as an addictive substance," and another lawsuit "against [HHS Secretary] Califano to show cause why tobacco should not be brought under the powers of the FDA." 110083647-3650 at 3649-3650

(US 76174) (O).

2407. Jacob apparently was the emissary from the United States industry sent for the specific purpose of stopping nicotine research in Europe. The BAT/Imperial Tobacco meeting also stated that "ICOSI had agreed with this policy and Jacob had been sent to stop the Verband programme on nicotine." 110083647-3650 at 3650 (US 76174) (O).

2408. At a February 16, 1983 meeting of tobacco company directors, attended by Manny Bourlas of Philip Morris, L.C.F. Blackman, a BATCo board member and former head of research, and representatives from several European tobacco companies, the participants discussed how to respond to the impending Independent Scientific Committee on Smoking and Health ("ISC") Report. The participants agreed upon several schemes for the tobacco industry to conceal scientific information and expertise from the government (and indeed, to respond to government requests by falsely stating that it had no relevant expertise), as well as to emphasize the imperative for the industry to avoid any "tricky" or "sensitive" studies, including research into nicotine's role in "perpetuating the smoking habit":

> 3. <u>The effect of nicotine at the levels achieved through smoking.</u> While animal experiments could probably be designed to study the effect of nicotine (either by itself or as 'spiked' additions) our response to the ISC should be that we have nothing to offer. The little information we have is already in the public domain, and we have no idea as to a worthwhile research programme . . .
>
> 5. <u>The role of nicotine, at the relevant lower range of nicotine dosage, in perpetuating the smoking habit</u>. While much information already exists in the literature (Russell, Ashton and Stepney etc) this is a particularly sensitive area for the industry.
>
> If any future study showed that nicotine either was, or was not, associated with perpetuating the smoking habit, industry could well be called upon to reduce or eliminate nicotine from the product. (A heads we lose, tails we cannot win situation!)
>
> We must not become involved in any collaborative study with the

ISC.

109840698-0702 at 0699-0700 (US 21733) (A).

(iv) Brown & Williamson

2409. Defendants argue that they justifiably relied on the 1964 Surgeon General's conclusion that nicotine was "habituating" rather than "addicting," and that the 1964 Surgeon General's report excuses all of the industry's false denials of the addictiveness of smoking and nicotine. The fundamental factual flaws in this argument are that (1) Defendants internally knew the truth as to the addictiveness of smoking and nicotine; and (2) the 1964 conclusion was in large part the product of Defendants' intentional concealment of their extensive nicotine knowledge and research from the Surgeon General's Advisory Committee.

2410. An understanding of the role of B&W in 1963, acting in concert with its parent BATCo and RJR, in concealing nicotine and addiction research from the Surgeon General's committee is necessary to appreciate how the 1964 Surgeon General's addiction conclusion was the product of Defendants' fraud and concealment.

2411. The 1959-1964 BATCo nicotine research, carried out under code names "MAD HATTER," "HIPPO," and "ARIEL," was provided to B&W. This was research that, in the words of BATCo's lead scientist Sir Charles Ellis, was designed to determine "what constitutes the hold of smoking, that is, to understand addiction." 301083820-3835 at 3826 (JE-46579) (A). Ellis also stated that the BATCo secret nicotine research gave the industry "knowledge of the effects of nicotine far more extensive than exists in published scientific literature." 301083820-3835 at 3828 (JE-46579) (A).

2412. Moreover, B&W executives were present at a 1962 BAT research conference where Ellis declared the group's position that "smoking is a habit of addiction." This copy of the

conference report is stamped "Property of Brown & Williamson Research Department." 650344433-4493 at 4439 (US 53468) (A).

2413. PROJECT HIPPO I was completed in January 1962, finding that rats developed tolerance to nicotine and that nicotine shared many similarities with tranquillizers. The final report on PROJECT HIPPO II was dated March 1963, finding that nicotine had many beneficial physiological effects over tranquillizers, benefits that support "the pleasure of smoking" and lead to withdrawal. 105620620-0683 (US 20247) (A); 105620569-0605 (US 20246) (A).

2414. B&W acknowledged a close review of PROJECT HIPPO I and II in a "STRICTLY PRIVATE AND CONFIDENTIAL" memorandum dated July 17, 1963 by general counsel Addison Yeaman, in which he agreed that "nicotine is addictive" and "we are in the business of selling nicotine, an addictive drug." He also advised that the company should develop filtered products that still delivered the necessary "nice jolt of nicotine." 682764441-4461 at 4455 (US 21030) (A).

2415. B&W's President William S. Cutchins acknowledged a request for information from the Surgeon General's Advisory Committee to the manufacturers regarding its inquiry on smoking and health in a letter to the Assistant Surgeon General James Hundley, dated May 14, 1963, stating simply that B&W contributed to smoking and health research via its contributions to the TIRC. 680249780-9781 (US 85390) (O); See also, 680249799-9799 (US 85389) (O).

2416. Cutchins' letter was the carefully crafted product of industry legal advice. In a letter dated May 6, 1963, to B&W in-house counsel DeBaun Bryant, outside counsel J.M. Johnson recommended that the company respond to the Surgeon General's Advisory Committee in an intentionally vague and confusing manner:

> I am of the further opinion that any description in the letter to the Committee of the methods and steps involved in the various scientific research programs

> conducted by Brown & Williamson must necessarily be so vague and incomplete as to be irksome to the reader. . . . Therefore, **it is my suggestion that we state simply that we have conducted no medical research**, having left that to TIRC . . . . I repeat **it is unfortunate that Brown & Williamson must submit anything,** but this approach seems to me to be the most innocuous of the alternatives.

680249785-9786 (US 85391) (O) (emphasis added).

2417. Johnson concluded his letter with the advice that B&W's submission to the Surgeon General's Advisory Committee must protect the company's litigation position, and must only contain material that has already been published: "From a litigation standpoint I believe it is axiomatic that it is best to submit the least scientific material possible consonant with the objective of not irritating the Committee. As I mentioned on the telephone I would prefer to see only previously published material submitted . . . ." 680249785-9786 (US 85391) (O).

2418. In a June 19, 1963 document entitled "Note for Mr. Cutchins," BATCo president Ed Finch told his counterpart at B&W that BATCo had sent B&W copies of all the BATCo-sponsored nicotine research conducted at the Battelle labs. Finch stated that because the reports were "sound piece[s] of research . . . it might be desirable to get them submitted to the U.S. Surgeon General's Committee." Finch also informed Cutchins that the Tobacco Research Council in Britain was sending copies of the nicotine research reports to the TIRC (CTR's predecessor) as well, "with a request that they consider whether it would help the U.S. industry for these reports to be passed on to the Surgeon General's Committee." 689033429-3429 (US 54274) (O).

2419. A letter from BATCo's Sir Charles Ellis to B&W's Yeaman dated June 28, 1963 recalled that B&W had already received the "HIPPO" research reports, and enclosed the May 1963 BATCo report from Dr. Haselbach entitled "A Tentative Hypothesis on Nicotine Addiction." MTP0013569-3569 (US 76159) (O).

2420. The "Tentative Hypothesis" document is quoted in detail above and closed with the following: "In conclusion, a tentative hypothesis for the explanation of nicotine addiction would be that of an unconscious desire to restore the normal physiological equilibrium of the corticotropin releasing system in a body in which the normal functioning of the system has been weakened by the chronic intake of nicotine." 536480912-0914 (US 20928) (A).

2421. BATCo and B&W shared their PROJECT HIPPO I and II reports with RJR General Counsel Henry Ramm and outside industry counsel Ed Jacob. In an August 5, 1963 letter from B&W General Counsel Addison Yeaman to Ramm and Jacob, B&W enclosed "herewith the three volumes of "Project HIPPO I and II." 689033411-3416 (US 31044) (O).

2422. B&W considered providing BATCo-funded Battelle research on the addictiveness of nicotine to the Surgeon General prior to the first Report on Smoking and Health in 1964. However, in a July 3, 1963 cable to BATCo Chairman A.D. McCormick, B&W General Counsel Addison Yeaman stated his intention to withhold the research results from the Surgeon General:

> Hoyt of TIRC agreed to withhold disclosure Battelle report to TIRC members or SAB until further notice from me. Finch agrees submission Battelle or Griffith developments to Surgeon General undesirable and we agree continuance of Battelle work useful but disturbed at its implications re cardiovascular disorders . . . .
>
> We believe combination Batelle work and Griffith's developments have implication which increase desirability [of] reevaluation [of] TIRC and reassessment fundamental policy re health.

689033422-3422 (US 22734) (A).

2423. BATCo also forwarded its report entitled "The Fate of Nicotine in the Body" to B&W under cover letter from Sir Charles Ellis to chairman Bill Cutchins (stamped "Received") on July 1, 1963. In his cover letter, Ellis wrote:

> I feel sure you will agree that a knowledge of the fate of nicotine in the body is a necessary accompaniment to studying the

> physiological effects that nicotine can produce. I hope you will be interested in the experiments which in my opinion add considerably to the published knowledge in this subject.

689033419-3419 (US 54271) (O).

2424. Despite BATCo and B&W's keen interest in nicotine and its impact on smokers' bodies, B&W never disclosed to the Surgeon General its knowledge that nicotine was addictive, or the research it possessed showing craving, tolerance, withdrawal, and many physiological effects of nicotine on the body.

2425. The 1964 Surgeon General's Report was published in January 1964. The report did not identify nicotine as an "addiction," finding instead that nicotine was a "habit." This finding was based on the Surgeon General's Advisory Committee's conclusion (1) that smoking created a "desire" but not a "compulsion;" (2) that smoking did not result in a "tendency to increase the dose;" and (3) that smoking did not create a psychological and physical dependence on nicotine. Report of the Surgeon General (1964) at 350-51, VXA1601844-2232 (US 64057) (A).

2426. These findings of the Surgeon General's Advisory Committee, and the ultimate characterization of smoking as a "habit" instead of an "addiction," were contradicted by the sophisticated nicotine research in the possession of B&W in 1963, research intentionally kept from the Advisory Committee. Moreover, the 1964 finding of "habituation" is contradicted by the internal company position of both BATCo and B&W, as stated by Sir Charles Ellis, Addison Yeaman, and company scientists, that nicotine and smoking produced an "addiction."

2427. It is highly plausible that had the Surgeon General's Advisory Committee had full knowledge of what Defendants knew and Defendants conclusions from what they knew, that information would have tipped the balance and placed nicotine in the addiction category much

earlier. Henningfield WD, 114:13-122:19.

2428. Instead, B&W denied addiction and played down the impact of smoking at every turn. In a May 19, 1972 letter to McCormick, counsel for BATCo, Yeaman recommended that in a BATCo statement being prepared in response to a British Government statement concerning cigarette smoking and health issues, the word "habit" should be changed to "practice." 680248768-8769 at 8769 (US 20993) (A).

2429. B&W's involvement in nicotine research, in particular research studying the effects of nicotine on the central nervous system, was intentionally confined to Europe via BATCo. This was done because of B&W's concern that research demonstrating nicotine addiction or dependence contradicted the industry's public position and might lead to regulation.

2430. Following a visit to B&W in October 1979, BATCo scientist D.G. Felton described the situation as follows:

> There is said to be a general nervousness in the U.S. Tobacco Industry (apart from Philip Morris) in working on the effects of nicotine, because of the risk of demonstrating nicotine dependence or addiction. There are fears that this would result in the Industry coming under the Food and Drug Administration. This view was given me both by the CTR administration and separately by [outside industry counsel] Mr. Tim Finnegan. In the latter's opinion, any work concerned with the central effects of smoking or of nicotine would run this risk legally.

650032772-2786 at 2783-2784 (US 85385) (O).

2431. In an August 16, 1984 memorandum to BATCo counsel Earl Kohnhorst, B&W Senior Vice President and General Counsel Ernest Pepples advised against the use of a report by BATCo scientist R.P. Ferris entitled "The Functional Significance of Smoking in Every Day Life" due to the report's concession that "many potential criteria for addiction identification are met by smoking behavior," and its reference to smoking as "one form of 'drug usage',

'psychoactive substance usage', or 'psychoactive drug usage.'" Pepples called any use of the report by the company "not appropriate or advisable." 682015254-5255 at 5254 (US 23022) (O); 650000563-0740 (US 85393) (A).

2432. In his memorandum to Kohnhorst, Pepples described the "more serious problems" with the Ferris report, which referred to nicotine as a drug, admitted "tolerance and withdrawal," and concluded that the pharmacological effect of nicotine is the "primary motivation" for smoking. Overall, Pepples was very concerned that the report would be used in litigation as evidence that cigarette smoking is addictive, and as a basis for regulation by the FDA. 682015254-5255 (US 23022) (O).

2433. B&W's efforts to block the presentation or use of Ferris's study went further. Soon after, in a August 28, 1984 letter to BATCo deputy chairman Ray Pritchard, Pepples expressed B&W's objection to using the study, its concern that the Ferris study could seriously harm the industry, and its recommendation that BATCo legal counsel be involved in the planning of further research and drafting of reports related to nicotine and addiction. In his letter, Pepples implicitly asked Pritchard to conceal the Ferris study, and stop Ferris from making a presentation on the report at an upcoming research conference, in light of "the current legislative and litigation environment in the U.S." and "the possibility for involvement by the U.S. Food and Drug Administration." Pepples explained that the industry needed to oppose any concessions that nicotine and smoking are addictive "in order not to give a claimant an unjustified weapon to use against the company or the industry." 680583069-3070 (US 23024) (A).

2434. Similar to Pepples' earlier memorandum to Kohnhorst, Pepples' letter to Pritchard expressed "great concern" about Ferris's report because it conceded that smoking is addictive. Pepples did not deny any of Ferris's observations or conclusions regarding nicotine and smoking;

indeed, he admitted that Ferris's use of authorities and references was "generally accurate." Fearing involvement by the FDA, Pepples then recommended closer involvement by lawyers in scientific projects in the future. He wrote:

> [T]he report seems to concede that many potential criteria for addiction identification are met by smoking behavior. For example, the report urges the position that the primary motivation for smoking is ultimately tied to a pharmacological "psychoactive" function of nicotine . . . .
>
> Throughout the report, unfortunate concessions appear regarding "tolerance and withdrawal." The report frequently expresses that smoking has certain "therapeutic properties" and nicotine is compared to the action of tranquilizers, alcohol, etc. In addition, smoking is referred to as one form of "drug usage," psychoactive substance usage," or "psychoactive drug usage."
>
> As you know in the current legislative and litigation environment in the U.S., claims of addiction have been and will be used against Brown & Williamson by our adversaries. Such claims have been vigorously opposed in order not to give a claimant an unjustified weapon to use against the company or the industry.
>
> In addition, the possibility for involvement by the U.S. Food and Drug Administration would be heightened by company or industry promotion of the theme of this report, as it will be generally perceived.
>
> If such matters as the 'Functional Significance' document and the Conference binders, enclosed herewith, are not already routinely vetted with BATCo lawyers, you may want to consider involving them more closely in both the conceptual and the drafting stages of these projects. Thank you very much for your help in this area of great concern for us.

521016786-6786 (US 22129) (A).

2435. With respect to the Ferris report, B&W attorney J. Kendrick Wells emphasized in a November 12, 1984 letter to BAT attorney Anne Johnson why the BAT study must not be publicized:

> A plaintiff in a smoking and health products liability lawsuit in the

> U.S. could use the paper to support its argument that smoking is difficult to quit ("Addiction"). The plaintiff could argue that the paper contradicts the voluntary assumption of risk defense. It is doubtful whether editing can transform the paper into one which would not be helpful to the plaintiff in a products liability action.

680583045-3045 (US 85395) (A).

2436. Around this same time, B&W intervened to edit adverse references to addiction out of another BATCo report, entitled "The Controversy on Smoking and Health - Some Facts and Anomalies" by BAT scientist Dr. L.C.F. Blackman. By letter dated October 25, 1984, B&W attorney J. Kendrick Wells wrote BATCo counsel Alec Morini that "review" of BATCo publications by B&W was necessary in light of ongoing smoking and health litigation; Wells went on to provide 45 paragraphs of revisions to Blackman's draft report in a marked-up report These included:

> 2. Delete Donald Gould reference. The article identifies cigarettes as a drug.
>
> 3. Delete reference to Dr. W.S. Cain. The article identifies short term and longer term pharmacological and physiological factors as important in the derivation of "habitual cigarette smoking" . . . .
>
> 5. Delete. The point made here might be said to run counter to arguments that cigarette smoking is not addictive . . . .

680582499-2507 at 2500 (US 54052) (A).

2437. The marked-up report was produced by BATCo in this litigation, with additional comments and markings from BATCo showing that BATCo acted on Wells's letter. Specifically, the three paragraphs quoted above bearing adversely on the company's position on addiction were ultimately stricken from the report. 107332541-2574 at 2545 (US 26281) (O); compare to 680582512-2512 (US 85396) (A).

2438. In a May 10, 1994 B&W press release, the company made the following false

claims, claims that are remarkable in light of the company's internal acceptance of addiction prior to 1964 and the company's efforts to insure that the Surgeon General never received the BATCo internal nicotine research showing addiction prior to the 1964 report:

> It has always been B&W's position - and still is - that cigarette smoking is not addictive under the standards set forth in the 1964 Surgeon General's Report. Calculated misrepresentations of the company's position merely encourage ill-informed grandstanding.
>
> Brown & Williamson was acknowledged by the Surgeon General for its "substantial cooperation and assistance" in connection with the 1964 Report. Contrary to the recent media reports, B&W had not concluded that cigarette smoking was addictive prior to the release of the 1964 Report.

202337394-7394 (US 21965) (O).

(v) American Tobacco Company

2439. American attempted to keep its limited nicotine research hidden as well. For example, in a September 16, 1938 letter, H.R. Hanmer of American's R & D Department informed George W. Hill, an American Vice President, that research performed on dogs had demonstrated an increase in blood pressure due to the cigarette's nicotine. Mr. Hanmer added that while this was "very clear-cut biological evidence," "nothing of this sort could ever be used in presenting facts to the public." MNAT00115492-5499 (US 21401) (O).

2440. In a May 14, 1969 memorandum, John Ashworth, of American's R&D Department, ordered that nicotine was to be referred to as "Compound W" in all "experimental work, reports, and memorandum, either for distribution within the Department or for outside distribution." Further, Ashworth directed that nicotine as a salt would be called "Compound WM" and nicotine as a citrate salt would be called "Compound WS" in all research reports. MNAT 00533224-3224 (US 21220) (O).

(vi) Lorillard

2441. In a November 9, 1976 memorandum, Lorillard researcher R.E. Smith urged that an industry-wide effort to offer a product with 50% less nicotine should be discontinued despite "considerable consumer trial appeal" because such a cigarette could not deliver sufficient "smoking satisfaction" for its purchasers. 01244504-4504 (US 20042) (O).

(vii) Tobacco Institute

2442. The Tobacco Institute attempted to suppress nicotine and addiction research as well. In a May 17, 1983 memorandum from Fred Panzer to David Henderson, Panzer wrote that certain legislation needed to be amended to make it favorable to the industry by preventing addiction research: "We need language for a rider to the appropriation bill for the National Institute on Drug Abuse (NIDA) that would prevent the use of appropriated funds for a study of the addictive properties of tobacco." TIME 370968-0968 (US 62769) (O).

(viii) CTR and Other Defendant Funded Research Groups

2443. In a May 19, 1967 letter to Philip Morris counsel Alex Holtzman, Shook, Hardy & Bacon attorney William Shinn, discussed special projects, including one to support and publicize research advancing the theory that smoking is beneficial to smokers as a stress reducer, even for "coronary prone" persons, because stress, rather than nicotine addiction, is the cause of health problems in smokers. LG2002520-2524 at 2521 (US 21594) (O).

2444. CTR-selected and funded nicotine research was intended to be favorable to the industry. Lawyers played an important part in carefully considering all nicotine and "psychopharmacology" research before it was started to insure it would stay "pro-industry." Nicotine/behavioral research as discussed by the CTR Director and industry counsel at a July 28, 1976 meeting of the industry Research Liaison Committee, where long-time industry counsel

Dave Hardy (Shook, Hardy & Bacon), American Tobacco counsel Cyril Hetsko, and others commented:

> Little has been done on multiphasic tests to study pleasure, etc. (benefits of smoking).
>
> Suggested working conference in late 1977 or 1978 to get all those involved . . .
>
> Hardy: We want to be sure to include benefits of smoking. Is that included?
>
> Gardner: We hope not to show any prejudices.
>
> Hetsko: Concerned that such a study might play into hands of F.T.C. subpoena fishing for information [regarding] smoker motivation. Would like to see conference proposal checked out before we go ahead. This program goes beyond the organizing committee and should be considered by "committee of counsel."
>
> Hardy: Smoking behavior should be part of C.T.R. program as long as it is not "pro-company" but is kept "pro-industry."
>
> Hetsko: No problem if it is generated by SAB. This is a totally different area from what SAB has been dealing with. Doesn't want another book "to haunt us," as the one from the "Caribbean Caper" did.
>
> Yeaman: We take our direction from our members – the industry members. C.T.R. so far is clean of F.T.C. investigation, except possibly for the St. Martin conference.
>
> Hardy: Dr. Gardner should proceed with planning but not take any action.
>
> Hetsko: Decision for action should be made by lawyers, not C.T.R. or Organizing Committee. Chronologically, this meeting might be occurring just at a time that some of these experts are also being questioned by F.T.C. about motivation. This convergence might result in intensification of the conflict. Suggests Dr. Gardner present his program for review by all the lawyers. No records of such a review are to be kept.

1003719175-9179 (US 86406) (O).

2445. The book from the "Caribbean Caper" that, according to Hetsko, "haunted" the tobacco industry, was a book edited by Philip Morris's Dunn and entitled "Smoking Behavior: Motives and Incentives." The book was the result of the 1972 nicotine conference on the Caribbean island of St. Martin, where Dunn recalled that, "The majority of the conferees would go even further and accept the proposition that nicotine is the active constituent of cigarette smoke. Without nicotine, the argument goes, there would be no smoking." 2023193286-3304 at 3289 (US 22967) (A).

2446. The book, while not as frank as Dunn's comments, nonetheless contained some outside researchers' views that smoking and nicotine had characteristics suggesting addiction. For example, Murray Jarvik's article in the book acknowledged evidence that nicotine was "the chemical underlying the smoking habit," and stated his personal opinion that "nicotine is the reinforcing agent in smoking." Another writer, Caroline Thomas, recognized "addictive smoking" as one type of smoking. A third author, Neal Miller, alluded to "anecdotal evidence" that nicotine administration in rats leads to withdrawal symptoms. The conference and the book were sponsored by CTR. LD90011031-0330 (US 87320) (O).

2447. In a November 22, 1977 CTR Associate Research Director Donald H. Ford stated the following with respect to nicotine in a proposal for in-depth CTR-funded nicotine research:

> [I]t now seems evident that nicotine, like narcotics, influences the CNS in multiple ways involving effects related to most known neurotransmitters Further, the dependence which develops tobacco in humans (and withdrawal symptoms during the cessation of smoking) and the degree of tolerance to nicotine which occurs in certain animal paradigms strongly suggest that nicotine is a habituating agent.

1000041912-1918 at 1912 (US 20073) (O).

2448. Dr. Ford presented his nicotine observations at a November 1977 CTR meeting.

His proposed avenues of research related to "Receptors and sites of nicotine action," neurochemical studies, the effects of nicotine on fetal development, neuroendocrinology, and behavioral responses to nicotine. 1000041912-1918 (US 20073) (O).

2449. In response to Dr. Ford's presentation and other CTR nicotine research, Philip Morris's Tom Osdene wrote to Robert Seligman on November 29, 1977, that "we are in the process of digging our own grave." He wrote further: "I am very much afraid that the direction of the work being taken by CTR is totally detrimental to our position and undermines the posture we have taken to outsiders." 2022246952-4952 (US 36865) (O).

2450. Janet Brown, long-time outside industry counsel for American, reported on Ford's CTR research in her minutes of a February 1, 1978 meeting of industry counsel. Her detailed notes of the meeting revealed Defendants' knowledge about the importance of nicotine for smoking, and the importance of stopping Ford's nicotine research, when she discussed her opposition to Ford's central nervous system study. She wrote that while CTR President Addison Yeaman told her that Ford's nicotine research, whose objects included finding a "nicotine blocker or substitute," was "mere speculation," she nonetheless responded as follows:

> I said the 'speculation' was dangerous and the work had some important commercial implications. A nicotine 'blocker' or 'substitute' could put the industry out of business overnight. Any information about it, or about CNS reasons 'why people smoke,' reaching one member before the others could give that member an enormous competitive advantage in developing a 'blocker' for the 'blocker,' or in producing a 'substitute' product, or a purely 'tranquilizing' or purely stimulant product. I do not know what all the commercial ramifications are, but they suggest themselves to me as vast. These are arenas that CTR has traditionally steered well clear of and it must continue to do so.

968148608-8639 (US 88840) (O).

2451. Industry counsel quickly made sure that Dr. Ford's proposal never received

funding. As recited in the May 10, 1978 notes of the Industry Technical Committee Chairman Preston Leake (scientific director for American) to Arnold Henson (General Counsel for American), the proposed nicotine work was "ruled out" by outside counsel Ed Jacob. 955017148-7154 at 7149-7150 (US 87172) (O).

2452. Philip Morris's Osdene and Seligman met with CTR Directors Gardner and Hockett at CTR in New York on January 5, 1978. Osdene's memorandum of the January 5 meeting states:

> Dr. Seligman brought up the [CTR] grant by Dr. Abood in which one of the stated aims was to make a clinically acceptable antagonist to nicotine. This goal would have the potential of putting the tobacco manufacturers out of business.

1000286213-6214 at 6213 (US 35204) (O).

2453. A series of CTR documents illustrate the attempts, and ultimate failure, or Dr. Avram Goldstein and Dr. Leonard Cornell to obtain CTR funding for a new addiction research facility. Dr. Goldstein's and Dr. Cornell's research specifically proposed an investigation by his Addiction Research Foundation of "nicotine receptors in the brain" and "the mechanism(s) of dependence on nicotine." It was the opinion of CTR chairman Addison Yeaman that "Dr. Goldstein's scientific credentials are of the highest." Dr. Seligman of Philip Morris was impressed by Dr. Goldstein's objectivity and intelligence. 03740559-0567 (US 88548) (O); 686052326-2335 (US 88549) (O); 686052262-2263 (US 88550) (O); BBAT 026474-6475 (US 88551) (O); 1003177412-7413 (US 88552) (O); 1003728001-8007 (US 88554) (O); 686052267-2289 (US 88555) (O); 85681034-1034 (US 88556) (O); 686052258-2259 (US 88557) (O); 686052293-2296 (US 88558) (O).

2454. However, the industry decided not to support Dr. Goldstein, Dr. Cornell, and the Addiction Research Foundation at all. The rationale for the decision was spelled out in a

September 19, 1978 memorandum from C.I. Waite to H.R. Kornegay (of the Tobacco Institute), with copies to Bill Shinn (Shook, Hardy & Bacon) and Ernie Pepples (B&W):

> Mr. Cornell's foundation actually assumes tobacco (nicotine) is addictive and costs the U.S. citizen 42 billion dollars a year.
>
> He also believes tobacco causes 300,000 premature deaths each year.
>
> And he wonders if this is why we might not be interested.

686052246-2246 (US 88559) (O).

2455. BATCo scientist D.G. Felton visited CTR in October 1979, where he was escorted by industry counsel Tim Finnegan from Jacob & Medinger. In his typed notes of the trip to CTR, Felton recorded the following: "I then asked about possible legal problems arising from work on beneficial effects of smoking. In Mr. Finnegan's opinion, any work concerned with central effects of smoking or nicotine would run the risk that FDA would become involved with tobacco, something that was to be avoided, if possible." 100651251-1312 at 1299 (US 85402*) (O).

2456. Shortly thereafter, in a larger meeting with CTR President Yeaman, Scientific Director Gardner, and CTR scientists, Felton also inquired into Leo Abood's nicotine work. He was told of the Defendants' decision to terminate his research given the risk of demonstrating addiction:

> The discussion passed to effects of nicotine and the reasons why CTR did not continue their grant to Leo Abood. There is a general nervousness in the US Industry (apart from Philip Morris) in working on the effects of nicotine, because of the risk of demonstrating nicotine dependence or addiction.

100651251-1312 at 1299-1300 (US 85402*) (O).

2457. A June 20, 1984 memorandum written by Shook, Hardy & Bacon attorney

Wendell L. Stone chronicled much of the CTR-funded nicotine research, and concluded that Defendants' termination of Abood's "nicotine receptor" work could be used by plaintiffs "to make a point regarding CTR that when research by its grantees appeared to be incriminating of smoking, then the CTR grants were terminated." 515709297-9340 at 9299 (US 20866) (O).

2458. On the other side of the Atlantic, the industry's Tobacco Advisory Council (TAC) was active as well. One particular example is worth describing in detail.

2459. Long-time tobacco industry-affiliated/funded scientists Francis Roe and Jeffrey Cohen were tasked to prepare a "Nicotine Monograph" in 1977 for the member companies of the Tobacco Advisory Council (including Philip Morris, RJR, and BATCo). 2501160364-0371 at 0369 (US 87173) (O).

2460. Dr. Roe forwarded the first draft of the monograph to D.H. Beese at the TAC under cover letter dated July 30, 1979, for review by the member companies; BATCo produced a copy of the draft "monograph" and Roe's letter, which stated that "It may well be that parts of the text will need to be expanded and the 'conclusions' section given a new title or omitted. . . . I shall look forward to hearing from you and having a reaction from the Companies in due course." 1000138177-8237 at 8177 (US 87174) (O).

2461. Roe and Cohen stated the following in a draft "Monograph" section entitled "Smoking Behaviour: Role of Nicotine in the Smoking Habit":

> There is now increasing evidence that the presence of **nicotine may be the major factor responsible for the widespread use of tobacco in all human societies**. . . Whilst smoking fulfils a psychological need in certain individuals **it is only the inhaling cigarette smoker who is likely to gain psychopharmacological satisfaction from nicotine and become dependent on it.** Nicotine has been described as a psychoactive agent with tranquillizing, antianxiety, stimulant, depressant, antiagression, mood stabilizing and stress-attenuating properties.

1000138177-8234 at 8219 (US 87174) (O) (emphasis added).

2462. In the "Conclusions" section of Roe and Cohen's draft "Nicotine Monograph," the authors emphasized that:

> The present worldwide campaign toward low-tar, low nicotine cigarettes faces the problem that **nicotine-seeking smokers will need to inhale more smoke to obtain their nicotine requirement** and in doing so inhale more tar. . . . Because of the weak absorption of nicotine from buccal and alimentary systems, chewing nicotine gum as a possible alternative vehicle to smoke inhalation would prove much less satisfying to the **craving cigarette inhaler**.) .

1000138177-8234 at 8221 (US 87174) (O) (emphasis added).

2463. These frank observations and conclusions did not survive review by the TAC and its member companies. Roe and Cohen's "Nicotine Monograph" was eventually published in 1981 by the TAC on behalf of its tobacco industry under the title "Monograph on the Pharmacology and Toxicology of Nicotine." In the published version of the "Monograph, the "Smoking Behaviour" section quoted above was edited dramatically. For example, the acceptance of nicotine as the "major factor responsible for the widespread use of tobacco in all human societies" was deleted entirely. The fact that an "inhaling cigarette smoker" will become "dependent" on smoking was deleted. In the "Conclusions" section, there is no mention of "nicotine-seeking smokers" or the "craving cigarette inhaler." Thus, the TAC and its member companies controlled the "Monograph" scientific review, and made sure that Roe and Cohen's document was industry-favorable on the issues of nicotine and addiction. 2021585328-5378 at 5365-5368 (US 87175) (A).

(f) Conclusions Concerning Defendants' Nicotine-Related Misconduct

2464. Defendants have known for decades that cigarette smoking was addictive and that nicotine maintained the addiction; however, Defendants hid this information from the public, and

falsely denied the addictive quality of their products in many public statements. Defendants' false statements related to addiction continue even today.

2465. I find that the above conduct, including Defendants' false, misleading, and deceptive statements as well as Defendants' concealment and suppression of information, was material to the decisions of smokers and prospective smokers, and influenced the decisions of persons to initiate, continue, or quit smoking, as well as the decisions of others to initiate, forgo, or otherwise affect efforts to address smoking and health issues, thus increasing the number of cigarettes sold.

2466. But for Defendants' misconduct, fewer people would have begun to smoke, and those who had begun but desired to quit would have realized that the task might involve professional and/or medical assistance. Knowledge that a product is highly addictive is a severe deterrent to consumption. The length of time in which, and the vigor with which, Defendants pursued their campaign of obfuscation, misrepresentation, and concealment leads this Court to the conclusion that the profitability of the misconduct was high.

(2) Nicotine Manipulation: Defendants Have Fraudulently Denied That They Manipulate the Level of Nicotine Delivered to Smokers To Ensure Smokers Can Obtain Sufficient Nicotine to Create and Sustain Addiction

2467. Defendants have manipulated nicotine content and nicotine delivery in their cigarettes since at least 1954 and continue to do so. As demonstrated in US FF § III.C(1), supra, Defendants have long known that nicotine is responsible for keeping people smoking. Accordingly, Defendants have undertaken extensive research of nicotine and how cigarette physical and chemical design parameters influence nicotine's delivery to smokers. Defendants exploited their understanding of nicotine and cigarette design to manipulate nicotine and nicotine delivery levels in their cigarettes in order to assure that their commercial products would deliver a dose of nicotine sufficient to create and sustain addiction in cigarette smokers. At the same time, Defendants have concealed both their nicotine-related research and their actual manipulation of nicotine from the public, and instead have publicly denied these actions. Defendants recognized that disclosing such information would reveal their internal understanding of nicotine's central role in smoking addiction and undermine their public denial of nicotine addiction, would negatively affect the market for cigarettes, and would increase the risks of litigation for Defendants.

2468. Individually, jointly, and through third parties, Defendants have extensively studied smoking intake and inhalation, compensation, addiction physiology, smoker psychology, the pharmacological aspects of nicotine, the effects of nicotine on brain waves, and similar matters, with the goals of finding and developing cigarette design and processing methods to induce individuals to smoke and to keep smokers addicted to nicotine, leading to successful sale of their products. Based on this research, Cigarette Company Defendants have been aware for decades that cigarettes are addictive and that smoking addiction is caused primarily by the

delivery of dependence-producing levels of nicotine.

2469. As demonstrated herein, Cigarette Company Defendants have taken advantage of the knowledge obtained from this extensive research by designing their cigarettes with the purpose of ensuring optimum delivery of doses of nicotine sufficient to create and sustain addiction among individuals who smoke, including youth. Defendants have intentionally manipulated the content and form of nicotine in their cigarettes, and the physical design of the cigarettes themselves, to make them more easily inhalable and so that smokers can easily obtain nicotine.

2470. The typical cigarette contains far more nicotine than an individual will inhale as he or she smokes the cigarette. Thus, the challenge for the Cigarette Company Defendants has not been simply to add more nicotine to the cigarette in its unsmoked form. Rather, it has been to use the various product design techniques discussed below in order to assure that an amount of nicotine sufficient to create and sustain addiction is transferred from the unsmoked tobacco to the mainstream cigarette smoke inhaled by the smoker. Farone WD, 86:16-19; Henningfield WD, 35:16-36:16.

2471. Defendants have developed and continue to use highly sophisticated technologies designed to deliver nicotine in ways that are more than sufficient to create and sustain addiction in the vast majority of individuals who smoke. Every aspect of a cigarette involves extensive engineering that relates to nicotine dosage and dosage control, ensuring that a cigarette smoker can pick up virtually any cigarette on the market and get an addictive dose of nicotine. Although cigarettes may appear to simply be tobacco rolled in fine papers, most cigarettes are manufactured using reconstituted tobacco material, additives, burn accelerants, ash conditioners, and buffering substances. Other cigarette design features used by Defendants to manipulate

nicotine delivery include filter design, paper selection and perforation, ventilation holes, leaf blending, and use of additives (such as ammonia) to control the acidity or alkalinity of cigarette smoke. As a result of the combination of these cigarette components and design, cigarettes are extremely effective drug delivery devices – the drug being nicotine.

2472. Notwithstanding the substantial evidence that Defendants designed their products to deliver doses of nicotine sufficient to create and sustain addiction, Defendants have publicly and fraudulently denied that they manipulate nicotine. Defendants have sought to mislead the public about their manipulation of nicotine by publicly and fraudulently maintaining that the level of nicotine in a cigarette is inextricably linked to the cigarette's tar level, that nicotine delivery levels follow tar delivery levels in cigarette smoke, and that nicotine is an essential flavorant. Through these and other false statements, Defendants have furthered their common efforts to deceive the public regarding their manipulation of nicotine.

(a) Defendants Have Made False and Misleading Public Statements Regarding Their Control of the Nicotine Content and Delivery of Their Products and Their Efforts to Control or Optimize the Amount of Nicotine Delivered to Smokers

2473. In furtherance of their fraudulent scheme, and contrary to the overwhelming evidence in the trial record of Defendants' research and utilization of methods to control the amount and delivery of nicotine in cigarettes, Defendants have denied, repeatedly and publicly, that they manipulate nicotine content and delivery in cigarettes in order to create and sustain addiction. Defendants also repeatedly and publicly have claimed that the levels of nicotine delivered by their cigarettes is determined by the levels of tar delivery in their cigarettes.

(i) The Waxman Hearings

2474. In 1994, the United States Congress held a series of public hearings regarding the addictiveness of cigarettes and the tobacco industry's design of cigarettes and manipulation of

nicotine. These hearings, before the Subcommittee on Health and the Environment, later became known as the "Waxman Hearings," after Subcommittee Chairman Henry Waxman of California. The Chief Executive Officers of six Defendant cigarette manufacturers – Philip Morris, B&W, RJR, Lorillard, Liggett, and American, appeared voluntarily at a Subcommittee hearing on April 14, 1994. The CEOs testified under oath and before television cameras with every reason to believe that their testimony would be made available to the American public.

2475. As proven by the evidence introduced at trial and described infra, the CEOs' sworn testimony was both false and misleading. During the April 14, 1994 hearing:

- Philip Morris did knowingly cause to be transmitted the testimony of President and Chief Executive Officer William I. Campbell. Campbell denied that nicotine is addictive, denied that Philip Morris research establishes that smoking is addictive, and denied that Philip Morris manipulates the amount of nicotine contained in cigarettes.

- RJR did knowingly cause to be transmitted the testimony of Chairman and Chief Executive Officer James Johnston. Johnston denied that nicotine is addictive and denied that RJR manipulates the amount of nicotine contained in cigarettes.

- American did knowingly cause to be transmitted the testimony of its Chief Executive Officer, Donald S. Johnston. Johnston denied that American manipulates the amount of nicotine contained in cigarettes.

- B&W did knowingly cause to be transmitted the testimony of Chief Executive Officer Thomas Sandefur. During this hearing, Sandefur made material misrepresentations regarding B&W's control of the amount of nicotine contained in its cigarettes.

- Lorillard did knowingly cause to be transmitted the testimony of Chief Executive Officer Andrew H. Tisch. During this hearing, Mr. Tisch denied that Lorillard manipulates the amount of nicotine contained in cigarettes.

- Liggett did knowingly cause to be transmitted the testimony of Chairman and Chief Executive Officer Edward A. Horrigan, Jr. Horrigan denied that Liggett manipulates the amount of nicotine contained in cigarettes.

TLT0730001-0850 (US 77011) (O).

2476. In a written statement submitted by Philip Morris on March 25, 1994, to the House Committee on Energy and Commerce in connection with the Waxman Hearings, Philip Morris asserted that it "does nothing in the processing of tobacco or the manufacture of cigarettes that increases the nicotine in our products above what is naturally found in tobacco." Philip Morris also stated that the FTC testing method provided consumers with "information concerning the relative nicotine yields of products that permit them to make an informed choice." TLT0730001-0850 at 0362–0363 (US 77011) (O).

2477. On April 14, 1994, William I. Campbell, President of Philip Morris U.S.A., testified at the Waxman Hearings that "Philip Morris does not add nicotine to our cigarettes. Philip Morris does not manipulate nor independently control the level of nicotine in our products." In his written statement to the Committee of the same date, Campbell stated that "[w]hen creating a cigarette for a tar category, we select a particular tobacco blend and flavors to provide ‘uniqueness' for a product. . . . So, how do we ‘manipulate' or independently ‘control' nicotine as our critics charge? The answer is we don't. We accept the nicotine levels that result from this process." TLT0730001-0850 at 0546, 0556 (O) (US 77011) (emphasis in original).

2478. Campbell also testified that the amount of nicotine measured by the FTC testing method accurately reflected the amount of nicotine that a smoker of its low tar cigarettes receives. After acknowledging that Philip Morris manufactured its Merit Ultima low tar cigarette using, for 40% of the blend, a tobacco that had a nicotine content higher than that used for the manufacture of some of its other products, Campbell contended that the reason for selecting the high nicotine tobacco was for taste and flavor. Campbell was asked, "You may think that's for taste, but it also produces a higher nicotine level. Isn't that what's happening in your products?" Campbell responded: "No, it isn't. . . . We compensate in our ultra low tar cigarettes by using

reconstituted tobacco and expanded tobacco. So that what the smoker gets is what we . . . say in our FTC advertisements, 0.1 milligram of nicotine." TLT0730001-0850 at 0768 (US 77011) (O).

2479. Although Campbell acknowledged that Philip Morris intentionally used tobacco blends with higher nicotine concentrations in the manufacture of "ultra low tar" cigarettes, Campbell testified that Philip Morris did so only for taste. Campbell was asked by a Member of Congress: "I'm asking about the concentration of nicotine in the tobacco. You have blended tobacco. I want to know if there's a higher concentration in that tobacco in the Ultima [an "ultra low tar" brand] than there would be in a regular cigarette?" Campbell responded, "It's there for taste, yes, sir." Additionally, Campbell was asked, "For whatever reason, do you occasionally decide to use a higher nicotine content tobacco leaf to manufacture one brand than you do to manufacture another of your brands?" Campbell testified in response: "That's the end result. As I say, we do not design the product that way. We design the product for its category in the market, which is generally a tar category." TLT0730001-0850 at 0768, 0769 (US 77011) (O).

2480. In a written statement submitted by RJR on March 24, 1994 to the House Committee on Energy and Commerce in connection with the Waxman Hearings, Reynolds stated that it "does not . . . establish specific nicotine yields or manipulate nicotine to create, maintain or satisfy ‘addiction.' . . . It is a simple fact that reducing ‘tar' yields automatically results in proportional reductions in nicotine." In a February 28, 1994 letter mailed to FDA Commissioner Kessler in advance of the Waxman Hearings, Reynolds's CEO James W. Johnston claimed that "R.J. Reynolds Tobacco Company does not increase the nicotine in its cigarettes above what is found naturally in tobacco." TLT0730001-0850 at 0368, 0370 (US 77011) (O).

2481. On April 14, 1994, Reynolds's CEO James Johnston testified at the Waxman Hearings that RJR does not "add, or otherwise manipulate nicotine to addict smokers. . . . [W]e

do not do anything to hook smokers or to keep them hooked." In his written statement to the Committee of the same date, Johnston claimed that the level of nicotine contained in a cigarette is proportional to and linked to the level of tar. Johnston also stated that the level of nicotine present in a cigarette is not "a result of a decision to ‘manipulate' nicotine levels to some carefully controlled ‘addictive level.' The concept of an ‘addictive level' [of nicotine] . . . is not a concept known to or understood by Reynolds Tobacco." TLT0730001-0850 at 0562, 0576-0577, 0579 (US77011) (O).

2482. Johnston further testified on April 14, 1994, that Reynolds did not "design our cigarettes with any nicotine levels in the specifications. We design our cigarettes . . . for tar levels, usually within a band. It might be a light cigarette within that band or sometimes a specific tar level objective and the nicotine flows from there. . . ." TLT0730001-0850 at 0722 (US 77011) (O).

2483. In a written statement submitted by B&W on March 25, 1994 to the House Committee on Energy and Commerce in connection with the Waxman Hearings, B&W stated that "[t]he only direct source of nicotine in cigarettes manufactured by Brown & Williamson Tobacco Corporation is the tobacco that is used in the cigarettes." B&W also asserted that "[t]he filtering and ventilation techniques that are utilized by B&W result in the smoker's receiving only a small fraction of the nicotine contained in the tobacco that was used to produce the cigarette." TLT0730001-0850 at 0381 (US 77011) (O).

2484. In an April 14, 1994 written statement submitted to the House Committee on Energy and Commerce in connection with the Waxman Hearings, Thomas E. Sandefur, Jr., Chairman and CEO of B&W, stated that "Dr. Kessler suggested that cigarette manufacturers ‘commonly add nicotine to cigarettes to deliver specific amounts of nicotine.' Brown &

Williamson has never done that." Sandefur also stated that B&W "believe[s] that smokers can expect to receive lower amounts" of nicotine from cigarettes that yield lower amounts in FTC testing. TLT0730001-0850 at 0594-0595 (US 77011) (O).

2485. Sandefur was accompanied at the Waxman Hearings by Tilford Riehl, B&W's Vice President of Research and Development. In response to questions concerning B&W's "ultra light" Barclay cigarette, which used a tobacco with a nicotine concentration of 2.3 percent (35% higher than the average amount of nicotine found in tobacco), Riehl did not deny that B&W used a tobacco with a high nicotine concentration to manufacture Barclay cigarettes. Riehl testified, however, that B&W selected the tobacco used for Barclay for its taste. Specifically, Riehl stated: "We blend for taste, not nicotine." TLT073 0001-0850 at 0767 (US 77011) (O).

2486. When asked by a Member of Congress, during a continuation of the Waxman Hearings on June 23, 1994, whether B&W believed "that nicotine is present for taste or is it in cigarettes for its drug-like qualities," Thomas Sandefur, then-Chairman and CEO of B&W, stated under oath, "we very strongly believe that nicotine is a very important constituent in the cigarette smoke for taste." TLT0730851-1975 at 1584 (US 77012) (O).

2487. Sandefur further testified at the same hearing that he did not believe that nicotine is a drug. TLT0730851-1975 at 1585 (US 77012) (O).

2488. Sandefur testified at the June 23, 1994 Waxman Subcommittee hearing, that B&W added ammonia to commercially produced cigarettes only "[f]or the benefit of taste, to improve the taste characteristics of our cigarettes." TLT0730851-1975 at 1620 (US 77012) (O).

2489. Sandefur also testified to Congress on June 23, 1994, on behalf of B&W, "We do not manipulate the nicotine levels of our cigarettes. . . ." TLT0730851-1975 at 1673 (US 77012) (O).

2490. In a written statement submitted by American on March 25, 1994, to the House Committee on Energy and Commerce in connection with the Waxman Hearings, American stated that it "does not use nicotine in the manufacture of its cigarettes" and that "nothing is done in the tobacco processing or manufacture of cigarettes by the American Tobacco Company to increase nicotine beyond that naturally occurring in tobacco." TLT0730001-0850 at 0378-0379 (US 77011) (O).

2491. On April 14, 1994, Donald S. Johnston, Chairman and CEO of American, testified at the Waxman Hearings that:

> the American Tobacco Company does not use nicotine in the manufacture of its cigarettes. . . . American has no desire or intent to manipulate nicotine. At no time has the American Tobacco Company attempted to market a cigarette based on its nicotine content. Or more generally, has it ever designed or marketed a cigarette with the purpose or intent of selling nicotine.

TLT0730001-0850 at 0597, 0599 (US 77011) (O).

2492. On March 25, 1994, Alexander W. Spears, Vice Chairman and Chief Operating Officer of Lorillard, testified at the Waxman Hearings that "[w]e do not set levels of nicotine for particular brands of cigarettes." Spears further stated that "[n]icotine follows the tar level," and the correlation between the two "is essentially perfect," and "shows that there is no manipulation of nicotine." In a 1981 study, however, Spears had previously stated explicitly that "low-tar" cigarettes used special blends of tobacco to keep the level of nicotine up while tar is reduced: "[T]he lowest tar segment [of product categories] is composed of cigarettes utilizing a tobacco blend which is significantly higher in nicotine." Spears did not inform Congress of his earlier statement. TLT0730001-0850 at 0148-0149, 0382-0383 (US 77011) (O); 82495618-5628 (US 86932) (O).

2493. To the contrary, in response to questioning by the panel concerning data he

submitted at the March 25, 1994 hearing, Spears again contended in testimony on April 14, 1994, that the level of nicotine found in cigarette products is a function of the level of tar in those products. Spears testified that "the statement that nicotine follows tar" is true from the 1950s to 1990 and that he "stick[s] with that statement and [he] believe[s] it is accurate." TLT0730001-0850 at 0707, 0719 (US 77011) (O).

2494. On April 14, 1994, Andrew H. Tisch, Chairman CEO of Lorillard Tobacco Company, testified at the Waxman Hearings that "the level of nicotine in the products manufactured and sold by Lorillard is solely determined by the tobacco that we buy and the blending of different tobaccos used in our manufacturing. . . . Nicotine levels follow tar levels and are not raised or reduced for particular brands." Tisch also testified that "Lorillard does not take any steps to assure a minimum level of nicotine in our products. Lorillard does not add nicotine to cigarette tobacco for the purpose of manipulating or spiking the amount of nicotine received by the smoker." TLT0730001-0850 at 0596, 0597 (US 77011) (O).

2495. In a written statement submitted by Liggett on March 24, 1994, to the House Committee on Energy and Commerce in connection with the Waxman Hearings, Liggett stated: "we do not increase the nicotine level of our cigarettes beyond that found naturally in the tobacco from which our cigarettes are made. . . . We do not artificially increase the level of nicotine in our cigarettes to allegedly ‘addict' smokers or otherwise influence our consumers." TLT0730001-0850 at 0380 (US 77011) (O).

2496. On April 14, 1994, Edward A. Horrigan, Jr., Chairman and CEO of Liggett, testified at the Waxman Hearings that "Liggett does not increase the nicotine level of our cigarettes beyond the level of nicotine found naturally in the unprocessed tobacco that we use to make our cigarettes. . . . Liggett does not manipulate the level of nicotine in our cigarettes to

hook or addict smokers." Horrigan, who formerly had been Chairman and CEO of RJR, also testified that "[i]n all my years in this business world-wide, I have never known of a product-designed [sic] objective or goal that included even the notion of spiking the amount of nicotine in a cigarette to achieve a level that would hook or addict smokers." TLT0730001-0850 at 0600, 0601 (US 77011) (O).

2497. Following Horrigan's testimony at the Waxman Hearings, Representative Waxman sent a request for information to Liggett on May 25, 1994, seeking additional information concerning its use of nicotine in the design of its cigarettes. In its response to a request for information concerning which methods of controlling nicotine it used in its products, Liggett responded:

LDOJ9511212-1230 at 1216, 1218 (US 86933) (O) (Confidential).

2498. In response to Representative Waxman's letter, Liggett also stated that:

LDOJ9511212-1230 at 1220, 1221, 1222-23 (US 86933) (O) (Confidential).

2499. The Tobacco Institute also made a statement before Congress in connection with the Waxman Hearings. On March 25, 1994, the Tobacco Institute's spokesperson, Charles O. Whitley, testified that "nicotine levels are a function of tar levels. Over the past 30 years or so, the consumer demand for lighter cigarettes has led the tobacco manufacturers to reduce tar levels . . . and the nicotine levels have dropped correspondingly." Whitley further testified that "we do not add nicotine, have not added nicotine, we do not manipulate nicotine." In the written statement submitted by Whitley in connection with his testimony, Whitely stated that FDA Commissioner Kessler's suggestions that cigarette manufacturers add nicotine to cigarettes to produce and sustain addiction were "unequivocally . . . false," and that "when . . . 'tar' levels" are reduced, "nicotine is reduced automatically." TLT0730001-0850 at 0146, 0350, 0157 (US 77011) (O).

2500. Defendants also conducted a misinformation campaign in the print media and in their statements to public health authorities in and around the time of the Waxman Hearings.

2501. In an advertisement in the *New York Times* released the day following the CEOs' 1994 Congressional testimony, entitled "Smokers and Non-Smokers: Facts You Should Know," Philip Morris stated: "Philip Morris does not 'manipulate' nicotine levels." The advertisement claimed that Philip Morris's methods of "quality control [do] not constitute 'manipulation.'" 2023011263-1263 (US 20371) (A); Farone WD, 98:22-99:17.

2502. On February 28, 1994, Philip Morris distributed a public statement that stated:

> There is nothing done in the processing of tobacco or manufacture of cigarettes by Philip Morris that increases the nicotine in the tobacco blend above what is normally found in tobacco. . . . Philip Morris provides its consumers with a range of choices in tar and nicotine levels in its products. As a matter of fact, over the years, consumer taste preferences have resulted in products with lower levels of both tar and nicotine. For many years, nicotine levels for all cigarettes have been measured pursuant to FTC methods and

publicly displayed in every cigarette advertisement.

682637639-7640 at 7639 (US 30999) (O).

2503. In a June 14, 1995, letter to the editor of *The New York Times*, written by James Morgan, then President and CEO of Philip Morris, criticizing an article that *The Times* had published regarding Philip Morris's research and marketing practices, Morgan claimed that "basic research regarding ‘tar' and nicotine ratios was never used in the company's manufacturing processes to alter, much less ‘manipulate,' the natural ratio of ‘tar' to nicotine in the cigarettes the company sells." 2505560444-0447 at 0445 (US 86934) (O).

2504. On June 23, 1994, after a connection between the use of ammonia technologies and increased nicotine deliveries was publicized, Philip Morris released a press statement that included, "[t]here is no indication that ammonia compounds in our cigarettes alter the amount of nicotine the smoker inhales. . . . [T]he presence of ammonia compounds in cigarettes does not support Dr. Kessler's allegation that cigarette companies manipulate nicotine levels to ‘addict' their customers." 2076733633-3633 (US 43887) (O).

2505. An October 18, 1995 Philip Morris press release stated, in part, "Philip Morris U.S.A. does not use ammonia in the cigarette manufacturing process to increase the amount of nicotine inhaled by the smoker or to ‘affect the rate of absorption of nicotine in to the bloodstream of the smoker,' or to ‘increase the potency of the nicotine a smoker actually inhales.'" 2076733634-3634 (US 43888) (O).

2506. Defendants have also prepared internal "talking points" documents to prepare its spokespersons for public comment on important smoking and health issues. For example, on July 8, 1994, Christopher Proctor sent to all General Managers, BAT Corporate Affairs Managers, and BATCo Board members a memorandum including "Questions and Answers

related to U.S. hearings." Recipients were told to use the materials in response to questions from media and staff. Regarding nicotine, BATCo's response was that "BAT does not 'manipulate' the level of nicotine in its products." Recipients were also instructed to respond to questions regarding addiction that "BAT does not 'spike' its tobaccos with nicotine. Smoking is not an addiction." 800335882-5886 at 5884 (US 31906) (O).

2507. B&W issued a press release in 1994 that stated: "B&W does nothing in the manufacture of its tobacco products that increases the level of nicotine above that which is naturally found in the tobacco plant, nor does it artificially increase nicotine." 202337394-7394 (US 21965) (O).

2508. A June 22, 1994 *Newsday* article quoted Tom Fitzgerald, spokesperson for B&W, as claiming, "'What Dr. Kessler called manipulation was an effort on our part to lower the tar levels in our brands and provide the taste that consumers were expecting.' . . . [S]everal of the brands using Y-1 tobacco 'actually deliver less nicotine than the non-Y-1 blends for the same products.'" USX3552053-2055 at 2054 (US 76211) (O). Y-1 is genetically engineered high-nicotine tobacco. See US FF § III.C(2)(c)(ii), infra.

2509. In a June 1994 article, BAT spokesman Ralph Edmonson stated, "It is nonsense to say we want to make people more addicted to nicotine." 502575988-5988 (US 86884) (O).

2510. In a February 28, 1994 letter to Surgeon General David Kessler preceding the Waxman Hearings, James Johnston, Chairman and CEO of RJR, stated that "R.J. Reynolds Tobacco Company does not increase the nicotine in the tobacco we use in the manufacture of our cigarettes." TLT0730001-0850 at 0798 (US 77011) (O) (emphasis in original).

2511. In 1994, Reynolds placed an advertisement in national media in response to allegations that the company had controlled the amount of nicotine delivered by its cigarettes in

an effort to keep smokers addicted to cigarettes. The ad featured a photograph of RJR's Chairman James W. Johnston holding a burning cigarette with the following quote in large lettering under the photograph: "WE DO NOT 'SPIKE' OUR CIGARETTES WITH NICOTINE." In the text of the advertisement, Reynolds claimed that:

> Recently, a TV show accused tobacco companies of somehow 'spiking' the level of nicotine in our products to 'addict' smokers. As Chairman of a tobacco company and a smoker, I want America's 45 million smokers to know that this is sheer nonsense. At R.J. Reynolds we do not increase the level of nicotine in any of our products in order to 'addict' smokers. Instead of increasing the nicotine levels in our products, we have in fact worked hard to decrease 'tar' and nicotine. Much of the recent controversy has focused on our use of various techniques that help us reduce the 'tar' (and consequently the nicotine) yields of our products.

525722360-2360 (US 86935) (O) (emphasis in original).

2512. In a June 21, 1994 press release, RJR contended that its use of ammonia or ammonia compounds in processing tobacco "do[es] not have any technical or function effect in the finished product." RJR000000526009069700493448-3448 (US 86936) (O).

2513. The Tobacco Institute also drafted a 1994 press release that stated: "Cigarette manufacturers do not 'manipulate' the level of nicotine in various brands. Nicotine levels follow 'tar' levels – as manufacturers have reduced 'tar' levels and yields over the years to satisfy changing consumer tastes, nicotine levels and yields have fallen correspondingly." TIMN328214-8215 (US 21284) (O).

2514. On a March 27, 1994, airing of "Face the Nation," Brennan Dawson, Vice President of the Tobacco Institute, stated, "The industry does take the position that . . . not only do they not add nicotine, but they don't manipulate nicotine. So Congress has been told formally by every cigarette manufacturer in the United States that this claim is without foundation." TLT0730851-1975 (US 77012) (O).

(ii) Defendants' False and Misleading Public Statements Continued After the Waxman Hearings

2515. On October 18, 1995, BAT falsely denied in the press that it had "doctored its cigarettes" based on reports from America that ammonia could boost nicotine delivery. BAT stated that "[t]here is no way we add anything to enhance the nicotine." ARU6532615-2615 (US 86883) (O).

2516. In a proxy statement filed with the Securities and Exchange Commission ("SEC") on March 7, 1995, the Board of Directors of RJR Nabisco Holdings Corp. publicly made a false and misleading statement to its shareholders and to the SEC. A group of shareholders filed a proposal to the Board that the company issue a public report regarding "whether nicotine content in and absorption from its tobacco products are deliberately controlled by the Company and if the reasons for any such control include the delivery of a reliable dose of nicotine to and/or the promotion of nicotine absorption by the customer." The Board recommended a vote against the proposal, stating that "RJRT does not add nicotine to any of its tobacco products and does not manipulate the amount of nicotine in any of its products to create, maintain, or satisfy an 'addiction.'" The overwhelming evidence cited herein (Section III.C(2)(c)), demonstrates RJR undertook extensive efforts to study and manipulate nicotine delivery of its cigarettes. Thus, the Board knew these public statements were false and misleading. 525735695-5730 at 5709-10 (US 88004) (O).

2517. Defendants' public denials were likewise reflected in submissions to government bodies. For example, on January 2, 1996, RJR submitted its "Comments of R.J. Reynolds Tobacco Company Concerning FDA's Jurisdictional Analysis" to the Food and Drug Administration. Reynolds stated in its comments that its decades of research concerning nicotine "**[did] not reflect an intent to provide smokers with pharmacologically active 'doses' of**

nicotine. . . . Reynolds's cigarette design research and the cigarettes that Reynolds has marketed and advertised to smokers demonstrate an intent to provide smoking taste and pleasure." 515639064-9121 at 9070 (US 86939) (O).

2518. In a proxy statement filed with the Securities and Exchange Commission ("SEC") on May 14, 1996, the Board of Directors of Loews Corporation, parent to Defendant Lorillard, publicly made a false and misleading statement to its shareholders and to the SEC. A group of shareholders filed a proposal to the Board relating to nicotine in tobacco products in which they proposed that Loews "develop and publicize nicotine ratings for each of our cigarette brands and to make this available in accurate information to our customers about how much nicotine they consume when smoking." The Board recommended a vote against the proposal, arguing "information regarding nicotine levels in cigarettes is readily available to the public through prominent disclosure in cigarette advertising, as required by the Federal Trade Commission." The overwhelming evidence cited in Section III.C(2)(c), infra, demonstrates Lorillard was aware that FTC ratings did not accurately cite the amount of nicotine delivery received by smokers of its cigarettes. 91762568-2569 (US 22080) (A).

2519. In the late 1990s, an RJR scientist gave a presentation to the World Health Organization in which he denied that Reynolds was using ammonia to manipulate nicotine deliver in its cigarettes. Suber PD, United States v. Philip Morris, 7/18/02, 47:15-48:18.

2520. In a July 28, 1997 press release, RJR claimed that the findings of a study concerning the addition of ammonia to cigarettes might demonstrate that addition of ammonia actually **decreased** the amount of nicotine that reaches a smoker's brain – the opposite of what the scientist who conducted the study concluded. Reynolds claimed in the press release that an increase in "vapor nicotine" or "free nicotine," accomplished by the addition of ammonia or

ammonia compounds, could result in less efficient delivery of nicotine to a smoker because "'vapor nicotine' doesn't make it past the upper airways before it is absorbed by the body." RJR000000041506872170032018 5-0185 (US 61964) (O); 2076733657-3658 at 3657 (US 86940) (O).

2521. A spokeswoman for RJR told *The New York Times* in February 1998 that "nicotine levels were not a 'design characteristic' in developing cigarettes . . . [and that its] 'research through the years has focused on reducing total tar and nicotine yield.'" RJR000000141023624700466952-6957 at 6954 (US 86941) (O).

2522. On January 29, 1998, Altria CEO Geoffrey Bible testified before the House Commerce Committee in hearings that were televised nationwide. During the hearing, Bible misrepresented the effect of ammonium compounds on the delivery of 'free' nicotine. Bible testified:

> I'm told that ammonium compounds are used in two ways in our products. In the first instance they are used as a blending agent in the manufacture of what is called sheet tobacco, which is included in the cigarette. . . . It is also used as a flavor. But I'm also told that the ammonium compounds that are used in the cigarettes we sell do not cause the amount of nicotine in smoke to rise. It does not change the form of the nicotine that goes to the brain. And it may result in a slight increase in the amount of nicotine in the mouth, . . . but that the nicotine absorbed through the mouth reaches the brain more slowly than nicotine absorbed through the lung.

MTP0030945-0986 at 0969 (US 76202) (O), 2078124371-4372 at 4371 (US 86938) (O).

2523. In a February 24, 1998 letter to *The New York Times* written by Peggy Roberts, Director of External Relations, Philip Morris stated that "its use of ammonia compounds in the cigarette manufacturing process does not increase the amount of nicotine delivered to the smoker, does not increase the amount of nicotine absorbed in the lungs of the smoker, and does

not affect the form of nicotine delivered to the smoker's brain." 2076733606-3607 at 3606 (US 43886) (O).

2524. In the 1990s, Brennan Dawson, Tobacco Institute Senior Vice President of Public Affairs, publicly communicated Defendants' public position that "nothing in the cigarette manufacturing process is done with an eye toward manipulating nicotine levels. . . . It's all done with taste in mind." Dawson WD, 63:8-18; BWC3930802-0806 at 0803 (US 86937) (A). Dawson told the *Wall Street Journal* that nicotine levels "follow" tar levels. BWC3930802-0806 at 0803 (US 86937) (A).

2525. Defendants' public denials of nicotine manipulation continues to this day. Philip Morris's current public Internet website states that: "[S]ome have alleged that we use specific ingredients to affect nicotine delivery to smokers. That is simply not true." ARG0540406-0407 at 0406 (US 88058) (O).

2526. RJR's public Internet website states that RJR "do[es] not add nicotine or any nicotinic compounds to any of our cigarettes, nor do we do anything to enhance the effects of nicotine on the smoker." This statement has been found on RJR's website for several years. TLT1020067-0069 at 0067 (US 86942) (O); JD-068012 at p. 108 of 569 (A).

2527. B&W's current public Internet website states that: "Brown & Williamson does not in any way control the level or nature of nicotine in cigarettes to induce people to start smoking or to prevent people from quitting." TLT0770044-0049 at 0044 (US 86656) (A).

(iii) Testimony Consistent with Fraudulent Public Statements

2528. In deposition and trial testimony, and in discovery responses, Defendants have made the same or corresponding statements denying their ability and efforts to control nicotine.

2529. On June 21, 2002, Hector Alonso, Vice President of Product Development and

Technology at Philip Morris, when asked "Does Philip Morris exercise any control over the level of nicotine in the cigarettes that it sells," Alonso answered unequivocally "No." Alonso further testified that Philip Morris controls tar delivery, and parroted the oft-invoked public industry position that nicotine follows tar. Alonso PD, United States v. Philip Morris, 6/21/02, 51:6-51:9.

2530. Consistent with the rest of the industry, Liggett continues to deny that it manipulates nicotine. In its Answer to the United States' Complaint filed in this case, Liggett stated: "Liggett admits that it has stated in the past and does now state that it does not manipulate nicotine levels." Answer of Liggett Group Inc. to Plaintiff's Complaint for Damages and Injunctive and Declaratory Relief (R. 180, filed 10/30/2000), at ¶¶ 77, 78-80, 82.

2531. Timothy Jackson, Vice President for Operations at Vector Tobacco, the holding company of Liggett as of September 2000, testified in this action that he was "not aware of . . . any way that nicotine is controlled through cigarette design." Jackson also testified that the delivery of nicotine is "directly relat[ed] to tar delivery." Prior to the time that Jackson became Vice President for Operations, he was the President of Liggett Operations for three years and had worked at Liggett since 1983. Jackson's duties at both Liggett and Vector include overseeing all areas relevant to the manufacture of cigarettes. Jackson also participated substantially in the design and manufacture of the Quest cigarette, which expressly and intentionally contains different levels of nicotine. Jackson PD, United States v. Philip Morris, 3/21/03, 8:16-9:1; 27:12-28:3; 11:15-11:19, 18:23-19:13, 65:20-21; 65:2-65:20; 67:16-67:22; 66:23-68:2.

2532. Even though Philip Morris executives and public relations officers continue to maintain that the importance of nicotine in cigarettes only goes to consumer taste preference and is not used to keep smokers addicted, testimony of former Philip Morris scientists contradicts such public statements. Victor DeNoble performed extensive nicotine-related research while he

was employed at Philip Morris, and he testified that taste was not the reason that Philip Morris performed research on nicotine. He also testified that he never saw a Philip Morris document concerning nicotine research in which the subject of the research was taste. DeNoble WD, 9:23-10:4; see also, TLT0730851-1975 at 0874 (US 77012) (O). William Farone, another Philip Morris scientist, also testified that taste was not the reason that Philip Morris or the other Defendants conducted research on nicotine, and it was not the reason Defendants believed that nicotine was important to smokers. Farone WD, 76:11-77:6, 85:17-23.

2533. Cathy Ellis, formerly Senior Vice President, Worldwide Scientific Affairs for Philip Morris, has admitted that nicotine does not have a good flavor. Ellis PD, Mississippi v. American, 3/20/97,1 58:6-9, 158:15-20, 159:15-160:10; 160:15-161:2, 161:7-17, 161:22-163:19.

(b) Product Goals: Defendants' Motivation for Manipulating Nicotine Delivery in Their Commercial Cigarettes Was to Ensure Delivery of Nicotine at Levels That Would Create and Sustain Addiction, Attract Smokers to Their Brands, and Keep Smokers Purchasing Their Products

(i) Defendants Recognized the Need to Determine "Minimum" and "Optimum" Nicotine Delivery Levels in Order to Provide Sufficient "Impact" and "Satisfaction" to Cigarette Smokers

2534. Through years of research, Cigarette Company Defendants sought to identify what they termed an "optimum" amount of nicotine: one that would meet consumers' demand for lower tar and nicotine products (based on the consumers' perception – deceptively fueled by Defendants – that such cigarettes actually delivered less tar and nicotine and thus would be safer, see US FF § III.D, infra), while still providing enough nicotine to create and sustain addiction. Although different Cigarette Company Defendants sometimes used different terminology – such as "optimal," "threshold," or "minimum" – to refer to the level of nicotine delivery they were researching, the ultimate goal of all of this research was the same, i.e., to assure that their

commercial products – particularly their purportedly low delivery products – were capable delivering enough nicotine to keep smokers hooked and to addict new smokers. Defendants conducted this research with the knowledge that their profits depended on creating and maintaining a base of addicted consumers.

2535. In early research documents, Cigarette Company Defendants' efforts often centered on attempting to identify a particular dose of nicotine that would "satisfy" smokers' need for nicotine and thereby assure continued smoking. As Cigarette Company Defendants' knowledge and understanding of nicotine delivery evolved, they identified and developed product design techniques that would both assure the delivery of the minimum dose of nicotine that Cigarette Company Defendants believed was needed to provide smokers with sufficient "impact" and "satisfaction," and also assure that nicotine delivery was optimized, allowing smokers to easily obtain their required amount of nicotine across a range of doses that the cigarette was capable of delivering.

2536. In relation to cigarette design, the word "impact" is a euphemism used by Defendants to refer to the immediate sensory effect the delivery of nicotine has on a smoker. The sensory response referred to as "impact" occurs through nicotine's stimulation of the afferent nerves in the back of the throat when mainstream cigarette smoke is inhaled, causing a peripheral nerve effect that is recognized by the brain. Benowitz TT, 11/2/04, 4800:21-4801:19; Dixon WD, 11:7-18. Cigarette Company Defendants' internal documents indicate that they were well aware that impact was significant to smokers, and that a particular cigarette's impact was a function of its nicotine delivery. For example, B&W defined impact to mean "the sensory attribute most associated with nicotine" and noted that "[t]he higher the nicotine delivery per puff of a product the higher the Impact felt by the inhaling smoker." 500104403-4424 at 4409

(US47966) (A). Timothy Jackson, Vice President for Operations at Vector Tobacco, testified that the word "impact" in relation to cigarette design relates to the impact of the nicotine in cigarette smoke. Jackson PD, Philip Morris, 3/21/03, 77:18-78:14, 78:3-78:10. RJR documents also connect "impact" to nicotine, stating for example: "Is nicotine addition to boost impact a legal, p.r. [public relations] acceptable path?" 506236904-6907 at 6905 (US 88059) (O).

2537. The term "satisfaction" also has been used by Defendants as a euphemism to describe the pharmacological attributes associated with a cigarette's level of nicotine delivery. The term "satisfaction," as it is found in industry documents, describes the hit of nicotine an individual receives when smoking a cigarette. See Henningfield WD, 87:10-16, 96:17-97:5, 97:13-20; TLT0730001-0850 at 0083 (US 77011) (O). For example, Lorillard has stated that smokers "want some acceptable level of smoking satisfaction; which among other attributes means some acceptable level of nicotine delivery." 87410132-0144 at 0139 (US 88060) (O). Reynolds also discussed "the minimum level of nicotine required for smoker satisfaction." 505243357-3365 at 3365 (US 86944) (O); see also 511703121-3124 (US 51575) (O); 500884922-4941 at 4934 (US 85405) (O); 504423322-3327 at 3322 (US 50614) (O); 536000308-0507 at 0334 (US 85298) (O); 602759-2759 (US 53297) (A). Thus, although Defendants argue that satisfaction is a complex measure of the overall consumer acceptability of their products, see JD FPFF (July 1, 2004), Ch. 5, ¶5, it is evident from their own internal documents that the level of nicotine delivery is considered the primary contributor to "satisfaction."

2538. While Defendants contended at trial that their nicotine-related research was done in response to recommendations and requests from various public health authorities, their own internal scientific documents reveal that the motivation for the research was not concern for

public health, but rather concern for the future of their business if their products did not deliver sufficient nicotine to create and sustain smoking addiction. See generally US FF § III.C.1, supra. Defendants' internal documents further demonstrate that they took actions, based on their knowledge of nicotine's pharmacological properties and of nicotine as **the agent** in cigarettes responsible for continued smoking, to incorporate physical and chemical design techniques into their commercial products that would assure adequate nicotine delivery. Indeed, the Cigarette Company Defendants have taken the course recommended by Philip Morris scientist William Dunn in 1972 to conceive the cigarette "as a dispenser for a unit dose of nicotine" and have engineered their cigarettes to enable smokers to obtain their optimal nicotine dose. 2024273959-3975 at 3962-3963 (US 21461) (US 76198) (O); Henningfield WD, 35:16-36:16, 41:18-42:7; 54:7-15; 66:23-67:12.

(aa) Philip Morris

2539. Philip Morris has been aware of the need to effectively measure and control the amount of nicotine in cigarettes since as early as the 1940s. Philip Morris conducted studies on manipulating nicotine in its Parliament cigarettes in the 1940s. A few years later, in a document entitled, "An Outline of Current and Proposed Quality Control, Development and Research for Benson and Hedges," dated 1954, Philip Morris discussed its program to "ensur[e] the over-all quality and uniformity of the finished Parliament cigarette and thus maintain[] its appeal for discriminating smokers." This program was focused on "nicotine content, tar content, acid-base balance, and content of taste and aroma factors." The memorandum described Philip Morris's efforts to use "informally constituted smoking panels and the results of nicotine analyses performed on the blends . . . to establish a desirable level of nicotine concentration in the blend and hence also in the smoke." 1001761472-1484 at 1472-73 (US 35556) (A).

2540. Philip Morris also was concerned that complaints relating to smoking and health might put pressure on the tobacco industry to lower levels of nicotine in their cigarettes, but that lowering nicotine too much might do away with the smoking market. In 1961, Helmut Wakeham, Philip Morris's Director of Research, wrote: "Even though nicotine is believed essential to cigarette acceptability, a reduction in level may be desirable for medical reasons. . . . How much nicotine reduction will be acceptable to the smoker?" 1000277423-7447 at 7441 (US 20088) (A).

2541. Also in 1961, Wakeham conducted a seminar entitled, "The Big Picture for 1961," in which "Aim 2" was described as: "Define the potential of nicotine control as a cigarette improvement. . . . **Determine optimum levels of nicotine in smoke**. . . . **Perfect processes for controlling nicotine content of filler**." 100277468-1000277482 at 7481 (US 35201) (O) (emphasis added).

2542. From the 1950s and 1960s through the 1980s and 1990s, the most senior levels of executive leadership at Philip Morris considered various mechanisms for controlling the amount of nicotine delivered to smokers by its products, from determining the optimal level of nicotine delivery to the manipulation of nicotine levels through leaf blending and increasing nicotine delivery to cigarette smoke. 1001896774-6776 at 6774 (US 20122) (O); 1003294245-4261 at 4246 (US 20170) (A); 2023186690-6690A at 6690A (US 20379) (O); 511223463-3484 (US 20480) (O); 2031436002-6002 (US 20433) (O); Henningfield WD, 94:6-13, 95:22-96:9; 98:4-99:15.

2543. An October 19, 1977 report entitled, "Smoker Psychology Program Review," postulated the main questions that must be answered in the program: (1) what is the optimum nicotine/tar ratio? (2) given a fixed quantity of nicotine in tobacco, what factors in the cigarette

design determine its availability for delivery to the smoker? and (3) how important is the form of the delivered nicotine? 1000046538-6546 at 6543 (US 26074) (A).

2544. In 1990, Philip Morris researchers explained in an inter-office memorandum that the question of whether there was an optimal amount of nicotine to be delivered to the smoker had been answered by Philip Morris's Electrophysiological Studies Research Group, which explored and measured the brain effects of nicotine. Listed among the various achievements of the group was that it had "shown that there are optimal cigarette nicotine deliveries for producing the most favorable physiological and behavioral responses." 2028813366-3368 at 3366 (US 20430) (A), (US 76179) (O); Henningfield WD, 102:2-10.

(bb) R.J. Reynolds

2545. By 1971, Reynolds also was studying the optimal amount of nicotine to deliver to smokers. 504210018-0018 (US 50577) (O).

2546. In a February 2, 1973 research and planning memorandum on "Some Thoughts about New Brands of Cigarettes for Youth," scientist Claude Teague recommended that "[n]icotine should be delivered at about 1.0-1.3 mg/cigarette, the minimum for confirmed smokers." 502987357-7368 at 7361 (US 21475) (A).

2547. A November 9, 1976 memorandum from W.M. Henley to D.H. Piehl on the subject of "Nicotine Research" demonstrates that Reynolds was actively pursuing research on all aspects of nicotine to better understand how it could be used as a design parameter in its cigarettes. The memorandum reviewed discussions among Reynolds's scientists concerning the physiological action of nicotine in the body and the factors that influence the presence of nicotine in the tobacco leaf and in tobacco smoke. The memorandum also identified issues for further research:

> C.R. Green and D. Lynm raised the questions **concerning the minimum level of nicotine required for smoker satisfaction**.
>
> R.L. Rowland asked if every possible variable had been investigated for its effect upon nicotine delivery to the smoker. It may be generally accepted that the delivery of nicotine is changed by changing the type of tobacco leaf which is used in the cigarette. But, holding constant the tobacco which makes up the cigarette, are we cognizant of all other factors in cigarette manufacture which would change the nicotine delivery, particularly any factors which would allow a decrease in tar delivery without the accompanying proportional decrease in nicotine delivery.

505243357-3365 at 3357, 3359, 3360, 3362 and 3365 (US 86944) (O) (emphasis added).

2548. RJR's focus on delivering "optimal" amounts of nicotine to smokers even while overall amounts of tar and nicotine were being reduced in some of their products was central to research efforts throughout the 1970s. A July 1977 report by A.H. Laurene emphasized Reynolds's concerns regarding its ability to keep smokers hooked on cigarettes with reduced tar levels, stating: "Faced with gravitation of most of our products to the low tar or very low tar category, **the problem of keeping in our products those desirable attributes which keep our smokers smoking becomes a matter both difficult and important**." Laurene described Reynolds's strategies of maintaining "physiological satisfaction" in low tar cigarettes as follows:

> - Develop means to increase the nicotine content in the smoke of our lowered tar products through agricultural methods, selective leaf purchasing, blending and casing techniques, process improvements, and increased transfer efficiency of nicotine from tobacco into smoke.
>
> - Improve method to control pH and free nicotine in smoke.

The significance of controlling the pH and amount of free nicotine in cigarette smoke is explained fully in Section III.C(2)(c)(iv), infra. Laurene reported that "efforts are already underway on each of these approaches to **improve nicotine delivery and impact**." 500884922-4941 at 4933-34 (US 85405) (O) (emphasis added); see also 502314530-4547 at 4538 (US

21917) (O); 502967936-7944 at 7944 (US 76188) (O).

2549. In a memorandum dated January 4, 1978, entitled, "Nicotine and Smoker Satisfaction," D.H. Piehl wrote to Alan Rodgman that an objective of the 1977-1978 research was to "[d]efine the optimum nicotine level in cigarette smoke required to maximize smoker satisfaction. Determine the existence of a minimum or threshold value of nicotine required for satisfaction." 504423322-3327 at 3322 (US 50614) (O) (emphasis in original).

2550. From 1978 to 1984, R. J. Reynolds had a "nicotine optimization" program. 507028876-8876 (US 20771) (O). During this time, potential optimum levels of nicotine were identified and circulated by and among company scientists. In 1978, the "optimum 'nicotine strength'" for Winston filters was identified near smoke pH 6.2-6.3 and at 0.12-0.13 milligrams of nicotine per puff. 504462513-2513 (US 20728) (O). In 1979, the "maximum satisfaction" for Winston King Size was believed to be delivered at 1.0 milligrams of nicotine per cigarette. 503851759-1759 (US 21508) (O). In 1980, R. J. Reynolds reported data from a fuller-flavor low tar consumer satisfaction study, which concluded that there was both an "optimum and minimum nicotine level required to maximize smoking satisfaction. . . . Camel Lights is in the optimum range. Merit 85 is just above the minimum." 500250599-0599 (US 20621) (O).

2551. RJR's efforts to identify an optimal amount of nicotine focused not only on its own products, but also involved evaluating other manufacturers' brands. A September 20, 1979 memorandum from W.J. Casey to R.A. Lloyd discussed the findings of RJR's in-house studies regarding the nicotine content in Philip Morris cigarettes. The studies produced two "striking" conclusions – that Philip Morris brand cigarettes contained significantly less nicotine in the smoke than the RJR brands, and that Philip Morris was able to maintain more constant nicotine levels in their products. 517701734-1735 (US 85407) (O). A 1980 competitive brand analysis

found that Philip Morris's full-flavor brands were delivering close to 1.0 milligram of nicotine per cigarette. This amount approximated the "optimum nicotine level in that ‘tar' range" indicated by RJR's own research studies. 504675253-5282 at 5257 (US 20734) (O).

2552. A March 31, 1989 report prepared by Calvin L. Neumann reviewed the consumer studies conducted by RJR between 1979 and 1984 in which nicotine was a major variable. In the consumer studies reviewed by Neumann, "nicotine, or nicotine and tar, was varied in a systematic controlled manner. . . ." Neumann concluded that "[t]he studies show that as nicotine was lowered from optimum values, key consumer attribute ratings for satisfaction . . . were lowered significantly." Thus, in 1989, RJR continued to be focused on the necessity that its products deliver sufficient nicotine to achieve "satisfaction." 508282165-2191 at 2165 (US 51362) (O).

2553. In a November 26, 1990 document on the subject of "Project XB," one of Reynolds's projects devoted to the study of nicotine manipulation, an employee with the initials GRD identified a series of questions intended to be answered by Project XB. These questions included:

> 1. How much nicotine do we need in a 5± mg product to satisfy normal smokers?
> 2. How much free nicotine of the total do we need to get the proper organoleptic feel?
> 3. What are the limits round the amount of free nicotine before the product is either to harsh or too smooth – ±mg?
> . . .
> 6. How good do we feel that legal group will allow us to sell product we visualize – i.e., take out tar vs. add nicotine?
> 7. Should we look at using tobacco high in nicotine, remove, treat, add back?

511703121-3121 (US 51575) (O). This document demonstrates that, to the extent that Reynolds was motivated to control nicotine in order to affect taste or smoke harshness, it also controlled nicotine for the purpose of delivering the optimum amount to the smoker to achieve

"satisfaction" and keep the smoker hooked. See also 511223463-3484 (US 20840) (A).

(cc) Brown & Williamson and BATCo

2554. BATCo began research on this issue at least as early as the 1950s. 100099115-9117 (US 20112) (A). By the early 1960s, BATCo and B&W scientists were confident that they could design cigarettes to deliver optimum doses of nicotine. A September 16, 1963 letter from Robert Griffith, Director of Research and Development at B&W, to BATCo discussed "optimum levels" for nicotine and correlated the nicotine level in cigarettes with consumer acceptance. The letter recognized that the nicotine levels of B&W cigarettes were not obtained "by accident" and admitted that "we have a research program in progress to obtain . . . any level of nicotine desired." 102630333-0336 at 0334, 0335-0336 (US 23000) (O). This letter significantly predates the recommendations by public health authorities cited by Defendants for the creation of a high nicotine, low tar cigarettes.

2555. Reports, memoranda, and other documents from BATCo throughout the 1970s and 1980s confirm the company's understanding and goal to establish and deliver "the optimal levels of nicotine [in] smokers." 100051935-1948 (US 34587) (A); 660913609-3633 (US 22763) (O); 110069974-9982 at 9975 (US 20268) (A); 400993160-3215 (US 75975*) (A).

2556. At a 1984 Smoking Behavior-Marketing Conference in Montreal attended by representatives of BATCo affiliates from the U.S., the U.K., Australia and Germany, a presentation claimed that individuals who smoked required 12-14 milligrams of nicotine a day, and at least .7 milligrams of nicotine in a cigarette in order for it to provide "satisfaction." 536000308-0507 at 0334 (US 85298) (O); 682637850-7928 (US 88063) (O).

2557. On June 6-8, 1984, BATCo held a comprehensive conference on nicotine. 101234971-5018 (US 21645) (O). Topics at the conference included "Nicotine Dose

Requirements," "Nicotine Dose Estimation," and "Product modification for maximal nicotine effects." 101234971-5018 at 4974 (US 21645) (O); 512106427-6437 at 6428-9 (US 20846) (O). BATCo concluded that if nicotine delivery fell below a certain level (believed at that time to be 0.4 mg nicotine), the cigarette would fail to "satisfy" the smoker. 101234971-5018 at 4978, 4981 (US 21645) (O). BATCo also believed that it was important "to enhance our ability to maximise nicotine effects from a lower delivery base." 101234971-5018 at 4978 at 5013 (US 21645) (O). Finally, BATCo concluded the conference with sessions on product modifications that could be made to produce optimal nicotine effects. 101234971-5018 at 4974-5 (US 21645) (O). The primary objectives of these sessions were to: (a) identify the extent to which nicotine contributes to product satisfaction; (b) understand the "significance of [] different levels of nicotine interaction with the body to smoking behavior and product satisfaction"; and (c) identify a "research programme to meet the criteria for maximising nicotine effects to satisfy consumer needs from a minimum dose of nicotine." 512106427-6437 at 6435 (US 20846) (O).

2558. A document recording the "conclusions" of the conference include reference to the concepts of "satisfaction" and "impact." The conclusions included that "'satisfaction' must be related to nicotine. **Many people believe it a 'whole body response' and involves the action of nicotine in the brain**." They also stated:

> If we are to make better use in product terms of the levels of nicotine in smoke currently available – and even more so if we are forced to market cigarettes with reduced levels of nicotine – then it is important to significantly increase our understanding of impact/satisfaction.

602759-2759 (US 53297) (A) (emphasis added).

(dd) Lorillard

2559. Lorillard pursued research seeking to identify an optimal range of nicotine

delivery throughout the 1970s. As part of its Nicotine Augmentation Project, Lorillard conducted an extensive review of the literature on the "pharmacology of smoke-dose nicotine **with the goal of discovering some indications of threshold dose and optimum doses of nicotine in the average cigarette smoker.**" In a December 10, 1976 report relating to the project, H.S. Tong recommended that, in light of Lorillard's knowledge of smoker compensation,"[i]t would seem desirable to have a low tar cigarette with a nicotine content between the threshold and optimum doses level." Tong also set forth the results of Lorillard's extensive review of scientific literature on the subject of determining the optimum nicotine dose and summarized, "[n]o single parameter appears to offer a reliable handle for measuring optimum satisfaction dose of nicotine at the present time. . . . In a subjective study, test subjects reported that they found cigarettes of 0.8 mg to be acceptable." 00045061-5071 at 5061, 5063, 5068 (US 34210) (A) (emphasis added); Henningfield WD, 94:6-8, 97:6-12; Farone WD, 132:18-133:12.

2560. Like the other manufacturers, Lorillard's search for the bet way to ensure effective and adequate nicotine delivery continued through the years with subtle changes in amount and theory, but always the same goal – determine the amount of nicotine delivery necessary to sustain addiction and make cigarettes that ensure such delivery. A February 13, 1980 internal memorandum from described how Lorillard undertook an internal project to "[d]etermine the minimum level of nicotine that will allow continued smoking." Company scientists hypothesized that there was a nicotine threshold below which "smokers will quit, or return to higher T&N brands." 526321269-1270 at 1269 (US 85323) (O).

(ee) Liggett

2561. An April 30, 1985 memorandum from J.C. Turner to R.L Kersey reporting on

Liggett's various ongoing research and product development projects demonstrates that Liggett was attempting to alter the design of its products for the purpose of delivering a specified amount of nicotine to smokers. The memorandum reported that

LWDOJ9272790-1791 at 2790 (US 86947) (O)

(Confidential).

(ii) Defendants' Efforts to Deliver Optimum Levels of Nicotine Reflected Their Understanding of the Correlation Between Nicotine Delivery and Cigarette Sales

2562. At all times, Cigarette Company Defendants have been aware that a cigarette's ability to deliver adequate levels of nicotine to smokers was critical to its commercial success. See generally US FF § III.C(1), supra. Company documents establish that the Cigarette Company Defendants' intentional manipulation of nicotine reflected their commitment to ensure that smokers could obtain sufficient nicotine doses from their cigarettes in order to become and remain addicted. Through these efforts, Defendants sustained their businesses with continued sales, and more importantly, substantial profits. In addition to the documents discussed directly infra, numerous internal research documents reflecting Cigarette Company Defendants' recognition that their future commercial profits rested on their ability to deliver addictive doses of nicotine are discussed in US FF § III.C.1, supra.

2563. Company documents reveal that the Defendants' most senior executives were not only aware of this focus on nicotine in research and product development, but in fact were central decisionmakers directing, approving, and encouraging such activities.

(aa) Philip Morris

2564. A May 5, 1975 memorandum from John T. Landry, Philip Morris's Executive Vice President of Marketing, to Clifford H. Goldsmith, President, expressed that Landry was "alarm[ed]" that Marlboro's nicotine delivery had "dropped . . . sharply below that of Winston." Landry acknowledged, "**it puts us at a competitive disadvantage**," and recommended "that this problem be thoroughly explored with Manufacturing and R&D and that every attempt be made to return the nicotine delivery to more suitable levels." 1000219888-9888 (US 85409) (O) (emphasis added); see also 1000046538-6546 at 6543 (US 26074) (A).

2565. Even though Philip Morris publicly stated for decades that nicotine is in cigarettes for "taste," an internal Philip Morris document, dated March 18, 1980, more accurately states the utility of nicotine to Defendants, and to Philip Morris in particular. In that document, a memorandum from Jim Charles, Manager of Research and Development to Robert Seligman, then-Vice President of Research and Development, Charles wrote that "**[n]icotine is a powerful pharmacological agent** . . . and may be the most important component of cigarette smoke." With no mention of nicotine being important to taste, Charles argued that further research on nicotine was vital and that it would have a **"direct bearing on our market position in a 10-15 year time frame."** 1003289974-9975 (US 21553) (A) (emphasis added).

(bb) R.J. Reynolds

2566. A July 3, 1973 memorandum from Jerry R. Moore to R.A. Blevins, Jr., reported that a study conducted by Reynolds's Marketing and Development Department found a direct, significant correlation between the amount of "free nicotine" in a brand and the sales level of that brand. 501011401-1401 (US 20668) (O). Blevins summarized the results of the study and his recommendations in a July 12, 1973 memorandum to W.S. Smith, Jr. as follows: "Our analysis

suggests that pH does not correlate as closely with share performance as does free nicotine. Our emphasis should be directed toward free nicotine while pH would provide us with a measure of, or tool, to effect free nicotine." 501011403-1403 (US 20669) (A). The concept of "free nicotine" is explained fully in Section III.C(2)(c)(iv), infra; see also Farone WD, 93:22-98:21.

2567. Also in 1973, Reynolds conducted a "historical review of smoke pH data and sales trends" comparing data for its own cigarettes to that of its competitors. A May 10, 1973 report about the review, authored by John D. Woods and Gloria C. Harilee, indicated that "smoke pH data for competitive brand filter cigarettes measured since 1964 were compiled" for the purpose of attempting "to correlate these data with cigarette sales trends." Woods and Harilee found that:

> A high pH smoke is strong due to a high concentration of unbound, or free, nicotine in the smoke. . . . **Correlation of these values with sales trends were made and the results showed even stronger positive correlations than were found for smoke pH-sales trends studies.**

500606138-6153 at 6138 (US 48334) (O) (emphasis added). Similarly, Reynolds reported internally in 1982 that, shortly after Philip Morris began increasing smoke pH and free nicotine through the introduction of added ammonia in 1965, Philip Morris's sales began growing very rapidly. 500540827-0832 (US 20639) (O).

2568. Defendants contended at trial that the correlation between pH and cigarette sales did not hold up over time. However, these documents are strong evidence that, at the time Reynolds and other Defendants implemented design techniques to affect the pH of their products in the 1960s and 1970s, their intent and motivation was to produce addictive products that would increase their market share and profits, not to create potentially less hazardous cigarettes.

2569. In a February 5, 1979 handwritten memorandum written by RJR scientist C.L. Neumann, Neumann stated that RJR wished to "obtain a fundamental understanding of the role

of nicotine in smoking satisfaction" by examining "whether there is a minimum or threshold level and an optimum smoke nicotine level related to smoking satisfaction" and "the relationship of smoke pH to nicotine perception and satisfaction." Neumann recognized the significance of these issues to increasing Reynolds's sales: "If the optimum smoke nicotine and pH can be determined for each of our products, then **these products can be tailored with respect to these variables to provide maximum satisfaction and acceptance for the consumer, [h]opefully resulting in increased sales**." 504460126-0134 at 0128, 0130, 0133 (US 88065) (O) (emphasis added).

2570. Admitting that there is no "chemical compound more important to a smoker's decision to continue smoking than nicotine," Gary Burger, former RJR Vice President for R&D and, before that, Director of Toxicology, testified that from at least 1983 to 1996, Reynolds researched the threshold level of nicotine to "arrest the decline in the social acceptability of smoking." Burger PD, Arch v. American, 8/22/97, 44:15-72:7, 117:16-20; see also 519192752-2754 (US 80229) (O); 519192755-2756 (US 80230) (O); 519192757-2758 (US 80231) (O).

2571. In 1989, Reynolds examined identified "a particularly disturbing difference" between Winston and Marlboro: "smaller puffs of Marlboro delivered higher levels of nicotine into the bloodstream, and delivered them more quickly than Winston." Reynolds concluded that this difference "could be a major factor in why people stay with a brand . . . even though they don't know why." 507555896-5909 at 5898-5899 (US 20779) (O).

(cc) Brown & Williamson and BATCo

2572. A 1963 letter from B&W's R.B. Griffith, Director of Research and Development, to BATCo's Chemist, John Kirwan, discussed "the question of desirable or optimum levels for

either nicotine or sugar or a balance of the two," and how the level of nicotine and sugars might "be varied to win consumer preference for our brands." Griffith pointed out that B&W's "sales pattern [from 1960 to 1963] has been positively correlated with the nicotine level of the tobacco in our products." Griffith went on to state that "**the nicotine level of B&W cigarettes [studied] was not obtained by accident**." He closed by recognizing the marketing department's role in determining nicotine content in cigarettes, stating, "I think that we can say even now that **we can regulate, fairly precisely, the nicotine and sugar levels to almost any desired level management might require** . . . ." 102630333-0336 at 0333, 0334, 0335, 0336 (US 23000) (O) (emphasis added).

2573. A September 20, 1979 memorandum from the B&W Research Department, authored by Rufus Hugh Honeycutt comparing tar and nicotine delivery information between various commerical cigarettes noted that "[p]erhaps not coincidentally, Philip Morris and R.J. Reynolds have the highest average NTE [nicotine transfer efficiency] and the highest USA sales." 505003431-3438 at 3433 (US 85412) (O). See also 505003675-3688 (US 85413) (O); 510000667-670 (US 51496) (A); 2077864189-4190 (US 45063) (O).

2574. An internal BATCo document date stamped January 28, 1980, emphasized that it was critical to understand the factors which govern the way cigarettes are smoked "[i]f advantage is to be won by marketing low delivery cigarettes." 100431408-1414 at 1411 (US 21796) (O).

2575. On April 7, 1982, BATCo's G.O. Brooks, a research scientist, sent a letter to B&W's William L. Telling regarding a study that concluded that when a cigarette's nicotine level "is so low that the nicotine is below the threshold of pharmacological activity then it is possible that the smoking habit would be rejected by a large number of smokers." 660913609-3633 at 3620 (US 22763) (O). Considering this threshold "satisfaction" level, BATCo senior scientist

S.J. Green later warned that "we should be aware of the long-term dangers of following the crowd into ultra-low nicotine deliveries." Green explained, "Nicotine is an important aspect of 'satisfaction,' and if the nicotine delivery is reduced below a threshold 'satisfaction' level, then surely smokers will question more readily why they are indulging in an expensive habit." 110069974-9982 at 9975 (US 20268) (A); see also 400993160-3215 at 3196 (US 75975*) (A); 100051935-1948 (US 34587) (A). As Dr. Henningfield testified, Green's warning demonstrates that BATCo understood that the trend towards ultra-low nicotine deliveries could mean "that the market would extinguish because people would get to the point that smoking really would be a matter of taste and pleasure and not nicotine receptors in the brain; at that point, people would find it easier to quit." Henningfield WD, 97:21-98:3.

(dd) Lorillard

2576. A November 9, 1976 memorandum from Richard E. Smith, Vice President of Marketing and Development for Lorillard, to Fred Schultz, Vice President of Research and Development, demonstrates that Lorillard internally recommended that an industry-wide effort to offer a product with 50% less nicotine be discontinued despite "considerable consumer trial appeal" because such a cigarette "could not deliver **the smoking satisfaction to sustain consumer purchase**." 01244504-4504 (US 20042) (O) (emphasis added).

2577. In an April 29, 1976 memorandum to J.R. Ave and Alexander Spears, Richard E. Smith, Vice President of Marketing and Development for Lorillard, summarized a meeting on Lorillard's "5 Year Domestic Cigarette Marketing Plan." Smith wrote:

> [i]t was agreed that judgement and recent publicity **give an enriched nicotine product the highest priority of all new brand projects**. This project has been divided into three parts: a.) How to get the nicotine (quantities, prices, throw-away costs, etc.) b.) How to use the nicotine (on both the 5 mg and 2 mg tar products), and c.) What are the corporate implications of nicotine addition.

03364986-4988 at 4987 (US 85408) (O) (emphasis added); see also, 01254896-4898 at 4897 (US 34518) (O), 83250744-0747 at 0746 (US 55650) (O).

2578. One of Lorillard's highest priorities in the late 1970s was its nicotine enrichment program. In a February 9, 1977 memorandum from Harry Minnemeyer, Director of Research, to Fred Schultz, Vice President of Research and Development, Minnemeyer reported on the "Continuation of Nicotine Augmentation Project (CONAP)." Minnemeyer explained the objective of Lorillard's extensive study of the mechanisms by which nicotine delivery could be manipulated was a "highly important business objective." 83251036-1044 at 1037 (US 55688) (O).

2579. In a July 22, 1977 memorandum from Fred Schultz to Alexander Spears, Schultz briefly summarized the progress of Lorillard's efforts to increase the impact of "low tar" cigarettes by adding nicotine directly to reconstituted tobacco leaf and stated: "Consideration of nicotine delivery **necessary to achieve long term use and satisfaction by the consumer** dictate that we should continue to pursue the concept of nicotine enhancement." 00361822-1823 at 1823 (O) (US 20024) (emphasis added). This statement demonstrates, contrary to Lorillard's contentions at trial, that its nicotine research was conducted with the intent to assure "long term use" of its products by smokers, not to respond to public health officials' calls for reduced delivery products.

(c) Product Design: Defendants Researched, Developed and Utilized Various Designs and Methods of Nicotine Manipulation to Ensure That All Commercial Cigarettes Deliver Doses of Nicotine Adequate to Create and Sustain Addiction

2580. Cigarettes sold by Defendants facilitate addiction development and maintenance by enabling rapid and readily controlled nicotine delivery. Henningfield WD, 35:18-19. Nicotine delivery levels are not a matter of random variation; rather, cigarettes are designed to

permit nicotine delivery over a range of doses so that a smoker can obtain his or her optimal dose from virtually any cigarette on the market, regardless of its nicotine delivery as measured by FTC testing. Farone WD, 99:10-12; Henningfield WD, 36:8-16. The design parameters implemented by Cigarette Company Defendants have enabled the most heavily-marketed brands to readily deliver the 1-3 milligrams of nicotine sought by most smokers, and to deliver different amounts of nicotine to different smokers. Henningfield WD, 35:16-36:16, 41:18-42:7; 54:7-15; 66:23-67:12; NCI Monograph 13 at 30-34, DXA0310399-0650 at 0043-0047 (US 58700) (A).

2581. Cigarette Company Defendants' manipulation of nicotine has not been simply an effort to deliver as much nicotine to the smoker as possible because delivery of large amounts of nicotine can make cigarettes harsh and unpalatable. Farone WD, 85:7-16. In addition, an unsmoked cigarette already contains much more nicotine than a smoker will inhale because not all of the nicotine present in tobacco is transferred to mainstream cigarette smoke. Typically, a cigarette that delivers about 1 milligram of nicotine in smoke as measured by FTC testing has "about 14-20 milligrams of nicotine in the unsmoked rod." Farone WD, 86:10-12. Therefore, Defendants' manipulation and control of the nicotine delivery of their cigarettes does not simply refer to "spiking" cigarettes by adding extraneous nicotine. Rather, their manipulation of nicotine relates to design parameters Defendants have implemented to control the dose and form of nicotine delivered to mainstream cigarette smoke. As explained by Dr. Farone, who had extensive personal experience with Philip Morris's cigarette design efforts and objectives as Director of Applied Research from 1977 to 1984, manipulation means "[t]o do something to change the amount of nicotine that comes off a burning cigarette to make it different that what it would be if you just took tobacco, wrapped it up, put it in a rod, lit that up, and let the nicotine go where it may. . . . [N]icotine manipulation deals with making specific changes in that design to

make nicotine go where you want it to go as opposed to where it would go by itself without changing the design." Farone TT, 10/7/04, 2021:6-13.

2582. Cigarette Company Defendants have used a variety of physical and chemical design parameters in order to manipulate the nicotine delivery of their commercial products. Dr. Farone testified, for example, that while he was at Philip Morris, researchers identified fifty-seven different parameters that influence the quality and content of smoke delivery by a burning cigarette. Farone WD, 48:7-22. The physical design parameters include cigarette length, circumference, and density, the filter composition and design, and air dilution or ventilation. Chemical design parameters include the blend selection, cigarette paper composition and porosity, and the choice of additives, including additives such as ammonia and ammonia compounds to influence smoke pH. Farone WD, 85:3-6. Cigarette Company Defendants' knowledge that their products must deliver sufficient nicotine to create and sustain addiction influences their selection and combination of design parameters, and no single design parameter is responsible, on its own, for the level of nicotine delivered by a particular cigarette. Id. 48:2-6, 84:16-85:6; Henningfield WD, 49:8-53:5, 54:7-15, 55:13-56:7, 66:14-67:12.

2583. Defendants' claims that their control of nicotine in their products is strictly a quality control measure is false. See, e.g. 2023011263-1263 (US 20371) (A). Cigarette Company Defendants' manipulation of nicotine starts at the design stage and then it is maintained. As explained by Dr. Farone, Defendants' statements focus only on maintaining the already-manipulated design, but leave out the entire idea of how the level of nicotine delivery was achieved in the first place. Every cigarette on the market has been manipulated to a particular nicotine delivery, and Cigarette Company Defendants use of "quality control" and "quality assurance" simply maintains the manipulated design. Farone WD, 99:10-12.

(i) Background: Defendants Aimed to Develop Commercial Cigarettes That Could Deliver Any Dose of Nicotine Required By a Smoker Regardless of the Cigarettes' Nominal Machine-Measured Nicotine Yield

2584. Defendants began to anticipate in the 1950s and 1960s, as smoking and health was becoming a more prominent subject of public concern, that public interest in less harmful cigarette products could ultimately require reduced levels of tar and nicotine in conventional commercial cigarettes. Harris WD, 139:15-140:10 & Dem. 5. Defendants also recognized that if they addressed smokers' concerns about the health effects of smoking by reducing the levels of tar in their cigarettes, they might also affect a proportional drop in nicotine, and that a drop to nicotine delivery levels that were not sufficient to sustain smokers' addiction could devastate their industry. Defendants therefore set out to design commercial cigarettes that were capable of delivering nicotine across a range of doses that would to keep smokers addicted. Henningfield WD, 54:7-15, 55:13-56:7, 66:23-67:12; Farone WD, 72:10-13, 86:18-89:13.

2585. Defendants have known since the 1960s that because individuals smoke to obtain desired effects of nicotine, smokers of lower nicotine yield cigarettes tend to adjust their smoking behavior to titrate (i.e., control) their intake of nicotine to achieve desired levels. This behavioral adaptation is referred to as smoker "compensation." See generally US FF § III.D(3)(b). By puffing lower yield cigarettes more frequently and/or more intensively, blocking ventilation holes in the cigarette filter, and/or smoking more cigarettes, smokers are able to "compensate" for the lower nicotine deliveries of low tar and low nicotine cigarettes. Id. Defendants used this knowledge in their research of nicotine manipulation and manufacture of cigarettes. Benowitz WD, 55:17-56:2, 56:22-57:14; Burns WD, 36:3-15, 36:20-37:6, 44:4-32; NCI Monograph 13 (US 58700) (A); 1003286580-6581 (US 85415) (O); 1000405641-5689 (US 85416) (O); 002545364544 (US 21747) (O); 775036039-6067 (US 21053) (A); 83250863-0873 (US 55673)

(O). See also US FF § III.D(3)(b).

2586. The primary means by which Cigarette Company Defendants have assured that their low delivery products will sustain smoking addiction is by incorporation into their commercial products of physical design characteristics and ingredients that enable the human smoker to easily obtain his or her reinforcing level of nicotine, regardless of the cigarette's nominal machine-measured yield. Farone WD, 105:10-106:6; Henningfield WD, 66:3-13, 66:23-67:7. Indeed, the Cigarette Company Defendants' internal documents reveal that they designed their cigarettes to increase the flexibility of their tar and nicotine dosing capacity to smokers even as they reduced the tar and nicotine yields as determined by machine tests. Henningfield WD, 48:17-23; 49-8-53:5.

2587. For example, Defendants used physical design features, such as burn accelerants that burn a higher proportion of tobacco in between the puffs of the machine as compared to generally much more rapidly puffing humans, to reduce the tar and nicotine measured by the machine. The FTC test does not account for the fact that cigarettes are engineered to burn at different rates in the testing machine, in part to achieve different tar and nicotine yields on the test. Another feature is the use of ventilation holes that can be easily covered by the smoker's lips or fingers but are never covered by the machine's holders. Defendants' use of these design parameters accentuate the differences between a cigarette's machine measured nicotine yield and its nicotine yield under human smoking conditions. Henningfield WD, 57:11-20, 59:3-15, 61:1-62:6; 64:8-18; see also US FF § III.D(4).

2588. Contrary to their multiple public denials of nicotine manipulation set forth in Section III.C(2)(a), supra, Defendants have spent decades manipulating nicotine in cigarettes through ingredients and design features in order to control the amount and form of nicotine

delivered to the smoker. They have done so for the purpose of creating and sustaining addiction in cigarette smokers. Farone WD, 2:20-3:7, 3:12-22, 59:2-14, 84:16-85:16; Henningfield WD, 49:8-68:4.

(ii) Leaf Blend and Filler: Cigarette Company Defendants Manipulated the Amount and Form of Nicotine Delivery in Their Commercial Products by Controlling the Physical and Chemical Make-Up of the Tobacco Filler

2589. Nicotine delivery can be controlled through variation of the amount and type of tobacco used to manufacture commercial cigarettes, and through adding or taking away particular substances from a tobacco blend before it is used as a filler. Farone WD, 37:8-21; 39:11-16; 89:1-23. The tobacco blend is the main component of a cigarette that contributes to nicotine delivery because the blend determines how much nicotine will be in the unsmoked rod. Farone WD, 86:1-7. Cigarette Company Defendants have used various techniques for adjusting the nicotine content and the chemistry of their filler materials to assure that an amount of nicotine sufficient to create and sustain addiction is released from the blend during smoking. 107472304-2464 (US 20254) (O); Henningfield WD, 65:22-66:8; Farone WD, 49:6-13; 52:15-23.

2590. There are three main varieties of tobacco that have been used in the production of commercial cigarettes in the United States – Bright tobacco, Burley tobacco and Oriental tobacco. Each of these types of tobacco has a different chemical composition and different nicotine concentration that occurs naturally. Farone WD, 42:15-22; NCI Monograph 13, Ch. 5 (US 58700) (A). Because of these variations, Cigarette Company Defendants blend across types of tobacco and also across crop years to compensate for the year-to-year variations in the tobacco crop. Farone WD, 43:9-14.

2591. Bright tobacco is a type of tobacco generally grown in Southern Virginia and across the Southeastern United States. It is also referred to as flue-cured tobacco, which refers to

the process by which the tobacco leaves are dried prior to being used in the cigarette manufacturing process. Flue-cured tobacco is tobacco that is cured by being stored in a hothouse where either hot gases or heat is applied in some manner to the tobacco. Flue-curing has been one of the main methods used to cure tobacco in American-style commercial cigarettes over the years. Farone WD, 44:2-13. Burley is a strain of tobacco that naturally has a higher alkaloid content than Bright tobacco, which means that it naturally has more nicotine than Bright tobacco. Burley tobacco is air-cured, which means that it is hung inside a shed to dry where no sunlight will hit it. Farone WD, 44:14-20, 46:16-20. Oriental tobacco, also referred to as Turkish, is imported is cured through a process called fermentation, meaning that the leaves are packed into moist stacks and fermented. Farone WD, 44:19-20, 47:8-17.

2592. Each of these types of curing – flue curing, air curing, and fermentation – causes different chemical reactions to take place within the tobacco and therefore results in a smoke that has different chemical properties, including different nicotine levels. Farone WD, 47:18-21.

2593. In addition to naturally occurring variations across different strains of tobacco, the nicotine content of tobacco leaves in a single plant can also vary based on the age of the plant and the stalk position of the leaves. Nicotine is synthesized in the root of the plant, and leaves at the bottom of the plant generally are dried out and have lost most of their nicotine to air. As you go up the stalk, the nicotine content of the leaves increases until you reach the top where leaves are still growing and have not yet reached maximum nicotine or alkaloid content. Cigarette Company Defendants are aware of these variations and keep track of tobacco they purchase by its stalk position in the plant. Farone WD, 37:11-18, 43:15-44:1.

2594. Cigarette Company Defendants' commercial cigarettes contain a variety of materials in addition to cut tobacco leaves, including parts of the tobacco plant that have been

altered from their natural state. One such material is reconstituted tobacco, also referred to as blended leaf or reconstituted leaf, which is manufactured by Cigarette Company Defendants out of stems and other small pieces of tobacco that have been removed from the tobacco leaves. These pieces are mixed with binding agents and other chemicals to form a large sheet of tobacco which is then chopped into small pieces and put in cigarette filler. Farone WD, 38:18-39:6. In the process of making reconstituted tobacco, water is applied to the stem material so that water-soluble materials, including nicotine, can be removed from the stem so that it will form a sheet. The nicotine and other water soluble materials are treated with various chemicals and additives and added back to the stem material after it has formed a sheet. Schindler WD, 58:12-59:4.

2595. Another way Cigarette Company Defendants alter the natural state of tobacco is through the use of expanded tobacco. Expanded tobacco is tobacco that has been impregnated with liquid that is eventually evaporated from the tobacco. Farone WD, 39:7-10. This impregnation and evaporation process causes tobacco leaves to shrink when they are dried or cured, after which a chemical such as carbon dioxide or freon is added and causes the tobacco pieces to expand. When this material is heated and expanded, it puffs back up to about the size of that chunk of tobacco as it was originally on the plant. Farone WD, 39:11-16.

2596. Cigarette Company Defendants are aware that the cut width of the filler material can also affect nicotine delivery. As a matter of aerosol chemistry, burning materials that are finer cut creates an aerosol with smaller particle size than materials that are larger. Farone WD, 50:20-51:5. As set forth in Section III.C(2)(c)(iii) infra, particle size affects the rate and location of nicotine absorption. The cut width of the filler also influences how much nicotine from the filter will be delivered to mainstream smoke, thereby affecting the tar to nicotine ratio of the smoke. Farone WD, 91:12-92:1.

2597. Reconstituted tobacco and expanded tobacco and other blend design parameters are selected by Cigarette Company Defendants for use in commercial cigarette products based on the Company's formula for a particular brand. With their knowledge of the stalk position of specific tobacco leaves and of a particular tobacco crop, Cigarette Company Defendants determine what quantities of cut leaf, reconstituted tobacco, and expanded tobacco will, in combination with other physical design features, yield a particular brand's target nicotine delivery. Farone WD, 39:17-40:13.

2598. There is a close relationship between Cigarette Company Defendants' nicotine manipulation through blending and their manipulation through alteration of smoke pH because one manner in which smoke pH can be altered is through increasing the amount of basic material in the tobacco blend or filler. Therefore, many of Cigarette Company Defendants' documents that discuss manipulating the blend and filler also discuss concepts related to pH and free nicotine. Therefore, in order for the evidence of Cigarette Company Defendants' manipulation of leaf blend and filler to be fully understood, it must be considered in conjunction with the evidence set forth in Section III.C(2)(c)(iv) infra regarding smoke pH and free nicotine.

2599. Defendants' public statements that they do not track nicotine during the manufacturing process are misleading. Because they are aware of and keep track of the alkaloid content of the tobacco they purchase, Cigarette Company Defendants are keenly aware of how the combination of different blend components will affect the nicotine delivery of their final products. See Farone WD, 89:16-23; Farone TT, 10/6/04, 1596:16-1597:6. Indeed, some Cigarette Company Defendants – including Philip Morris and BATCo, developed and used sophisticated computer modeling systems to determine exactly what effect each component of the blend would have on nicotine delivery and used those computer modeling systems to design

their blends. Farone WD, 48:7-18, 53:4-9; 105425765-5818 (US 85493) (O).

(aa) Philip Morris

2600. Philip Morris has been manipulating the blend of its tobacco filler to obtain desired levels of nicotine since at least 1954. In a document entitled "An Outline of Current and Proposed Quality Control, Development and Research for Benson and Hedges," circulated in 1954, Philip Morris explained that comparisons of "analytical data for the blend with estimates of nicotine, tar and pH of the smoke should enable us to set up certain limits or norms within which the chemical composition of the blend must be controlled in order to achieve desired smoking quality." The document recommended:

> enlarg[ing] the scope of our present analytical program to secure estimates of nicotine, nornicotine, total volatile bases, ether solubles and ash, not only for the blend but also for all the grades and types of tobaccos which go into the blend. There is no reason why such data cannot be used as a guide to purchasing. Once norms can be established for the composition of grades and types, samples falling outside the range of desirability can automatically be rejected by the buyers. In this way, the adverse effects of fluctuations in the blend originating in wide differences in leaf composition due to cultural and climatic conditions and crop year can be minimized.

1001761472-1484, 1474 (US 35556) (A).

2601. In an outline of a presentation to the Philip Morris Products Committee, dated February 27, 1961, Helmut Wakeham, Philip Morris's Vice President and Director of Research and Development, described under the heading "Data on Experimental Defensive Cigarettes" a "low nicotine" and a "high nicotine" cigarette, with the only difference between the two being the blend of the cigarette. This difference in blends resulted in a .9 mg difference in the amount of nicotine per cigarette. 1000277448-467 at 7458 (US 85479) (O). This document demonstrates that Philip Morris was attempting to develop a high nicotine cigarette well in advance of the

recommendations by public health authorities cited by Defendants as the basis for nicotine research.

2602. By 1960, Philip Morris was studying the effects of adding nicotine maleate to blended leaf tobacco to determine if the nicotine content of cigarettes could be increased. 1001919941-9941 (US 21753) (A).

2603. In an internal research document dated November 18, 1963, and presented to Hugh Cullman, Vice President and Assistant Chief of Operations for Philip Morris USA, Robert Seligman, Manager of Philip Morris's Development Division, described Philip Morris's capabilities of constructing a plant to produce "all tobacco formulated product (TFP)" to replace blended leaf tobacco product. Seligman pointed out that a TFP product would enable " [m]aterials [to] be added to or removed from the formulated product so that predetermined chemical specifications can be met . . . as dictated by the requirements of the marketplace." The research department recommended that Philip Morris "consider this TFP plant as a vital addition to our defensive and offensive armament in the tobacco and health situation which we believe will remain turbulent for many years." Seligman warned, "Our chief competitors either already have the potential to make a tobacco formulated product by a similar process or are building it." 0000334739-4762 at 4742, 4751, 4755, 4759, 4761 (US 85480) (O).

2604. A 1976 Philip Morris Special Report entitled, "Manipulating Smoke Impact in Very Low (Less than 8 mg Tar) Delivery Cigarettes," discussed the company's efforts to develop a new product with low tar and enough nicotine to equal Marlboro in consumers's preference for "strength" and "acceptability." The report detailed Philip Morris's study of relative influences of blend, burley spray, and filter systems to produce "acceptable" impact, finding that a "50% burley blend with a CA [cellulose acetate] filter would be the model of choice." 1000360937-0955 at

0939, 0947 (US 35250) (A); Henningfield WD, 67:13-23.

2605. Altering the composition of the leaf blend was the subject of ongoing study at Philip Morris in 1982. The Biochemical Research Division undertook studies of bright and burley cigarettes with "varying levels of added nicotine to determine the relationship, if any, between nicotine, nicotine pyrolysis products and *in vitro* biological activity." 1002978092-8098 at 8095 (US 85481) (O).

2606. In 1991, Philip Morris studied the differences between Bright tobacco and Burley tobacco, which has a higher alkaloid content and therefore a higher pH level. Researchers specifically raised the question "Can pH affect the chemical nature (gas versus particulate phase form) of nicotine in cigarette smoke?" An October 30, 1991 memorandum by D.C. Watson on the subject "Gas Phase Nicotine" concluded that "[r]elatively large proportions of vapor phase nicotine can, in fact, be swept from Burley using only warm air while Bright tobacco releases very little nicotine but measurable amounts of acetic acid under the same conditions." 2047348210-8218 (US 38596) (A) (emphasis in original). This document is consistent with Dr. Farone's testimony that, as pH rises, a greater proportion of the nicotine is delivered in the vapor phase of the smoke. Farone WD, 94:1-95:3.

2607. Former Philip Morris scientist Ian Uydess stated in a February 29, 1996 declaration that Philip Morris "routinely targeted and adjusted" nicotine levels in its cigarettes, through blend changes and blend design. Udyess stated that this was true of the overall nicotine found in the blends, as well as the "deliverable" nicotine found in the smoke. "Both of these sources . . . were[] considered by Philip Morris' development scientists when formulating a new or modified product." Udyess also explained that "Philip Morris routinely applied this knowledge of selective tobacco blending to achieve desired nicotine . . . levels in the products

that it designed and marketed." 521102262-2286 at 2269, 2271 (US 30497) (O).

2608. On April 14, 1994, William I. Campbell, as CEO of Philip Morris, testified under oath before Congress regarding the tobacco blend used in the production of its Merit Ultima cigarette, which was the lowest tar cigarette in Philip Morris's Merit brand family. Campbell admitted that Philip Morris used a tobacco blend in the production of Ultima that had a higher concentration of nicotine than it used in producing Merit cigarettes. Campbell claimed that the use of a blend with a higher concentration of nicotine was "for taste and flavor" and that its use was "irrelevant in terms of what the smoker gets." TLT0730001-0850 at 0766, 0767, 0768 (US 77011) (O). However, Dr. Farone testified that Cigarette Company Defendants used extra burley in blends for their low FTC-yield products in order to "maintain those cigarettes' ability to provide the 'impact' — nicotine effects – for addicted smokers. Philip Morris did this with its Merit brand." Farone WD, 86:16-19.

(bb) R.J. Reynolds

2609. RJR experimented with adding nicotine to tobacco stem as early as 1956. 501052852-2856 (US 20671) (O).

2610. Reynolds used leaf blending as a method for controlling the nicotine content of its cigarettes prior to the time that consumers began demanding cigarettes that allegedly delivered less tar. Like the other Cigarette Company Defendants, Reynolds was aware that cigarettes with high levels of nicotine were harsh and unpalatable, so it used leaf blending, among other means, to control the amount of nicotine in its products. Dr. Murray Senkus authored Divisional Monthly Research Reports in 1964 and 1965, which discussed the blend changes tested by the company in response to the significant increases in the nicotine contents of burley and flue-cured tobacco crops. "[T]o avoid significant increases in the nicotine content of tobacco and smoke,"

the company tested various blend changes, filter changes, paper changes, denicotinization of additional quantities of burley strips, and a combination of these factors. 502805188-5195 at 5193 (US 50114) (A); 502805205-5212 at 5210 (US 50116) (A).

2611. In 1977, RJR embarked on a search for "new means for control of nicotine, tar to nicotine ratio and satisfaction." 502740087-0087 (US 86978) (A). Reynolds studied the nicotine delivery of individual blend components and the transfer of nicotine from individual blend components. 504423322-3327 at 3323 (US 50614) (O).

2612. As part of its effort to learn how to control the nicotine content of tobacco independently of other components, Reynolds studied agricultural variables that might influence nicotine content in flue-cured and burley tobaccos. Researchers examined: (1) how variables such as climate, fertilizer, and the height of the tobacco plant affect the amount of nicotine in smoke, and (2) efforts directed at developing flue-cured and burley tobacco with higher nicotine content. 508799518-9519 (US 85494) (O).

2613. A September 8, 1980 internal memorandum by scientist Alan Rodgman, reveals that Reynolds was using its knowledge gained from nicotine research in the development of commercial products. The memorandum briefly outlined the types of nicotine technology Reynolds had studied and also compared, over a decade, nicotine levels in Reynolds's Winston cigarettes and Philip Morris's Marlboro cigarettes. Rodgman's analysis of this comparison was that, as a result of Reynolds's research efforts "since mid-1977, we have ‘caught up' to PM insofar as its current use in the Marlboro of nicotine technology is concerned; **our approach has been primarily one of controlling the smoke parameters noted above by blend formulation and denicotinization rather than by addition or transposition of nicotine**." 501522719-2726 at 2720 (US 48913) (O) (emphasis added).

2614. RJR also tracked the year-to-year variations in the nicotine content of various flue-cured and burley tobacco crops in order to "provide background information for nicotine control and grade substitution projects." An October 19, 1982 memorandum authored by E.H. Villegas summarized and analyzed the nicotine content of various crops of tobacco from 1977 to 1981 and concluded: "These graphs and tables provide an easy guide to grade, crop and belt comparison and may provide a new perspective on grade substitution. . . . From a nicotine control point of view, substituting adjacent grades with a given crop year is more logical than substituting a different crop year of the same grade/belt." 510723285-3286 at 3286 (US 88090) (O). This underscores Dr. Farone's testimony that Defendants measure and track nicotine (or "alkaloid") content at the tobacco-buying stage. Farone TT, 10/6/04, 1596:2-1597:12.

2615. In an August 18, 1983 memorandum from G.M. Stewart to J.D. Frederickson, Stewart reported the results of Reynolds's research concerning the modification of tobacco blends, stating: "[T]obaccos with varied levels of ammoniation products, nicotine and expansion can be produced in pilot plant quantities for evaluation as components of new and existing blends. **Such modified tobaccos may provide new ways to control nicotine delivery and modify smoking characteristics**." 504140118-0127 at 0118 (US 85495) (O) (emphasis added).

2616. In 1985, RJR planned to develop "NOW-type cigarettes with increased nicotine." An October 9, 1985 internal memorandum outlined two approaches to the development of such cigarettes, including increasing the nicotine content of a low tar cigarette through blend modifications, i.e., the use of high nicotine tobaccos, and through addition of a "nicotine salt complex . . . to increase the nicotine delivery." 509108038-8040 at 8039, 8040 (US 85496) (O).

2617. An October 17, 1985 internal invention disclosure prepared by Dwo Lynm and Carl Morrison and addressed to Grover Myers of RJR's Legal Department, described a new

proposed method for developing a cigarette that "will meet most of the consumers' needs" by delivering a "high impact of nicotine with low tar delivery." Lynm and Morrison wrote that "the amount of nicotine required for smokers to get an appropriate 'kick' has been calculated to be 10 mg per cigarette in addition to the endogenous nicotine content." Lynm and Morrison proposed adding carbonized flue-cured [CFC] tobacco impregnated with 10 milligrams of nicotine to "the end or in the middle of the hollow tobacco rod in order to deliver more nicotine . . . **This additional nicotine would lower the T/N ratio drastically**." 505624894-4898 at 4894, 4895 (US 85497) (O) (emphasis added).

(cc) Brown & Williamson and BATCo

2618. B&W's most senior executives took a great interest in the company's nicotine manipulation research. This is demonstrated in documents such as a June 5, 1974 memorandum from R.M. Irby, Jr., Manager of New Products Division, Research and Development, to J.B. McCarthy, Executive Vice President, and copied to J.H. Hager, Executive Vice President. The memorandum, written at McCarthy's request, outlined B&W's research and knowledge on "increasing the nicotine content of reconstituted tobacco." The methods for accomplishing this included: adding nicotine to reconstituted tobacco base sheets, replacing current leaf blends with higher nicotine tobacco, cast sheeting tobacco "dust" that is high in nicotine content, manipulating filters, and changing smoke content. Irby discussed studies done to raise the nicotine delivery of Pall Mall and Lucky Strike cigarettes and to raise nicotine delivery in low tar cigarettes. MNAT00533225-3228 (US 85492) (A).

2619. It was known within BATCo that blended cigarettes, which included higher nicotine Burley tobacco in the cigarette, were less acidic and had a "greater proportion of free nicotine present in the smoke . . . which explains why these types of cigarettes tend to have

higher impact than a flue-cured cigarette with the same nicotine delivery." 400132742-2776 at 2769 (US 88084) (O). Dr. Jeffrey Wigand testified that B&W predominantly manipulated the nicotine level in its cigarettes by blending the higher nicotine burley tobacco with the lower nicotine flue-cured tobacco "to ensure a consistent and necessary nicotine level." Wigand WD, 100:22-101:8.

2620. The tobacco companies also spent substantial resources researching the nicotine manipulation strategies of their competitors in order to perfect their own methodologies. For example, in a January 22, 1974 report entitled, "A Chemical Examination of B&W and Competitive Reconstituted Tobacco," B&W researcher R.R. Johnson found that reconstituted tobaccos were in use by B&W, Philip Morris, RJR, American, Lorillard, and Liggett. The report acknowledged, "Most reconstituted tobaccos **gain significantly in nicotine content during cigarette manufacture**," and pointed out that the nicotine transfer for Philip Morris cigarette products was "massive." 650106026-6042 at 6028 (US 86979) (O) (emphasis added).

2621. In 1976, BATCo developed a "Total Product Design" to allow its product designers to use a computer program to create trial product specifications to meet design criteria and minimize cost. The product designer was instructed to input into the program target values for tar and nicotine delivery, along with other specifications, and the program would "calculate the required blend nicotine." This information would then be calculated with further specifications to determine other materials required to produce a cigarette providing the desired nicotine delivery. 105425765-5818 (US 85493) (O).

2622. A 1980 B&W document demonstrates the industry's general knowledge of nicotine levels in different types of tobacco after decades of studying and manipulating nicotine through leaf blending. The document confirms that the greater impact and smoker reaction

occurring with cigarettes made of Burley tobacco, versus tobacco made of flue-cured tobacco, was "as would be expected." 510000667-0670 at 0669 (US 51496) (A).

2623. At the time that Tommy Sandefur was Chairman and CEO of B&W, he testified before the Waxman Subcommittee hearing that in 1984 or 1985, when he "became responsible for [B&W's] domestic business," he directed the Research and Development Department to reverse engineer the Marlboro product. He said that "I wanted to find out how they were doing that because it was important if I was going to compete to improve the quality of my products." He stated that the B&W scientists reported to him that Philip Morris had used ammonia in the reconstituted sheet. Based upon this finding, Sandefur further admitted that B&W incorporated the same technology and applied the same technique of adding ammonia to the reconstituted tobacco in its commercial cigarettes at the time of the hearing. TLT0730851-1975 at 1620 (US 77012) (O).

2624. At an experimental farm in North Carolina during the 1980s, BATCo and B&W developed a tobacco that the companies referred to as "Y-1." The tobacco was genetically engineered to have a nicotine content approximately twice the nicotine content of conventional tobacco. Seeds from the genetically-engineered strain were used to grow artificially high nicotine tobacco in Brazil. This nicotine-enhanced tobacco was blended with other tobaccos in order to alter tar to nicotine ratios in commercial cigarettes sold in the United States. 510003880-3882 (US 20831) (A); Wigand WD, 101:10-102:14.

2625. B&W oversaw the filing of two patents regarding the Y-1 tobacco, patent application #761,312, filed on September 17, 1991, and Brazilian Patent P1 9203690A, filed on September 16, 1992. 682515783-5803 (US 88089) (A); 2072566619-6619 (US 88087) (A).

2626. B&W's U.S. patent application claimed that Y-1 was "a new and genetically stable

variety of tobacco plant" engineered to have a nicotine content "which is significantly higher than any standard commercially grown tobacco variety." 682515783-5803 at 5786 (US 88089) (A).

2627. B&W continued to use Y-1 tobacco products in various B&W cigarettes until as late as January 1994. 682637648-7650 (US 21027) (A); 500004560-4580 (US 20607) (O).

2628. Tommy Sandefur, Chairman and CEO of B&W, admitted before Congress on June 23, 1994, that B&W incorporated the Y-1 leaf into its Viceroy and Richland style cigarettes, using Y-1 "as a blending tool." Sandefur also admitted that the company attempted to use as much as 30% Y-1 in a blend, but that it ultimately reduced this percentage to 10% because consumers rejected that large amount of nicotine in the cigarettes. TLT0730851-1975 at 1619 (US 77012) (O).

2629. Although B&W attempted to downplay the significance of its use of Y-1, see Defs.' Closing Stmt., 6/8/05, 23142:5-8, its use a blending agent is significant. The blend it the most significant contributor of nicotine to an unsmoked cigarette and an important determinant of how much nicotine can be transferred to mainstream cigarette smoke. Farone WD, 86:1-7.

(dd) American

2630. American actively studied blending as a method of increasing the nicotine yield in its low tar cigarettes. Company researchers investigated the effect of increasing the burley tobacco in its Lucky Strike tobacco blend in 1963 as part of its low tar cigarette studies. The objective of the research "was to determine the effect of increasing the Burley Tobacco in a blend on the yield of nicotine." MNAT00316738-6748 at 6738 (US 21226) (A).

2631. American experimented with adding commercial nicotine to its reconstituted tobacco in 1963. In an October 8, 1963 document entitled, "The Effect of the Addition of 1% Nicotine on the Quality of RC Tobacco," American revealed that it bought commercial nicotine

in the form of nicotine citrate, to increase the nicotine content of its reconstituted tobacco. X003371-3376 (US 85482) (O); MNAT00316688-6693 (US 21219) (O); see also MNAT00316683-6684 (US 21670) (O).

2632. According to a June 21, 1963 memorandum concerning tobacco blends for filter cigarettes, American researchers increased the amount of Burley tobacco in a blend to determine the effect the addition of the Burley tobacco had on the "nicotine yield." One of the research findings was that the addition of Burley tobacco "increased the volatile bases, including nicotine, in the smoke. . . ." X003421-3431 at 3421, 3424 (US 34158) (A). In other words, American found that including more Burley in the blend increases the amount of free nicotine in cigarette smoke. See US FF § III.C(2)(c)(iv) infra.

2633. Later, in 1967, American investigated the production of nicotine from tobacco plants (N rustica) with almost double the concentration of nicotine. MNAT00881318-1323 (US 21221) (O); see also, MNAT00316688-6693 (US 21219) (O).

2634. In 1968, American's researchers prepared four lots of Lucky Strike tobacco blend, and directed that twenty-five cartons of cigarettes be made from each lot. All four lots were "made up with a leaf blend to increase the nicotine level of this cigarette." MNAT00316699-6700 at 6699 (US 21616) (O); X003382-3383 (US 34156) (A). The company increased the nicotine content of Lucky Strike Menthol Leaf Blend by .2% and tested the product with smoke panels. X003388-3388 (US 34157) (A). Also in 1968, American studied adding nicotine maleate in the finishing flavor of Pall Mall cigarettes and successfully increased nicotine by .5%. X003365-3366 (US 34155) (A). Another American research memorandum from 1968 reported on the effects of adding reconstituted tobacco to leaf blends containing varying levels of nicotine. At all levels of reconstituted tobacco, a panel of 40 individuals preferred those cigarettes with the

highest nicotine levels, around 2.5% nicotine. X003363-X003364 (US 34154) (A). In early 1969, the company reported the anticipated costs of large scale orders to increase the nicotine content of reconstituted tobacco. MNAT00367431-7431 (US 85483) (O); MNAT00367429-7430 (US 85484) (O). Studies of Pall Mall cigarettes with increased nicotine in the reconstituted tobacco continued throughout 1969. MNAT00367486-7486 (US 85489) (O); MNAT00367423-7424 (US 85486) (O); MNAT00367422-7422 (US 59799) (A); MNAT00367420-7420 (US 85485) (O); MNAT00367418-7418 (US 85487) (O); MNAT00367417-7417 (US 85488) (O).

2635. In 1969, American test-marketed Lucky Strike cigarettes in which nicotine maleate was added to increase nicotine levels. MNAT0533253-3253 (US 21673) (O); MNAT00740105-0105 (US 21674) (O); ATX140008085-8087 (US 21676) (O).

2636. In a May 7, 1969 American memorandum from Timothy Mann to Preston Leake, scientist and eventual Director of Research and Development, regarding the panel studies already completed on the reconstituted tobacco with higher amounts of nicotine, Mann stated, "Taking the proposition of higher nicotine cigarettes in general, I think that this is an area we are going to be most interested in. Because of that, I would recommend to you that we consider testing additional ways of adding nicotine to cigarettes such as, as you suggested, in the form of a salt during the overshot process." MNAT00367425-7425 (US 85490) (O).

2637. The studies of adding nicotine to cigarettes were of great interest to executives at American; however, the company was cautious about openly discussing and reporting the "nicotine" work. On May 14, 1969, John T. Ashworth distributed a memorandum to other researchers, including Leake (eventual Director of R&D at American), that stated, "[i]n the future, our use of nicotine should be referred to as ‘Compound W,' in our experimental work, reports, and memorandums, either for distribution within the Department of for outside

distribution. In the event the nicotine is used in the form of a salt, such as nicotine dimalate, it should be referred to as ‘Compound WM,' if used as citrate salt, refer to it as ‘Compound WS,' etc." MNAT00533224-3224 (US 21220) (O); see also Henningfield WD, 93:9-94:5.

2638. American's extensive study of design techniques that would result in development of a high nicotine cigarette predated the recommendations by public health authorities that Cigarette Company Defendants contended at trial were the reason they such research.

2639. Many top-level executives met with and requested information from the company's scientists on the topic of nicotine research. MNAT00117626-7627 (US 59786) (O). In 1974, American Executive Vice President J.B. McCarthy requested that the R&D department outline the company's "current knowledge regarding increasing the nicotine content of reconstituted tobacco." In a four-page memorandum to McCarthy, dated June 5, 1974, researchers discussed: (1) adding nicotine to reconstituted tobacco; (2) replacing "the lower nicotine-containing leaf components such as Turkish . . . with high nicotine tobacco such as Malawi sun-cured scrap (5% nicotine)"; (3) keeping tobacco stem from being put into reconstituted tobacco "so that the reduction of the nicotine content of the ingoing components is decreased"; and (4) "increasing nicotine transfer to the smoke [by] dilution and/or additives to the filter." MNAT00316695-6698 at 6695, 6696, 6697 (US 21509) (O). McCarthy responded the very next day, endorsing raising nicotine levels as "very beneficial," and directing the researchers to continue their studies, even though some of the studies would be "slow and costly." McCarthy stated that this was "an important project," and encouraged the scientists to call on him directly if need be. MNAT00367409-7409 (US 85491) (O).

2640. Robert Sprinkle, an American scientist who worked extensively on product development and eventually became American's Executive Vice President of Research and

Quality Assurance, testified that American had target nicotine delivery levels for its products and designed its products to achieve those targets. Specifically, Sprinkle testified that American achieved the desired target amount of nicotine by knowing "what the nicotine content of each of the tobacco components is that makes up the cigarette. . . . We keep an inventory of tobacco, 24 months on average, and we know what the nicotine content of each type of tobacco we use by the stalk position by the crop year" and blended to achieve the desired level. Sprinkle PD, Carter v. American (*sub. nom.* Brown & Williamson), 1/19/96, 94:22-96:19, 99:1-15; see also, Sprinkle PD, Small v. Lorillard Tobacco Co., Inc., 10/16/97, 29:13-30:23, 71:11-14. Sprinkle also testified that American measured the nicotine content in tobacco after it was purchased, during the manufacturing process, and in the finished cigarette, and that if the measurement revealed that nicotine content was too low, American would "bury [its] mistakes," i.e., it would "throw it away and start again with a new blend." Sprinkle PD, Small, 10/16/97, 33:8-34:23.

(ee) Lorillard

2641. Lorillard knew in 1971 that the industry's top sellers at the time shared two common traits: high nicotine content and a high nicotine-to-tar ratio. With this knowledge, Lorillard blended different tobaccos in an effort to generate a high nicotine-to-tar ratio blend. By 1973, the company's one-, three-, and five-year research plans included research to modify tobacco in order to control the delivery of nicotine. 00776195-6201 (US 34293) (A); 526321304-1310 (US 85414) (O); Farone WD, 86:20-87:12; Spears PD, Minnesota v. Philip Morris, 9/23/97, 98:5-100:7.

2642. A July 22, 1976 memorandum from J.P. Morgan to H.J. Minnemeyer demonstrates that Lorillard added nicotine to several samples of the blend it used to produce Kent Gold Light cigarettes and periodically monitored the nicotine content of the blend in order

to determine the "shelf life of added nicotine on the Kent Gold Light blend." The memorandum also indicates that Lorillard periodically measured the pH of the samples with added nicotine. 83250849-0851 at 0850 (US 55671) (O).

2643. A November 22, 1976 memorandum from M.S. Ireland to H.J. Minnemeyer reported: "Since the initiation of the nicotine addition project was begun a number of samples have been made which have added impact but with reduced tar levels. . . . Experiments have indicated that free nicotine can be added at almost any place in the manufacturing process, or in the RL [reconstituted leaf] with no appreciable loss and that said nicotine will be delivered into the smoke in the same manner as naturally occurring nicotine. The addition of free nicotine has a direct effect on the pH of the leaf and the smoke." 94937063-7065 at 7063 (US 56780) (O).

2644. In an April 13, 1977 Lorillard memorandum, Minnemeyer reported to Alexander Spears on several approaches to the development of "low tar, enriched nicotine products" and concluded, among other things, that "nicotine can be added to the RL [reconstituted leaf] slurry to give predictable levels of nicotine in the final product. . . . The addition of nicotine to the RL slurry appears to overcome many of the problems associated with earlier work involving the spray application of nicotine solutions." 00044787-4799 at 4787, 4789 (US 34196) (O).

2645. In an April 12, 1977 report investigating the "Enrichment of Reconstituted Leaf Nicotine by Direct Addition of Nicotine Alkaloid to the RL Slurry," Lorillard researchers concluded the "[n]icotine content of the final product can easily be controlled by the addition of predetermined amounts of nicotine alkaloid." 00398474-8484 at 8474 (US 20025) (A), Farone WD, 96:7-19; see also 81090368-0380 (US 85457) (A); 83251170-1192 (US 55726) (O).

2646. On June 30, 1977, R.S. Marmor reported on Lorillard's "Danville Flavor Enriched RL Experiment of May 17, 1977 and Subsequent Research." In this project, Lorillard studied the

potential for using waste from tobacco processing that was high in nicotine, referred to as "black water," as an additive to reconstituted tobacco to increase nicotine delivery. 00118797-8807 (US 34268) (O).

2647. On April 14, 1994, Alexander Spears, then Vice Chairman and Chief Operating Officer of Lorillard, confirmed in testimony before Congress that cigarette makers could adjust the level of nicotine in their products by blending different types of tobacco to create a blend with a higher nicotine concentration. TLT0730001-0850 at 0722 (US 77011) (O).

(ff) Liggett

2648. Liggett's manipulation of nicotine through leaf blending and other manipulations of tobacco filler continues today. Timothy Jackson, Chief Operating Officer of Vector Tobacco, a Liggett Group Inc. subsidiary, wrote in an August 27, 2001 e-mail,

VDOJ25348-5248 (US 64735) (O) (Confidential).

2649.

Jackson PD, Philip Morris, 3/21/03, 54:9-54:13, 57:11-57:15 (Confidential).

2650. Jackson testified

Id., 95:3-98:3, 100:16-100:21 (Confidential).

(iii) Tar to Nicotine Ratio: Defendants Have Used Physical and Chemical Design Parameters to Modify the Tar to Nicotine Ratio of Their Products to Ensure Adequate Nicotine Delivery in All Cigarettes, Including Cigarettes Marketed as "Light," "Ultra Light," and "Low Tar"

2651. As the cigarette market increasingly shifted to products marketed as "low tar/low nicotine" cigarettes, Defendants undertook extensive efforts to manipulate the ratio of nicotine to tar in cigarettes in order to deliver more nicotine than might naturally be delivered by cigarettes with less tar. Their intent was to identify means to prevent nicotine delivery from dropping proportionately with tar in low delivery products. While Defendants' research and nicotine manipulation was used in the many "light," "ultra light," "mild," and "low tar" products brought to market since the 1960s and 1970s, Defendants directed their efforts to all types of cigarettes, including "regular" and "full flavor" brands.

2652. Cigarette Company Defendants sought to appear responsive to public health concerns regarding tar and nicotine without abandoning their fundamental need to provide sufficient nicotine delivery to smokers. Thus, despite claiming publicly that "nicotine follows tar," i.e., that the amount of nicotine delivered by a cigarette follows the amount of tar in a fixed ratio – the companies conducted years of research to develop methods of changing the ratio of tar to nicotine in tobacco smoke. Defendants implemented such methods to provide addiction creating and sustaining amounts of nicotine, while ostensibly lowering levels of "tar" and nicotine. Henningfield WD, 35:16-36:16, 74:9-16.

2653. The tar to nicotine ratio is a numerical expression of the proportion of tar and nicotine in cigarette smoke calculated by dividing the milligrams of measured tar by the milligrams of measured nicotine. When there is a decrease in the amount of tar delivered by a cigarette, the tar to nicotine ratio will stay roughly the same if there is a proportional decrease in

the amount of nicotine delivered. If a decrease in tar delivery is not accompanied by a proportional decrease in nicotine, the tar to nicotine ratio will be lower. Thus, Cigarette Company Defendants' documents that refer to dropping or lowering the tar to nicotine ratio are actually referring to **increasing** the amount of nicotine relative to tar in cigarette smoke. This can be illustrated by a simple mathematical comparison of two cigarettes with equal nicotine deliveries, one of which delivers 16 milligrams of tar and the other which delivers 10 milligrams of tar. If these cigarettes deliver 2 milligrams of nicotine, their tar to nicotine ratios will be 8 and 5 respectively. The 10 milligram cigarette would have higher proportion of nicotine relative to tar in its smoke, but its tar to nicotine ratio is lower than the 16 milligram cigarette. While most of the Defendants' documents refer to a tar to nicotine ratio, some refer to the mathematical inverse – the nicotine to tar ratio. An **increase** in the nicotine to tar ratio represents the same thing as a **decrease** in the tar to nicotine ratio, i.e., an increase in the amount of nicotine in smoke relative to tar.

2654. At trial, Defendants claimed that there is no evidence of that they manipulated the tar to nicotine ratios of their products because analysis of FTC data demonstrates that the tar and nicotine deliveries of their products have dropped proportionately over time. See Defs.' Closing Stmt., 6/8/05, 23141:1-6. Contrary to Defendants' contention, there is in fact such evidence in the record. See, e.g., Farone WD, 87:1-88:14 (unchallenged testimony describing Philip Morris's manipulation of tar to nicotine ratios in Merit brand). In any event, extensive evidence set forth herein, and more prominently in Section III.D, infra, proves that Defendants incorporated design parameters into their cigarettes that would accentuate the discrepancy between FTC nicotine deliveries and human smoking nicotine deliveries. The evidence demonstrates that Defendants manipulated the tar to nicotine ratios of their commercial products through means that they knew

would not be reflected in FTC testing; therefore, evidence that FTC nicotine deliveries have dropped proportionately with tar over time warrants limited evidentiary weight in assessing whether Cigarette Company Defendants actually manipulated the ratio of tar to nicotine in their products. Additionally, the testimony of Dr. Kessler demonstrates that the FDA's analysis of FTC nicotine yields resulted in the opposite conclusion, i.e., that nicotine levels did decrease less than tar levels over time according to their FTC yields. See Kessler TT, 9/23/04, 563:6-21; see also Kessler TT, 9/23/04, 547:4-14; Kessler WD, 1:10-17; 2:3-8; 20:16-22:6.

(aa) Filter Design

2655. There is evidence in the record that Defendants were aware of, and developed, filters that could limit or prevent smoker compensation. See, e.g., Farone WD, 124:4-125:7, 133:13-134:1. However, Cigarette Company Defendants instead researched, designed, and incorporated filters into their products that allow smokers to determine the amount of nicotine that comes out of the cigarette and into the lungs. Henningfield WD, 43:15-20. As researchers inside the industry explored potentially effective filters for tars, they well understood that if nicotine delivery was affected it could reduce the addictive properties of their product. Thus, Cigarette Company Defendants designed and manufactured filters that do not eliminate nicotine transfer into the body, but rather facilitate its addictive effects by assisting in quick delivery of sufficient dose of nicotine to the lungs. Id., 43:15-44:13.

2656. In the 1950s, when filters were put on more and more cigarettes, many in the public health community believed that filters trapped some of the suspected toxins that otherwise were ingested by smokers. However, the effectiveness of a filter with respect to any particular substance depends on: what the filter is designed to screen, the design of the filter, and the size of the particles that attempt to pass through it. Henningfield WD, 43:15-44:13.

2657. The design factors which influence the effectiveness of a filter include: its physical design, the density of the filter packing, the length of the filter, the porosity of the filter wrapper, ventilation holes and channels, and various potential ingredients. By varying these factors, Cigarette Company Defendants can manipulate a cigarette's nicotine yield as well as features affecting the palatability and absorption of nicotine. For example, the nicotine concentration of the puffs and the ratio of free base nicotine to bound nicotine can be influenced by the design of the filter. Henningfield WD, 43:23-44:8; Farone WD, 49:14-50:11.

2658. Tobacco manufacturers also use filters to control the particle size entering the body. The density, length, and ventilation of the filter can alter the ability of the smoke particles to coagulate and form particles in the brief transit from the tobacco column of the cigarette to the mouth of the smoker. If the particles are too big, they cannot efficiently get into smokers' lungs; if they are too small, they may not be transferred across membranes before exhalation. Physiologically, particles that are too large cannot efficiently get into the deep alveoli of the lung regardless of how hard the smoker sucks or smokes a cigarette. The importance of particles getting deep into the lungs is that, as with most addictive drugs in general, the faster the particles are delivered to the brain, the stronger their effect. Cigarette Company Defendants knew that the fastest way to get the drug to the brain is through the lung. Henningfield WD, 44:14-45:22; see also Farone WD, 50:7-8; 58:20-59:14.

(bb) Ventilation and Air Dilution

2659. Ventilation holes are small perforations in cigarette paper that dilute mainstream cigarette smoke with air during inhalation. Henningfield WD, 46:11-22; Farone WD, 42:11-14. Ventilation holes are created by perforation that can be done with lasers, mechanically, or electrostatically. Henningfield WD, 46:4-7.

2660. By diluting mainstream cigarette smoke with air, ventilation holes ostensibly reduce the concentration of tar and nicotine in the smoke and result in a decrease in the tar and nicotine ratings generated by FTC testing. Henningfield WD, 46:11-22. However, ventilation holes are generally placed on the cigarette filter at a distance beyond which they would by covered by the orifice of the FTC smoking machine, and therefore the reductions in FTC measurements caused by filter ventilation do not necessarily translate to reductions in nicotine delivery under human smoking conditions, where ventilation holes are frequently blocked by smokers' lips or fingers. Henningfield WD, 47:7-10. Cigarette Company Defendants have long been aware that the use of ventilation holes accentuates the differences in tar and nicotine yields observed under standard FTC smoking conditions and human smoking conditions. Henningfield WD, 61:1-62:6.

2661. Ventilation holes also change the chemistry of smoke by adding air to the smoke. Since the air enters closer to the filter end, it also slows down the smoke behind it, giving that smoke more time to undergo further chemical changes. Farone WD, 57:6-9. It was understood by the industry that one way ventilation changes smoke chemistry is by increasing the pH of smoke. See, e.g. 00044525-4528 (JE-34191) (A). Another change to the chemistry of smoke caused by air dilution is an increase in the nicotine concentration of mainstream cigarette smoke, and Cigarette Company Defendants are aware of this. Farone WD, 88:17-89:13, discussing 1001883866-3870 (US 35572) (A); Henningfield WD, 46:19-20.

2662. Defendants admit that the filter ventilation techniques used in their commercial products are less efficient at filtering nicotine than filtering tar and other components of cigarette smoke, i.e., the filters do not reduce the amount of nicotine in proportion to their reduction of other smoke components. American has stated:

> The American Tobacco Company pioneered the commercialization of filter ventilation to afford the smoking public alternatives for lower ‘tar' and nicotine delivery cigarettes. . . . Although filter ventilation reduces the delivery of all mainstream smoke components, all components are not reduced in the same proportion. An inherent consequence with filter air dilution is removal efficiency that is slightly greater for ‘tar' than nicotine. Increasing the degree of filter air dilution increases the magnitude of this relationship.

VXB3580006-0004 at 0019 (US 65263) (O). Thus, the use of such filter ventilation techniques results in an increase in the nicotine-to-tar ratio of mainstream cigarette smoke inhaled by a smoker. See Henningfield WD, 76:5-10, 76:23-77:7; 00044525-4528 (JE-34191) (A); 00044537-4544 (US 34194) (A).

(cc) Paper Porosity and Composition

2663. The Cigarette Company Defendants also have used paper porosity and composition to affect delivery of nicotine to smokers. The paper used for cigars and hand-rolled cigarettes does not burn well and evenly, and it often self-extinguishes. Cigarette paper used on manufactured cigarettes is different. It is treated with both chemicals that can affect nicotine delivery and burn accelerant chemicals that make the cigarettes burn hotter and faster. The result is that less nicotine is delivered to FTC smoking machines than under human smoking conditions because the FTC machine puffs less frequently than do most people. Henningfield WD, 63:19-64:4, 64:8-18. Some of the chemical additives that affect nicotine delivery in commercial cigarettes are buffering compounds, including alkaline compounds, which make the paper white and keep the ashes a relatively attractive light grey color, and burn accelerants, such as sodium and potassium citrate. Henningfield WD, 64:5-18.

2664. The porosity of cigarette paper refers to the relative amount of air that can permeate or pass through the paper. Air fuels the burning and smoldering tobacco. Henningfield

WD, 62:23-63:3. The cigarette paper used by Cigarette Company Defendants to manufacture their commercial products is of controlled porosity. Controlling porosity is another means of controlling the composition and amount of smoke that is collected by smoking machines by altering the mix of gases, temperature of the burning tobacco, and the speed at which the cigarette is burned. Henningfield WD, 62:22-63:18.

2665. Another feature of cigarette paper that can affect nicotine delivery to human smokers is the filter overwrap. The filter overwrap is a layer of tough, glued paper that attaches the filter to the tobacco rod and is composed of materials that resist decomposition when held in the lips. Farone WD, 42:10-11; Henningfield WD, 64:22-65:3. The filter overwrap typically extends beyond the filter from a range of a few millimeters to nearly one centimeter. Henningfield WD, 65:1-3. The parameters of FTC testing dictate that the machine stops smoking at a point that is 3 millimeters beyond the filter overwrap, which means that the smoking machine does not burn all of the tobacco in a cigarette. Id., 65:4-10.

2666. Human smokers, of course, can and often do smoke cigarettes all the way to the filter overwrap, providing smokers the equivalent of a few extra puffs of tar and nicotine. These extra puffs are significant because they are more tar and nicotine laden than earlier puffs of tobacco that are farther from the filter. This is true because, with each successive puff on a cigarette, the remaining tobacco and the filter collect tar and nicotine which can, in turn, be released by continued puffing and because the filter loses efficiency with each successive puff. Thus, a few extra puffs beyond those measured in FTC testing can mean disproportionately large increases in tar and nicotine exposure because the smoke from these extra puffs is highly concentrated with tar and nicotine. Henningfield WD, 65:11-21.

2667. During the cross examination of Dr. Henningfield, Defendants attempted to

establish that smokers do not smoke the tobacco under the overwrap. See, e.g., Henningfield TT, 11/20/04, 7300:23-7301:25. In fact, Dr. Henningfield had already stated during his live direct examination that "there is wide variability" among smokers as to how long a butt they leave, and "most smokers don't smoke most" of the tobacco under the overwrap. Henningfield TT, 11/22/04, 6797:2-22. However, Dr. Henningfield's testimony established the important point that studies show that smokers who have to work for cigarettes or have the number of cigarettes restricted do smoke beyond the overwrap, and that the concentration of tar and nicotine increases for each successive puff on a cigarette. Id., 6796:8-6797:22; see also Henningfield WD, 64:19-65:21. Thus, the overwrap is yet another design feature by which Defendants ensure a particular FTC tar and nicotine yield, while giving smokers another mechanism to receive actual doses that substantially exceed those FTC ratings.

(dd) Cigarette Company Defendants' Internal Research Documents Reveal That They Researched These Various Design Parameters and Implemented Them into Their Commercial Products for the Purpose of Assuring Delivery of Levels of Nicotine Sufficient to Create and Sustain Addiction

(aaa) Philip Morris

2668. As early as 1954, Philip Morris was already testing other companies' cigarettes to "ensure fuller evaluation of relative filter efficiency and of the composition of the smoke and the tobacco blends." 1001761472-1484 at 1476 (US 35556) (A).

2669. By the late 1950s, Philip Morris was studying the impact of particle size on nicotine and tar delivery. P.E. Resnick, Supervisor of the Physical Section of the Research and Development Department, exchanged correspondence with General Electric in early 1959 regarding a small particle detector. PM3000136166 (US 61554) (O); PM3000136167-6173A (US 61553) (O).

2670. Philip Morris understood more than forty years ago that a high nicotine-to-tar ratio was important in formulating a successful cigarette strategy. A February 9, 1960 memorandum from L.L. Long, Research and Development Engineer, to A.B. Clarke, Research and Development Scientist, and copied to Robert Seligman, who became Vice President of Research and Development, discussed Philip Morris's ongoing efforts to manipulate the amount of nicotine received by a smoker through concentration of nicotine in tobacco smoke while maintaining lower levels of tar. Long wrote:

> One of the objectives of the 1960 cigarette project is the control of TPM ["total particulate matter," or tar] at a low level while maintaining the nicotine level in the smoke at its current level of about 1 mg/cigt. Several years ago some work was conducted along these lines. Nicotine Maleate was added to a low nicotine filler with a resulting increase in nicotine in the smoke. It would be most helpful if you could conduct some investigation in this area along with your work on nicotine control through extraction.

1001919958-9958 (US 85460) (O). This issue received further attention throughout 1960. 1001919941-9941 (US 21753) (A).

2671. Philip Morris also knew no later than 1961 how to remove nicotine entirely from cigarettes, demonstrating Philip Morris's ability both to manipulate and control the level of nicotine in its cigarettes. In March 1961, Helmut Wakeham, then Philip Morris's Vice President and Director of Research and Development, reminded Philip Morris President Hugh Cullman that, "we have available in Research and Development two processes for reducing nicotine in smoke. . . ." 2021657722-7722 (US 20352) (A); Farone WD 73:21-74:3, 90:23-91:11.

2672. In 1962, Cullman instructed Wakeham, to evaluate Reynolds's processing methods because Cullman had determined that Reynolds's cigarettes were "significantly lower in T.P.M. [tar] for a given nicotine level than all other cigarettes tested, including those of Philip Morris." Cullman had also concluded that Reynolds's method of controlling T.P.M. did not

involve "any of the variables generally tested," was likely not "accomplished through leaf selection," but rather was most likely "the result of a method of tobacco processing, or the use of certain additives, not yet generally known to the rest of the industry." Thus, in light of his conclusion that a high nicotine-to-tar ratio would be important to the company's future, and that Reynolds might obtain a competitive advantage in this area, Cullman instructed Wakeham to research the issue further. 1000235191-5193 at 5191 (US 20082) (O). Philip Morris scientists conducted the research requested by Mr. Cullman and concluded, among other things, that to match the "high nicotine to T.P.M. ratio" found in RJR's brands, "[i]t would be possible to control the necessary variables through blending." 2022241584-1587 at 1584 (US 36850) (O); see also US FF § III.C(2)(c)(ii), supra.

2673. On March 26, 1964, Philip Morris scientists provided an outline of their work on a "1965 Cigarette" that would have lower tar amounts but that would still contain at least 7 milligrams of nicotine per cigarette. The scientists focused on the question, "Can we transfer nicotine from filter to smoke?" The same outline set forth goals for a "1966 Cigarette" that would provide "optimum nicotine in relation to flavor and impact." 1001901299-1310 at 1301, 1309 (US 35573) (A).

2674. The Philip Morris Research and Development Department wrote, in a document titled, "Project 0706: Flavor and Aroma of Tobacco and its By-products," that one of the accomplishments of this project in 1964 was to find that "[a]dded nicotine seems beneficial to the smoke flavor enhancement of hi-fi cigarettes. . . . Better efficiency in nicotine delivery results from filler than filter additives." 1000849809-9811 at 9810 (US 35476) (A); Farone WD, 101:7-102:1.

2675. Notes taken by a Philip Morris employee referring to questions for "low tar"

product design demonstrate Philip Morris's desire to produce a lower tar cigarette with adequate "nicotine to keep a man hooked?" 2078099704-705 at 9704 (US 85420) (A).

2676. A March 24, 1969 Philip Morris memorandum demonstrates that the company had considered several different filters, air dilution, and improved internal filtration, and had determined the effects that these methods would have on the tar and nicotine levels read using the FTC method. The memorandum states that "[t]here does appear to be a definite increase in nicotine concentration as the percentage dilution increases," demonstrating that Philip Morris could increase the nicotine-to-tar ratio by increasing the amount of air dilution from ventilation. 1001883866-3870 at 3867 (US 35572) (A); Farone WD, 88:17-89:13.

2677. Philip Morris's Cathy Ellis has admitted that, during the 1970s, Philip Morris looked into increasing the nicotine delivery in its cigarettes while at the same time decreasing tar levels. Ellis testified that one method of achieving the higher nicotine delivery level was through selective tobacco blending. Ellis PD, Mississippi, 3/20/97, 92:21-93:18.

2678. Philip Morris often used human smokers to provide results for different tests it ran regarding nicotine delivery, sometimes sending samples to identified smokers in the public and oftentimes using its own employees as subjects, asking them to take part in smoking studies and then analyzing the results in order to inform not only its research but also the production and marketing of its product. 2025986931-6935 (US 37314) (A); 1000408760-8809 (US 35272) (O).

2679. Philip Morris conducted multiple consumer research studies to determine the acceptability of various tar-to-nicotine ratios. Studies conducted in the early- and mid-1970s tested smokers' reactions to "low tar, high nicotine" cigarettes. These studies provided evidence that consumers preferred nicotine-to-tar ratios that were higher than those that occur naturally in tobacco. 1000351570-1595 (US 85423) (O); 1003288950-8967 (US 20166) (A); 1003288934-

8949 (US 20165) (A); 2024545758-5773 (US 20402) (O); 1000048633-8654 (US 20075) (O); 1000350159-0186 (US 35241) (A).

2680. In a January 18, 1971 memorandum from psychologist Thomas Schori, to L.L. Long, Research and Development Engineer, Schori described a human smoking survey in which Philip Morris would mail to 600 Marlboro smokers ten experimental packs of four cigarettes each, with each pack having varying tar and nicotine levels, between .33 mg to 1.3 mg of nicotine per cigarette. The memorandum plainly stated, "Nicotine will be added as needed." 1003285444-5445 at 5444 (US 35692) (O).

2681. In 1971, Philip Morris asked some of its own employees to participate in a smoking study in order to "find out how the nicotine and tar levels of cigarettes affected their acceptability and consumption." One of the conclusions of the study was that the number of cigarettes the employees smoked per day was directly correlated to the nicotine levels, but not to the tar levels. 1003285443-5443 (US 85421) (O).

2682. In November 1971, Philip Morris issued a special report on "Tar, Nicotine and Smoking Behavior," written by Schori and approved by William Dunn, Associate Principal Scientist. The report, which involved analyses of the results of tests involving human smokers, concluded that "tar deliveries of the currently best selling cigarettes might be reduced somewhat, leaving nicotine as it is, without any significant overall decrease in the cigarettes' acceptability." The study also found that test subjects received similar amounts of tar and nicotine each day, regardless of the levels available in the cigarettes they were smoking, thus proving that compensation existed. 1000350158-0188 at 0161 (US 20176) (A); Henningfield WD, 94:6-13; Farone WD, 110:6-9, 110:15-111:4.

2683. Philip Morris continued such research into 1972. On September 8, 1971,

company R&D scientists, including Dunn, wrote to Paul Eichorn, then Manager of Technical Planning and Information Development, stating their intent to "concentrate upon the nicotine/tar ratio as a factor in determining cigarette acceptability." The goal was to determine the "optimum" nicotine/tar ratio levels. The plans for 1972 included a focus on nicotine delivery between .3 and 1.2 mg of nicotine per cigarette "with a **systematic manipulation of the nicotine/tar ratio at incremental nicotine levels within this range**." 1003289951-9954 at 9951 (US 85422) (A) (emphasis added); see also, 1000351570-1595 (US 85423) (O); 1003288521-8545 (US 35683) (O) (US 35719) (O).

2684. Correspondence between the Marketing Department and the Research Center at Philip Morris in 1972 reflects the company's desire to increase its share of the menthol cigarette market, then dominated by B&W's Kool cigarettes, by manipulating the nicotine-to-tar ratio and overall nicotine levels in Philip Morris's own menthol cigarettes, such as Alpine. 2022244795-4801 (US 85424) (O).

2685. In a July 8, 1974 letter from Philip Morris's Helmut Wakeham to Max Hausermann of Philip Morris Europe, Wakeham acknowledged receipt of a Research Progress Report from Hausermann and responded to studies highlighted in the report that had found discrepancies between the way that humans smoke cigarettes compared to the FTC smoking machine's workings. Wakeham agreed that Philip Morris had found evidence of the same phenomenon. He advised Hausermann not to publicly share this information:

> There is concern that if in the light of new findings, we are too strong in denunciation of the present test as being unrealistic, then some advocates might claim the advertised numbers are false and misleading. . . .
> I am not suggesting we defer the research or neglect to apply it to our product problems.
>
> We should by all means use it to the best of our advantage. On the

> other hand, I would propose deferring publication or presentations to committees or conferences, particularly those attended by our competitors, for obvious reasons.
>
> Let us pursue the research and hold back on the publicity until we can agree on some pro-industry approach to the problem.

1004863921-9975 at 3921 (US 35921) (O); 1000356550-6576 (US 85425) (O); 0000258064-8064 (US 85426) (O).

2686. A study concluded in 1975, and distributed widely throughout the Philip Morris Research Center, confirmed that the "optimum nicotine to tar (N/T) ratio for a 10 mg tar cigarette is somewhat higher than that occurring in smoke from the natural state of tobacco. . . ." As a result, as detailed in the Special Report entitled, "Low Delivery Cigarettes and Increased Nicotine/Tar Ratios, A Replication," the researchers added nicotine to cigarettes in the form of nicotine citrate. The document urged development of:

> [a] low delivery cigarette that will both look and taste like a regular filter cigarette and thus will appeal to current regular filter smokers. . . . If a low delivery cigarette with impact and flavor were developed, it may cause the segment of current regular filter smokers who are concerned about their health but demand a flavorful cigarette to voluntarily switch to the low delivery cigarettes. This may seem at first to be a senseless venture since it might result in Marlboro smokers switching to this low delivery cigarette. However, we must recognize the possibility that if we do not develop such a cigarette, it may be developed by another tobacco company.

1003288950-8967 at 8951, 8954, 8952 (US 20166) (A); 2076738596-8619 (US 43894) (A).

2687. An additional study, entitled, "Low Delivery Cigarettes and Increased Nicotine/Tar Ratios, III," was conducted in 1976 and continued to find that many smokers preferred a cigarette with a higher nicotine/tar ratio, accomplished through the addition of nicotine citrate to the cigarette. 1003288934-8949 at 8943 (US 20165) (A). Studies involving nicotine citrate continued into 1977. 1003285418-5418 (US 85427) (A); 2081925847-5856 at

5851 (US 88784) (A).

2688. It is clear that the research during the 1970s focused on how to retain nicotine delivery even if tar levels would be reduced. It is also clear that Philip Morris was studying nicotine primarily because of its pharmacological effects, not because of "taste." Farone WD, 85:7-23; DeNoble WD, 9:23-10:4.

2689. Philip Morris found it important to be at the forefront of nicotine study in order to understand its pharmacological and chemical characteristics and capabilities. In a February 3, 1978 memorandum to Tom Osdene, then-Director of Research, research center scientists summarized a proposal to involve Philip Morris more heavily in biological studies of nicotine. The scientists wrote, "[o]ur present area of expertise is our knowledge of nicotine structure, chemistry and the ability to prepare nicotine analogues almost at will. . . . If our nicotine program is to be at the forefront of nicotine research and to have an influence on the course of events with respect to the tobacco industry, we must be willing to upgrade our testing program." The scientists proposed pharmacological and psychopharmacological research, as well as collaboration with outside experts, all of which were ultimately undertaken by Philip Morris. 1000128656-8659 at 8657 (US 34423) (A); Henningfield WD, 99:2-15; 1000366976-6995 (US 35253) (O); 0000128660-8661 (US 85404) (A).

2690. A December 6, 1978 memorandum from William Dunn to Thomas Osdene, with the subject heading "Plans and Objectives 1979," indicated that Philip Morris had previously researched "the optimal nicotine-to-tar ratio:"

> To what extent does the presence of detectably more or detectably less nicotine in smoke affect the acceptability of low-delivery cigarettes. This question is related to the **optimal nicotine-to-tar ratio, a problem we have addressed before** at higher delivery levels.

2022150943-0951 at 0947 (US 85254) (A). This memorandum also demonstrates that Philip Morris took measures to increase the nicotine-to-tar ratio of its lower delivery products, identifying the nicotine delivery, the FTC tar delivery, and the nicotine-to-tar ratio for many of its products, including "lights." 2022150943-0951 at 0947 (US 85254) (A). Dr. Jerry Whidby, Philip Morris scientist from 1972 to 1998 and presently a paid consultant for Philip Morris, who held the title of Senior Fellow – the highest non-management scientific position at Philip Morris – acknowledged during his trial testimony in this case that nicotine deliveries identified in this memorandum "show[] almost uniformly that the brands with the lower FTC tar deliveries actually have higher nicotine-to-tar ratios." Whidby TT, 2/22/05, 14015:8-14016:14.

2691. Although Philip Morris has claimed in public statements that its efforts were focused on lowering tar levels, and that nicotine levels automatically dropped by equal proportion, Philip Morris's emphasis on nicotine, including how to control nicotine level independently of tar levels, is clear from the abundance of research and discussion that went into this topic. One part of this focus on nicotine, as outlined in a March 21, 1978 memorandum from scientists J.I. Seeman, Carolyn Levy, and E.B. Sanders to Thomas Osdene was Philip Morris's "Nicotine Program." The program was described in the memorandum as "aimed at elucidating the basic mechanisms of action of nicotine with a major goal of understanding and controlling the physiological effects of 'smoke.'" 1000128638-8644 at 8638 (US 86949) (A); Levy WD, 5:5-6:31; see also 2031436002-6002 (US 20433) (O).

2692. An April 17, 1980 Philip Morris USA memorandum from P.A. Eichorn to R.B. Seligman with subject-heading "Reynolds' Proposal to Lower Nicotine in the New Flue-Cured Varieties" indicates Philip Morris's control over the nicotine levels of its cigarettes. In response to a proposal by RJR that the companies lower the nicotine content of their cigarettes, Mr.

Eichorn of Philip Morris wrote: "From our viewpoint, I don't think lowering of standards to be desirable. **To do so would put us in a position of minimal control of nicotine levels which we are able to adjust as needed with present technology**." 1000779209-9209 (US 90178) (A); Whidby TT, 2/22/05, 14019:2-14021:1, 14021:22-14022:5.

2693. By 1982, Philip Morris had the ability to manufacture experimental cigarettes containing very low amounts of nicotine. Consumer acceptance of these cigarettes was very low. Philip Morris concluded that consumers would not accept over a long period of time cigarettes with a minimum amount of nicotine. Nicotine-free cigarettes therefore were determined to be "most unacceptable." Nevertheless, Philip Morris revived the idea of a nicotine-free cigarette in the late 1980s. After a period of test marketing, the cigarette was withdrawn from the market. 2000515580-5580 (US 20297) (O).

2694. A Philip Morris document titled "Tentative Agenda Richmond Meeting – August 2, 1983 Product With Most Desirable Smoke Characteristics Future Product Trends," set out a plan to develop a cigarette that reduced delivery "under actual smoking cond[itions]" by increasing nicotine delivery relative to tar: "[C]an show. . . how to balance nicotine level **to achieve a real low delivery cigt. under actual smoking cond** . . .Make a series of cigts. w/low tar & varying nic." 1003177954-7957 at 7957 (US 35661) (A); Whidby WD, 64:1-18.

2695. Beginning in 1989, Philip Morris briefly sold denicotinized cigarettes in test markets under the Next (Nicotine Extraction), Merit De-Nic, and Benson & Hedges De-Nic brands. 2021391458-2071 at 1539 (US 36741) (A); TLT0730001-0850 at 0407 (US 77011) (O). The company used a "supercritical fluid extraction" process to manufacture cigarettes that "had virtually no nicotine, but about 14 mg. of tar by the FTC method." Farone WD, 91:8-11. This confirms Philip Morris's ability to manipulate nicotine, to the point of removing virtually all

nicotine, in the delivery from a cigarette.

2696. Philip Morris scientist Frank Gullotta conducted research for the company in the early 1980s, including human smoking studies, that involved holding tar levels constant and varying nicotine levels, in order to discover human smoking reaction to increased levels of nicotine delivery. This research informed his search for the optimal nicotine delivery level. 2025986350-6401 at 6393 (US 87080) (A); 2023105617-5623 (US 85464) (O).

2697. In a November 8, 1990 memorandum, Philip Morris scientists Frank Gullotta, Cynthia Hayes, and Bobby R. Martin wrote to Cathy Ellis, then Manager of the Biochemical Research Division and later Senior Vice President, Worldwide Scientific Affairs for Philip Morris, regarding "past, present and future" contributions of "Electrophysiological Studies to P.M. USA." The scientists listed first among their accomplishments, "Experiments conducted in our laboratory led us to the idea of how to produce an acceptable low tar cigarette. **It was our work which led to the development of cigarettes with altered tar/nicotine ratios.** The tobacco blend which we advocated . . . is now being used in Project Bold and may soon find its way to the marketplace." Another accomplishment was research showing that **"there are optimal cigarette nicotine deliveries for producing the most favorable physiological and behavioral responses,"** and that "**all forms of nicotine are not behaviorally or physiologically equal**." 2028813366-3368 at 3366, 3367-3368 (US 20430) (A) (emphasis added); Henningfield WD, 102:2-10.

2698. Philip Morris continued into the 1990s to study various nicotine delivery levels while holding tar levels constant. In some of these studies, Philip Morris also examined the interactions between menthol, nicotine, and tar levels in cigarettes, determining how menthol levels in cigarettes with different levels of nicotine affected smoker impact. These studies

included human smoker studies. 2028813366-3368 (US 20430) (A).

2699. At trial, Dr. Jerry Whidby denied that nicotine is one of the parameters Philip Morris uses to design its cigarettes Whidby WD, 2:3-7; 4:18-5:3; 16:4-7. However, Dr. Whidby admitted that, "[f]rom the 1970s until today, Philip Morris has . . . used computer models that predict tar and nicotine delivery according to the FTC Method based upon the design of the cigarette that you put into the program." Id., 16:13-16. Dr. Farone testified that these computer models were used by Philip Morris to adjust, among other things, the nicotine delivery of commercial cigarettes to the target level desired by Philip Morris. Farone WD, 47:7-18, 53:4-9.

2700. Dr. Whidby also testified at trial that Philip Morris's Merit Ultima cigarette has a higher nicotine-to-tar ratio than full flavor cigarettes, and that this cannot be explained solely by "filtration efficiency." He further admitted that Philip Morris's Merit Ultima cigarettes uses a "higher nicotine blend" of tobacco. Whidby TT, 2/22/05, 14056:19-25; 14110:24-14111:14.

(bbb) R.J. Reynolds

2701. No later than 1972, RJR recognized an urgent need, in order to have a competitive advantage in the marketplace, to develop a lower tar cigarette that would deliver a high level of nicotine. In a May 19, 1972 internal memorandum to Claude Teague from Frank G. Colby, Manager of Scientific Information, Colby recounted a conversation he had with an employee of Imperial Tobacco Company while preparing for an industry-wide conference: "He explained in some detail how desirable it would be to have a high nicotine tar ratio cigarette, but said that unfortunately he did not have any idea how to realize this technologically. Naturally, I did not mention in any way our interest in this subject." Colby also reported his suspicion that Philip Morris already was developing a high nicotine cigarette. Colby concluded: "I feel these two incidents prove that the high nicotine tar ratio cigarette is a concept which is ‘very much in the

air.' We should definitely make an effort to be first." 500790798-0798 (US 20651) (O); see also 500901543-1545 (US 85428) (O).

2702. In a March 28, 1972 paper from Claude Teague to E.A. Vassallo and Murray Senkus, who became Vice President of Research and Development, Teague noted that he believed Reynolds had identified the minimum nicotine delivery required to make a cigarette "acceptable" to a smoker as 1.3 milligrams. Teague's paper, entitled "A Gap In Present Cigarette Product Lines And An Opportunity To Market A New Type Of Product," advocated that Reynolds take advantage of the so-called gap in product lines by developing a cigarette that would deliver 1.3 milligrams of nicotine while delivering less tar than any current product: "[A]t the desired nicotine delivery, calculated to be 1.3 mg., the smoker will chose [sic] the cigarette offering the lowest T/N Ratio, if other qualities are satisfactory. With current brands at or even near the desired nicotine level, the smoker is offered no brand with a T/N Ratio below 13. Indeed, of all 121 brands tested by the FTC, the only one with a T/N Ratio less than 13 is Carlton, and it delivers only 0.4 mg. of nicotine." 500790776-0784 at 0776 (US 29473) (O) (emphasis in original).

2703. An undated RJR document setting forth the objectives and strategies of its Tobacco Development Department reveals that Reynolds's early strategies for developing reduced tar products focused primarily on how to maintain adequate nicotine delivery if tar levels dropped. The document identified the "need for increased smoker satisfaction" as a key issue, and Reynolds's strategies for maintaining and improving smoker satisfaction included "proceed[ing] with tar reduction programs maintaining maximum nicotine deliveries in the smoke" and "study[ing] all means to maximize nicotine content of tobaccos and delivery to the cigarette smoke . . . [including] agricultural practices, leaf purchase program, blending,

processing, nicotine transfer efficiency, casing levels, added nicotine, selective filtration, effect of wrapping materials." 504658762-8769 (US 85429) (O).

2704. In recommending development of a new "youth-appeal brand," Frank G. Colby, Manager of Scientific Information, wrote in a December 4, 1973 memorandum to R.A. Blevins, Jr., about the importance of assuring that the new product delivered sufficient nicotine:

> In my judgment, for public relations reasons it would be impossible to go back all the way to the 1955 type cigarettes. As far as tar and nicotine in the smoke are concerned, I believe it should be possible to achieve the desired effect by going to a tar level of today's Pall Mall (non-filter type) of about 29 mg of tar and 1.8 mg nicotine. Still, with an old-style filter, any desired additional nicotine 'kick' could be easily obtained through pH regulation.

501166152-6153 at 6152 (US 23051) (A) (emphasis in original); Henningfield WD, 75:22-76:1, 78:1, 79:16-20.

2705. On June 5, 1974, a meeting occurred between individuals from RJR's research department and RJR's advertising agency, Tatham-Laird & Kudner, Inc., "to review a selected group of technical developments in the cigarette category . . . [and] to determine whether any of the technical developments to date could, at this time, be utilized in the development of new brands for marketing." The memorandum memorializing this meeting demonstrates that one of the technical developments discussed was a low tar/high nicotine cigarette: "Until this development, tar and nicotine went either up or down in a cigarette simultaneously; **the technical development here has enabled RJR to deal with these two elements separately and therefore each can be controlled at virtually any given level desired.**" 501186367-6369 (US 20673) (O) (emphasis added).

2706. In May 1976, Reynolds's Research Department prepared a document entitled "Planning Assumptions and Forecast for the Period 1977-1986+ for R.J. Reynolds Tobacco

Company." The document demonstrates Reynolds's recognition of the significance of the need for research concerning the minimum level of nicotine that must be delivered to a smoker in order to keep a smoker addicted to cigarettes. Envisioning cigarettes delivering less than 0.8 milligrams of nicotine, RJR acknowledged that:

> **[I]t is essential that we are fully aware that, at these nicotine levels, smoking cessation will be very much facilitated. Some 'farmed out' or in house research on determining the minimum nicotine level (at the highest 'acceptable' pH) for providing 'satisfaction' should be considered.**

500884613-4638 at 4619-4620 (US 85430) (O) (emphasis added); see also, 504707350-7372 at 7365 (US 86950) (O); 504424968-4976 (US 86951) (A).

2707. RJR analyzed Cambridge filter pads - the pads used to collect tar and nicotine during the FTC smoking test - and found it "disturbing" that the filter pads removed a large amount of smoke nicotine. This, and other findings on nicotine, fueled Reynolds's interest in discovering means for control of nicotine and nicotine satisfaction with RJR cigarettes. 505024234-4244 at 4235 (US 86952) (A); Green WD, 64:6-9.

2708. According to an August 19, 1976 report entitled "New Product/Merchandising Directions A Three Year Action Plan," R.J. Reynolds's "**top priority [was] to develop and market low 'tar' brands that: [m]aximize the physiological satisfaction per puff – the single most important need of smokers.**" Reynolds was not content to allow tar reductions to effect a proportionate reduction in nicotine: "It would be more desirable from our standpoint, i.e. providing satisfaction to the smoker and maintaining his allegiance to smoking if we could reduce 'tar' to whatever target we choose without a proportionate drop in nicotine." The report also outlined Reynolds's "approaches to decreased T/N ratio," including the development and commercialization of high nicotine tobacco, the development of "means to supplement nicotine"

in tobacco, and the development of "means to increase nicotine transfer in smoke." 500672011-2172 at 2054, 2111-2112 (US 20645) (A) (emphasis in original).

2709. An August 23, 1976 document titled "MBO Performance Report," outlined the objectives and activities of "Project 1250," a research project carried out by RJR's Chemical Research Division for the purpose of "search[ing] for fundamental information which will lead to new techniques and methods of altering and controlling nicotine/ 'tar' ratio, which will define important factors related to optimum nicotine level and smoker satisfaction." The report demonstrates that, through Project 1250, Reynolds was fully committed to developing its knowledge regarding the various ways to control nicotine content and delivery in low tar cigarettes. For example, the report defined Reynolds's objectives for 1977 as including: (1) "Identify factors influencing nicotine delivery efficiency, and determine means to increase nicotine to 'tar' ratio"; (2) "Determine minimum 'tar'-nicotine levels for smoker satisfaction through panel testing and study effect of varying nicotine levels on low 'tar' blends"; (3) "Evaluate existing competitive brand data and crop analyses to determine factors related to nicotine and 'tar' delivery"; (4) "Evaluate various experimental and foreign tobaccos to determine the effect of these materials on 'tar' and nicotine delivery"; and (5) "Continue casing studies, particularly the effect of sugar on nicotine delivery." 511526479-6481 at 6479 (US 85431) (O); see also 502966364-6374 at 6364-6367 (US 85432) (O).

2710. In a January 5, 1977 memorandum on the subject of "Nicotine-Related Research," D.H. Piehl, Manager of Reynolds's Chemical Research Division, informed a large group of RJR employees that "[i]n 1977 we will be increasingly concerned with discovering new means for control of nicotine, tar to nicotine ratio and satisfaction in our products." 502740087-0087 (US 85433) (O).

2711. On May 19, 1977, W.M. Henley sent a memorandum to Piehl concerning Reynolds's "Project 1250: Methods of Controlling Tar, Nicotine and Satisfaction." Henley outlined the research activities that were already underway in support of Project 1250's objective – to "identify factors influencing nicotine delivery efficiency and determine means to manipulate nicotine/tar ratio to provide a more satisfying smoke." The memorandum demonstrates that Reynolds was actively researching a variety of means to increase nicotine delivery to smokers of low tar cigarettes to assure that smokers would achieve "satisfaction," i.e., that smokers would ingest sufficient nicotine to keep them addicted to low tar cigarettes. 504476706-6706 (US 85434) (O).

2712. In a January 4, 1978 memorandum, entitled "Nicotine and Smoker Satisfaction," D.H. Piehl wrote to Alan Rodgman, RJR scientist, that an objective of the 1977-1978 research was to "[d]etermine the means to alter and control ‘tar'/nicotine ratio and increase nicotine transfer efficiency" with the objective of maximizing smoker satisfaction. 504423322-3327 (US 50614) (O) (emphasis in original).

2713. The progress made by RJR in researching and developing means to increase nicotine delivery to smokers of low tar cigarettes is evidenced in Piehl's 1979 work plan. The work plan, which set forth the objectives and the results achieved by the Chemical Research Division, indicated that Reynolds had identified the "optimum and minimum nicotine deliveries that maximize satisfaction" for full flavor cigarettes; established the "optimum T/N for . . . low ‘tar' cigarettes in house"; and demonstrated through research that "nicotine can be substantially relocated from one blend component to another, without affecting smoke delivery in blended cigarette." 502972546-2579 at 2547-2550 (US 85436) (O).

2714. A 1981 strategic analysis evaluating RJR's changes to the delivery levels if its

brands demonstrates that RJR altered the tar to nicotine ratio of its products. The analysis stated that in 1980, "on Vantage Filter 85, tar was decreased . . . but the nicotine level remained constant. 501754849-4866 (US 20685) (O).

2715. A document setting forth the mission and goals of Reynolds's "Tobacco Development Department" for 1980, 1981, and 1982 demonstrates that Reynolds intended by the early 1980s to modify the tar-to-nicotine ratios of all of its commercial products. For example, the document indicates that as part of Reynolds's "action plan" it intended to "[d]etermine means to optimize tobacco density and puff count on light brands" by 1981, and, "[i]n cooperation with Research, establish appropriate T/N ratio, absolute nicotine and strength index for each brand" by 1982. 500545614-5644 at 5627 (US 86953) (O).

2716. In the early 1980s, with knowledge that FTC testing did not accurately measure the amount of nicotine inhaled by a smoker, Reynolds developed a human mimic smoking machine, or "HMSM," in order to obtain a more accurate picture of how much nicotine and other materials in cigarette smoke, on a puff-by-puff basis, a human smoker would inhale from smoking its products. In a February 26, 1981 memorandum from Alan Rodgman to Roy E. Morse, Rodgman reported that "[r]efinements to control calculations for the human-mimic smoking machine resulted in satisfactory performance in duplicating the shapes and volumes of a variety of human puffs. Minor problems with auxiliary equipment are being corrected." 500952530-2532 at 2530 (US 88067) (O). In a similar March 12, 1981 memorandum, Rodgman stated that "[t]esting of the human-mimic smoking machine has shown that good replication of most puff shapes can be made." 500952551-2551 (US 88068) (O). Reynolds used the human mimic smoking machine in its product development research throughout the 1980s and 1990s to replicate observed human smoking patterns, thereby enabling "the determination of the effect of

individual human smoking behaviors on yields of mainstream smoke components" for any cigarette tested with the machine. 508187782-7803 at 7785 (US 88069) (O). For example, an April 4, 1992 research report authored by John H. Robinson, Sandra W. Ingram, Riley A. Davis, Mitchell F. Stiles, and David W. Griffith concerning Reynolds's Project XGT stated: "The mainstream smoke yield data presented in Table V [of the report] offer the opportunity to compare smoke yields under both human smoking conditions versus yields obtained via the FTC machine smoking method." 508187782-7803 at 7789 (US 88069) (O). The comparison revealed that two of the prototype cigarettes Reynolds was studying – "XGT 'E'" and "XGT 'F'" – and an 85 millimeter Marlboro Light had FTC nicotine yields of 0.72, 0.78, and 0.78 respectively; those same cigarettes smoked under human smoking conditions, as measured by the human mimic smoking machine, had nicotine yields of 1.05, 1.09, and 1.19 respectively. 508187782-7803 at 7790 (US 88069) (O). The report noted this difference, stating "[a]ll 3 cigarettes yielded approximately equal amounts of nicotine when smoked by humans, and these yields ranged from 132% (XGT 'E') to 152% (ML [Marlboro Light]) of the FTC nicotine yields." 508187782-7803 7792 (US 88069) (O); see also 508389543-9607 at 9586-9588 (US 88070) (O).

2717. A January 10, 1983 internal memorandum to W.M. Henley from C.L. Neumann, and Thomas A. Perfetti summarized Reynolds's research activities "directed toward the development of information relating consumer perceptions to cigarette parameters." The memorandum indicates that Reynolds had conducted several consumer studies in which nicotine and/or smoke pH were controlled variables and that Reynolds reached conclusions about optimum nicotine deliveries and tar-to-nicotine ratios based on the studies. USX3621341-1345 at 1341,1343-44 (US 77401) (O).

2718. An internal RJR memorandum dated February 18, 1984, from Charles Green,

Prinicipal Scientist, discloses that RJR continued to research means of "optimizing" nicotine delivery through modification of cigarette filters. The memorandum stated that the purpose of one experiment was to manipulate particular variables of filter design, including length and chemical composition, in order "to find maximum nicotine delivery." The memorandum indicated that the results of the experiment "show that nicotine and glycerine deliveries can be greatly altered by the manipulation of variable[s]" in filter design, and that RJR was in the process of designing additional experiments to "optimize" nicotine delivery. 505006266-6276 at 6274, 6275, 6276 (US 85499) (A); see also 506339873-9880 (US 85500) (O).

2719. In 1987, RJR conducted studies to create a product that would deliver the taste and satisfaction of a 7-9 milligram tar product with only 1-2 milligrams of tar. Researchers maintained consumer satisfaction (i.e., addicition) through the use of "nicotine salts" technology, facilitating more effective nicotine delivery. 506686631-6634 (US 50938) (O).

2720. In 1989, Reynolds formed its "Intra-Company Nicotine Review Committee (INRC)," an "interacting group comprised of representatives from Research and Development, Marketing and Marketing Research whose goal . . . [was to] develop a strategic plan that provides resources which will satisfy consumer wants and company needs related to nicotine." 507063957-3960 at 3957 (US86955) (A). A document setting forth the INRC's priorities demonstrates that Reynolds was determined to employ nicotine as a key design element of its cigarettes. Under the heading "Nicotine Strategic Plan," the document stated that "[b]y building our knowledge base with respect to nicotine, as a **key design parameter**, R&D can place the company in a more responsive position to act on identified consumer wants and product ideas to maximize volume and share growth." 507904528-4535 at 4530 (US 86956*) (A). The INRC recommended that, in order to maintain its "technical leadership," Reynolds must "[m]eet

existing and emerging consumer wants via new products or enhancements to current products that employ nicotine as a key design parameter." 507904528-4535 at 4530 (US 86956) (A).

2721. In the late 1980s, RJR began experimentation with preparing tobaccos using the "REST" [Reestablishment of Solubles in Tobacco] process. A December 11, 1989 internal memorandum from Rhenda H. Steele to Barry S. Fagg explained the purpose of REST processing as follows: "Using this process, **all variables [in tobacco] are held constant except nicotine, the concentration of which can be controlled.**" 509887264-7264 (US 85437) (O) (emphasis added). A May 3, 1991 report entitled "REST Program Review" explained Reynolds's goal for use of REST processing to manipulate nicotine in its products:

> To develop a viable process for the total control of nicotine in product, in conjunction with the 'REST' process without affecting smoke performance other than attributes connected to nicotine. Basic development and process specifications are to be completed by the end of 1991. . . . We are basically in the nicotine business. **It is in the best long term interest for RJR to be able to control and effectively utilize every pound of nicotine we purchase**. Effective control of nicotine in our products should equate to a significant product performance and cost advantage.

509479574-9587 at 9582, 9854 (US 20829) (A); Henningfield WD, 102:2-4, 102:11-12.

2722. REST processing was a vital part of Reynolds's "Nicotine Control Program" begun at least by 1990. The Nicotine Control Program included at least three distinct studies of methods for the manipulation of nicotine delivery:

> -Project "LN," the objective of which was to "[o]ptimize products with extremely low smoke nicotine yields" using, among other things, REST technology;
>
> -Project "GTX," the objective of which was to "[d]evelop basic information on how the design variables of nicotine, 'tar' yield and draft interact physicochemically;"
>
> -Project "Nicotine RSM," the objective of which was to "[e]xplore effects (independently and interactively) of nicotine, 'tar', and draft

on smoker perceptions, behavior and acceptance" using, among other things, REST technology.

508112783-2807 at 2788, 2790, 2792, 2794 (US 85438) (O). An August 22, 1990 report on REST technology stated that Reynolds had "**achieved on a development scale a practical process for selectively adjusting the nicotine content in a tobacco extract and, therefore, in the tobacco blend after REST processing**" and that Reynolds intended to use REST technology to "**[i]ndependently control nicotine delivery, from very low to elevated levels**." 509479574-9587 at 9576, 9577 (US 20829) (A) (emphasis added); see also 509479799-9799 (US 86958) (O); 508099588-9588 (US 86959) (O); 507051133-1136 (US 86960) (O); 512331601-1601 (US 86961*) (O).

2723. A document prepared for an August 6, 1990 meeting regarding the Nicotine Control Project's "Nicotine RSM Study" explained the benefit of REST processing: "A new process (REST) makes possible for the first time independent manipulation of three key product development variables (nicotine, 'tar', draft)." The document demonstrates that Reynolds designed consumer studies for testing products developed with REST processing for the purpose of developing "a comprehensive understanding of how to independently control nicotine, 'tar', and draft levels in RJR FFLT [full flavor low tar] and FF [full flavor] product lines to optimize smoker satisfaction. . . ." 507523433-3477 at 3441 (US 85439) (O). Reynolds's Biobehavioral Research Division also saw significant benefits of the use of REST technology in the Nicotine Control Program, as expressed in an April 9, 1990 memorandum from J.H. Reynolds to Mari-Jo Dryden: "**For the first time 'tar' and nicotine can be independently varied without excessive changes in blend. This has been a 'dream goal' of developers and researchers for years**." 510961941-1941 (US 85440) (O) (emphasis added); see also 509347328-7336 (US 85441) (O); 507973629-7348 (US 86962) (O).

2724. In another consumer study relating to REST-processed tobacco, Reynolds endeavored "to assess the pharmacological component of smoking satisfaction by attempting to experimentally control the level of nicotine absorbed by smokers under normal smoking conditions." In a memorandum describing the experiment, Walter S. Pritchard and John H. Robinson explained that "[t]he nicotine yields of the experimental cigarettes will be controlled using the R.E.S.T. (Re-Establishment of Soluble Tobacco) process, with target nicotine yields of 0.06, 0.2, 0.4, and 0.8 mg. The target 'tar' yield of the experimental cigarettes will be 10 mg." 525246100-6103 at 6100 (US 85442) (O).

2725. An RJR document entitled "Nicotine Strategic Plan September 26, 1990" apparently reflects a presentation given by Reynolds scientists, including A. Wallace Hayes, Mari-Jo Dryden, John Robinson, Tom Perfetti and Pat Lippiello, concerning several of their ongoing nicotine research projects. Regarding the "Nicotine RSM Study," the document described nicotine as a "critical variable[] for product development" and noted that "**independent manipulation of nicotine will result in a better understanding than ever before of satisfaction**." The document identified as one of the "Overall Study Implications" that the Nicotine RSM study would "result in definition of optimal combination of tar, nicotine, and draft to maximize acceptance among one or more smoker groups/mindsets." In addition, the document confirmed that the goals of Reynolds's Projects XGT and GTS were to"explore alternate methods/sources for enhancing nicotine yields of low 'tar' products." The document also identified as a "key issue" the "[o]ptimization of nicotine's sensory properties in smoking products." 514106716-6809 at 6737, 6781, 6803 (US 51775) (A) (emphasis added); see also 514940099-0120 (US 51894) (O).

2726. A November 15, 1990 facsimile from Emily Etzel to Donna Wilson hypothesized

about the "several reasons why Philip Morris would find it strategically advantageous to master nicotine manipulation." Etzel wrote that:

> Nicotine manipulation involves the changing of nicotine levels in their products other than by buying tobacco with high or low nicotine levels. The extraction of nicotine for such products as NEXT and Merit De-Nic results in an [sic] surplus of nicotine. This nicotine can be added to other products. . . . **PM has successfully raised the nicotine levels on all their products (across the line) by using high nicotine tobaccos. Thus, they already have a better T/N ratio than their competitors**. Adding nicotine could further improve that ratio.

509348227-8229 at 8228 (US 88072) (O).

2727. A June 27, 1991 RJR document entitled "Nicotine Delivery Expert System" outlines mechanisms by which the "[a]vailable nicotine in [the] tobacco rod" can be modified, including by Reynolds's G-7, G-13 (discussed below) and REST processing procedures. 510962740-2741 at 2740 (US 88073) (O).

2728. In a detailed April 1, 1992 report, Barry S. Fagg detailed RJR's continued investigation and progress of using REST technology in product development. Fagg described the rationale and strategy of the continued investigation:

> Previous development of the REST processing techniques has indicated that tobacco material can be disassembled into essentially water insoluble and water soluble portions, followed by controlled reassembly. . . . When coupled with the technology for denicotinization of aqueous tobacco extracts, **the expanded process provides the power to produce a variety of 'engineered' tobacco laminas in which the nicotine level is manipulated while other 'non-nicotine' compounds are effected [sic] to a minimum degree.**

Fagg concluded that "[t]he overall process has demonstrated the ability to start with lamina cut filler and produce processed tobacco cut filler in which the nicotine level within the tobacco can be controlled," and that "**[c]ontrolled nicotine materials allow novel manipulations of tar to**

nicotine ratios which significantly alter smoking sensations. Product opportunities are apparent and consumer testing has been included in the Winston and Vantage brand families." 508380001-0027 at 0008, 0014-0015 (US 85443) (O) (emphasis added).

2729. On April 27 and 28, 1992, Reynolds held an "XB Integration Meeting," the purpose of which was to "pull together internal and external information that is germane to our sensory research efforts on XB." In an April 23, 1992 memorandum, J.C. Walker invited Mary Stow, Mike Dube, Tom Perfetti, and Watson Dufour to attend the meeting and encouraged them to invite employees to the meeting with whom they worked. 517597880-7880 (US 88074) (O). The meeting was videotaped. 522531991-1993 at 1992 (US 88076) (O). A document produced from RJR files roughly summarized the topics discussed over an eight-hour period on the "XB Integration Meeting Video Tapes." That document described one area discussed as "'[w]e can take a cigarette unsmokeable because nicotine is so high and make it smooth with acid.'" Id. at 1991. Other issues discussed during the XB Integration Meeting included "add nicotine to cigarette," "load blend with high nicotine tobacco to get satisfaction," and "by adding nicotine, you can change tons of sensory attributes." Id. at 1992. The participants in the meeting apparently believed that they could discuss the addition of nicotine to low tar cigarettes freely since they expected the videotapes would be destroyed: "these tapes will be destroyed, we have to be careful with these." Id.; see also 508364418-4419 at 4422 (US 88077) (O); 517597869-7871 (US 88078) (O).

2730. RJR continued its research into changing the nicotine-to-tar ratio throughout the 1990s. The company concentrated on research that would allow it to create an ultra low tar product that provided nicotine delivery similar to full-flavor products. 509308455-8459 (US 20827) (O).

2731. An April 6, 1998 memorandum among RJR's employees "the locations where nicotine is currently measured on a regular basis in the domestic tobacco company." A chart appended to the document as "Attachment B" indicates that Reynolds **regularly measured nicotine levels at twenty different stages of the tobacco manufacturing process**. 523196492-6499 at 6492, 6493-6495 (US 88062) (O).

(ccc) Brown & Williamson and BATCo

2732. Contrary to Cigarette Company Defendants' argument that they do not manipulate the nicotine content of their cigarettes because nicotine always follows tar, Hugh Honeycutt, B&W's Director of Research Services and Analytical Research testified that B&W "absolutely" had the ability to manipulate the tar to nicotine ratio of its products. Honeycutt PD, United States v. Philip Morris, 4/23/02, 160:15-19. Also, Jeffrey Wigand, Vice President of Research & Development at B&W from 1989-1993, testified that B&W manipulated nicotine levels to produce a cigarette that would consistently deliver the amount of nicotine to keep smokers addicted through techniques such as tobacco blending, cigarette design, and the use of additives. Wigand WD, 99:22-100:15.

2733. As noted by former FDA Commissioner, David Kessler, in his testimony in this case, BATCo conducted "considerable research to enhance nicotine deliveries, including the use of chemical manipulation of tobacco." Kessler WD, 34:14-22. A March 17, 1967 study by BATCo described a study in which the "delivery of 'extractable nicotine' was manipulated, to cover a convenient range" by chemical additives in the filters. 750039365-9385 at 9367 (US 88091) (A). See infra US FF § III.C(2)(c)(iv) (defining "extractable nicotine").

2734. BATCo has been aware of the importance of ventilation holes to the delivery of nicotine since the 1960s. 110083832-3838 at 3833 (US 34964) (O); see also 400132742-2776

(US 88084) (O). As Dr. Wigand testified, B&W also was aware that smokers routinely blocked ventilation holes, thus resulting in higher nicotine exposure of the smoker than was registered by the FTC testing method. Wigand WD, 107:11-15. Using this knowledge, B&W manipulated nicotine levels in their cigarettes by placing ventilation holes in the filter of the cigarette, where smokers would block them, and this allowed more air to be mixed with the smoke measured by the FTC smoking machine. Id., 107:4-10.

2735. M. Lance Reynolds, former B&W Director of Product Development and Director of Research, testified that from the beginning of his career at B&W in 1968 onwards, B&W and BAT Group companies had "projects to try and increase nicotine delivery with respect to tar, for many years." Reynolds PD, United States v. Philip Morris, 9/12/02, 301:1-301:23.

2736. BATCo was working to manipulate and change the tar-to-nicotine ratio in its cigarettes as early as the 1950s and 1960s through Project Ariel. Some of the research on Project Ariel was performed externally at Battelle Memorial Institute. In a February 8, 1966 report entitled, "Nicotine Administration: Ariel Smoking Devices," issued by D.G. Felton of BATCo's Research and Development Department, and distributed to D.S.F. Hobson, Esq., BATCo Production Director, S. J. Green, also of the Research and Development Department, and Sir Charles Ellis, a summary of the project revealed that the construction enabled controlled amounts of smoke from the tobacco outer to be mixed with the nicotine aerosol from the inner tube, resulting in the ability to create smoke of any tar/nicotine ratio. 301099888-9902 (US 21547) (A). Although internal BATCo reports concluded that the product was marketable, executives at the highest levels of control within BATCo, including BATCo board member (and future Chair) D.R. Clarke, discouraged development and sale of the Project Ariel cigarette, apparently out of concern that Ariel represented an implicit admission as to the harmfulness of conventional

cigarettes. The project foundered and, shortly thereafter, was de-funded. 100335808-5816 (US 20173) (O); 301121935-1936 (US 20581) (A); 301121911-1917 (US 22023) (A); 201035126-5126 (US 20304) (O); 110415482-5485 (US 20275) (O); 301121057-1086 (US 20578) (O); 110080519-0519 (US 21546) (O); 107623976-3976 (US 20259) (O); Farone WD, 178:15-179:4.

2737. BATCo also worked in the 1960s to manipulate nicotine and change tar-to-nicotine ratios in the research projects called HIPPO I (completed in January 1962) and HIPPO II (completed in May 1963), which investigated the actions of nicotine as it related to the cigarette habit and examined the potential beneficial physical and psychological effects of nicotine. 105620620-0683 (US 20247) (A); Farone WD, 84:6-15; 105620569-0605 (US 20246) (A); 301083862-3865 (US 20577) (A); Henningfield WD, 89:11-90:8. The practical benefits of being able to provide seemingly smaller amounts of nicotine while still providing an addiction-creating and sustaining dose became clear to BATCo in the early 1960s as the Surgeon General's first report on smoking and health neared publication. Prior to the publication of the 1964 Surgeon General's Report, B&W General Counsel Addison Yeaman evaluated the findings of HIPPO I and II, and became aware of the impact the Surgeon General's Report could have upon potential litigation. After discussing the conclusions of the two reports about nicotine's potential benefits, Yeaman concluded: "Moreover, nicotine is addictive. We are, then, in the business of selling nicotine, an addictive drug effective in the release of stress mechanisms." Yeaman suggested the best reaction to the Surgeon General's Report was to provide a filter capable of removing certain constituents of smoke considered suspect by public health officials, while still "delivering full flavor - and incidentally - a nice jolt of nicotine." 2046754905-4909 at 4908-4909 (US 20477) (O).

2738. At the same time, BATCo was conducting tests on carbon filters, examining how

they affected nicotine and smoke pH. 682638573-8629 (JE-25453) (O).

2739. BATCo, like the other cigarette manufacturers in the 1970s and 1980s, undertook research to manipulate or maintain nicotine delivery for cigarettes with reduced FTC tar levels. This research was based on the corporate understanding that nicotine, unlike tar, was the essential part of the cigarette to smokers. For example, the basis for studies carried out in 1973 to assess the use of additives to reduce tar while at the same time increasing nicotine delivery to smokers was stated as follows: "The increased importance being placed on the lowering of TPM [total particulate matter] and **the controlling of nicotine delivery** has made it necessary to investigate the different methods available for producing these changes in smoke." The 1973 study also utilized "ADDITIVES FOR NICOTINE CONTROL," including nicotine tartrate, sodium bicarbonate, and diammonium hydrogen phosphate to increase the "extractable nicotine" in the smoke. The researchers found that certain combinations of additives successfully reduced tar while "maintain[ing] the impact and physiological strength levels" of nicotine. 402390265-0282 at 0268, 0280 (US 86963) (O) (emphasis added).

2740. In 1980, researchers employed by the tobacco companies, such as B&W's scientists Tilford Riehl, D.V. Cantrell, and C.M. DiPietro, studied the effect of cigarette wrapping paper on nicotine delivery and found evidence that some papers enhanced nicotine delivery to smokers of low tar cigarettes. These studies were conducted on Cigarette Company Defendants' commercial cigarette products. 510000661-0662 (US 85501) (O); see also 400132742-2776 (US 88084) (O).

2741. A September 20, 1979 memorandum entitled "Tar/Nicotine Ratios and Nicotine Transfer Efficiencies of B&W and Competition Brands" demonstrates that B&W and other Cigarette Company Defendants had successfully increased the ratio of nicotine to tar in the

cigarette smoke of their commercial products. The memorandum indicates that the average tar to nicotine ratio for B&W brands and competition brands had declined, and that the tar to nicotine ratio for "Low Tar" and "Ultra Low Tar" products was lower than for "Full Flavor" products. 505003431-3438 (US 85412) (O).

2742. At a 1984 Smoking Behavior-Marketing Conference, Tilford Riehl, B&W's Vice President for Research and Development, gave a presentation on Project Aries, a new filter design intended to lower FTC tar counts. After comparing puff counts for individuals smoking Aries cigarettes and commercial cigarettes, Riehl pointed out that the "smoke chemistry" of the Aries cigarette provided "nicotine enrichment in latter puffs." 536000308-0507 at 0366 (US 85298) (O); see also, 82637850-7982 at 7932 (US 88063) (O).

2743. BATCo held a Nicotine Conference in England, from June 6-8, 1984. The agenda for the conference demonstrates that BATCo, its subsidiaries and affiliates, were well aware of the addictive nature of nicotine as well as deeply involved in nicotine manipulation in order to maintain that addiction and build their business. Session titles include: "A smokers [sic] requirement for nicotine. A smoking behavior and market place view"; "Product elasticity, nicotine and perception of product strength"; and "Product modification for maximal nicotine effects." Two out of the three "primary objectives" were listed as:

> Review the research to establish the relationship between tar and nicotine (ratios and absolute levels) as controlling factors of smoking behavior and their role in product assessment and acceptance.

and

> **Identify to what extent the nicotine dose on a puff-by-puff, per cigarette, or on a daily basis can be used to indicate a smokers [sic] requirement for nicotine or infer product acceptance**.

512106427-6437 at 6428-29, 6430 (US 20846) (emphasis added).

2744. Nicotine to tar ratios were also a central issue at the Smoking Behavior-Marketing

Conference, held July 9-12, 1984. A presentation was given in which further study of nicotine was encouraged, particularly with the goal of **"enhanc[ing] the properties of nicotine in reduced delivery products**." B129103030501 at 0326 (US 85449) (A); 521016789-6864 (US 85450) (O) (emphasis added).

2745. A document entitled, "R&D Views on Potential Marketing Opportunities, marked, "Not for Circulation" and dated September 12, 1984 emphasizes the significant role nicotine delivery played in BATCo's research and marketing activities. The document refers to compensation and lists as a "high priority" development of "alternative designs (that do not invite obvious criticism) which will allow the smoker to obtain significant enhanced deliveries should he so wish." The author recommends that this action be taken "irrespective of the ethics involved." Also listed under "high priority" is an item described as "nicotine deliveries," in which it is admitted that:

> Nicotine is the key pharmacological component of cigarette smoke. . . . An area of importance is to distinguish whether smokers smoke for (a) transient peak effects or (b) threshold base-line levels throughout the day. **Another area of importance is the exploitation of physical and chemical means to increase nicotine transfer, ie to increase the effective utilisation of nicotine.**

109869437-9440 at 9437-9438 (US 21707) (A) (emphasis added).

2746. BATCo's focus on enhancing the transfer of nicotine to the consumer was reiterated in a January 1985 internal document titled "Tobacco Research in BAT Industries." That memorandum indicated that "[m]ore resources will be provided for research into means of enhancing nicotine transfer to smoke and experimental combustion research, including cigarette paper effects." 109070972-0979 at 0976 (US 34858) (O).

2747. In March 1985, BATCo scientist C.I. Ayres circulated a report regarding research

being conducted to determine how to "make smaller amounts of nicotine work harder." 102440178-0179 at 0178 (US 21729) (O).

2748. In a September 26, 1986 "Note for E.A.A. Bruell" from A.L. Heard, Group Research Director, entitled "Tobacco Strategy Group: Position Paper," Heard described BATCo's contacts with Advance Tobacco Products Inc. to obtain access to the FAVOR plug, a filter containing nicotine and flavors that "may enable nicotine to be regulated quite independently of tar and other compounds." 109879044-9045 at 9044 (US 34921) (O).

2749. In 1986-1987, BATCo undertook studies that revealed that nicotine delivery could be increased through filter modifications, with one study finding up to a 30% increase in nicotine per puff and a 19% increase in the tar to nicotine ratio. 400260652-0674 (US 76183) (O).

2750. BATCo realized that its approach to nicotine control required alternatives to simply adding nicotine during the manufacturing process, and made pursuit of additional techniques a top priority. In 1987, BATCo held a "Fundamental Research Review" in Southampton with scientists from the research and development department. It identified as one of its top three priorities for research in the United States, "Nicotine Control," in order to "optimise nicotine in current and future products." It explained the need for this research as "past experience with fortified products has shown poor taste – why?" 400260496-0514 at 0499 (US 85451) (O).

2751. At the same time, BATCo's scientists continued to research modifying nicotine to tar ratios. In a May 14, 1987 document developed by the Southampton Research and Development Centre, with contributions from BAT Group participants, including B&W's R.R. Johnson, and distributed to the research and development departments throughout the BAT Group, the authors highlighted the success that the Barclay brand had enjoyed and cited as a

reason for its success its nicotine to tar ratio, "using both high blend nicotine and high ventilation levels, to give an NTR [nicotine/tar ratio] some three times that of a full flavour product. . . ." The document pointed out that "[t]echnologically, design of a high NTR product anywhere in the 1-10 mg tar range is possible immediately." The question for further research was how "NTR should vary with tar delivery to give ‘acceptable' smoking characteristics at any given delivery level." 570346066-6151 at 6068 (US 53187) (A).

2752. In "Chemosensory Research," by BATCo scientist Richard Baker, dated February 28, 1990, Baker argued for continued research on tar/nicotine ratios, maintaining that both components of smoke were necessary – at the appropriate levels – to produce a successfully marketable cigarette. However, he made clear that nicotine is of greatest importance and that tar's role is to make nicotine inhalation palatable:

> The **ultimate product of the tobacco industry is nicotine** and research should continue to be directed at the development of low tar/medium nicotine cigarette smoke. **Nicotine alone in smoke is not practical, nor are extreme tar/nicotine ratios, since nicotine is too irritating – other substances are required for sensoric reasons**.

400854060-4066 at 4060 (US 67851) (O) (emphasis added). Baker also wrote that since the 1960s, B&W conducted such nicotine delivery research as part of a coordinated BAT Group research strategy, with "work done by a variety of groups in Southampton, Louisville and elsewhere." 400854060-4066 at 4060 (US 67851) (O).

2753. BATCo's Operating Group Five Year Plan 1991-1995, dated January 15, 1991, stated that "[b]asic research will continue into products delivering adequate levels of nicotine . . .[,] controlled release of nicotine . . . and enhancement of the transfer of nicotine . . . ." BATCo used this knowledge to develop ultra low tar products that delivered the nicotine at a level equal to regular cigarettes:

> Ultra Low Delivery Products - High priority will be given to the development of more satisfying products in the low and ultra low delivery ranges (1-9 mg). New concepts developed through Projects FELT and GREENDOT will be applied to a range of products in the next 2-3 years, especially at low delivery levels . . . Project FELT which is to be test-marketed as B&H SM in Belgium in the second quarter of 1991, has demonstrated BAT's ability to design a 9 mg flue-cured product that has the impact, satisfaction and mechanics of a 14 mg commercial product (B&H SF). The principles applied to FELT will now be used to develop a 7 mg USB style product to match a 12 mg US commerical product.

201752783-2899 at 2837, 2838 (US 85452) (O).

2754. BATCo and B&W's research on manipulating the nicotine-to-tar ratio continued into the 1990s. Various methods of nicotine manipulation are discussed in the companies' joint 1991 Fundamental Research Programme Review. The goal of the fundamental research programme was to produce "products which are superior to competition (particularly Philip Morris)." Projects identified to meet the goal of improving the smoke quality of the company's products included identifying and overcoming the "existing barriers to sensory acceptability" of low tar/high nicotine products. Another project, Greendot, was aimed at creating low tar-to-nicotine ratio products for which the company could achieve both "Marketing and Regulatory support." 401090280-0294 (US 47539) (O).

2755. The efforts of BATCo and B&W to modify the nicotine-to-tar ratio also centered around the use of a genetically-engineered, increased nicotine content tobacco known as Y-1. See Wigand WD, 101:10-102:14; US FF § III.C(2)(c)(ii), supra.

2756. On March 8, 1994, BATCo published a "Review of Information on Sensory Effects of Changing Tar/Nicotine Ratio of Smoke," designed to summarize the company's knowledge on the "sensory effects of changing tar/nicotine ratios of smoke." The summary was devised to help "point the way" toward "manipulat[ing] and modify[ing] the impact and irritation

sensations and the balance between them." The summary pointed out the following main conclusions:

> (1) impact increases when nicotine delivery is increased and tar remains constant;
> (2) impact increases when nicotine delivery is held constant and tar is reduced;
> (3) a decrease in the tar/nicotine ratio increases smoke pH, which increases impact; and
> (4) nicotine is the source of impact.

Contrary to BATCo's assertions that it did not engage in nicotine manipulation, this report clearly demonstrates that BATCo's research in this area was aimed at gaining an "understanding of how impact and irritation can be tailored to meet product requirements by optimisation of nicotine delivery." 575102998-3015 at 3002-3003, 3010 (US 53213) (O).

(ddd) American

2757. In late 1967 and early 1968, American conducted a series of tests to determine nicotine content in puffs of cigarette smoke achieved through the addition and manipulation of a carbon filter to its Tareyton cigarettes. The results of the studies clearly reveal that American was aware that nicotine and tar levels could be manipulated individually. X003580-3586 (US 34161) (A).

2758. By the 1960s, American was undertaking numerous studies designed to affect the tar to nicotine ratio naturally found in cigarettes. These methods included adding nicotine to reconstituted tobacco, increasing the amount of Burley tobacco – which is naturally higher in nicotine content than other tobaccos – in a blend to determine its effect on the "nicotine yield," and producing tobacco plants, such as N rustica, that had almost double the concentration of nicotine as other tobacco plants used by American. MNAT00316688-6693 (US 21219) (O); X003421-3431 at 3421, 3424 (US 34158) (A); MNAT00881318-1323 (US 21221) (O); see also X002999-3038 (US 88082) (O).

2759. In 1969, American researchers, working with researchers from Philip Morris, RJR, and Liggett, conducted experiments "to determine if [genetically different tobacco] varieties differ in their ratio of nicotine to FTC 'tar.'" MNAT00533294-3295 at 3295 (US 21665) (O).

2760. An April 29, 1974 memorandum from R.M. Irby, Jr., Manager of New Products Division for Research and Development, to Virginius Byran Lougee, III, executive, and E.C. Cogbill, scientist, entitled "Compound W"– American's code word for nicotine – describes the company's successful efforts to increase the nicotine content of its cigarette tobacco, thereby increasing the nicotine-to-tar ratio of its cigarettes:

> Regular PALL MALL Red blend analyzing 1.95% nicotine . . . was treated with Compound W to increase nicotine in the blend by 19% . . . To make absolutely sure that the complete evaluation has been carried out at the desired nicotine level, the TC-22 blend will be modified with regular PALL MALL blend to yield an exact increase of 19% above the standard 1.87% nicotine blend. This is currently under way. . . LUCKY 100's blend was treated with Compound W to yield 2.58% nicotine; a 21% increase above the standard control of 2.13%.

It was also found that "Compound W" added to tobacco has little effect on the overall taste of the cigarette. Impact is increased slightly." ATX050142123-2128 at 2123-2124 (US 21602) (O); Sprinkle PD, Carter, 1/19/96, 99:16-17; Henningfield WD, 93:9-94:5.

2761. Robert Sprinkle testified that American had a target burn rate and a target puff count that it sought to achieve in its cigarettes, and that it achieved these targets in part through controlling paper porosity. He also testified that American selected paper porosity in order to assure a target nicotine delivery to smokers. Sprinkle PD, Small, 10/16/97, 67:22-68:25.

2762. In a 1977 document, American's researchers suggested "methods for increasing the [nicotine to tar] ratio" ["NTR"]: (1) "addition of nicotine to the tobacco"; (2) "addition of ammonia salts . . . to tobacco, which on smoking would free the ammonia and thereby cause an

increase in nicotine transfer to the smoke"; (3) increasing "the porosity of cigarette paper"; (4) "adding a nicotine salt . . . to cigarette paper"; (5) "making cigarette filter tips basic [to] enhance the nicotine transfer in the smoke and [to] increase the NTR's. . . . Adding nicotine salts to the cigarette filter is also a means to increase the NTR"; and (6) "adding salts that enhance the combustion of the tobacco" to offset the "reduction in the nicotine content" caused by reducing tar. MNAT00533268-3286 at 3270-3272 (US 22175) (O).

(eee) Lorillard

2763. A draft presentation located in a 1969 file of Alexander Spears demonstrates the early extent of Lorillard's understanding of the factors affecting nicotine delivery and mechanisms that might be used to alter the ratio of nicotine to tar in cigarette smoke. In the draft presentation describing Lorillard's research efforts, Spears wrote:

> The research activities on the physiological element are concerned with nicotine. The quantity of nicotine required for the stimulus is mediated to the nicotine content of the cigarette by several factors: (1) absorption rate into the bloodstream, once the nicotine has deposited on the respiratory tract; (2) fraction of inhaled nicotine which is deposited in [the] respiratory tract (pH dependence); (3) concentration of nicotine in the smoke and (4) transfer rate of nicotine from the tobacco to the mainstream smoke.

Spears further stated that "it would be useful to have a wider range of control over nicotine than now exists, through the selection of tobacco and the physical construction of the smoking article. **Within one year, it is expected that tobacco modifications can be made to optimize absorption of smoke nicotine.**" 87667736-7740 at 7737 (US 56302*) (O) (emphasis added). In an undated paper entitled "Factors Affecting Smoke Delivery of Nicotine and Carbon Monoxide," Spears identified several factors that affect the nicotine yield of a cigarette and stated: "**Through [a] combination of these variables, plant genetics and commercial processes, . . . it is possible to manipulate the yield of nicotine from about .1 mg to 4 mg per**

cigarette." 00044998-5021 at 5001-5002 (US 34208) (O) (emphasis added).

2764. By 1971, Lorillard was analyzing the nicotine content and nicotine-to-tar ratio of several brands of cigarettes in connection with sales data for each brand. In a February 8, 1971 memorandum to top scientist Alexander Spears and C.L. Tucker, Jr., Director of Product Development and Marketing Research, S.T. Jones wrote that "[i]t has become apparent from the available data that the top sellers, e.g. Winston, Salem, Marlboro, and Kool are all fairly high in smoke nicotine. . . . The one other parameter common to the top sellers is the ratio of smoke nicotine to 'tar'." Jones concluded that "[t]he ratio of nicotine to tar can be controlled by blending high nicotine and tar grades with low ones resulting in a net gain of nicotine delivery over tar level." 00776195-6201 at 6195, 6196 (US 34293) (A).

2765. Lorillard's efforts to modify the nicotine-to-tar ratio of its cigarettes included a long-term program beginning in the mid-1970s to enrich its low tar cigarettes with nicotine. The "nicotine-enriched" low tar cigarette was a top priority at Lorillard in 1976. 526321374-1376 (US 85453) (O); 00781406-1417 (US 20029) (A); Farone WD, 96:7-19; Spears PD, Minnesota, 9/23/97, 156:2-159:14.

2766. By 1976, Lorillard had embarked upon a comprehensive study of product design mechanisms for manipulating the nicotine content and delivery of its products with the goal of developing a "cigarette delivering lower tar while at the same time delivering a level of nicotine higher than could be obtained normally. [sic] by conventional cigarette construction." A May 4, 1976 memorandum to F.J. Schultz, Vice President of Research and Development, from Harry Minnemeyer, Director of Research, details the scope of Lorillard's extensive research plan, dubbed the "Nicotine Augmentation Project (NAP)." In the memorandum, Minnemeyer described proposed research into numerous mechanisms for manipulating nicotine, including,

inter alia, adding "nicotine from an outside source to that naturally present in cigarette tobaccos"; chemical treatment of tobacco with ammonia to create more free nicotine in the smoke, which "would have a much greater physiological effect than nicotine salts"; air dilution of cigarette smoke; decreasing the acidity of smoke; and development of filters that selectively allow the passage of nicotine while reducing tar. 00050444-00050450, passim, (US 47721) (A); Farone WD, 96:7-19; see also 00044529-4533 (US 34192) (A); 00050440-0443 (US 47720) (A).

2767. At trial, Lorillard contended at trial that its interest in nicotine augmentation was entirely due to ideas for potentially less hazardous cigarettes discussed at a meeting of NCI's Tobacco Working Group in May 1976, pointing only to a single reference among its literal volumes of internal research documents referring to "[r]ecommendations of health oriented agencies." See Henningfield TT, 11/30/04, 7360:11-7361:14. In fact, trial testimony and other evidence show that Lorillard and other Cigarette Company Defendants were researching the manipulation of nicotine, including altering pH, well before that recommendation was raised by the Tobacco Working Group in 1976. Henningfield TT, 12/1/04, 7518:17-7527:14. Moreover, Lorillard's internal research documents belie their contention, indicating that their intent and motivation in engaging in nicotine augmentation research was to assure "nicotine delivery necessary to achieve long term use and satisfaction by the consumer." 00361822-1823 at 1823 (O) (US 20024)

2768. By 1976, Lorillard was evaluating methods it believed might be used by other Defendants, including Philip Morris and RJR, to externally apply nicotine to tobacco in order to "raise the impact" of low tar cigarettes "while maintaining a low ‘tar' profile." In a March 9, 1976 memorandum from J.R. Reid to Minnemeyer, Reid reported on the methods believed to be used by other Defendants and recognized that the research was important because of "[r]ecent

public demand for low tar smoking materials." 00120379-0388 at 0379, 0380, 0384 (US 85455) (O).

2769. In a March 2, 1976 memorandum to Alexander Spears regarding the "R&D Sedgefield Meeting," Lorillard's Schultz summarized the various research topics discussed at the meeting, which took place on February 3, 1976. Regarding the topic of "Enhancement of Nicotine or Nicotine Effects," Schultz stated that "[t]he modification of products to allow delivery of more of the available nicotine in the free form was discussed as a viable possibility." With regard to the topic "Very Low Tar Cigarettes," Schultz summarized that "[i]t was considered that cigarettes with tar deliveries of 2 mg or less are likely to become important but that reasonable levels of nicotine (0.5 mg or more) and relatively high flavor levels would be necessary to make such a product a leader in the field." 01111982-1985 at 1984-1985 (US 34311) (A); Farone WD, 96:7-19.

2770. In 1976, Lorillard also investigated spraying free nicotine or nicotine tartrate onto cigarette tobaccos using various solvents to increase the nicotine-to-tar ratio in the cigarette smoke. The resulting taste impact would be similar to that of naturally occurring nicotine in regular production cigarettes. 00781406-1417 (US 20029) (A).

2771. In a June 8, 1976 report on a portion of Lorillard's Nicotine Augmentation Project entitled "Application of Free Nicotine to Cigarette Tobacco and the Delivery of that Nicotine in the Cigarette Smoke," T.M. Larson and J.P. Morgan explained the purpose of the research: "Nicotine was applied as free nicotine and nicotine tartrate to different tobaccos for the purpose of increasing the nicotine to tar ratio in cigarette smoke." One conclusion of the study was that "only a small addition of free nicotine was needed to provide the impact of a higher nicotine cigarette." 00398312-8322 at 8312 (US 85456) (A); Farone WD, 96:7-19.

2772. In a June 16, 1976 memorandum to Alexander Spears, H.J. Minnemeyer gave another progress report on Lorillard's "Nicotine Augmentation Project." Minnemeyer wrote that "[a]bout a dozen approaches have been recognized as a possible solution to the problem of delivering more nicotine in the smoke of low tar cigarettes." Minnemeyer stated that "[o]ne approach involved the procurement and addition of nicotine to tobacco to supplement that already present, while [another] attempts to optimize the delivery of nicotine already present in cigarette tobaccos. . . ." Minnemeyer also reported that small amounts of nicotine could be added to a blend without affecting the tar-to-nicotine ratios reported by FTC testing:

> Participants in this work now feel that a satisfactory low tar smoking article might be achieved by the addition of much less nicotine than was previously thought necessary. By spaying the blend with a small amount of nicotine it might be possible to get the impact of a higher T&N cigarette. This might be achieved without actually changing the T&N figures one would get from untreated tobacco.

00044525-4528 at 4525, 4526 (US 34191) (A).

2773. Also in connection with its Nicotine Augmentation Project, Lorillard concluded as early as January 31, 1977, that nicotine could be successfully added to reconstituted tobacco leaf by spraying, that nicotine added in this manner was in fact delivered to the smoker in a normal manner, and that "the added nicotine improved the overall quality of the RL [reconstituted leaf] smoke somewhat." 81090368-0380 at 0369, 0372 (US 85457) (A); Farone WD, 96:7-19. In an April 12, 1977 report concerning "Enrichment of Reconstituted Leaf Nicotine Content By Direct Addition of Nicotine Alkaloid to the RL Slurry," Morgan and Larson concluded that the "[n]icotine content of the final product can easily be controlled by the addition of predetermined amounts of nicotine alkaloid." 00398474-8484 at 8474 (US 20025) (A); 01254872-4876 (US 20043) (A); Farone WD, 96:7-19. In a June 30, 1977 memorandum, H.S. Tong recommended

further study of the "enrichment" of reconstituted tobacco leaf through the addition of pure nicotine or nicotine salts, stating: "I think it is an important and worthwhile project because it gives us precise control over nicotine contents in all our products." 00045059-5059 (US 34209) (A); Farone WD, 96:7-96:19.

2774. A July 27, 1976 memorandum from Senior Chemist M. A. Skladanowski to Mary Sue Ireland described methods studied by Lorillard to "increase nicotine to tar ratios in the mainstream smoke of cigarettes." The memorandum notes that: "The use of air dilution to augment cellulose acetate filters has increased as the demand for low tar and nicotine cigarettes has increased. . . . The renewed interest in air dilution as a filter mechanism is due to the fact that these filters produce relatively high nicotine in the mainstream smoke." 00044989-00044993 at 4989 (US 34207) (A). Later that year, Skladanowski reported in a November 4, 1976 memorandum the results of another internal research project concerning the effect of air dilution filtration on nicotine delivery and determined that among "[t]he advantages of a total air dilution cigarette are . . . higher nicotine to tar ratios . . . [and] [g]reater smoke pH." 00044975-4984 at 4975 (US 34205) (A). In an April 4, 1977 memorandum, Skladanowski again reported the results of a study of air dilution filtration, finding that:

> [a]ir dilution alone, without a cellulose acetate filter increased the nicotine to tar ratio in the smoke and the number of puffs per cigarette. . . . By simply removing the cellulose acetate filter and adding air vents, a True 85 cigarette with 11.6 mg tar and 0.6 mg nicotine was modified to deliver 13 mg tar and 1 mg nicotine. The nicotine to tar ratio in the smoke of modified cigarette . . . was 52% greater than in the control.

00044955-4970 at 4959 (US 85459) (A); Farone WD, 96:7-19.

2775. A 1977 Lorillard research proposal offered as part of the Nicotine Enrichment Project detailed plans for two new Lorillard products: (a) a cigarette of 2 milligrams of tar having

the taste level of a Kent Golden Light; and (b) a cigarette of 8 milligrams of tar having the taste of a Marlboro. The proposal included detailed plans to engineer the cigarettes to offer pre-determined amounts of nicotine. 01417830-7840 (US 20048) (O).

2776. By 1977, Lorillard was investigating possible nicotine sources because it believed that one promising method for developing a low tar cigarette with a high nicotine to tar ratio was the addition of nicotine or nicotine salt directly to a low tar, low nicotine tobacco blend. A February 7, 1977 report by J.R. Reid entitled "Investigation into the Extraction of Nicotine from Tobacco" demonstrates that Lorillard's study of methods to remove nicotine from tobacco was part of this effort:

> Lorillard currently desires to introduce a low 'tar', moderate nicotine cigarette as a marketable sales brand. One means of accomplishing this goal is by the addition of nicotine . . . onto a low tar, low nicotine blend of tobaccos. . . . Our primary objective was to study the economically feasible sources of nicotine and its isolation and recovery as the pure alkaloid or as a nicotine salt.

00778281-8321 at 8285 (US 34296) (A); see also 00118828-8832 (US 34269) (A); 00044800-4803 (US 34197) (A); Farone WD, 96:7-19.

2777. A February 14, 1978 confidential report prepared by Harry Minnemeyer and P.D. Schickedantz reviewed the progress of Lorillard's Nicotine Augmentation Project. The report reveals that Lorillard had initiated a "major new project . . . in order to create the technology necessary to market a cigarette with a nicotine to tar ratio higher than is normally found in commercial cigarettes." The report reviewed the various technological mechanisms studied by Lorillard as a means of increasing nicotine delivery to the smoker in "ultra low- and low-tar" cigarettes, including: studies of Lorillard's manufacturing process for the purpose of determining whether nicotine could be extracted from the waste of normal tobacco processing; studies of the effect on nicotine delivery and impact of spraying tobacco with nicotine tartrate and free

nicotine; studies of increasing the ratio of free nicotine to total nicotine by raising smoke pH; and studies of increasing the nicotine to tar ratio of "low tar" cigarettes through filter design and treatment of the filter with additives. 00782192-2223 at 2196-2199 (US 54377) (A); Farone WD, 96:7-19.

2778. In 1982, Lorillard experimented with adding bases to tobacco to enhance migration of nicotine to mainstream smoke and alter nicotine-to-tar ratios. 00053989-4018 (US 34217) (A); 00053989-4018 (US 47723) (A); Henningfield WD, 75:22-76:1, 77:15-18; Farone WD, 96:7-19.

2779. Lorillard extensively studied the effect of the treating filters with various chemical additives on the nicotine-to-tar ratios in mainstream smoke. For example, an April 8, 1982 memorandum concerning the "Results of Preliminary Experiments to Increase Nicotine to Tar Ratios in Mainstream Smoke by Augmenting Nicotine Elution from the Filter" concluded that increasing the amount of nicotine in a filter, modification of particle size in the smoke aerosol, and modification of the polarity of a filter were all possible mechanisms by which more nicotine could be "eluted," i.e., extracted by means of a solvent, from a filter and thus by which the nicotine to tar ratio could be increased. 00054361-4368 at 4361, 4367 (US 34220) (A).

2780. A July 25, 1984 memorandum reported on Lorillard's "Evaluation of Potassium Acetate as a Cellulose Filter Additive." The report concluded: "Addition of potassium acetate cause significant increases in nicotine delivery (28%, 45%) and nicotine/CPM [corrected particulate matter] levels (19%, 36%) relative to the control." 83897124-7127 at 7125 (US 55935) (O); see also 88169525-9528 (US 56437) (O).

2781. An August 3, 1984 memorandum from M.A. Sudholt to M.S. Ireland acknowledged that "[o]ne object of the nicotine project has been to increase the level of nicotine

relative to tar in cigarette smoke. Increased ratios of nicotine to [tar] as high as 66% were obtained with diethylaminoethyl cellulose ion exchanger purchased from Whatman." 83897139-7142 at 7140 (US 55938) (A); see also 81070726-0727 (US 88772) (A); Farone WD, 96:7-19.

2782. A February 6, 1985 memorandum described the "ultimate goal" of Lorillard's ongoing study of filter design as "increas[ing] the amount of nicotine which 'migrates' to the filter from the tobacco while cigarettes are stored, prior to consumption. It is hoped that shifting more nicotine to the filter than is currently shifted with cellulose acetate filters will increase the smoke impact." The report concedes: the "major objective" of Lorillard's study of nicotine was "to increase the physiological impact and/or nicotine to tar ratio in ultra low tar cigarettes." 80551040-1042 at 1040 (US 55381) (A).

2783. Alexander Spears, Lorillard's CEO, admitted in testimony that Lorillard conducted a large-scale effort in the 1970s and 1980s to augment or enrich the nicotine in its cigarettes, in part through adding alkali compounds directly to the filters of its cigarettes. Spears PD, Minnesota, 9/23/97, 156:2-159:14; 80642659-2661 (US 21996) (O).

(fff) Liggett

2784. Liggett also had projects to alter the ratio of nicotine to tar. In 1970, Liggett changed the tobacco blends of at least six brands, which resulted in an increased ratio of nicotine to tar in those brands. LG2013892-3893 (US 21189) (O).

2785. In 1977, Liggett's new product concepts included producing a "low tar cigarette with increased nicotine impact." Methods for designing this proposed cigarette included adding nicotine to the tobacco blend, or increasing the smoke pH through the use of additives. LWDOJ9165472-5472 (US 22169) (O).

2786. In 1978, Liggett researched creating "Cigarettes with Elevated Nicotine." As part

of this research, Liggett created test cigarettes using the additive nicotine malate to alter the nicotine-to-tar ratio. LG234157-4157 (US 21425) (O).

2787. In a May 25, 1994 letter responding to a request for information from Congress concerning any research studies Liggett had conducted concerning the relationship between nicotine and taste, Liggett stated that

This statement demonstrates that Liggett did not consider nicotine a significant contributor to a cigarette's taste. LDOJ9511212-1230 at 1216, 1218 (US 86933) (O) (Confidential).

2788. In a November 9, 2001 e-mail to Vector and Liggett management and employees, Timothy Jackson, the Vice President for Operations at Vector Tobacco, stated with regard to the Omni and Quest cigarette brands,

VDOJ 25299-5299 (US 75450) (O) (Confidential). In another e-mail dated August 27, 2001, Jackson informed Liggett and Vector management that the Omni was being modified in order to Jackson further informed management that alternatives were being considered VDOJ 25348-5348 (US 64735) (O) (Confidential).

2789. In an August 23, 2001 e-mail discussing product design on six new cigarettes, Jackson noted that demonstrating an intent that Liggett's new products achieve a specified, pre-determined level of nicotine delivery. VDOJ 25347-5347 (US 64736) (O) (Confidential).

2790. A memorandum dated July 25, 2001, regarding the launch of Omni Gold, a

Vector Tobacco product, details cigarette design changes in the filters, paper, and various flavorings. This memorandum also acknowledges the concept of compensation and notes that a particular choice of paper

A Liggett scientist has acknowledged that choice of filters, paper, and additives, can affect nicotine delivery. VDOJ 25339-5341 at 5339, 5340 (US 64737) (O) (Confidential); Dietz PD, United States v. Philip Morris, 7/1/02, 95:3-118:8.

2791. Liggett acknowledges that one aspect of a cigarette is that it is a system for the delivery of nicotine to the smoker, which is confirmed by Liggett's view that denicotinized products have not been successful. Dietz PD, Minnesota v. Philip Morris, 9/29/97, 66:14-68:7.

(iv) Smoke pH and Ammonia: Alteration of Chemical Form of Nicotine Delivered in Mainstream Cigarette Smoke for the Purpose of Improving Nicotine Transfer Efficiency and Increasing the Speed with Which Nicotine is Absorbed by Smokers

2792. The Cigarette Company Defendants have used chemical additives to alter the form of nicotine delivered to the smoker and enhance the speed of absorption. One main area of research that Defendants pursued and implemented with the intent of manipulating nicotine was the use of techniques to alter the pH of smoke.

2793. The acidity or alkalinity of a substance is commonly expressed as a measure of pH. The pH scale is open ended, but most substances have pH measurements ranging from zero to fourteen on the scale, with a pH below seven representing an acidic substance, and a pH measurement above seven representing an alkaline, or basic, substance. Farone WD, 8:20-9:3. The pH scale is a logarithmic scale, meaning that as pH rises, the alkaline (or basic) nature of a substance increases exponentially by a magnitude of 10 between each unit of measurement on the scale. For example, a substance with a pH measurement of 6 is ten times more basic than a

substance with a pH measurement of 5, while a substance with a pH measure of 7 is 100 times more basic than one with a pH measurement of 5. See Henningfield WD, 68:16-69:1.

2794. The pH of tobacco smoke is significant because it affects the chemical form of nicotine delivered in mainstream smoke, which in turn affects the rate and amount of nicotine delivery and the speed of absorption of nicotine over certain biological membranes. Henningfield WD, 69:2-9. Nicotine in cigarette smoke is found primarily in two different chemical states: either the protonated "bound" form or the unprotonated "free" form. As cigarette smoke becomes more basic – that is, as the smoke pH rises – more of the nicotine delivered is in its "free" chemical form. At a given pH, there is a given ratio of free to protonated nicotine. As more nicotine is delivered in the free, unprotonated form, a greater proportion of the nicotine is also delivered in the gas phase of smoke. Farone WD, 93:22-94:7.

2795. Molecule for molecule, the pH of the tobacco and/or cigarette smoke is an important determinant of how much nicotine gets into the bloodstream of a person exposed to nicotine through cigarette smoking. Creating more free nicotine by increasing the pH level of cigarette smoke increases "the amount of nicotine that can be readily released from the tobacco rod of a cigarette and, in turn, readily absorbed into the body of the cigarette smoker." Henningfield WD, 68:16-69:12, 69:19-70:2; Wigand WD, 118:14-20. Some of the Cigarette Company Defendants' internal research documents refer to the measurement of the amount of nicotine transferred from the original unsmoked tobacco rod to the cigarette smoke (where it is available for inhalation) as "nicotine transfer efficiency" or "NTE." Farone WD, 101:19-22; Henningfield WD, 72:22-73:14; 103281081-1112 (US 34706) (A); 599003691-3695 (US 22077) (A); 103281081-1112 at 1082, 1099 (US 20234) (A).

2796. Free nicotine also is more volatile and more physiologically active than bound

nicotine. Farone TT, 10/6/04, 1609:21-1610:6; Farone WD, 95:8-12; 00776238-6250 (US 21477) (O). It, therefore, is more rapidly transferable across the biological membranes of the mouth and oral mucosa than bound nicotine. Henningfield WD, 69:2-9; Henningfield TT, 12/01/04, 7517:24-7518:8; Farone TT, 10/6/04, 1610:10-20; Farone TT, 10/7/04, 2015:8-11. In addition, because free nicotine is volatile and more physiologically active than bound nicotine, the presence of more free nicotine in cigarette smoke also increases nicotine's effect on the central nervous system, because it transports across cells more rapidly. Farone WD, 76:11-77:1; Farone TT, 10/7/04, 2015:1-8, Farone TT, 10/12/04, 2126:10-12.

2797. Through research on nicotine's effects on the brain, Defendants were aware that there are greater physiological effects, and therefore "impact," with cigarettes that have a greater percentage of the nicotine in the free form. Farone WD, 76:18-19; 96:7-97:14; Farone TT, 10/12/04, 2126:8-2127:8. Two cigarettes with identical nominal machine-measured nicotine yields may have different impacts. 506236904-6907 at 6905 (US 88059) (O); 1000048537-8552 at 8539 (US 35106) (A). This difference in impact is due not to the amount of nicotine but to the form of nicotine and its availability to be absorbed in the mouth and oral mucosa of a smoker. Henningfield WD, 68:2-9; Dixon WD, 13:17-20. The addictive nature of cigarette smoking has a sensory component, and a cigarette's impact is significant to that sensory component. Henningfield WD, 81:22-23. Defendants' internal research documents have long recognized the significance of impact to addiction. For example, a BATCo document discussing the significance of the speed of nicotine delivery stated: "Within 10 seconds of starting to smoke, nicotine is available in the brain. Before this, impact is available **giving an instantaneous catch or hit, signifying to the user that the cigarette is 'active.'"** 400993160-3331 at 3320 (US 75975*) (emphasis added) (A); see also, 500378383- 8386 at 8385 (US 85467) (A).

2798. Extensive evidence in the record shows that Defendants were well aware of the particular chemical characteristics and effects of free nicotine and undertook extensive efforts to exploit these features. Internal research at Philip Morris confirmed that cigarette smoke that is more basic increases nicotine's effects on the central nervous system, and that the "rate of entry [of nicotine into the bloodstream] is pH dependent." 2025986551-6553 at 6552 (US 37312) (A); 2025986931-6935 at 6934 (US 37314) (A); 2056128345-8379 (US 20496) (A). As one Reynolds document explained: "In essence, a cigarette is a system for delivery of nicotine to the smoker in attractive, useful form. . . . As the smoke pH increases above about 6.0, an increasing proportion of the total smoke nicotine occurs in 'free' form, which is volatile, **rapidly absorbed by the smoker**, and believed to be instantly perceived as nicotine 'kick'." 511223463-3484 at 3466 (US 20840) (A) (emphasis added).

2799. Increasing the pH by a small percentage can double, triple, or quadruple the amount of free nicotine available for inhalation in cigarette smoke. Therefore, by increasing the pH on a small scale (e.g., from 0% unprotonated to 2% or 4%), a significant increase in free nicotine results. Henningfield WD, 68:16-69:1, 86:5-14.

2800. There are several means by which the pH level of cigarette smoke can be altered. The blend of tobacco used to make the cigarette is important to pH because, for example, Burley tobacco is naturally higher in alkaloids and nitrates than other tobaccos, and therefore, yields a higher smoke pH. Farone WD, 94:8-12.

2801. Another significant means of altering pH is through the use in the manufacturing process of additives, such as ammonia or ammonia-based compounds, or other compounds that create ammonia when burned. Farone WD, 94:8-12; Henningfield WD, 69:13-18; Rodgman PD, United States v. Philip Morris, 6/26/02, 155:15-156:6, 157:7-13. Ammonia compounds are basic

substances that raise the pH level and thus convert bound nicotine to free nicotine. Farone WD, 94:11-12, 16-18. The pH of cigarette smoke can be altered through the addition of ammonia compounds directly to the filler material as well as through the use of ammonia compounds in the process of making reconstituted tobacco. Henningfield WD, 69:13-18. In addition to the fact that ammonia compounds alter the ratio of free to bound nicotine in cigarette smoke, the way ammonia actually works is also important. When ammonia is released during combustion, it sweeps along the remaining tobacco in the rod, which has been moistened by water of combustion, replacing nicotine and causing the nicotine to be released in gas phase from the tobacco. Farone WD, 94:18-21. Research as early as 1975 showed that, through controlling pH, "up to 14% of the nicotine can be delivered in the gas phase of smoke." Farone WD, 100:4-15; VXB3282256-2278 at 2275 (US 61368) (A). Finally, because they are not as bitter as nicotine, ammonia compounds also alter the impact of smoke and nicotine by smoothing the smoke. Farone WD, 94:15-16.

2802. As discussed above, this transformation of cigarette smoke caused by ammonia compounds facilitates consumer use of cigarettes for pharmacological purposes by: (1) increasing the amount of nicotine that is transferred from the tobacco to the smoke; (2) increasing the absorption of nicotine in the mouth and oral mucosa; and (3) increasing the speed of delivery of nicotine to the bloodstream and possibly to the brain. 511223463-3484 (US 20840) (A); Henningfield WD, 69:2-18, 74:21-75:13; 85:12-86:14; "Nicotine in Cigarettes and Smokeless Tobacco Products Is a Drug and These Products Are Nicotine Delivery Devices Under the Federal Food, Drug, and Cosmetic Act: Jurisdictional Determination," 61 Fed. Reg. 44619 (August 1996) (jurisdictional determination annex) at 44974-44975 (US 61237) (A). The speed with which a drug is delivered to the body influences its addictive potential, and the speed of

delivery can be influenced by factors such as: where the drug is targeted, the pH, and the concentration of the drug in aerosol. Henningfield WD, 32:6-12, 33:20-21.

2803. In addition to raising the pH level, ammonia treatment leads to lower nicotine levels being reported through FTC testing than the nicotine level actually received by a smoker. This is true because ammonia treatment causes more nicotine to be released from the tobacco as gas phase nicotine, and FTC testing devices do not measure gas phase nicotine. Farone WD, 98:9-16. Thus, separate and apart from the discrepancies in nicotine yield between FTC testing and human smoking that are attributable to Defendants' cigarettes designs that facilitate smoker compensation, cigarettes with more gas phase nicotine regularly deliver more nicotine to smokers than their FTC ratings suggest. Farone WD, 98:14-16.

2804. The Cigarette Company Defendants' internal research documents reveal that, at least until the time they were publicly accused of using ammonia technology and other methods to alter the pH of cigarette smoke, Cigarette Company Defendants steadfastly embraced these basic scientific principles concerning pH, and that they incorporated the use of ammonia technology in their commercial products with the intent to alter the pH of cigarette smoke and thereby affect nicotine delivery and absorption in smokers. Although in recent years Defendants have set out to disprove the science upon which they relied for decades, following public accusations against the tobacco industry in 1994 and the publication of the results of the FDA's investigation of the industry in 1996 (see Section III.C(2)(a), supra), the weight of the evidence in this case demonstrates that Cigarette Company Defendants' post-hoc efforts to minimize the significance of their use of ammonia technology in commercial products is unpersuasive, and that the testimony of Defendants' witnesses on these points is not credible.

2805. First, the internal research documents of the Cigarette Company Defendants,

identified specifically in the findings set forth Defendant-by-Defendant below, demonstrate that: (1) the Cigarette Company Defendants have been aware at least since the 1960s of the ability to alter the amount and form of nicotine delivered to smokers by using cigarette design techniques intended to raise the pH of cigarette smoke; (2) the Cigarette Company Defendants incorporated design techniques – including, but not limited to, the use of ammonia technology and alterations to the tobacco blend – to raise the pH of the smoke in their commercial products with the purpose and intent of creating cigarettes that would deliver a greater amount of free nicotine and allow for faster absorption of nicotine than cigarettes with lower smoke pH; (3) Cigarette Company Defendants took these actions in order to assure that their purportedly low-delivery products could deliver doses of nicotine sufficient to create and sustain addiction in cigarette smokers, Farone WD, 75:1-6, 93:12-15, 94:4-98:8; (4) the extensive research conducted by the Cigarette Company Defendants' on the methods and effects of altering the pH of cigarette smoke demonstrates their internal acceptance of the scientific principles concerning alteration of smoke pH relied upon by the United States' experts on this subject.

2806. Second, Defendants have argued that the pH of cigarette smoke has not, on average, increased over the years. However, before the Cigarette Company Defendants started using ammonia technology in their products, the pH for cigarette smoke was much lower. Farone TT, 10/7/05, 1995:24-1996:16, 2010:19-22. Indeed, the pH of cigarette smoke has risen steadily since the late 1960s, such that it has recently been tested at one full pH unit higher (i.e., a ten-fold increase) than the level it was in the 1960s. Farone TT, 10/7/04, 1995:6-23, 2010:18-2011:2; DXA1200008-0012 (US 88093) (A); Farone WD 98:2-8, 100:16-101:6.

2807. Third, although Defendants argue that there is virtually no free nicotine at the pH levels generally found in commercial cigarettes, the evidence demonstrates that a small upward

increase in smoke pH can cause significant chemical and biological effects by substantially increasing amount of free nicotine delivered to the smoker and cause. Henningfield WD, 68:23-69:1, 69:21-23; 500606138-6153 (US 48334) at 6140 (O) (showing that an increase in pH from 6.0 to 6.5 more than triples the amount of free nicotine available in cigarette smoke). There also is substantial documentary evidence, detailed below, that Cigarette Company Defendants' scientists found these "small" increases in pH and free nicotine delivery to be extremely significant to their ability to deliver an "optimum" dose of nicotine, i.e., one that was capable of creating and sustaining addiction in cigarette smokers.

2808. The manner in which the measurement of smoke pH is derived has a significant impact on its accuracy. Cigarette Company Defendants have been aware that the methods historically used to measure smoke pH have resulted in measurements that are "biased approximation[s]" of the actual smoke pH, but are believed to be sufficient to "give a practical scale for comparative studies." 00044921-4938 at 4921, 4923-27 (US 34203) (A); see also Dixon WD, 56:11-21. While these historical methods have been relied upon by researchers inside and outside the tobacco industry, it is known that measuring the pH of smoke is difficult as a technical matter because it typically involves the use of aqueous solutions or other methods that may affect the pH measurement. 00044921-4938 at 4921, 4923-27 (US 34203) (A).

2809. Indeed, a recent, peer-reviewed scientific study authored by James Pankow, and relied upon by the United States' experts, used a method for calculating smoke pH that is a "significant advancement" in determining accurate measures of smoke pH. Benowitz TT, 11/2/04, 4782:23-25; DXA1200008-0012 (US 88093) (A). The technique actually measures the proportion of free to bound nicotine found in cigarette smoke, and then "back-calculates" the measurement of the pH of the smoke. As explained by Dr. Benowitz, the Pankow method "looks

at how much nicotine . . . is bound verus unbound in a given smoke . . . [and uses] that calculation to figure out what the pH must have been" in order to yield the particular proportion of free to bound nicotine. Benowitz TT, 11/2/04, 4821:19-4822:5. Pankow measured "the pH of the smoke particle by looking at its effect on partition of [smoke] constituents. . . . So [the method has] great promise as giving us a better indicator of pH than we've had in the past." Id., 4822:2-5.

2810. The results of the Pankow study indicate that the traditional methods that have been used to measure smoke pH have underestimated pH, and that the pH of smoke in typical commercial cigarettes is higher than what earlier studies suggested. Farone WD, 101:1-6. Specifically, the Pankow study reported a pH of 7.08 for the first puff of a commercial Marlboro cigarette, a pH of 6.78 for the first puff of a commercial Winston cigarette, and a pH of 6.91 for the first puff of a commercial Virginia Slims cigarette. DXA1200008-0012 at 0010 (US 88093) (A); Benowitz TT, 11/2/04, 4823:12-4824:11. Based on these results, the Pankow study found that "significant amounts of the nicotine in smoke PM [particulate matter] from some cigarettes can be in the free base form." DXA1200008-0012 at 0010 (US 88093) (A). Dr. Farone concluded that this research demonstrates that previous statements concerning the typical amount of free nicotine present in tobacco smoke have "understate[d] the actual amount [of free nicotine] in cigarette smoke." Farone WD, 101:3-6. Thus, as the United States' experts testified in reliance upon Pankow's work, Defendants have been effective at increasing the amount of free nicotine in the smoke in their commercial products.

2811. Defendants cite the 1979 Surgeon General's Report to support their claim that there is virtually no "free" nicotine in mainstream cigarette smoke; however, as Dr. Farone explained, there are various methods that have been used to measure pH and free nicotine, and

each method can render different results. The test described in the Surgeon General's Report only measured nicotine collected on the collection pad of the measuring device; it did not measure gas phase nicotine. Farone TT, 10/7/04, 2003:15-2004:13, 2005:14-25; DXA1200008-0012 (US 88093) (A).

2812. Regardless of what measurement technique has been used, however, cigarette products that are purportedly low delivery historically have been measured to have pH levels that are higher than higher tar cigarette brands, indicating that Defendants manipulated the pH level of lower delivery products in order to assure delivery of a dose of nicotine sufficient to create and sustain addiction. As Dr. Farone explained, the "exact number [of measured pH] is not as important as the differences between [the pH measurements of regular versus lower delivery cigarettes] because it's showing you whether you have more or less" free nicotine in the smoke of low delivery products. Farone TT, 10/7/04, 2010:9-11.

2813. Fourth, Defendants have asserted that increased presence of free nicotine in cigarette smoke does not affect the rate at which nicotine is absorbed in the body, and that increased free nicotine therefore does not increase the central nervous system [CNS] effects caused by the delivery of nicotine to the brain through cigarette smoking. However, Defendants' arguments are contradicted by basic, fundamental principles of chemistry and of the existing science evaluating the effect delivering drugs in their free chemical form.

2814. The basic principles of chemistry and of the operation of drug delivery systems were established by Drs. Farone and Henningfield. Dr. Farone was accepted by the Court as an expert in four proffered areas: (1) chemistry and biochemistry of alkaloids and addictive drugs; (2) the chemistry of physics of cigarette smoke; (3) cigarette design and technology; and (4) the chemistry and biochemistry of toxic substances and their interactions with living systems. See

Farone TT, 10/12/04, 2185-2191. Dr. Farone's degrees (B.S., Master's and Ph.D.) are all in Chemistry or Physical Chemistry. Dr. Farone testified that he is specifically trained, both through formal education and experience, in the study of colloidal systems (i.e., chemical aerosols and smoke). See Farone WD, 6:1-8.

2815. Dr. Henningfield was accepted by the Court as an expert in all the areas for which he was proffered by the United States: psychopharmacology, including in the areas of health and medical issues related to the development of treatment for medical disorders, including tobacco dependence and other drug addictions, and including in the design and effect of drug delivery systems for addictive drugs. Henningfield TT, 11/22/04, 6786:12-19; Henningfield TT, 12/1/04, 7594:7-8. Dr. Henningfield has a Ph.D. in the field of Experimental Psychology with an emphasis on psychopharmacology, or "behavioral pharmacology," which is the study of drugs that affect the brain and thereby affect mood and behavior, including the interaction between drugs and addictive behavior. Henningfield WD, 2:6-21. Additionally, Dr. Henningfield has extensive experience in the design and evaluation of drug delivery systems, including drugs that are administered by inhalation, and specifically in evaluating the addictive potential of such drugs. Henningfield WD, 29:7-30:9, 33:7-14.

2816. It is a basic principle of chemistry that free nicotine transports across biological membranes more quickly than bound nicotine. Dr. Farone explained that, chemically, materials that are soluble in lipids transport through the chemical structure of cells more rapidly than materials that are less soluble, because cells have a lipid layer through which substances must pass. Bound nicotine is not very soluble in that environment, "[w]hereas free base chemicals, especially of the nicotine type, are more soluble . . . [and pass through cell] membranes much more quickly." Farone TT, 10/6/04, 1610:10-20. "We know chemically, fundamentally, that free

nicotine transports across a cell much more rapidly" than bound nicotine. Farone TT, 10/7/04, 2015:8-11.

2817. It is scientifically accepted that the free base forms of other drugs of abuse, such as free base cocaine, are more reinforcing than their non-free base counterparts because they reach the brain more quickly. Farone TT, 10/7/04, 2012:20-22, 2015:1-2017:5; Henningfield WD, 34:14-17, 85:23-86:4, 86:9-11. Dr. Farone explained that the effects of pH on changing the chemical form of alkaloids like cocaine have been discussed in scientific literature for decades. Farone WD, 94:22-93:3. He also explained the chemical principles of freebasing, which include the fact that drugs in their freebase form are absorbed more quickly, and therefore reach the brain more quickly than other drugs. Farone TT, 10/7/04, 2012-2017. Similarly, Dr. Henningfield explained that alteration of pH is a well established, scientifically effective means of dose control for certain substances, in particular substances in which variation of pH within physiologically tolerable parameters affects the fraction of drug transferred across membranes of the mouth and throat. Henningfield WD, 75:9-12. Techniques to alter pH so as to change the proportion of free and bound molecules of a substance are understood and employed by pharmaceutical companies to control the bioavailability of many drugs, including nicotine in nicotine-delivering medications. Id., 75:7-9.

2818. There is no counter-evidence demonstrating that free nicotine behaves differently than the free base forms of other alkaloids. In fact, studies conducted internally at Philip Morris confirm that free nicotine acts similarly to other free base alkaloids. The studies comparing the central nervous system effects of cigarettes treated with an acid and cigarettes treated with a base confirms that those treated with a base – i.e., those with higher smoke pH values – caused comparatively greater central nervous system effects. 2025986551-6553 at 6552 (US 37312)

(A); 2025986931-6935 at 6934 (US 37314) (A); 2056128345-8379 (US 20496) (A); Farone WD, 76:11-21, 97:7-12.

2819. Defendants contended at trial that ammonia and ammonia forming compounds, such as DAP and urea, do not increase the amount of nicotine going into the bloodstream or the speed at which nicotine enters the blood. In support of this contention, Dr. Michael Dixon, a BATCo scientist, testified concerning a study that he coauthored in 2003 which measured, among other things, nicotine blood levels during smoking. Dixon TT, 3/9/05, 15032:8-15033:18; (JD-031612) (A). However, Dr. Dixon's conclusion is not compelling evidence based on the record before the Court. His study measured the amount and speed of nicotine uptake into **venous blood**, which is not the path by which nicotine is delivered to the brain. After inhalation, nicotine is rapidly absorbed in the lung where it enters the bloodstream and quickly moves into the heart. From the heart, nicotine travels through the **arterial blood** to the brain and other organs. Benowitz WD, 16:4-10. Significantly, Dr. Dixon's study acknowledges that "further study" measuring arterial blood levels "would be required" in order to address this issue. See p.6-7 (JD-031612) (A). Yet, Dr. Dixon failed to inform the Court of this call for further study.

2820. Defendants argue that increasing the proportion of free to bound nicotine could actually decrease nicotine's addictive potential, because free nicotine is absorbed in the mouth rather than the lung, where it travels more slowly to the brain. Defs.' Opening Stmt, 9/22/04, 317:10-20; Dixon WD, 61:16-17, 63:23-64:15. Again, this argument conflicts with basic rules of chemistry. Each droplet of smoke aerosol has a certain ratio of free to bound nicotine. For those droplets that stay in the mouth and throat, the free nicotine is absorbed in that location. However, the droplets that reach the lungs do not lose their free nicotine as they travel there, and once delivered to the lung, basic principles of chemistry dictate that free nicotine should be

absorbed faster than bound nicotine. Farone TT, 10/6/04, 1611:6-15. Defendants conducted extensive product research and development based on precisely this premise.

2821. The argument that increasing the proportion of free nicotine would make cigarette smoking less addictive was advanced by Dr. Dixon, who is not a chemist. Dr. Dixon was offered, and accepted by the Court, as an expert in "smoking behavior." Dixon TT, 14917:5-10. Dixon has a B.Sc. in human biology and a Ph.D. in respiratory physiology. Although he was permitted to discuss areas of chemistry and cigarette design, he is not formally trained in either of these areas, nor does he hold himself out as a chemist. Being an expert in human physiology (anatomy) and "smoking behavior" does not necessarily mean that Dixon is an expert in the chemical makeup of colloidal systems (i.e., aerosols and smoke), as is Dr. Farone.

2822. Although Defendants' expert, Peter Rowell, criticized the testimony of Dr. Henningfield, Dr. Rowell's criticisms are based on a misapprehension of Henningfield's testimony. Specifically, Rowell's criticisms are based on the notion that Dr. Henningfield testified that increasing the proportion of free nicotine in cigarette smoke results in more total nicotine being absorbed in the lung. See Rowell WD, 48:7-14. However, Dr. Henningfield did not testify that **more** nicotine is absorbed in the lung at a higher pH; in fact, the United States' experts who testified about nicotine and pH agreed that all nicotine that reaches the lung is eventually absorbed there regardless of the smoke pH. Rather, Dr. Henningfield testified, based on principles of chemistry and his own experience in designing drug delivery systems, that pH is an important determinant of how many molecules of nicotine ultimately reach the blood stream (rather than being exhaled or swallowed into the gastrointestinal tract) and of how much time it takes those molecules to be absorbed in the lung and reach the bloodstream. Henningfield WD, 86:5-14. Significantly, Dr. Farone testified at trial, consistent with Dr. Henningfield, that free

nicotine affects the speed at which nicotine is absorbed in the lung and ultimately delivered to the brain. Farone TT, 10/7/04, 2014:20-2016:4.

2823. Finally, Defendants argue that they began researching ammonia technology in response to the public health authorities' suggestions in the 1970s that one way to create a potentially less hazardous cigarette might be to increase the pH of cigarette smoke to liberate more free nicotine, create a harsher smoke, and thereby discourage inhalation by cigarette smokers. See, e.g., Rowell WD, 47:12-48:2, 49:10-13. Based on the voluminous internal research documents of Cigarette Company Defendants described below, it is clearly evident that this argument lacks any credibility because: (1) the documents indicate that pH and ammonia technology research by the Cigarette Company Defendants was well underway prior the 1970s, and that some Defendants had already incorporated ammonia technology into their commercial products prior to the 1976 recommendation of the NCI Tobacco Working Group, see 1003728988-9020 at 9014-9015 (JD001934) (O); (2) the motivations for researching ammonia technology and other methods of altering smoke pH described in the documents do not reference the recommendations of public health authorities, but rather reference the Cigarette Company Defendants' worry that they might not be able to keep smokers hooked on their products unless they developed means to alter nicotine delivery in lower delivery products; and (3) contrary to the testimony of Dr. Rowell, the documents do not discuss, as a product goal, increasing pH for the purpose of discouraging inhalation by smokers.

2824. Furthermore, Defendants have conducted and continue to conduct studies on ammonia that are misleading, because they do not consider other materials within the cigarette, such as urea, that decompose to make ammonia upon burning. Farone WD, 180:20-181:19; see also Henningfield WD, 85:16-22. For example, Philip Morris scientist, Cathy Ellis, presented a

paper to CORESTA in 1999, which concluded that ammonia in a commercial Marlboro Lights cigarette did not increase smoke pH and FTC nicotine yield. VXB3267959-7980 at 7979 (US 61312) (A). As Dr. Farone noted, the test cigarettes in this study were not explained fully to determine what compounds were used. The paper also ignored other important effects of ammonia compounds, specifically, the percentage of free nicotine in the smoke. Farone WD, 181:8-19.

2825. Ammonia compounds are among the top additives by volume in the industry. 566408585-8587 (US 21999) (O). A B&W document concluded: "R.J. Reynolds alone has ammonia emissions of 900,000 lbs./year in North Carolina . . . . [T]he U.S. industry uses about ten million pounds of ammonia compounds a year," and industry ammonia usage "**corresponds to about 10 mg. of ammonia compounds per cigarette produced**." 508104011-4164 at 4017 (US 20807) (A) (emphasis added).

2826. By 1993, all the Cigarette Company Defendants used some form of ammonia technology in some cigarette products. For example, an April 12, 1994 list of "Ingredients Added to Tobacco in the Manufacture of Cigarettes" by the six largest U.S. manufacturers states that the companies added ammonia and other ammonium compounds to their cigarettes during the manufacturing process. 508104011-4164 (US 20807) (A); 681001134-1139 (US 21016) (O); LG2018563-8563 (US 21190) (O); 606000841-0889 at 0842 (US 53325) (O).

(aa) Philip Morris

2827. With the understanding that nicotine levels in cigarette smoke were essential to a smoker's experience, and armed with the knowledge of nicotine's addictiveness, Philip Morris undertook to manipulate the pH of tobacco to enhance the psychoactive effects of nicotine on the brain. 500606138-6153 (US 48334) (O); 509314122-4154 (US 51456) (O).

2828. Philip Morris appears to have been the first tobacco manufacturer to use the ammonia process in the United States, beginning in 1964 or 1965, on the heels of the 1964 Surgeon General's Report. At the time, Philip Morris ranked far behind RJR in domestic cigarette sales. Internal Reynolds research speculated that Philip Morris introduced ammonia into certain cigarettes as early as 1965. Shortly after the introduction of ammonia processes into their products, Philip Morris's sales began to grow rapidly. 500990999-1004 (US 20666) (O); 500540827-0832 (US 20639) (O).

2829. A March 31, 1966 "Progress Report" on "Nicotine and Smoke pH" to R.N. Thomson, Philip Morris's Director of Development, indicated that nicotine delivery "varies with filler (smoke) pH – the higher the pH the higher the nicotine delivery and vice versa." The report concluded that "**nicotine delivery can be controlled via filler or smoke pH adjustment**." 2051205600-5605 at 5600 (US 85461) (O).

2830. According to a 1970 inter-office memorandum from Jim Charles, Associate Professional who would later become Vice President of Research and Development, to Thomson, the company had developed a method for determining the pH of whole smoke on a puff-by-puff basis and was analyzing per-puff pH content for Marlboro, its competitor, Winston, and other cigarettes and tobacco blends. 2028812066-2067 at 2066 (US 20429) (O).

2831. By 1974, Philip Morris was conducting multiple tests to manipulate levels of free nicotine in smoke through pH levels, so as to affect smoke impact. One of the tests varied the amounts of nicotine salts added to the tobacco and another manipulated the tobacco blend and the carbohydrate concentration in the smoke, with the effects of both tests leading to higher pH levels. In an October 1974 report, Philip Morris psychologist T.R. Schori concluded, "The amount of free nicotine in the smoke depends upon . . . total nicotine[] and pH of the smoke."

Schori also noted that machine measured nicotine yields could be misleading because, depending on pH, a smoker could obtain different levels of free nicotine from two cigarettes with identical machine-measured yields, or similarly could obtain the same amount of free nicotine from two cigarettes with different machine-measured yields. 2047113252-3267 at 3264-66 (US 85462) (O).

2832. Schori also wrote, in an October 22, 1979 document entitled, "Free Nicotine: Its Implication of Smoke Impact," that "we should be able to increase smoke impact by increasing the total free nicotine potential (i.e. by using high nicotine blends and/or nicotine additives) in the smoke." Schori identified burley blend tobacco and ammonia as two methods of increasing pH in tobacco smoke. 542001986-1996 at 1993 (US 53135) (A).

2833. In the same paper, Schori again explained the misleading nature of machine-measured nicotine yields with respect to free nicotine:

> The way in which nicotine is typically reported can be misleading. This is due to the manner in which nicotine determinations are made. For instance, cigarettes X and Y may both be reported to deliver (based upon the standard smoking machine test) 2 mg. nicotine/cigt. However, a given smoker may actually inhale much more free nicotine from cigarette X than from cigarette Y. Likewise, cigarette W may deliver 1 mg. nicotine/cigt. while cigarette Z delivers 2 mg. nicotine/cigt. Yet a given smoker may inhale equal amounts of free nicotine from cigarettes W and Z. This paradox results from the fact that in making the nicotine delivery determinations strong bases are employed to free or release the nicotine from its bonds with other elements. . . . Thus, the amount of free nicotine available to the smoker is determined by the degree of alkalinity (or pH) of the smoke as well as his own degree of alkalinity.

542001986-1996 at 1989 (US 53135) (A).

2834. Philip Morris's testing of the effect of ammonia on nicotine delivery continued throughout the 1970s. As summarized in a November 8, 1971 Special Report of the Research

Center, entitled "Effects of Ammonia - Odor and Smoke," and distributed to, among others, F.E. Resnick, then Director of the Research Center and later Chairman and CEO of Philip Morris USA, scientists measured the differences in the impacts of nicotine levels in Marlboro cigarettes versus competitor brands. The study concluded that, for competitor brands containing less ammonia than Marlboro, addition of ammonia increased the "desirability" of the brands. 1000349937-9947 (US 85463) (O).

2835. A June 18, 1975 Special Report entitled the "Manipulation of Nicotine Delivery by Addition of Acids to Filler," prepared by Joseph J. Cipriano and distributed widely through the Research Center, demonstrates Philip Morris's knowledge of the significance of free nicotine in mainstream cigarette smoke and its unwillingness to implement design parameters that would reduce the amount of free nicotine in its products. The Report discussed manipulation of nicotine in the smoke through the use of acid, and found that although the acid increased nicotine delivery to mainstream smoke, it also lowered pH and therefore delivered the additional nicotine in the protonated form. Because this approach reduced the pH and therefore the amount of free nicotine in mainstream smoke, Cipriano recommended against its use, stating that "the increased nicotine delivery at a lower pH seems to lower rather than increase response." 1000051227-1240 at 1235 (US 85502) (O); Farone WD, 95:13-96:6.

2836. Philip Morris's nicotine-enhancing techniques have been studied by other tobacco companies, including B&W. In 1984, R.R. Johnson authored a report entitled, "The Unique Differences of Philip Morris Cigarette Brands," that was sent to numerous B&W executives, including Chief Executive Officer I.W. Hughes, in which Johnson stated: "Ammonia treatments appear to be the most important aspect of PM's blend uniqueness. It is definitely used in making one of the two types of reconstituted tobacco and one of the two types of puffed tobacco in these

blends. Results from a Marlboro matching project at R.J.R. provide strong evidence that they also treat their lamina with ammonia." Johnson went on to state that B&W's research department had reason to believe that Philip Morris began to develop some of their techniques from the early 1960s, and had spent the time since then optimizing their methods. 570322550-2583 at 2552, 2568 (US 53186) (A); 103281081-1112 at 1082, 1098 (US 20234) (A).

2837. At the same time, Philip Morris engaged in research regarding its competitors' methods of nicotine manipulation. Cathy Ellis has testified that Philip Morris extensively studied the ingredients and make-up of Winston cigarettes, particularly to discover tar and nicotine levels. Ellis PD, Mississippi, 3/20/97, 131:1-132-3.

2838. On August 26, 1986, Philip Morris applied for a patent on a "process for modifying the smoke flavor characteristics of tobacco." 2026526349-6353 at 6349 (US 86964) (A). The patent request related to Philip Morris using ammonia in order to increase the nicotine delivery of Bright tobacco. Philip Morris acknowledged, "Ammonia treatment of tobacco has been employed in the past, principally as a means to displace and effect release of nicotine." 2026526349-6353, at 6350 (US 86964) (A); 2026377889-7896 (US 37347) (O); 2024761243-1250 (US 86965) (O).

2839. On August 2, 1989, scientists Gullotta, Hayes and Martin reported to H.L. Spielberg on a Philip Morris study comparing the effect on the central nervous system ("CNS") of cigarettes made from filler that had been oversprayed with nicotine as an acid (i.e., "the citrate") and as a base. "Cigarettes made from filler oversprayed with nicotine as the citrate . . . produce CNS effects which are approximately half the magnitude of those obtained with the [filler oversprayed with nicotine as a base]." 2025986931-6935 at 6934 (US 37314) (A). Thus, this report indicates that the magnitude of CNS effects was twice as big when the nicotine in the

cigarettes was applied as base than when it was applied as an acid. Farone WD, 76:11-19. It also confirms that Philip Morris's primary interest in studying nicotine was to learn about its effects on the brain. Id., 76:20-77:1.

2840. By 1990, Philip Morris's research efforts included producing low delivery cigarettes with more nicotine impact. Philip Morris theorized that manipulation of smoke pH would result in more free nicotine that would then, based on its previous findings, be perceived as having a greater nicotine impact. The finding of one study, explained in a December 14, 1990 memorandum from scientists Gulotta, Hayes, and Martin to R.D. Kinser, was "that one could produce a low nicotine delivery cigarette with a higher proportion of free to protonated nicotine. Such a cigarette would be analytically similar to other cigarettes at comparable nicotine deliveries, but would be judged to have much more impact." 2023107993-7999 at 7993 (US 85465) (O); 2022262774-2775 at 2774 (US 36876) (O); 2023105617-5617 (US 85464) (O).

2841. Others in the industry closely studied, and duplicated, Philip Morris's use of ammonia. Minutes of an Ammonia Technology Conference, sponsored by B&W on May 18-19, 1989, and attended by representatives of Defendants, concluded that ammonia technology "is the key to competing in smoke quality with PM worldwide." It was noted that all U.S. manufacturers except Liggett were using some form of ammonia technology on their commercial projects at the time of the conference. 508104012-4164 at 4016 (US 53249*) (A).

2842. In an October 26, 1992, report authored by B&W's Research and Development Department entitled "PM's Global Strategy: Marlboro Product Technology," B&W points to Philip Morris's "[a]mmonia technology [as] critical to the Marlboro character, taste and delivery," in part because of the smoke pH increase it produced and the "free nicotine/nicotine transfer" that occurred through its usage. 570399133-9370 at 9183 (US 88083) (A); 304569591-9595 (US

46615*) (O).

2843. To evaluate FDA Commissioner David Kessler's statements about smoke pH during the Waxman Hearings before Congress in 1994, Philip Morris compiled research on smoke pH reported in the scientific literature, as well as its own internal documents. This research confirms that higher smoke pH leads to quicker delivery of nicotine into the bloodstream. 2056128345-8379 (US 20496) (A).

2844. William Farone, former Director of Applied Research for Philip Morris, testified that Philip Morris used ammonia and ammonia compounds in its manufacturing process with the intent of altering the form of nicotine delivered and rate of absorption of nicotine delivered by its products. Farone testified that it was widely discussed and understood at Philip Morris that the company considered its blended leaf, or BL, to be a secret to Marlboro's success, because of the ammonia added to the BL. Farone WD, 95:4-7. He further testified that Philip Morris was fully aware of the chemical properties of free nicotine, that nicotine delivered in the gas phase could not be detected in standardized FTC testing, and that Philip Morris used this knowledge to exploit the properties of nicotine in its commercial products. Id., 97:9-21.

(bb) R.J. Reynolds

2845. RJR conducted multiple studies regarding the impact of smoke pH on nicotine delivery. For example, a December 16, 1971 report authored by D.P. Johnson demonstrates that Reynolds studied very early on a method "to increase the free nicotine content of the VANTAGE smoke by adding selected salts to the VANTAGE blend." Although Johnson recommended that the costs of adding the salts outweighed the benefits, Reynolds continued its study of various methods for delivering more nicotine to the mainstream cigarette smoke of its products. 504414205-4211 at 4205 (US 50608) (A); Henningfield WD, 78:2-16.

2846. In 1973, RJR conducted an extensive study of the design of Philip Morris's Marlboro cigarettes in an attempt to discover the reason for its competitor's sharp increase in sales. In a 1973 memorandum entitled "Implications and Activities Arising from Correlation of Smoke pH with Nicotine Impact, Other Smoke Qualities, and Cigarette Sales," Claude Teague, Reynolds's Director of Research and Development, reported that the pH of Marlboro was consistently and significantly higher than Reynolds's brands and, accordingly, Marlboro contained more free nicotine and "would be expected to show more instantaneous nicotine 'kick' than our brands." The amount of free nicotine in Marlboro was found to be almost three times that found in the smoke of Reynolds's Winston brand. Reynolds also concluded that other popular brands – for example, B&W's Kool – also had an increased smoke pH and increased amounts of "free nicotine." Significantly, the smoke pH as measured by Reynolds in 1973 of Marlboro and Kool was found to typically range from 6.8-7.3 and 6.4-6.6 respectively, significantly above the pH of "about six" that Cigarette Company Defendants claimed during trial. Reynolds concluded that the high smoke pH attained by Philip Morris and B&W was "deliberate and controlled." 511223463-3484 at 3465-3466 (US 20840) (A); see also 500990999-1004 (US 20666) (O).

2847. In the same 1973 memorandum, Teague outlined the various methods the industry had already identified to alter the pH of cigarette smoke:

> Methods which may be used to increase smoke pH and/or nicotine "kick" include: (1) increasing the amount of (strong) burley in the blend, (2) reduction of casing sugar used on the burley and/or blend, (3) use of alkaline additives, usually ammonia compounds, to the blend, (4) addition of nicotine to the blend, (5) removal of acids from the blend, (6) special filter systems to remove acids from or add alkaline materials to the smoke, and (7) use of high air dilution filter systems. **Methods 1-3, in combination, represent the Philip Morris approach, and are under active investigation**.

511223463-3484 at 3468 (US 20840) (A) (emphasis added).

2848. Teague further reported on the significance of smoke pH to the amount of free nicotine in Marlboro cigarettes: "As a result of its higher smoke pH, the current Marlboro, despite a two-thirds reduction in smoke ‘tar' and nicotine over the years, calculates to have essentially the same amount of ‘free' nicotine in its smoke as did the early WINSTON." Teague also reported on other benefits of altering the pH of cigarette smoke:

> In addition to enhancing nicotine ‘kick', increasing the pH (increasing alkalinity) of smoke above about 6.0 causes other changes, particularly when the increase in smoke pH is achieved by adding ammonia to the blend. As smoke pH increases, in general stemmy taste, mouth irritation, flue-cured flavor and Turkish flavor are diminished. . . . It should be noted, however, that if the smoke pH goes much above 7 at normal total smoke nicotine levels . . ., the amount of ‘free' nicotine becomes high, and this may cause harshness to the throat.

511223463-3484 at 3466 (US 20840) (A).

2849. Another 1973 RJR study illustrated the discrepancies between FTC tar and nicotine data and actual cigarette strength. This study found that the smoke pH for the Marlboro and Kool cigarettes had been steadily increasing since 1964, while the pH for Reynolds's products had remained almost constant. At the same time, the FTC tar and nicotine levels for Marlboro and Kool had decreased. The study also showed that the Marlboro and Kool brands had higher levels of ammonia than the other cigarettes studied. The researchers concluded that controlling smoke pH would be extremely important to the successful performance of Reynolds's cigarettes. Significantly, the comparisons made in this study were of Cigarette Company Defendants' commercial products. 500606138-6153 at 6138, 6140,6144, 6145 (US 48334) (O).

2850. Reynolds soon developed its cigarette design in the same direction as Philip Morris. In a December 4, 1973 memorandum to R. Blevins, Director of Marketing and Planning

for Reynolds, from Frank Colby, RJR scientist, titled "Cigarette Concept to Assure R.J.R. a Larger Segment of the Youth Market," Colby stated that, in developing a low tar cigarette to appeal to the youth market, "any desired additional nicotine 'kick' could be easily obtained through pH regulation." 501166152-6153 at 6152 (US 23051) (A). By 1974, Reynolds had "**introduced ammoniated sheet filler in the Camel filter cigarette** . . . . Better market performance was indicated in the subsequent years." 509018864-8865A at 8864 (US 20820) (A) (emphasis added).

2851. An undated RJR document discussing the technology of ammoniation reveals that Reynolds "introduced ammoniated sheet material in the Camel filter product in 1974. . . . Low 'tar' products at R.J. Reynolds were designed with ammoniated sheet material beginning in 1974. . . . Ammoniated sheet was introduced into the Winston KS product in 1979." The document described two of the characteristics of products that incorporate ammoniation technology as "cleaner taste with more free nicotine" and "stronger physiological impact with less harshness." 509018864-8865A at 8864, 8865 (US 20820) (A); see also 510983376-3380 (US 20833) (O). This document demonstrates that the tobacco companies actually used ammonia to change the characteristics of their marketed brands, and understood both the chemistry and that one of the positive attributes was more free nicotine and greater physiological impact. Henningfield WD, 79:13-15.

2852. RJR continued to study the relationship between the amount of free nicotine in a cigarette, the smoke pH of a cigarette, and its market performance throughout the 1970s. A January 15, 1975 paper by John D. Woods and Sue H. Sheets, of RJR's Chemical Research Division, analyzed these relationships, concluding: "With only a few exceptions, brands with high smoke pH performed better than those with low smoke pH. Correlations were also

observed between calculated free nicotine and sales trends and total sugar in the blend and sales trends." 500615944-5960 at 5944 (US 21786) (O).

2853. In a talk delivered to RJR's management on June 25, 1974, and to Reynolds's international management on August 4, 1976, Murray Senkus described Reynolds's knowledge of how the pH of smoke affected the delivery of nicotine in lower tar cigarettes. Senkus observed that, at that time, cigarettes lower in tar and nicotine had a taste difference, discernable to the smoker, that interfered with smoking "satisfaction." Senkus stated this problem could be remedied by raising the pH of the smoke so that it would deliver more nicotine: "So, simply by raising pH, say from 6.0 to 6.5 you raise the level of nicotine that is transferred to the taste buds and body fluid in the mouth to the same level as with the higher tar cigarette." In the same talk, Senkus recommended development of a low tar product with a specific nicotine to tar ratio and stated that "[it] is worth noting that our competitors are fully aware of the significance of pH with respect to smoking satisfaction and taste. Moreover, they are fully aware of the advisability of maintaining a low tar value and also maintaining the nicotine as high as possible." 50152 5355-5366 at 5359, 5363-64 (US 29531) (O).

2854. Senkus's comments focused on the sensory, peripheral nervous system effects of higher levels of free nicotine. As Drs. Henningfield and Benowitz readily acknowledged at trial, sensory effects of nicotine in the mouth and throat also can contribute to its addictiveness. Henningfield WD, 81;22-23; Benowitz TT, 11/2/04, 4800:16-4802:5.

2855. Senkus's talk also demonstrates the falsity of Defendants' claim that "nicotine follows tar." Senkus stated that Reynolds's competitors were "fully aware of the advisability of maintaining a low tar value and also maintaining the nicotine as high as possible." As an example, Senkus pointed to a commercial Lorillard product, the True cigarette: "the old True has

11 mg. tar [and] .6 mg. nicotine – the new True is 5 mg. tar [and] .5 mg. nicotine. So although the tar was reduced 6 mg. . . . nicotine was dropped only .1 . . . The tar to nicotine ratio was dropped from 18.3 to 10." Thus, Senkus identified that Lorillard had achieved a roughly 55 percent reduction in tar delivery accompanied by only a 16 percent decrease in nicotine delivery – a decrease that obviously was not proportional as Cigarette Company Defendants claim. 50152 5355-5366 at 5364 (US 29531) (O).

2856. By 1976, RJR was aware that the inhalation of cigarette smoke was the most effective method of administering nicotine to smokers. Thus, the company emphasized research to determine the "minimum level of nicotine required for smoker satisfaction," and the particular chemical form of nicotine, i.e., whether "nicotine in smoke was ‘free' or ‘bound' or some mixture of these two forms." 504424968-4976 (US 86968) (A).

2857. A September 21, 1976 memorandum from John L. McKenzie to A.P. Ritchly confirms Reynolds's belief that altering the pH of cigarette smoke affected nicotine delivery to the smoker. In the memorandum, McKenzie stated that "[t]he pH also relates to the immediacy of the nicotine impact. **As the pH increases, the nicotine changes its chemical form so that it is more rapidly absorbed by the body and more quickly gives a ‘kick' to the smoker.**" The document also identified the typical range of cigarette smoke pH was from 5.5 to 7.0. 500378383- 8386 at 8385 (US 85467) (A) (emphasis added); Henningfield WD, 75:22-76:1, 78:17, 79:21-80:2.

2858. An October 12, 1979 report written by Calvin L. Neumann and M.D. Wallace regarding "Nicotine Satisfaction, Consumer Test 2740," reveals that Reynolds conducted research regarding the minimum and optimum nicotine delivery required to "maximize[] consumer acceptance," and concluded that "[c]igarette strength is nicotine and pH dependent,

increased with both increasing nicotine and increasing pH." The report was addressed to D.H. Piehl, Manager of Reynolds's Chemical Research Division, and its contents were presented to Reynolds's Research and Development management. 5009069450-9466 at 9450, 9452-53 (US 85468) (O).

2859. In a September 8, 1980 internal memorandum, scientist Alan Rodgman stated that Reynolds had "'caught up' to PM insofar as its current use in the Marlboro of nicotine technology is concerned." Rodgman's memorandum indicates that, in 1980, the pH of Reynolds's Winston measured 6.4, the same level as its measurement of Marlboro's pH that year. 501522719-2726 at 2720 (US 48913) (O). A pH of 6.4 is four times greater than the pH of "about 6" testified to by David Townsend, Reynolds's former Executive Vice President for Research and Development. Townsend WD, 173:21-174:4. If Dr. Townsend interprets "about 6" to allow for a fluctuation of four-tenths above and below 6.0, it allows for variation of almost an entire unit of pH, which would have a substantial impact on the amount of free nicotine delivered in the cigarette smoke.

2860. An August 9, 1982 draft paper sent to G.R. DiMarco from E. Bernasek and C.W. Nystrom set forth Reynolds's "position papers describing our rationale for using the following additives in RJRT tobacco flavor formulations: ammonia, sclareol, sclareolide, glucose tetraisovalerate." On the topic of ammonia, the document stated that one use of ammonia in Reynolds's processing operations was the "[a]mmoniation of reconstituted tobacco." The paper revealed that "[a]mmonia in smoke is one of the major pH controlling components" and that "[s]tudies of the effect of ammonia on smoke composition showed . . . an increase in physiological satisfaction with increasing ammonia content." 504438506-8512 at 8506, 8509 (US 21386) (O).

2861. These and other Reynolds's internal research documents clearly demonstrate Reynolds's motivation for incorporating ammonia technology into its commercial products, namely, to design products that would deliver nicotine to smokers in a form that would be more rapidly absorbed than cigarettes without ammonia technology. These documents directly contradict and undermine testimony of David Townsend, who told this Court that the only reasons for Reynolds's incorporation of ammonia technology into its commercial products were for taste and to increase the "tensile strength" of reconstituted tobacco sheet. Townsend WD, 169:22-170:5. While some of Reynold's documents may also discuss the effect of ammonia technology on the taste or flavor of cigarette smoke, it cannot credibly be disputed that Reynolds's primary intention in incorporating ammonia technology into its commercial products has been to affect nicotine delivery to the smoker.

2862. A January 10, 1990 research report authored by W.M. Coleman, III, documents a portion of RJR's research relating to the manipulation of nicotine "through the regulation of the pH of the dense fluid process stream." The purpose of the experiment described in the memorandum was to "refine" information gained from an earlier study in order to "optimize the ability to control the nicotine to the desired levels." The memorandum concluded:

> Evidence has been presented which confirms a novel process for the control and manipulation of the level of nicotine in tobacco and tobacco extracts. The process makes use of the chemistry of tobacco by extracting the available nicotine through a **minor but subtle adjustment of the pH**. . . . The full range of nicotine control can be realized. The process possesses many variables, among them being 1) pressure, 2) temperature, 3) NH_3 concentration, 4) flow rate, 5) flow volume, etc. With this number of degrees of freedom it is possible to dictate the level of nicotine in the extract as well as the tobacco.

508381102-1112 at 1102, 1103, 1105 (US 85469) (O) (emphasis added).

2863. Even in products RJR has developed to be potentially "reduced harm" products, it

has experimented with ways to boost pH to increase their nicotine delivery. Scientist Gary Burger, who worked on Eclipse from its inception, concedes that, in 1993, Reynolds looked at adding L-arginine to Eclipse to see if it increased pH and, in turn, nicotine yield. Burger PD, Arch, 8/22/97, 189-192; 519193178-3184 (US 80235) (O).

2864. RJR continued to conduct studies comparing the nicotine content of its cigarettes to the content of nicotine in cigarettes manufactured by other Defendants in the 1990s. For example, an October 1, 1991 memorandum authored by Kenneth A. Beard reported on the results of studies conducted to determine the amount of "volatile nicotine," i.e., free nicotine, in RJR's Winston and Winston Light as compared to Philip Morris's Marlboro and Marlboro Light. The study compared the brands in terms of the amounts of "volatile nicotine," total nicotine, and volatile nicotine as a percentage of total nicotine. 508257695-7696 (US 86983) (O).

2865. RJR's research on smoke pH and nicotine transfer efficiency continued even as the congressional tobacco hearings were being held in 1994, and Reynolds was publicly denying any effort to manipulate the nicotine content or delivery of its products. A 1994 Research Summary sent to in-house attorney Charles Blixt from RJR researchers discussed efforts to "determine the effects of the addition of K2CO3 [potassium carbonate] (a base) to tobacco on smoke nicotine transfer." 511872061-2087 at 2061 (US 20844) (O).

2866. RJR continues to incorporate into a wide variety of its commercial products tobacco blends and reconstituted tobaccos that have been treated with ammonia or to which extracts treated with ammonia were applied. Schindler WD, 56:9-51:18; 508062474-2493 (US 51299) (A); 512337856-7859 (US 51628) (O). In particular, Reynolds refers to its reconstituted tobacco internally as G-7, and Reynolds has developed numerous formulations of G-7 that are designed for particular blends and brands and brand styles. The formulations are identified

internally using specific numbers, such as G7-1, G7-2, G7-3, etc. Schindler WD, 56:17-22. Internal Reynolds's documents reveal that G7 is a large blend component in many of its commercial products, that numerous formulations of G7 are ammoniated, and that the ammoniated formulations of G7 are used in Reynolds's full flavor, light, and ultra light commercial products. 508062474-2493 (US 51299) (A); 512337856-7859 (US 51628) (O); Schindler WD, 56:9-51:18; Rodgman PD, United States v. Philip Morris, 6/26/02, 169:1-21.

2867. An RJR document apparently written on or around February 11, 1998 confirms that Reynolds used ammonium hydroxide to adjust the pH level of its reconstituted sheet tobacco. The document stated that

A typewritten notation on the document indicates that this information was

521484265-4265 (US 86969) (O) (Confidential).

2868. A January 22, 1999 "PAC NOTIFICATION," on the subject of "Change in Concentration Level of Ammonium Hydroxide Solution, Currently Used in Production of Four (4) G7 Products," reveals Reynolds's continued use of ammonia compounds and continued manipulation of the pH of its products. The document states that "RJR currently uses a 29% Ammonium Hydroxide solution on the production of four (4) G7 products. . . ." The document recommends that, in order to "avoid costs/complexity associated with regulatory compliance" of provisions of the Clean Air Act that would apply to facilities using ammonia solutions with a concentration of ammonia greater than 20%, Reynolds "[b]egin usage of an Ammonium Hydroxide solution at 19% concentration level versus current 29%." The document also states

that "[t]ransition to the 19% solution will be transparent from a finished product standpoint, **given that the G7 process controls pH on-line to target**." 521484535-4536 at 4536 (US 86971) (O) (emphasis added).

2869. Recent research documents confirm Reynolds's continued study of mechanisms for efficient transfer of nicotine from tobacco to smoke. RJR Scientist Thomas Perfetti reported the results of his study of peak nicotine release temperatures in a paper entitled "The Themochemical Properties of Nicotine Salts." RJC9543057-3073 (US 86985) (O). Perfetti also prepared a paper with B.M. Gordon and W.M. Coleman, III, in 2000 or later, reporting on the results of Reynolds's study of the transfer efficiency of different types of nicotine into mainstream smoke. RJC9540310-0330 (US 86986) (O). Perfetti shared the results of his work with Philip Morris Chemist Jeffrey Seeman. In a June 12, 2000 e-mail exchange, Perfetti described the results of his studies concerning the "thermal stability and peak nicotine release temperatures" for different types of nicotine salts. RJC9540339-0341 at 0339 (US 86984) (O).

(cc) Brown & Williamson and BATCo

2870. In a document entitled, "The Significance of pH in Tobacco and Tobacco Smoke," D.E. Creighton, BATCo employee, wrote that "**free base nicotine is the most chemically and physiologically active form because it is most rapidly absorbed**." 500104403-4424 at 4408 (US 47966) (A) (emphasis added); see also 400132742-2776 (US 88084) (O).

2871. On March 11, 1964, BATCo published a report on the "Release During Smoking of Nicotine Added as Various ‘Salts' to Extracted Tobacco Cigarettes," concluding, "**the transfer of nicotine, and thus the delivery per cigarette, is dependent upon the extent to which the nicotine is present as ‘free base' (which in turn is controlled by pH). . . . [I]t appears possible to control nicotine transfer and this has some implications in the production of**

cigarettes giving a smoke of a low tar to nicotine ratio." The report described the free base nicotine as having a transfer three times greater than that of nicotine citrate, a salt. 400722326-2343 at 2327 (US 21577) (O) (emphasis added).

2872. In 1964, a BATCo researcher recognized the effect that adding potassium carbonate– a base – to tobacco could have on pH and, as a result, on the nicotine "kick" a smoker receives: "There seems no doubt that the 'kick' of a cigarette is due to the concentration of nicotine in the blood-stream which . . . is a product of the quantity of nicotine in the smoke and the speed of transfer of that nicotine from the smoke to the blood-stream." The researcher concluded that "**it is almost certain that the free nicotine base is absorbed faster into the blood stream.** Thus [the] effect of this potassium carbonate treatment, **even though it does reduce the total quantity of nicotine in the smoke, may be to enhance the effect of what is left until it is equal or may be greater in psychological effect than the original smoke**." 100059066-9067 at 9067 (US 20102) (O) (emphasis added).

2873. BATCo incorporated manipulation of nicotine delivery through smoke into its work on Project Ariel. The company revealed that its main objective was "to achieve the physiological response of normal cigarettes." Scientists working on the project began to theorize as early as 1964 that this effect may be a function of either "nicotine being present as a free base or at least partly in vapour form." 100175681-5687 at 5682-5683 (US 20116) (O).

2874. Internal BATCo documents revealed the company's focus throughout the 1960s on manipulating nicotine delivery through changing smoke pH. BATCo even developed a process of extracting nicotine from an aqueous solution of smoke by using organic solvents, such as chloroform in order to measure the "extractable nicotine" of smoke. Dixon WD, 55:13-16; 83916527-6596 at 6530 (US 55968) (A). The amount of "extractable nicotine" provided

researchers with an indication of the amount of free nicotine in smoke. Dixon WD, 56:6-10.

2875. A draft letter written in 1964 on that subject set forth BATCo's theory that "the rate of absorption or transfer of nicotine base to the blood stream is more rapid than [nicotine] salt." Based on this and related findings, the author of the draft letter concluded that "since the process of absorption of nicotine from smoke is via the saliva to the blood stream, I would think that there must be at least quantitative differences in the physiological response when the ratio of nicotine base to salt in the smoke is increased." 105521746-1748 at 1746-1747 (US 20240) (O).

2876. A document produced by B&W reveals that, in 1964, BATCo data reported that nicotine transfer from the tobacco to the smoke was directly related to the relative degree to which the nicotine in the tobacco was in the "free" form.

> The results show that the transfer of nicotine, and thus the delivery per cigarette, is dependent upon the extent to which the nicotine is present as ‘free base' (which in turn is controlled by pH), e.g. **as base the transfer is three times greater than that of the salt, nicotine citrate**.

689201723-1770 at 1758, 1760 (US 31049) (O) (emphasis added).

2877. In 1965, a BATCo research report found in B&W's research library and entitled, "The Effect of Additives on Smoke Chemistry: Action of Gaseous Ammonium Flue-Cured Tobacco," noted the main effect of "treatment of flue-cured tobacco with ammonia" would be a 30% increase in delivery of nicotine. 570538281-8295 at 8283 (US 20941) (O). According to a November 1, 1995 document produced by B&W, this belief was corroborated during a subsequent Technical Development Meeting in September 1965. 689201723-1770 at 1761, 1734, 1735 (US 31049) (O).

2878. BATCo's Southampton Research and Development Establishment conducted extensive research on extraction in the 1960's. The Southampton center, under the leadership of

Ivor Hughes, supplied over 150 reports a year to BATCo. Minutes taken by R.J. Johnson regarding a meeting of scientists at Southampton, on June 30, 1967, reveal that, at that time, BATCo was heavily involved in nicotine manipulation research, including: Project Ariel; studies on extractable nicotine; smoke pH; and alkaline filter additives that selectively increased nicotine delivery. 500012143-2159 (US 85471) (O).

2879. A September 30, 1966 document, titled "Further Work on Extractable Nicotine," demonstrates that B&W was well aware at that time of the importance of smoke to an individual's receipt of nicotine from a cigarette. The document, issued by I.W. Hughes and distributed widely, including to Sir Charles Ellis, R.B. Griffith and the Research and Development Library, confirms a finding in an earlier report that "the reaction of a smoker to the strength of the smoke from a cigarette could be correlated to the amount of ‘extractable' nicotine in the smoke, rather than to the total nicotine content." The report also notes that "**it would appear that the increased smoker response is associated with nicotine reaching the brain more quickly**." 83916527-6596 at 6530 (US 55968) (A) (emphasis added).

2880. B&W has concentrated its efforts on extractable nicotine ever since. B&W's corporate designee on cigarette design and addiction, M. Lance Reynolds, who was also B&W's former Director of Research and Director of Product Development, testified that B&W and BATCo worked on the hypothesis that smoke pH and extractable nicotine were important to affect sensation. Reynolds PD, Minnesota v. Philip Morris, 9/30/97, 89:8-90:18, 93:16-19.

2881. A B&W document entitled, "Use of Ammonia/Ammonium Compounds/Urea," stated that "reasons for use" of ammonia included, "[r]ais[ing] the pH of smoke and increas[ing] impact through increased levels of free form, vapour phase nicotine," and "[i]ncreas[ing] the efficiency of transfer of nicotine from tobacco to smoke." 303636914-6922 at 6914 (US 46608)

(A).

2882. M. Lance Reynolds, a chemist who worked for B&W from 1968 to 1991, eventually rising to Director of Product Development and then Director of Research, testified that, during his entire tenure with B&W he had a working hypothesis that, as a 1979 Philip Morris document acknowledged, smoke impact is not determined by "the amount of nicotine in the smoke per se but rather it is the amount of free nicotine in the smoke." Reynolds PD, Minnesota, 6/4/97, 103:3-12; 542001985-1986 (US 86973) (O).

2883. In a July 30, 1969 file note entitled "Added Ammonium Salts in Marlboro and Philip Morris Cigarettes," B&W research scientist C.J. Rosene reported that in a comparison of cigarettes manufactured by Philip Morris (including Marlboro) against Viceroy, "the [Philip Morris] tobaccos showed higher ammonia values than are normally encountered in U.S. blends." Dr. Rosene inferred that the higher ammonia values were due to ammonium salts, and speculated that "these compounds may contribute to physiological impact if free ammonia [sic] is released into the smoke." Accordingly, Dr. Rosene wrote, "[w]e recommend that the effect of ammonium salts on B&W brands be studied." 100025331-5331 (US 34585) (O). Through designated testimony, M. Lance Reynolds acknowledged that this was B&W's "earliest indication" that "ammonia chemistry was involved in Philip Morris cigarettes." Reynolds PD, Minnesota, 6/4/97, 217:12-15.

2884. A later file note, dated September 8, 1969, and entitled "Added Ammonium Salts in Marlboro and Philip Morris Cigarettes," reported that, as B&W continued researching Philip Morris's cigarettes, it found that they not only had higher ammonia values than B&W's own cigarettes, but higher phosphate levels as well. Based upon Philip Morris's patents for processes employing diammonium monohydrogen orthophosphate (DAP) as a reagent, B&W hypothesized

that Philip Morris was using DAP in its reconstituted tobacco. 100025332-5334 at 5332 (US 86974) (O).

2885. The Cigarette Company Defendants were aware of other chemicals that could affect the pH, and nicotine level, in smoke. In 1970, B&W researcher, R.P. Newton, wrote about the effects of urea on pH and nicotine. At this time, tobacco treated with urea and a urea enzyme system was reported to have achieved increases in extractable nicotine levels as great as 80%; and the tobacco's pH was reported to be elevated to as high as 7.5. 650360443-0458, at 0445 (US 20949) (O).

2886. Armed with the knowledge that certain compounds, like urea, can convert to ammonia during combustion, B&W sought to find ways to modify current ingredients to produce ammonia. A primary method of nicotine manipulation used at B&W was the use of ammonia based additives or additives that converted to ammonia when burned, "which trigger the chemical transformation necessary to convert bound nicotine to free nicotine." Wigand WD, 107:19-108:6. An undated B&W presentation reported that the company was assessing emerging technology, including using "natural fermentation . . . [as a] means of converting nitrate to ammonia." 570353434-3770 at 3741 (JE 53243) (A).

2887. In a January 4, 1980 document, a B&W scientist spoke about the varying levels of nicotine delivery through the use of smoke pH and free nicotine:

> [t]hese relationships are not unknown to those persons developing new products in the tobacco industry. We have seen many changes in these relationships at B&W, e.g., through filter technology, use of chemicals, as well as conversion products formed from using tobaccos treated with microorganisms, to yield smoke with both increases and decreases in the free nicotine levels.

510000667-0670 at 0669 (US 51496) (A).

2888. In a January 4, 1980 file note recounting an "Observation of Free Nicotine

Changes in Tobacco Smoke," C.F. Gregory wrote: "It appears that we have sufficient expertise available to 'build' a lowered mg tar cigarette which will deliver as much 'free nicotine' as a Marlboro, Winston or Kent without increasing the total nicotine delivery above that of a 'Light' product." 510000667-0670 at 0669 (US 51496) (A) (emphasis added).

2889. A January 20, 1981 B&W Research Department file note reported on the pH and extractable nicotine content of several commercial cigarette brands studied by B&W. B&W found that "[w]ithout exception, there is an inverse relationship between pH and tar delivery." Thus, this research indicates, consistent with Dr. Farone's conclusions, that commercial cigarettes designed to deliver less tar showed higher pH values when tested. This study measured the pH of the total particulate matter of the commercial cigarettes studied, and found the pH measures for the low delivery cigarettes tested ranged from 6.76 to 7.23, more than one full pH unit higher than the intermediate delivery pH's of 5.68 and 6.40. Not surprisingly, the percentage of extractable nicotine in the cigarettes with higher TPM pH values was significantly higher for the low delivery cigarettes. 620676643-6651 at 6643, 6647 (US 53345) (A).

2890. In the same 1981 "File Note," the researchers recognized that, consistent with Dr. Farone's conclusions, traditional FTC testing methods do not detect nicotine in the gas (or vapor) phase. The researchers noted that "at 34 degrees C[elsius], nicotine has sufficient vapor pressure to be stripped from the filter during smoking and thus contribute to the vapor phase nicotine content of smoke even though it may not be apparent by routine analytical measurements." 620676643-6651 at 6644 (US 53345) (A).

2891. Minutes of a September 1984 Joint Research and Development/Marketing Session held during an R&D Conference in Marlow, U.K., reveal that discussions took place regarding the various ways in which BATCo was able to increase the level of nicotine transferred in smoke.

According to the meeting minutes, "[a] direct method of enhancing nicotine in tobacco smoke is through additions of nicotine oxide or nicotine salts." 109872430-2447 at 2439 (US 23340) (A).

2892. In a November 12, 1984 progress report on "Project SHIP," scientists from B&W, BAT Germany and Group Research and Development Center ("GR & DC") met to discuss the status of the development of "major product change." The research and development of this new product centered around nicotine, and included a study of the best form in which to present the smoker with nicotine in order for the nicotine to be most "active." Many of the studies involved comparisons to what was known by BATCo of Marlboro's processing. 100543649-3659 (US 34670) (O); 510001467-1478 (US 88085) (O).

2893. Recognizing the importance of nicotine in smoking, notes of a BATCo research conference in Rio de Janeiro, held from August 22-26, 1983, state that "[t]here is an urgent need to prepare a status review on all major aspects of the pharmacological influences of nicotine in the smoking process." Areas of nicotine research included: (1) factors affecting the transfer of nicotine from leaf to smoke aerosol; and (2) factors influencing the rate of transfer of nicotine from particulate matter to the vapor phase. 102231077-1102 at 1092, 1091 (US 34685) (O).

2894. Like RJR, B&W had long analyzed and evaluated Philip Morris's use of ammonia and other methods to affect nicotine transfer. B&W reverse engineered Philip Morris's Marlboro to learn what it could do to develop their own commercially successful products. Appleton TT, 3/24/05, 16883:25-16884:4. B&W's internal research shows that the focus of this work was on the alkalinity of Marlboro. In 1984, a B&W researcher drafted a report on "The Unique Differences of Philip Morris Cigarette Brands" describing the way that Philip Morris achieved "lower blend alkaloids than competition brands [i.e., less total nicotine in the unsmoked rod], yet deliver[ed] the same smoke nicotine." The researcher noted that "[a]mmonia treatments appear

to be the most important aspect of Philip Morris's blend uniqueness," resulting in "a mild and natural tasting smoke . . . favorable to nicotine transfer." 103281081-1112 at 1082, 1112 (US 20234) (A).

2895. Smoke pH, and its connection to a cigarette's impact, continued to capture the attention of B&W executives and scientists throughout the 1980s. At a "Nicotine Conference," held in Southampton from June 6-8, 1984, participants concluded:

> If we are to make better use in product terms of the levels of nicotine in smoke currently available – and even more so if we are forced to market cigarettes with reduced levels of nicotine – then it is important to significantly increase our understanding of impact/satisfaction. There is an urgent need for experimental cigarettes in which the levels of nicotine in smoke (and smoke pH) are carefully controlled.

602759-2759 (US 53297) (A); see also 401020175-0181 (US 47529) (O).

2896. Under cover memorandum dated May 2, 1980, BATCo's W.B. Fordyce circulated a report written by company scientist Terry Mitchell to BATCo directors. 110088143-8143 (US 34965) (O). In his report, Mitchell discusses three means of intentionally increasing the nicotine content of cigarettes, including the use of specialized high nicotine tobaccos (such as N. rustica), direct addition of nicotine/nicotine extracts, and the chemical "augmentation of smoke nicotine." Mitchell noted that smoke nicotine could be augmented by improving the nicotine transfer to smoke and by increasing the alkalinity/pH of smoke. 110088144-8155 (US 34966) (O).

2897. In a January 4, 1980, B&W Process Department "file note," entitled "Observation of Free Nicotine Changes in Tobacco Smoke," C.F. Gregory discussed pH and nicotine delivery in Philip Morris's Merit and Marlboro brands. Gregory's data revealed that, although Marlboro's total nicotine content was almost double that of Merit, the two delivered equal amounts of "free" nicotine. 654005805-5807 (US 85446) (A).

2898. Gregory commented that "[i]n theory, a person smoking these [Merit and Marlboro] cigarettes would not find an appreciable difference in physiological satisfaction from either based on the amount of free nicotine delivered." He then gave other examples where cigarette manufacturers could maintain "free" nicotine despite reducing machine-measured nicotine yield. Gregory suggested this information could be used to gain B&W a competitive advantage in marketing "Light" cigarettes:

> Is there not some way open now to use the knowledge we have gained in this area of tobacco and smoke research to give B&W a competitive advantage over its competition? **It appears that we have sufficient expertise available to "build" a lowered mg tar cigarette which will deliver as much "free nicotine" as a Marlboro, Winston, or Kent without increasing the total nicotine delivery above that of a "Light" product.**

65005805-5807 at 5806 (US 85446) (A) (emphasis added).

2899. B&W scientist Tilford Riehl, who later became Vice President of Research and Development, received Gregory's "file note" and commented on an alternative to Gregory's proposal to increase "free" nicotine to boost "physiological satisfaction." Riehl's suggestion, while accepting Gregory's data and concept, proposed maximizing the effects of nicotine on smokers in a different way. Riehl wrote in the margin:

> Several of us have proposed an alternative (almost opposite) approach – design a low tar cig with high <u>total</u> nicotine / low to moderate <u>% free</u> nic. Theory: provide cig with "appropriate" level of sensory satisfaction/higher than usual "pharmacological" satisfaction.

510000667-0670 (US 51496) (A) (emphasis in original).

2900. In reviewing Gregory and Riehl's statements, a November 1, 1995 Shook, Hardy & Bacon commentary included the following observation from counsel: "This [Riehl's] marginalia comment, of course, raises an issue of the motivations of the company in designing

cigarettes to provide pharmacological satisfaction to smokers." 689201723-1770 at 1754 (US 31049) (O).

2901. In 1984, B&W studied the effects of varying the smoke pH of Kool cigarettes. The results of B&W's study were that increasing the smoke pH of Kool KS would increase consumer acceptance of the cigarette. 510004186-4190 (US 20832) (O).

2902. Also in 1984, B&W researchers reported on "The Unique Difference of Philip Morris Cigarette Brands." The report concluded that Marlboro and other Philip Morris brands "clearly contain very high ammonia levels" and that Philip Morris brands "get more of their nicotine delivered in mainstream smoke than brands of other domestic manufacturers." B&W's research of Philip Morris brands also concluded that the process used by Philip Morris to create its reconstituted sheet creates a "reconstituted tobacco [that] efficiently scavenges nicotine from other blend components." The B&W researchers also concluded that Philip Morris had been able to accomplish increases in nicotine transfer efficiency without substantial increases in smoke pH. 103281081-1112 at 1099-1100, 1104 (US 20234) (A).

2903. A 1984 B&W summary of tests on smoke pH concluded that increasing the smoke pH of certain brands could aid consumer acceptance of those brands. 510004186-4190 (US 20832) (O). In his trial testimony, Dr. Wigand confirmed that B&W used ammoniated reconstituted tobacco to guarantee a level of nicotine to create and sustain addiction. Wigand WD, 104:10-107:3. The two forms of reconstituted tobacco utilized by B&W, "band cast" and "paper," included the addition of chemical additives, such as diammonium hydrogen phosphate (DAP) and ammonia based compounds. Id., 104:13-106:12. According to Dr. Wigand, the use of these additives is critical to the product design, because they change the overall pH of the cigarette smoke, which increases the free nicotine available to the smoker. Id., 106:13-21.

2904. A BATCo report entitled "Group R&D Programme Group Projects" detailed several BATCo Group research efforts and revealed that BATCo was keenly aware that individuals smoked to experience the effects of nicotine. This awareness fueled research aimed at enhancing BATCo's ability to control the doses of nicotine delivered by the cigarette to the smoker. The report disclosed that, among other things, BATCo Group companies sought to determine nicotine-carrying capacity of aerosols in cigarette smoke and the effect of nicotine enhancement on human smoking behavior. In addition, BATCo sought to create alternative products with appropriate nicotine dosing in the event that other companies' alternative products became "a significant threat to [BATCo's] business." The results from one such project found that the "impact" of the cigarette was a function of the aerosol pH, for which "optimal" levels were possible, thus viewing nicotine transfer efficiency as a way of increasing the impact of the cigarette on the smoker. 107472128-2302 at 2142, 2146, 2203-2204 (US 85472) (O). Accordingly, BATCo sought to "evolve ways and means of ensuring that smaller amounts of nicotine continue to give the satisfactory ‘reward' to the smoker." 103498901-8902 at 8901 (US 21384) (O).

2905. Ammonia technology has long been perceived by B&W as key to the competitiveness of B&W's cigarette products worldwide. Wigand WD, 111:10-112:15. Contrary to B&W's assertions, the benefit of ammonia is not simply as a flavor compound to improve taste; ammonia technology improves nicotine transfer. Id., 112:3-10; 570353434-3770 (US 53243) (A). Minutes of a B&W Ammonia Technology Conference held on May 18-19, 1989, show that Dr. Baran Chakraborty presented his research on ammonia technology and listed the main effect as:

- Enhanced natural flavor/body via. formation of volatile nitrogen flavorants.
- **Improved nicotine transfer**.

- Reduced irritation via. scavenging irritants and buffering.
- Superior paper recon (sensory/physical) by urea addition.

508104012-4164 at 4017 (US 53249*) (A) (emphasis added). The report of this conference also noted that "[a]ll U.S. manufacturers except Liggett use some form of AT [Ammonia Technology] on some cigarette products." 508104012-4164 at 4016 (US 53249*) (A).

2906. B&W adopted B&W's efforts to understand ammonia technology included: analyzing the product design of the leading cigarette brands, reverse engineering Marlboro, and holding two ammonia conferences in 1989 and 1990, which were attended by representatives of all BAT Cigarette Affiliated Companies. Wigand WD, 108:4-112:15; 508104012-4164 (US 53249*) (A); 570353434-3770 (US 53243) (A). Ultimately, these efforts culminated in the preparation of the 1991 handbook, "Root Technology: A Handbook for Leaf Blenders and Product Developers," which was created by B&W and other BAT Group company scientists to provide ammonia technology information "for the product developer who is looking for ways to incorporate [ammonia] technology . . . in a cigarette design." 621800840-0899 at 0843 (US 86908) (A); Wigand WD, 112:17-115:11.

2907. The Handbook provided a history of the use of ammonia by the tobacco industry. It referred to ammonia technology as "a relatively new technology at B&W and within the BAT Group of companies," and went on to list five types of ammonia technology "currently used in production" by BAT Group companies. 621800840-0899 at 0844, 0855 (US 86908) (A); see also 599003691-3695 (US 22077) (A).

2908. The Handbook also examined the methods employed by Defendants Philip Morris, RJR, Lorillard and American to use ammonia technology, stating that B&W and Philip Morris used ammonia technology in almost all of their brands, and that it was heavily used by the other companies as well. A particular type of ammonia technology, involving reconstituted sheet

and called "RCB" by B&W, was referred to by the scientists as "the soul of Marlboro." The objective in B&W's "CPCL [a band-cast reconstituted tobacco] development was to match PM's RCB in all important characteristics except for nitrate removal." The scientists observed, "[t]his objective has been met." 621800840-0899 at 0853-0854, 0849, 0851 (US 86908) (A).

2909. Further, the Handbook succinctly explained the various ways in which ammonia technology could be used during cigarette manufacturing. It described reconstituted tobacco not only as "an ammonia source" itself, but found that it "incorporat[es] sugar-ammonia reactions. As a low alkaloid blend component, it also absorbs nicotine from higher alkaloid-containing components." Reconstituted tobacco served as "a positive blend contributor rather than merely a filler." It described various methods undertaken by B&W and the other cigarette manufacturers, including the addition of diammonium phosphate ("DAP") and urea into "recon," and the use of several casings. 621800840-0899 at 0855-0861 (US 86908) (A).

2910. The scientists who wrote the Handbook found "two consistent trends apparent in the U.S. market. First, recon is the preferred means for applying [ammonia technology]. Second, everyone is working hard to match PM smoking quality." 621800840-0899 at 0853 (US 86908) (A).

2911. The purposes for which the Cigarette Company Defendants used ammonia technology appear in the Handbook. For one, "[the ammonia in cigarette smoke] can liberate free nicotine from the blend, which is associated with increases in impact and ‘satisfaction' reported by smokers." As the Handbook explained:

> Ammonia, when added to a tobacco blend, reacts with the indigenous nicotine salts and liberates free nicotine. As a result of such change, the ratio of extractable nicotine to bound nicotine in the smoke may be altered in favor of extractable nicotine. **As we know, extractable nicotine contributes to impact in cigarette smoke and this is how ammonia can act as an impact booster**.

In discussing diammonium phosphate ("DAP") as an additive, the Handbook states that "[s]ince DAP can only provide ammonia, it can act only as an ameliorant, an impact booster, **and satisfaction promoter**." 621800840-0899 at 0845 (US 86908) (A) (emphasis added); Wigand WD, 106:5-21.

2912. The Handbook also described how B&W used ammonia technology to increase nicotine transfer efficiency. 621800840-0899 at 0872 (US 86908) (A). Through the trial testimony of Michael Dixon, Senior Scientific Advisor to BATCo, and Scott Appleton, former Director of Scientific and Regulatory Affairs for B&W, the Cigarette Company Defendants attempted to discredit the Handbook and the notion that ammonia technology increases nicotine transfer efficiency. Dr. Dixon asserted that B&W researchers misinterpreted data in reaching their conclusion that there was an increase in nicotine transfer as a result of using ammonia-treated reconstituted tobacco. The basis for this assertion was that the nicotine transfer efficiency reported for the ammonia and non-ammonia cigarettes were identical. Dixon WD, 58:8-12. However, as Dr. Farone established, traditional smoking machine test methods do not detect nicotine delivered in the gas phase; therefore, one would not necessarily expect that a comparison of tar-to-nicotine ratios, as measured by standard machine testing, would fully reflect the amount of nicotine that would be delivered under human smoking conditions. Farone WD, 98:9-16; Dixon TT, 3/9/05, 15018:2-20. The table in the Handbook to which Dixon refers indisputably notes, however, that as the percentage of ammonia-treated tobacco increased in the blend, the efficiency of the cigarettes ability to transfer nicotine to smoke increased. 621800840-0899 at 0872 (US 86908) (A).

2913. Dr. Dixon claims that BATCo pointed out the mistake to B&W researchers "very shortly after the manual was circulated." Dixon WD, 59:22-23. Yet, he could not recall giving

this same testimony about the misinterpreted data in any prior cases. Dixon TT, 3/9/05, 15012:1-15013:12. It was also never mentioned in his expert report in this case. Id., 15013:13-15. Further, Dixon did not point to any contemporaneous documents showing that the "error" was in fact called to the attention of B&W. Importantly, there has never been any formal instruction by B&W to its scientists or leaf blenders to disregard the Handbook's conclusion that increased use of ammonia-treated reconstituted tobacco leads to greater nicotine transfer efficiency. Appleton TT, 3/24/05, 16894:12-18.

2914. Scott Appleton also testified that the Handbook was essentially "folklore" based on theories that were not rigorously tested. However, Dr. Wigand, who participated in the preparation of the Handbook, testified that the Handbook was written following extensive study of the use of ammonia technology in its competitor's cigarettes through Project Globe and Project Adverb. Wigand WD, 108:14-109:9. Following these studies but before the Handbook was written, B&W held two conferences on ammonia technology in 1989 and 1990 during which the impact of ammonia technology on nicotine transfer efficiency was extensively examined. Wigand WD, 111:10-112:15; 508104012-4164 (US 53249*) (A) 570353434-3770, at 3741 (JE-53243) (A). Additionally, Dr. Wigand testified that technologies described in the Handbook served as the basis for B&W's attempt to reverse engineer a Marlboro cigarette throughout 1991 and 1992, contrary to Dr. Dixon's testimony that the error was corrected "shortly after" circulation of the Handbook. Wigand WD, 115:13-117:14; Dixon WD, 59:22-23. Unlike Dr. Wigand, whose educational background is in biochemistry and who worked directly on the Handbook and the product development issues surrounding it, Appleton first studied ammonia and its relationship to pH and nicotine delivery in 1994 in assisting with B&W's response to FDA investigation. Appleton TT, 3/24/05, 16893:10-16894:11.

2915. By 1991, BATCo apparently decided that it was unwise to use the word, "ammonia" when referring to its ammonia technology. In a March 1, 1991 document by A.L. Heard to employees in the research department, including Wigand, Heard informed the employees that the "Tobacco Strategy Review Team has identified a need to add greater confidentiality to our use of ammonia technology throughout the BAT Group. They have asked that for commercial confidentiality, we substitute a code word in place of the expression 'ammonia technology.'" The memorandum further stated that existing code words for ammonia-related processes such as "ammonia treatment of stems or lamina" would continue to carry code names already in existence. The new code word for ammonia technology was to be transmitted via separate cover. 400182372-2372 (US 47487) (A).

2916. Nicotine transfer delivery has been regularly studied and monitored by B&W (and its affiliates), even throughout the 1990s, and is usually expressed as a percentage of the tobacco nicotine that is released into the cigarette smoke. This percentage is referred to as "nicotine transfer efficiency." Internal company documents reflect that nicotine transfer efficiency was of interest to B&W/BATCo at least since the 1960s and that this parameter was routinely measured. 689201723-1770 at 1758, 1760 (US 31049) (O).

2917. A 1995 document produced by B&W revealed, "[r]aising the pH of the [nicotine] to a more alkaline level will increase the percentage of nicotine that is in the un-ionized ("free") form. . . . Since ammonia is an alkaloid (base), if added to tobacco in sufficient quantity, it would be expected to increase the prevailing pH of both the tobacco and the cigarette smoke." 689201723-1770 at 1761, 1734, 1735 (US 31049) (O).

2918. M. Lance Reynolds, B&W's former Director of Research and Director of Product Development, has testified that "nicotine-transfer efficiency is one of the most basic parts of

cigarette design." Reynolds PD, Minnesota, 9/30/97, 112:15-16.

2919. As of 1997, B&W had never disclosed to its customers that it used ammonia technology in its cigarettes to enhance the delivery of nicotine, and had never provided them with nicotine-transfer information. Moreover, as of 2002, B&W had not made public its research on the effect of pH on nicotine impact. Reynolds PD, Minnesota,6/4/97, 112:19-112:23; Reynolds PD, Philip Morris, 9/12/02, 346:2-346:19, 347:8-347:20, 348:7-348:14.

(dd) American

2920. American investigated the effects of using nicotine in a free base form. A June 30, 1980 American memorandum from N.L. Bodenhamer to Eugene Glock on "Increasing Nicotine Transfer in Smoke" stated: "There has been an interest in increasing the amount of nicotine that is transferred from the tobacco to the mainstream smoke while leaving the ‘tar' level unchanged. Since most nicotine in tobacco is a non-volatile salt, it was thought that a greater transfer would take place if the tobacco was made basic causing the nicotine to volatilize when the cigarette is smoked." To test this hypothesis, researchers conducted an experiment in which they added 2% or 5% potassium carbonate to American's Tareyton tobacco blend. Taste tests "suggested that more nicotine had transferred to the smoke, with the 5% being more harsh than the 2%." ATC2570157-0157 (US 66272) (A). This document also supports Dr. Henningfield's testimony that, while the quantity of an added base may be small on an absolute scale, even small differences contribute to noticeable differences for the smoker. Henningfield WD, 68:23-69:1, 69:21-70:16.

2921. In a follow-up memorandum between the same American employees a month later, it was reported that using nicotine in a free base form could "volatilize and thereby increase the amount of nicotine in the smoke. Some further work planned in this area is the addition of

sodium carbonate, treatment of stems with alkali base, and treatment of CARLTON blend to possibly increase smoke taste since cigarettes treated thus far have been much stronger than the control." X003498-3506 at 3497 (US 86972) (O).

2922. Many of American's research and product development efforts aimed at increasing the pH of cigarette smoke involved manipulating the content of its leaf blend and filler. Those efforts are described in Section III.C(2)(c)(ii).

(ee) Lorillard

2923. Lorillard also was studying ways to alter the pH of its cigarette products. In 1973, Lorillard sought to improve the smoking quality of its reconstituted tobacco. Lorillard believed its research at that time demonstrated that the amount of free nicotine contained in mainstream smoke increased with higher pH, and that higher pH increased impact. Lorillard also studied how the Marlboro reconstituted leaf achieved a higher pH while maintaining a good flavor. Using different additives, types of leaf, and added nicotine, Lorillard tested numerous ways to increase the smoke pH in its reconstituted leaf. 00044833-4841 (US 47324) (O); see also 87644269-4277 (US 56273*) (O).

2924. A November 2, 1973 memorandum, entitled "Research 1–3–5 Year Projection of Major Projects," outlines Lorillard's research goals for "Tobacco Modification," among other things. The memorandum revealed that Lorillard had undertaken a research program designed "to explore the possibilities of modifying various physical and chemical properties of tobacco by means of chemical treatments or additives." One of the areas of interest in this regard was the "control of nicotine delivery." The memorandum noted that the ability to control nicotine and other parameters "will permit the design of low tar products with acceptable burning rates having specified nicotine deliveries." 83250679-0693 at 0683 (US 55641) (A).

2925. Several Lorillard studies reiterate the connection between smoke pH and nicotine delivery. For one, a May 4, 1976 memorandum concerning the "Nicotine Augmentation Project" noted, "It is known that the higher the pH of the smoke is (i.e. the more basic), the more nicotine exists in the free form. Free nicotine has a greater physiological effect . . . ." 00050444-0450 at 0448 (US 47721) (A). A July 12, 1976 Lorillard study by Leighton Chen provided an extensive review of "input variables affecting the pH of smoke" and the "effect of pH on smoke delivery." Chen reported, among other things, that "[t]he market leaders appear to have the higher pH's, and hence the higher concentration of free base nicotine. If the desired goal is defined to be increased nicotine yield in the delivered smoke . . . increase the pH, which increases the 'apparent' nicotine content without changing the absolute amount." 00044921-4938 at 4922, 4933-4934 (US 34203) (A). See also 00778258-8265 (US 34295*) (O); 00121921-1942 (US 85476) (O); 00778109-8113 (US 22930) (O); 83250763-0765 (US 55655) (O).

2926. In an April 13, 1977 memorandum to Harry Minnemeyer entitled "Gas Phase Ammoniation of Tobacco," P.D. Schickedantz recognized that the addition of bases such as ammonia to tobacco might result in "a greater efficiency of nicotine delivery or in an increased smoke pH. An increased smoke pH would liberate nicotine free base from its salts to give a greater chest impact." Schickedantz also reported on several techniques to more accurately estimate the amount and form of ammonia that could be added without resulting in "the undesirable taste previously associated with ammoniated tobacco." 00778451-8457 at 8451, 8456 (US 34299) (A).

2927. Lorillard also studied filtration and pH systems in 1976 as other potential methods to enhance nicotine delivery. Lorillard found that free nicotine could be added to tobacco at practically any point in the manufacturing process using solvents such as water, alcohol, freon, or

top flavor. 00778476-8490 (US 34300) (O); 00778109-8121 (US 22930) (O).

2928. A 1977 update on the "Nicotine Enrichment Project" informed Lorillard management that the most promising method of enriching nicotine was to add nicotine alkaloid to tobacco. 526321428-1440 at 1428 (US 85478) (O).

2929. Lorillard conducted research on ammonia and smoke pH well into the 1990s. In 1995, the company investigated the ability of diammonium phosphate to increase the level of nicotine delivery and smoke pH. See 96522458-2467 at 2461 (US 21973) (O). A September 18, 1996 memorandum titled, "Summary of the Effects of Ammonium Carbonate, Ammonium Bicarbonate, Urea and Diammonium Phosphate on Smoke pH, Smoke Data and Leaf Chemistry" concluded: "A positive trend was observed between increasing levels of urea and increases in the percent transfer of nicotine from the leaf to the smoke on a per cigarette basis." Although this trend was not observed with the addition of other additives, the researchers found that smoke pH increased with the addition of ammonium carbonate and ammonium bicarbonate, and that the addition of diammonium phosphate led to increased puffs, thereby increasing the nicotine delivery. 83502523-2535 at 2525, 2531 (US 55858) (A). In a related memorandum examining the addition of urea, ammonium carbonate, and ammonium bicarbonate, the researchers concluded that "[f]or all three additives, as the amount of the additive applied to the tobacco was increased, the smoke pH increased. Increased smoke pH results in increased calculated levels of unprotonated, or free, nicotine." 93848806-8818 at 8809 (US 56687) (O). See also 96522506-2542 (US 21822) (O).

2930. Lorillard conducted in-house research that was relevant to the FDA's examination of whether and how the tobacco industry was manipulating the nicotine yield of its cigarettes with additives. In 1996, Lorillard researchers issued a report, which confirmed that cigarette

additives, such as urea, diammonium phosphate (DAP), ammonium carbonate and ammonium bicarbonate, increased the smoke pH and "the nicotine transfer from leaf to smoke." 88029439-9460 at 9439, 9449 (US 22048) (O). Lorillard relies on an earlier 1994 study to show that DAP does not increase nicotine yields; however the later 1996 study clearly shows that increases in DAP resulted in increased nicotine transfer. Compare 89766136-6195 (JD-020304) (O) with 88029439-9460 at 9439, 9449 (US 22048) (O). Another document upon which Lorillard relies to refute this finding does not identify the blend tested, nor does it examine varying levels of DAP as in the prior studies. See 95308900-8906 (JD-020165) (O).

2931. As late as October 2000, Lorillard continued to use additives to affect smoke pH and produce ammonia. An October 3, 2000 Lorillard memorandum disclosed the concerns of Lorillard's then-CEO, Alexander Spears, concerning the use of ammonium carbonate to change pH balance: "[Spears] had a big concern about using ammonium carbonate to change the pH. His point was that much of the pH changes reported have shown that when the ammonia is generated is just as, if not more, important than the amount. He would like us to use urea instead, since it will allow ammonia to be generated at a more even rate and at higher temperatures than with the use of ammonium carbonate." 97014099-4099 (US 21853) (O) (emphasis in original).

(ff) Liggett

2932. Liggett also aggressively pursued designing a cigarette with increased smoke pH. A 1971 progress report on project TE-5001 reported that "[i]ncreasing the pH of a medium in which nicotine is delivered increases the physiological effect of the nicotine by increasing the ratio of free base to acid salt form, the free base form being more readily transported across physiological membranes." The importance of this finding was explained: "[w]e are pursuing

this project with the eventual goal of lowering the total nicotine present in smoke while increasing the physiological effect of the nicotine which is present, so that no physiological effect is lost on nicotine reduction." LG0262125-2126 at 2126 (US 59994) (O).

2933. By early 1972, Liggett had achieved its goal of increasing the smoke pH. Another report on project TE-5001 was issued heralding the success of the pH studies: "The original purpose of this development was to increase the smoke pH through the addition of a basic material to the tobacco in order to achieve a higher physiologic effect from the nicotine in the smoke. This has been accomplished." Liggett's researchers found related results from the study encouraging, reporting "the above-observed facts would seem to present intriguing possibilities in the development of new products, particularly in the development of low yield cigarettes where it is desirable to obtain a higher physiologic effect from a cigarette yielding relatively small amounts of nicotine." The report set forth various ways Liggett would improve "taste" for commercialization of the product. LG0262506-2508 at 2506-2507 (US 36263) (A).

2934. Liggett continued its work on the TE-5001 throughout the 1970s. During this time, company scientists developed a sound base of knowledge in the area and advised management of the perceived benefits of increasing smoke pH, writing: "[a] low smoke solids, low nicotine cigarette with an increased smoke pH would then have relatively more free nicotine in its smoke. Consequently, a higher nicotine impact would result producing a more satisfying smoke." This January 22, 1974 report, and others, discuss methods, including filters, blends, and additives, by which the smoke pH could be altered. It was reported that "all the increased smoke pH cigarettes generally exhibited an increased physiological impact." LG0262127-2129 at 2127, 2128, 2129 (US 21185) (O).

2935. In a January 29, 1974 report concerning the progress made by Liggett in 1973 on

Project TE 5001, J.R. Newsome explained: "The purpose of this project is to develop a method for increasing the smoke pH of a cigarette. A low smoke solids, low nicotine cigarettes [sic] with an increased smoke pH would then have relatively more free nicotine in its smoke, and consequently, a higher nicotine impact." Newsome also stated that "[f]uture plans on this project will consist of screening a number of basic materials on both the cigarette filter and blend in an attempt to find which additive is most effective in producing a smokeable increased smoke pH cigarette." The report confirms that Liggett continued studying various methods of manipulating cigarette smoke to increase smoke pH, including the use of filters, additives, and different tobacco blends. LG 0262130-2131 at 2130, 2131 (US 21596) (A).

2936. Liggett continued its work on Project TE-5001 through at least 1978. Through this work and other research, by 1976, the company was aware of various methods of altering pH. Among the methods that Liggett believed could alter pH were: changing the tobacco blend, adding additives to the tobacco or adding additives to the filter. LG0262155-2155 (US 21428) (O); LG0262149-2151 (US 21186) (A); LG0262152-2153 (US 21187) (O); LG0262509-2512 (US 36264) (O).

2937. Liggett was incorporating ammonia technology into some of its products no later than 1993, as demonstrated in a memorandum to Dennis Dietz, Liggett's Manager of Scientific Issues, who testified in this case. LG2018563-8563 (US 21190) (O).

2938. Liggett was aware decades ago of the basic science surrounding pH and the freebase form of nicotine. Dietz PD, Minnesota v. Philip Morris, 9/29/97, 22:15-24:1, 25:23-27:5. Since 1971, Liggett has hypothesized that the effect of increasing the pH of nicotine, and hence increasing the ratio of freebase nicotine to salt form, increases the physiological effect of the nicotine. Id., 28:1-32:3.

2939. Liggett pursued research into the manipulation of the pH of nicotine because it sought to lower the total nicotine present in smoke while increasing the physiological effect of the nicotine that remained. Id., 33:25-34:19.

2940. Liggett's research confirmed the research conducted by BATCo and RJR. Dietz testified that BATCo found that treatment of tobacco with potassium carbonate reduced the total quantity of nicotine in the smoke while enhancing the physiological effect. Id., 57:12-59:17. Similarly, Reynolds found that pH in smoke can affect the physiological impact, and that ammonia is one of the major pH controlling components. Id., 59:19-61:3.

2941. As internal research and Dietz's testimony show, Liggett was aware that adding calcium hydroxide to tobacco makes the tobacco more basic, thus raising the pH and increasing the amount of freebase nicotine relative to the salt form of nicotine. Liggett added calcium hydroxide to the L&M blend. LG0262506-2508 (US 36263) (A); Dietz PD, Minnesota, 9/29/97, 35:17-41:11.

2942. Liggett also experimented with increasing the smoke pH by making the filter more basic and thereby increasing the physiological impact of the nicotine. Dietz PD, Minnesota, 9/29/97, 41:12-43:24; LG0262127-2129 at 2128 (US 21185) (O).

2943. In 1976, Liggett continued its research into the modification of smoke pH, and noted that a smoke pH of 6 resulted in the nicotine in smoke as salt form, while a pH of 11 resulted in nicotine as almost entirely freebase form. The most dramatic shift from salt form to freebase form occurred between pH 6 and pH 9. Dietz PD, Minnesota, 9/29/97, 44:21-50:4.

2944. Between 1993 and 1996, Liggett added diammonium phosphate to its cigarettes. Id., 61:7-19. As seen through research conducted by other Cigarette Company Defendants noted earlier in this Section, DAP has been shown to increase nicotine transfer.

2945. Timothy Jackson, the Vice President for Operations at Vector Tobacco, a Liggett subsidiary, wrote in a July 30, 2001 e-mail discussing Vector Tobacco cigarette testing that a third party had

VDOJ 25337-5337 (US 64738)(O) (Confidential).

(v) Other Research Efforts and Additives Used by Cigarette Company Defendants to Manipulate Nicotine

2946. Cigarette smoke contains chemicals that can act synergistically to produce effects that might be even more reinforcing to addiction than those of nicotine alone. For example, studies by Philip Morris have indicated that levels of acetaldehyde (a chemical involved in alcohol dependence) in smoke can be manipulated through additives so as to produce a mixture of acetaldehyde and nicotine that would be more addictive than either drug alone. DeNoble WD, 31:5-32:15; 1000413881-3964 (US 20100) (A); 1003060443-0503 (US 87091) (A). At trial, Victor DeNoble, a scientist who ran Philip Morris's Behavioral Pharmacology lab from 1980-1984, testified as a fact witness about acetaldehyde research that he personally conducted. Dr. DeNoble's testimony on acetaldehyde was corroborated by the unchallenged testimony of Dr. Paul Mele, another scientist in Dr. DeNoble's lab, and was not rebutted on cross examination or by any other witness called by Philip Morris.

2947. Philip Morris studied the compound acetaldehyde beginning as early as 1980, because it had been shown to have positive reinforcing effects, i.e., that it enhanced a smoker's desire to continue to ingest nicotine. DeNoble WD, 29:16-33:5; 1002973586-3615 at 3598 (US 35633) (A)1000390648-8764 (US 35259) (O). In 1982, Dr. DeNoble reported that, in preliminary studies, acetaldehyde readily penetrated the blood-brain barrier. 1003198459-8461 (US 20156) (A). DeNoble's studies on acetaldehyde revealed a "synergistic effect" with nicotine. In other words, "the combination of nicotine with low doses of acetaldehyde caused more

powerful results than either one of the drugs acting alone." DeNoble WD, 31:11-12; Mele WD, 18:18-19:1; 2048376436-6437 (US 85503) (O). In 1983, Philip Morris determined that acetaldehyde could enhance the positive reinforcing effect of nicotine, and the company set as a goal finding the ratio of acetaldehyde to nicotine that would have "optimal reinforcing effects." 1000413881-3964 at 3883-3884, 3908 (US 20100) (A). Philip Morris scientists even charted the effect of the presence of acetaldehyde in cigarettes upon sales. 2022261214-1225 (US 20364) (O).

2948. On January 30, 1981, Thomas Osdene, then Director of Research and later Vice President of Science and Technology, received a letter from Philip Morris consultant Leo Abood, informing Osdene of research showing that acetaldehyde was self-administered by rats and that it could reinforce smoking behavior. Abood postulated that acetaldehyde may "enhance" the behavioral effects of nicotine and suggested that further studies be done to see how acetaldehyde interacts with nicotine. 2058212035-2036 (US 64776) (O).

2949. In 1982, DeNoble presented his acetaldehyde research to Philip Morris corporate officers in meetings in Richmond and at Philip Morris headquarters in New York. Subsequent to his presentations, Philip Morris executives expressed interest in finding the ratio of the acetaldehyde-nicotine combination that would be optimally reinforcing. DeNoble also testified that Philip Morris considered the acetaldehyde work "very sensitive and that [the company] did not want it to be misinterpreted if it got out." As a result, Philip Morris explored ways to move DeNoble's research out of the company labs in Richmond. DeNoble WD, 11:8-10, 32:18-33:1, 33:18-35:4, 36:14-18.

2950. It is clear that Philip Morris recognized "[t]here was a practical aspect of the super-additive quality of the reinforcing effects of nicotine and acetaldehyde." According to Paul

Mele, a Scientist in DeNoble's lab, their supervisor in the Biochemical Research Division, Jim Charles, "discussed with us the importance of finding the optimum ratio of nicotine and acetaldehyde that was reinforcing in the self-administration test." Mele WD, 19:14-19:16.

2951. Similarly, former B&W Director of Research Jeffrey Wigand explained that acetaldehyde is an impact booster and that B&W knowingly used additives, such as sugars, that would produce acetaldehyde when burned. Wigand WD, 119:7-22; Wigand TT, 1/31/05, 11580:1-4.

2952. BATCo researchers were aware as early as 1968 of the importance of nicotine and of the potential value of a product that combined nicotine with some other chemical to increase the pharmacological effects of nicotine. Minutes written by S.J. Green from a BATCo conference held in Hilton Head, South Carolina, on September 24-30, 1968, included the following conclusion:

> In view of its pre-eminent importance, the pharmacology of nicotine should continue to be kept under review and attention paid to the possible discovery of other substances possessing the desired features of brain stimulation and stress-relief without direct effects on the circulatory system. **The possibility that nicotine and other substances together may exert effects larger than either separately (synergism) should be studied** and if necessary the attention of Marketing Departments should be drawn to these possibilities.

682633150-3156 (US 54206) (A) (emphasis added).

2953. Internal documents show that Cigarette Company Defendants researched various additives with the intent to facilitate the nicotine delivery. In 1969, American test-marketed Lucky Strike cigarettes to which it had added nicotine malate to increase the nicotine levels of the cigarettes. "Evidence of Nicotine Manipulation by the American Tobacco Company," Staff Report prepared by the Majority Staff Subcommittee on Health and the Environment of the

House Committee on Energy and Commerce, December 20, 1994, at 2 (US 76044) (O).

2954. In a February 8, 1960 memorandum, L.L. Long wrote to A.B. Clarke, with copies to Seligman and G.E. Shaffer, Jr., discussing Philip Morris's ongoing efforts to manipulate the amount of nicotine received by a smoker through concentration on the make-up of tobacco smoke. Long wrote:

> [o]ne of the objectives of the 1960 cigarette project is the control of TPM at a low level **while maintaining the nicotine level in the smoke** at its current level of about 1 mg/cigt. Several years ago some work was conducted along these lines. Nicotine Maleate was added to a low nicotine filler with a resulting increase in nicotine in the smoke. It would be most helpful if you could conduct some investigation in this area along with your work on nicotine control through extraction.

1001919958-9958 (US 85460) (O) (emphasis added).

2955. By 1978, Lorillard was studying means by which nicotine migration – the redistribution of nicotine within a cigarette from the tobacco to the outer periphery for the purpose of increasing the amount of nicotine in mainstream smoke – could be maximized. In a February 23, 1978 memorandum to Harry Minnemeyer, M.S. Ireland set forth the "steps which are planned in the nicotine migration project," including maximizing migration through the addition of acids or other compounds and determining the maximum amount of nicotine that can be migrated. 82514702-4703 (US 55517) (O).

2956. By 1980, Lorillard was aware that "nicotine could be manipulated within a cigarette to a specific area. The objective of such a redistribution within the cigarette would be to increase the delivery of nicotine to the mainstream smoke." Thus, researchers proposed to study possible cigarette additives that would facilitate the migration of nicotine from other parts of the cigarette to the cigarette paper, recognizing that "the major portion of the mainstream smoke is generated from the outer periphery of the cigarette." 83896877-6879 at 6878 (US

55922) (O). A 1980 report likewise stated that "[i]t has been demonstrated that the impregnation of cigarette paper with acid can cause migration of nicotine to the periphery. This in turn elevates delivery of nicotine in mainstream smoke." 00114987-4996 at 4987 (US 34264) (O). Lorillard conducted further studies on migration and confirmed these results. 00114962-4975 at 4962 (US 34263) (O); see also 00041734-1735 (US 34189) (A); 000115023-5025 (US 34265) (A); 83896952-6954 (US 55925) (O).

2957. A February 25, 1982 Lorillard research paper entitled "A Progress Report on Nicotine Migration and Manipulation," concluded that "[a]ddition of bases to tobacco was found to substantially enhance migration of nicotine to acid impregnated media." 00053989-4018 at 3989 (US 34217) (A); Henningfield WD, 75:22-76:1, 77:15-18. A March 2, 1982 report summarizing internal Lorillard research noted that various cigarette constructions, including "[n]ew filter additives, cigarette papers and means of migrating nicotine to cigarette paper were evaluated" with the objective of increasing the tar/nicotine ratio. 00041682-1696 at 1682 (US 34188) (A); see also 00041734-1735 (US 34189) (A); 00397548-7553 (US 34289) (A).

2958. A December 6, 1983 Lorillard memorandum by J.M. Johnson described the purpose of another study of filter additives as "to increase smoke pH and therefore increase free nicotine in smoke by adding an aryl alkyl amine to the filter." The results of the study revealed "increased smoke pH and a six-fold increase in free nicotine." 87632595-2598 (US 56265*) (A); Henningfield WD, 75:22-76:1, 77:8-14.

2959. One of RJR's significant research objectives outlined in an August 27, 1979 report by Alan Rodgman entitled "Research Department Program 1980" was to identify the advantages and disadvantages "of various treatments such as nicotine relocation, heat treatment, denicotinization, casing or use of other additives to control nicotine delivery to mainstream

smoke." 502490232-0246 at 0242 (US 85406) (O).

2960. An April 30, 1984 draft "TGA [thermal gravimetric analysis] Monthly Report" from Calvin L. Neumann to M.D. Shannon reports on the progress of Reynolds's "Nicotine Delivery Experiments." The draft report demonstrates that RJR continued extensively to study cigarette design mechanisms that would result in efficient and effective delivery of nicotine to the smoker. For instance, the report presents the following conclusions, inter alia, from RJR's nicotine delivery experiments:

> -Nicotine transfer is a function of nicotine level and form. Nicotine transfers most efficiently as the free base, and least efficiently as the salt with added acid present.
> -When nicotine is present as a free base, transfer begins at about the same puff as aerosol generation begins (puff #2) and lasts for only 4-6 puffs. When nicotine is present as a citrate salt with excess acid, nicotine delivery is delayed for 1-2 puffs, but lasts until ca [approximately] puff 11. Without excess acid nicotine delivery from the citrate salt is intermediate between these cases.

505008446-8460 at 8447 (US 85504) (O); see also 506517246-7300 (US 85505) (O).

2961. On February 19,1988, RJR employee Ken Shu sent an inter-office memorandum to Brian Lawrence regarding using levulinic acid derivatives and nicotine levulinate salts to reduce "throat harshness" in high nicotine tobacco products. Shu recommended use of high nicotine tobacco extracts to make nicotine levulinate salt "so it may be legally considered a natural process." 506448793-8794 at 8793 (US 20758) (O); see also 514894567-4676 at 4579 (US 20862) (A).

2962. In an April 22, 1988 internal invention disclosure prepared by Barry Fagg and addressed to August J. Borschke of RJR's Legal Department, Fagg described a method for incorporating levulinic acid into tobacco materials, noting that the "addition of levulinic acid to tobacco materials has proven in the past to effect desirable smoking characteristics to a tobacco

product incorporating the material; i.e. reduced harshness, **modified nicotine delivery**, etc." 508675959-5961 at 5960 (US 85506) (O) (emphasis added).

2963. RJR's study of the use of levulinic acid as an additive indicates that Reynolds believed that levulinic acid or other organic acids could be used to remove and/or mask the harshness associated with cigarettes having a high concentration of nicotine. An undated Reynolds document described an invention where "[c]igarettes having high nicotine content tobacco cut filler are rendered smooth smoking and palatable by incorporating an organic acid additive therein." The document described the incorporation of "one or more salts provided from nicotine and an organic acid" into a cigarette. The effect of adding an organic acid salt to a high nicotine concentration tobacco was also described: "Typically, the FTC 'tar' to FTC nicotine ratios of a cigarette having a nicotine/organic acid salt incorporated therein can be lowered by up to about 80 percent of that ratio of a similar cigarette not having the salt additive incorporated therein." 507873543-3593 at 3543, 3558, 3565 (US 86982) (O); see also 522531991-1993 at 1991 (US 88076) (O).

2964. In handwritten notes dated December 1, 1988 from an internal meeting on the topic of levulinic acid, the positive attributes of adding levulinic acid to cigarettes were described as "permitts [sic] increased product nicotine levels without increasing smoke harshness" and "permitts [sic] reduction of 'tar' to nicotine ratio." 507862863-2870 at 2867 (US 85507) (O).

2965. Reynolds was denicotinizing burley tobacco by 1981 – further proof that Defendants have substantial control over the nicotine levels in their cigarettes and that such levels are the result of deliberate choices. 501754849-4866 (US 20685) (O).

2966. Defendants have also researched other sophisticated methods of manipulating the addictive potential of cigarettes. In 1977, BATCo scientists discussed the drug etorphine, noting

that it "is 10,000 times as effective an analgesic as morphine and has addictive characteristics," noting that "[p]erhaps a regular dose of 0.2 ug/day would generate an addictive craving for the source. If so, 6 ug in, say, 30 cigarettes would provide such a dose . . . . Do you think the possibility that competitors might use such a route to create brand allegiance for low delivery cigarettes ought to be discussed at the Research Managers Conference?" 107467542-7542 (US 20250) (O).

2967. Even to this day, the cigarette industry is unwilling to fully disclose information regarding tobacco ingredients and additives on a brand-specific basis. Some companies recently have begun to provide limited information on their website, but those websites contain various disclaimers and means of preventing regulatory agencies and public health scientists from knowing the full array of ingredients that are used to control tar and nicotine levels in particular brands. These ingredients include what are sometimes referred to as "processing aids" and "flavorings," components that typically are not included in the publicly available "ingredient disclosures." The decision as to how such categorizations and exclusions are made is done by the manufacturer and not by a disinterested regulatory agency. Furthermore, ingredients and design features in the paper and filter also help meter dosing, but also are not fully disclosed. Henningfield WD, 86:22-87:9; 321205145-5146 (US 86980) (O); 321205312-5312 (US 86981) (O).

2968. By providing incomplete ingredient disclosures on a brand-by-brand basis and a long list of approximately 600 **potential** ingredients, the cigarette companies assure that their disclosures have only a very limited usefulness to research scientists outside the industry who study nicotine pharmacology. Even based on these limited disclosures, however, it is clear the Cigarette Company Defendants use other chemical additives to facilitate the delivery of nicotine.

Henningfield WD, 86:22-87:9.

(d) Conclusions

2969. The above-described conduct of all of the manufacturing Defendants in researching, developing, and implementing techniques to manipulate the amount and form of nicotine delivered by their cigarettes proves the falsity of Defendants' public statements that they do not manipulate nicotine. It is also additional supportive evidence that confirms Defendants' internal recognition – from the 1950s forward – that nicotine is the most important component of cigarette smoke because it is the one primarily responsible for keeping people smoking. Indeed, the evidence in the record shows that Defendants' nicotine manipulation efforts have stemmed directly – and explicitly – from their understanding that their extraordinary profits depend upon their ability to design cigarettes in a way to ensure that smokers can use the cigarette to get enough nicotine to create or sustain their addiction.

2970. The Court finds the evidence establishes that Defendants have had an extraordinary focus on nicotine's pharmacological effects, and have dedicated an extraordinary level of resources, both human and financial, to nicotine-oriented research and product development.

2971. The Court further finds that the evidence establishes that Defendants incorporated physical and chemical design parameters into their commercial products with the intent of assuring that those products delivered sufficient nicotine to create and sustain addiction in cigarette smokers.

2972. The Court also finds that the length of time for which, and the vigor with which, Defendants have pursued their campaign of obfuscation, misrepresentation, and concealment of their predominant focus on nicotine, constitute powerful evidence that the profitability of this

misconduct was high and that maintaining a uniform, fraudulent public position as to their manipulation of nicotine was critically important to Defendants' scheme to defraud.

D. Defendants' Fraud Regarding Filtered and "Low Tar/Nicotine" Cigarettes

(1) Introduction and Overview

2973. As demonstrated above, Defendants have conspired over the over the last five decades to keep Americans from quitting smoking by maintaining a core "continuing controversy" public relations position denying that any negative health impacts from smoking had been proven. See US FF § III.A(1), supra. The evidence below demonstrates that, as part of their scheme to dissuade potential quitters from giving up smoking, Defendants also introduced filtered and low tar cigarette brands that they internally referred to as "health reassurance" brands. Indeed, Defendants' internal documents show that Defendants engaged in massive, sustained, and highly sophisticated marketing and promotional campaigns intended to portray their health reassurance brands as less harmful than regular cigarettes, and thus an acceptable alternative to quitting, while at the same time carefully avoiding any admission that any negative health impacts from smoking had been proven.

2974. The evidence shows that, over multiple decades, Defendants used a combination of techniques to market and promote their health reassurance brands. In the early 1950s, Defendants explicitly marketed and promoted the first health reassurance brands as less harmful due to an added filter which purportedly protected smokers from the harmful tar in cigarette smoke. In subsequent years, Defendants' marketing of their health reassurance brands featured claims of low "tar" and nicotine delivery accompanied by statements that smoking these brands would reduce a smoker's exposure to the "controversial" elements of cigarette smoke (i.e., tar). Since in the 1970s, Defendants also have used so-called brand descriptors such as "light" and "ultralight" to communicate health reassurance and suggest to consumers that low tar cigarettes are an acceptable alternative to quitting. The evidence further demonstrates that, in addition to

written statements and brand descriptors, Defendants have used marketing imagery such as lighter color cigarette packaging and white tipping paper to communicate to smokers that Defendants' health reassurance brands were low in tar and therefore less harmful. See US FF §§ III.D(1)-(3), infra (Defendants' deceptive marketing of low tar cigarettes).

2975. The evidence shows that, even as they engaged in a campaign to market and promote filtered and low tar cigarettes as less harmful than regular cigarettes, Defendants either lacked evidence to substantiate their claims or knew them to be false. Indeed, internal industry documents evidence Defendants' awareness by the late 1960s/early 1970s that, because low tar cigarettes do not actually deliver the low advertised levels of tar and nicotine to human smokers, they are unlikely to provide any health benefit to smokers compared to regular, full flavor cigarettes. See US FF § III.D(4)(a), infra (health effects of low tar cigarettes).

2976. As Defendants have long been aware, nicotine delivered by cigarettes is addictive (see US FF § III.C(1), supra (addiction)). Defendants' internal documents demonstrate their awareness that, in order to obtain an amount of nicotine sufficient to satisfy their addiction, smokers of low tar cigarettes modify their smoking behavior, or "compensate," for the reduced nicotine yields by taking more frequent puffs, inhaling smoke more deeply, holding smoke in their lungs longer, covering cigarette ventilation holes with fingers or lips, and/or smoking more cigarettes. See US FF § III.D(4)(b), infra (smoker compensation). As a result of this nicotine-driven smoker behavior, smokers of light cigarettes concurrently boost their intake of tar, thus negating what Defendants have long promoted as a primary health-related benefit of light cigarettes: lower tar intake.

2977. The evidence shows that Defendants withheld and suppressed their extensive knowledge and understanding of smoker compensation from public dissemination, and instead

used this knowledge to design their low tar cigarettes to register low tar and nicotine yields on the standardized testing machine operated by the Federal Trade Commission ("FTC"), while enabling smokers to compensate and obtain much higher deliveries of nicotine (and with it, tar), deliveries high enough to create and sustain addiction. Defendants' internal documents referred to this design feature as "elasticity" of delivery. The evidence shows that Defendants designed low tar cigarettes with elasticity of delivery because Defendants knew that if smokers were not able to get a sufficient amount of nicotine from them to sustain their addiction, they would be more likely to quit smoking. See US FF § III.D(4)(c), infra (Defendants' deceptive design of low tar cigarettes).

2978. The evidence shows that Defendants' deceptive conduct with respect to health reassurance cigarettes continues to this day. Despite their internal knowledge that "light" and low tar cigarettes offer no health benefit as compared to regular cigarettes, Defendants continue to market and promote light and low tar cigarettes as less harmful, capitalizing on smokers' mistaken belief that low tar cigarettes are in fact less harmful. Additionally, despite their extensive knowledge of smoker compensation, Defendants continue to disseminate inaccurate and/or incomplete statements downplaying its existence and prevalence. Defendants' concealment of smoker compensation – which is driven by nicotine addiction – is consistent with the fact that the Cigarette Company Defendants (with the exception of Liggett) refuse to publicly acknowledge that nicotine is addictive.

2979. As detailed below, the evidence shows that Defendants' conduct relating to low tar cigarettes was intended to further the aims of the Enterprise and Defendants' scheme to defraud by providing smokers with a false sense of reassurance and thereby weakening their resolve to quit smoking, and by drawing ex-smokers back into the market.

(2) Defendants Introduced Health Reassurance Cigarettes to Discourage Smokers from Quitting

2980. As expert economist Dr. Jeffrey Harris testified, "[a]n extensive body of literature by economic researchers supports the conclusion that American consumers have consistently reduced their use of cigarettes in response to publicity about the adverse health effects of smoking." Dr. Harris testified that cigarette consumption in the United States declined in the early 1950s, around the time when reports appeared in the popular press concerning scientific studies on smoking and lung cancer, particularly the 1953 report from Sloan-Kettering Institute that cigarette tars caused cancers in laboratory animals, and declined again immediately following the 1964 Surgeon General's Report. Harris WD, 71:3-18; 62:4-64:12.

2981. Dr. Harris's expert trial testimony is entitled to significant weight. Dr. Harris, who was accepted by the Court as an expert in economics, is highly credentialed and well-qualified to give testimony in this case. He is both a primary-care physician at Massachusetts General Hospital and a tenured Professor of Economics at the Massachusetts Institute of Technology ("MIT"), where he has been a faculty member for over 25 years. Dr. Harris holds an M.D. degree from the University of Pennsylvania and a Ph.D. in Economics from the University of Pennsylvania. Dr. Harris has spent a career both as an economist working on tobacco related issues, and as a practicing physician treating patients addicted to nicotine. He has authored numerous peer-reviewed articles and book chapters concerning his research on "the effects of price on cigarette smoking, the economic structure of the cigarette industry, the profits of cigarette manufacturers, trends in smoking rates throughout the twentieth century, and the impact of anti-smoking campaigns." Dr. Harris's publications include a chapter in the 1979 Surgeon General's Report explaining "trends in cigarette consumption, smoking rates, changes in the type of cigarettes smoked, and the responses of consumers to information about the risks of smoking,"

and a "review of trends in smoking in the United States throughout the twentieth century, entitled 'Patterns of Cigarette Smoking'" for the 1980 Surgeon General's Report. Dr. Harris has been a consulting scientific editor, invited contributor, or senior reviewer to Surgeon General's Reports on smoking and health in 1980-1983, 1986, 1988, 1989, and 1996. Dr. Harris testified that through his work on the Surgeon General's Reports, he 'acquired specific expertise in both the economics of the cigarette industry' by working with "raw data on government surveys of smoking practices,' studying 'detailed trends in cigarette consumption, smoking rates, and product mix, including the relationship between these trends and publicity about the adverse effects of smoking.' Dr. Harris has served as a consultant to numerous public health and governmental bodies on matters involving smoking and health as well as the economics of the tobacco industry. Harris WD, 1:22-3:16; 4:1-14:2; Harris TT, 2497:20-2499:2.

2982. Dr. Harris's expert conclusions that during the past five decades, Defendants engaged in a sustained cooperative arrangement in which they jointly denied that smoking caused disease, jointly refrained from making explicit comparative health claims about each others' products, jointly withheld potential risk-reducing alternatives from the marketplace, and colluded via direct communication and explicit agreement among themselves, are based on sound economic principles and are supported by the overwhelming weight of the evidence. In formulating his expert opinions, Dr. Harris reviewed tens of thousands of pages of internal documents originating from the Defendant cigarette manufacturers as well as the deposition testimony of expert and fact witnesses in this case. Dr. Harris's unique economic perspective of the tobacco industry's conduct was not countered or rebutted by any expert witness called by Defendants. Defendants did not call a single expert to offer contrary opinions to Dr. Harris's economic conclusions, which were based upon a comprehensive review of fifty years of tobacco

industry materials and employee testimony. Harris WD, 22:22-23:14; 26:9-27:11; 24:21-25:4.

2983. The effect of the health scare on Defendants' sales is captured in a November 1964 marketing plan prepared by Grey Advertising for Lorillard entitled "Old Gold Spin Filters 1965 Marketing Plan," which noted that "[t]otal dealer purchases of cigarettes for the first eight months of 1964 totaled 220.2 billion units, 3.7% below year ago sales . . . Bi-monthly sales registered their lowest 1964 volume in January-February, **reflecting the full effects of the Surgeon General's Report**." Marketing expert Dr. Robert Dolan testified that this document "shows both that Lorillard was concerned about the total volume of cigarettes sold and that they saw the negative health messages in the 1964 Report of the Surgeon General as responsible for driving sales down." 84443158-3221 at 3163 (US 67524) (A) (emphasis added); Dolan WD, 130:14-131:3.

2984. Dr. Dolan's expert trial testimony is entitled to significant weight. Dr. Dolan, who was accepted by the Court as an expert in marketing, is Dean of the Stephen M. Ross School of Business at the University of Michigan, one of the nation's premier business schools. Prior to his current position, Dr. Dolan taught for 21 years at the Harvard University Graduate School of Business Administration, in the marketing area, holding the position of Marketing Area Chairman from 1986-1994. Dr. Dolan has authored or co-authored a number of textbooks on marketing management, including five case study handbooks designated as "best seller" by Harvard Business School Publishing. Dr. Dolan also has authored or co-authored 24 articles, nearly half of which were written for an academic audience and published in peer-reviewed journals, and has served as a member of the Editorial Review Board of the Journal of Marketing and Marketing Science. Dr. Dolan has been hired to teach marketing management to the executives of some of America's largest companies, including Allied Signal, Bethlehem Steel,

Chase Manhattan, Citicorp, the Ethicon Division of Johnson & Johnson, Ford Motor Company, General Electric, IBM, 3M, Merrill Lynch, and Xerox. Dr. Dolan testified that "[w]orking with many of the leading firms in the country . . . has enabled me to see how marketing really works – how it gets done within large corporations. I know the processes a large, multinational company is going to use to market. And, I know the type of marketing planning documents a firm like Philip Morris or the other tobacco companies is going to have, and how it developed them." Dolan WD, 2:11-19:9; Dolan TT, 12/1/04, 7660:4-9.

2985. Dr. Dolan testified that "[t]he tobacco companies perceived a significant threat from the potential quitting phenomenon." He explained that "[c]igarette smoking is kind of an unusual practice in that **most of the people who do it want to quit. Defendants knew this and wanted to decrease this urge to quit**." Dr. Dolan testified that if anywhere near the number of smokers who wanted to quit actually did quit, "[i]t would have been a great threat to the companies' financial performance," and that, as a result Defendants "did research to assess how many people acted on their desires to quit and how successful they were with those attempts." Dolan WD, 106:8-13; 67:1-7; 101:14-103:5; 104:18-22; Dolan TT, 12/1/04, 7660:12-7661:23 (emphasis added).

2986. Dr. Dolan testified that Defendants knew that the main reason people wanted to quit was due to health concerns, and that many smokers felt guilty about the fact that they continued to smoke. Dr. Dolan further testified that "two very specific activities directed at deterring quitting were: (1) the fostering of a "continuing controversy" denying that any negative health impacts had been proven (see US FF § III.A(1), supra) and (2) the introduction of low tar and nicotine brands as "health reassurance brands." Dr. Dolan explained that Defendants "introduced a number of brands and brand extensions lower in tar and nicotine and positioned

them as ‘health reassurance' brands to meet health concerns of smokers." Dr. Dolan testified that Defendants' own internal research showed that "smoking low tar and nicotine helped a smoker to reduce guilt about smoking and thus made a smoker less likely to quit. Smoking a ‘health reassurance' product with its low tar was a ‘compromise' to justify not quitting." Dolan WD, 106:14-107:2; 118:4-8; 118:23-119:21; 126:8-16; accord Burns WD, 69:3-14 (testifying that beginning in the 1950s, Defendants "introduced and marketed filtered cigarettes and 'low tar and nicotine' cigarettes as an effort to prevent smokers from quitting based on growing health concerns among smokers").

2987. The evidence shows that Defendants' introduction of filtered and low tar cigarettes had a tremendous affect on cigarette consumption in the United States. Dr. Burns testified that Defendants' actions reversed the decline in smoking that had occurred when smoking was linked to lung cancer, and resulted in per capita cigarette consumption rising "to new heights." Dr. Burns further testified:

> Based on my training, experience and review of changes in cigarette smoking based on the actions of the tobacco companies, it is clear that the misconduct of the tobacco industry in [many areas, including] deceptively marketing filtered and ‘lower yield' cigarettes as safer cigarettes has led to **substantially higher rates of cigarette consumption than would have occurred absent these actions**. This excess consumption has resulted in substantial excess rates of disease, a result of which would not have occurred absent these actions by the tobacco industry.

Burns WD, 69:3-14; 71:13-20 (emphasis added).

2988. Dr. Harris testified that "[d]uring 1955 to 1963, even though the scientific evidence pointing to cigarette smoking as a cause of disease continued to mount, cigarette consumption rebounded and rose further, as smokers switched in large numbers to filter cigarettes." Dr. Harris further testified:

> In response to the 'health scare' of the early 1950's . . . the market share of filter cigarettes rose rapidly in the United States, from 3 percent of the market in 1953 to 49 percent of total cigarette output in 1959. After the Federal Trade Commission began reporting tar and nicotine ratings in 1967, the market share of low-tar cigarettes - that is, cigarettes with a tar rating of 15mg or less - rose rapidly, from 2 percent in 1967 to 56 percent in 1981.

Harris WD, 102:18-103:14, 139:15-140:2; accord Dolan WD, 128:23-129:8 (testifying that Defendants' "marketing activities did have a positive impact on the overall size of the cigarette market," i.e., the number of cigarettes sold in a year").

2989. This was recognized by Defendants in their own documents. For instance, an October 1979 "History and Key Trends in the U.S. Cigarette Market" compiled by E.T. Parrack, B&W Vice President of Brand Management, noted that filter cigarette sales rose whenever smoking declined due to anti-smoking publicity:

> In 1953 and 1954, the market reacted to the impact of anti-smoking publicity in two ways: . . . Total consumption of cigarettes declined . . . filtered cigarettes share rose . . . . Surgeon General's report in 1964. Cigarette consumption again declined . . . and again filters entered another cycle of growth . . . in 1969 . . . TV campaigns against cigarettes . . . total consumption declined again . . . surge in filter growth followed the consumption drop.

670624932-5364 at 5323 (US 53869) (A).

2990. This document also noted that Defendants' heavy and sustained advertising of filtered and low tar cigarettes as less harmful was responsible for their success:

> [F]iltered products took off, rocketing from 3% of the market in 1950 to 53% in 1960. **The most important reason for this growth would have to be growing health concern** . . . . Hi-Fi was catapulted into existence . . . 1957 . . . . There was no doubt as to the underlying interest at the time in protection from the dangers of cigarettes . . . . [Between 1957 and 1960] the consumer was bombarded with messages regarding high filtration . . . . **The success of hi-fi brands is due in part to the large sums being spent to advertise them**.

670624932-5364 at 4935, 5036, 5277, 5279, 5342 (US 53869) (A) (emphasis added); Smith WD, 52:17-53:11.

2991. United States expert Dr. Dean Krugman concluded, from his review of Defendants' marketing plans and other internal marketing documents, that 4 to 9% of smokers switch brands every year. Defendants' internal documents also show that the "[d]irection of switching" is "generally in [the] direction of lower tar," with "75% of switchers switch[ing] to a lower tar category." Krugman WD, 152:13-25; 2500002189-2207 at 2204 (US 21460) (A); see also 2041787758-7815 at 7763, 7765 (US 38236) (A); 2044977085-7147 at 7124, 7126 (US 38383) (A).

2992. The evidence shows that even though low tar smokers may have a greater desire to quit, the misperception of increased safety associated with low tar cigarettes persuades them to avoid quitting. Research shows that low tar cigarette smokers have made a greater number of quit attempts than smokers of full flavor cigarettes, or were more likely to have considered quitting, (Weinstein WD, 56:21-57:8 (citing Giovino, et al., 1996)); however there is no data that indicates that switching to low tar cigarettes actually increases the likelihood of successfully quitting, (Weinstein WD, 57:9-17 (citing Giovino, et al., 1996)).

2993. Dr. Burns testified that "reassuring the public that smoking filtered or 'low tar' cigarettes was safe, or at least safer," benefits Defendants, because "[i]t keeps at least some smokers smoking; **many smokers who were concerned about the risks of smoking responded by switching to low tar cigarettes instead of quitting**." Moreover, Dr. Burns testified that, while "[m]any smokers switch to lower yield cigarettes as part of an effort to quit," the evidence indicates "that they are not more likely to quit." Burns WD, 46:21-47:9; 47:10-14 (emphasis added).

2994. Dr. Burns testified that "[t]here is profound harm" for people who smoke low tar cigarettes. As Dr. Burns explained:

> The vast majority of people who smoke are addicted. They're interested in quitting but are unable to do so. . . . To provide smokers an alternative that says you don't have to quit, you can use this other type of cigarette, to intercept them on the way to quitting smoking is a profound harm because they continue to smoke longer than they might have otherwise. **Some of those people who switched might have . . . been successful in quitting**, and when they did that, they would have in actuality reduced their disease risks. And those individuals have been profoundly harmed.

Burns WD, 1:10-15; 12:10-11; 61:14-62:4; Burns TT, 2/15/05, 13311:9-15 (emphasis added).

2995. The 2004 Report of the Surgeon General noted Defendants' apparent success in keeping smokers from quitting by their widespread marketing of low tar cigarettes as less harmful, noting that "[r]esearch has demonstrated that with the expectation of reducing risk, many smokers switched to low machine-measured tar/nicotine cigarettes, and may thus have been deterred from quitting"). TLT0930001-0949 at 0911 (US 88621) (A); DXA0310399-0650 at 0418 (NCI Monograph 13) (US 58700) (A) (referring to Chapters 6 & 7 of Monograph 13 and noting that "substantial numbers of smokers" switched to cigarettes with lower machine-measured tar yields "in an effort to reduce their disease risks," and that "[t]he switch to low machine-measured-yield cigarettes with the illusion of risk reduction was, therefore, substituted for a real risk reduction that would have occurred had the smoker quit smoking altogether").

2996. As demonstrated below, Defendants conducted extensive research on quitting to help them identify and understand potential quitters (i.e., smokers who were "concerned" and "uncomfortable" with the fact that they smoke) so that they could design marketing that would dissuade them from quitting. Defendants' internal documents show that they were confident that, if they could convince potential quitters that low tar cigarettes were a healthier choice and an

acceptable alternative to quitting, they could keep their sales from declining. As further demonstrated below, Defendants' internal documents show that smokers interested in quitting smoking were switching to low tar cigarettes under the mistaken belief that doing so would either help them quit or be better for their health. See US FF §§ III.D(3)(a), (b), infra (Defendants' deceptive marketing of low tar cigarettes).

(a) Tobacco Institute

2997. A May 1978 Tobacco Institute document entitled "A Study of Public Attitudes Toward Cigarette Smoking and the Tobacco Industry in 1978 Volume I" prepared for the Tobacco Institute by The Roper Organization stated that "**low tar cigarette smokers . . . are potential cigarette quitters** . . . . And more of them than the average have tried to quit smoking. Since low tar smokers are an expanding share of the market, **their greater desire to quit smoking poses a special problem for the cigarette industry**." 501565967-6019 at 6008 (US 21866) (A) (emphasis added).

(b) Philip Morris

2998. Philip Morris conducted research on former smokers to assist it in marketing purportedly less harmful cigarettes to draw them back into the market and to dissuade potential quitters from actually quitting. Carolyn Levy, who worked as a research scientist for Philip Morris in its Behavioral Research Group from 1975-1980 and as the Assistant Director and Director of Consumer Research from 1986-1991, testified that when she was in the Consumer Research Department, she "performed research on quitting on behalf of Philip Morris," and that when she was in the Behavioral Research Department in the late 1970s, "[q]uitting was also a subject of interest and research to Philip Morris." A report entitled "Exit-Brand Cigarettes: A Study of Ex-Smokers," written by F.J. Ryan and approved by Dr. William Dunn, dated March

1978 and distributed to certain Philip Morris employees, including Levy, stated: "**If the industry's introduction of acceptable low-nicotine products <u>does</u> make it easier for dedicated smokers to quit, then the wisdom of the introduction is open to debate**." The report further stated that "experience in dealing with 'quitters' suggests that most people who quit smoking will resume after a while. Hunt and Matarazzo show data suggesting that 50% of quitters resume smoking within 3 months and 70% resume within a year." Levy testified that she was "aware when [she was] studying quitters that most quitters resume smoking." Levy WD, 26:1-5, 26:20-28:10; 1000368057-8081 at 8060, 8066 (US 20098*) (A) (emphasis added - bold text).

2999. Levy further testified that Philip Morris was "studying the factors that influence quitting," including whether "people quit because of health concerns," so that Philip Morris could "design products or line extensions of existing brands that addressed those factors." Levy testified that "[t]o the extent we determined that people quit because of health concerns, that would be very important in reaffirming Philip Morris' commitment to develop cigarettes with lower harm or risk." Asked if the purpose was "[s]o that people would keep smoking Philip Morris cigarettes rather than quitting," Levy testified: "Yes, if Philip Morris could design new products to address those concerns." Levy WD, 31:9-22.

3000. Accordingly, in a September 28, 1987 inter-office memorandum written by Levy and sent to David Dangoor, Executive Vice President at Philip Morris, entitled "Critical Consumer Research Issues," Levy outlined what she called "the most important consumer-related questions which should be addressed in 1998." Levy testified that this document contained "information about some of the types of research that Philip Morris planned to conduct in the upcoming year." Among the questions Levy posed in the memorandum were: "Can we

determine the relative importance of various factors which influence quitting?"; "**What are the factors which influence brand choice of smokers reentering the market? Can we capitalize on these?**"; and "**Which new product options will . . . appeal to former smokers?**" 2080009516-9522 at 9517, 9520 (US 88155) (A) (emphasis added - bold type); Levy WD, 28:20-30:8, 31:5-22.

3001. Pursuant to her 1997 memorandum, Levy testified that "Philip Morris conducted a 'major study' on quitting in 1988," which Levy described in a September 26, 1988 memorandum she sent to John Zoler, then Director of Market Research entitled "Critical Issues - 1988 Progress Report," which Levy described at trial as a "major accomplishment for the consumer research department in 1988." Under the heading "Smoker Dynamics," Levy wrote in the 1988 memorandum: "Conducted a major study on quitting showing: demographics of quitters, quitting by brand, reasons for quitting, methods used to quit, substitutes used for cigarettes." Levy testified that there were 506 people surveyed in the Philip Morris study, and that "[t]he research results indicated that the number one reason for people quitting smoking was health concerns." Levy WD, 32:2-33:8; 2080009523-9529 at 9524 (US 88156) (A).

3002. Levy testified that "[q]uitting continued to be a critical consumer research issue for Philip Morris in 1989 as well." To that end, in a September 26, 1988 memorandum entitled "Critical Consumer Research Issues," to Dangoor, Levy outlined "the issues we anticipate addressing in 1989." Under the first topic, "Marketplace Tracking," Levy wrote: "Can we understand the importance of group dynamics in brand selection, brand switching, quitting? How can group dynamics be influenced by marketing efforts?" At trial, Levy testified that "Philip Morris wanted to understand whether the factors that influence quitting were changing." Under the heading "New Products," Levy posed the question "**What new product concepts will**

alleviate smokers' guilt and reduce their desire to quit?" Levy further testified that "at the same time that this research was being conducted, Philip Morris continued to make public statements that it only marketed to adults who already smoked." 2080009511-9515 at 9511 (US 20535) (A) (emphasis added); Levy WD, 33:12-34:9, 34:23-35:2.

3003. An overwhelming amount of additional consumer research conducted by or on behalf of Philip Morris, shows the company's intent to dissuade smokers from quitting by marketing low tar cigarettes as an acceptable alternative to quitting. For instance, an August 14, 1978 consumer research report prepared for Philip Morris by Wells, Rich, Greene, Inc. regarding Benson & Hedges stated: "Those who are currently smoking 'Lights' do so because '. . . they are better for you. . .' than full flavor cigarettes. Although some experience that they actually smoke more Lights, **they perceive that they are cutting down and it is an alternative to quitting – which most cannot accomplish**." 1004888470-8484 at 8480 (US 85009) (A) (emphasis added).

3004. A January 1979 study prepared for Philip Morris stated:

> [W]ith respect to ultra low tar brands there appear to be particular additional motivations for smoking this type of cigarette . . . [h]ealth problem forcing a change to a safer cigarette (as an alternative to not being able to quit) . . . [p]eer and family pressure to smoke a safer cigarette (as an alternative to not being able to stop smoking) . . . . Characteristics of ultra low tar smokers were: people who want to quit . . . . **In point of fact, smoking an ultra low tar cigarette seems to relieve some of the guilt of smoking and provide an excuse not to quit**. All of these smokers expressed an awareness of a health hazard from smoking, but felt that they had alleviated some of this hazard by smoking an ultra low tar brand. They described these cigarettes as 'safer'. . . . **With these justifications, there may be less of a compulsion to quit smoking** . . . .

2040066740-6766 at 6747, 6751-52, 6754, 6755 (US 20435) (O) (emphasis added).

3005. A March 1979 report prepared for Philip Morris entitled, "A Study of Smokers' Habits and Attitudes With Special Emphasis on Low Tar and Menthol Cigarettes," stated:

> **The percentage of adults who smoke has stabilized for the first time since 1965 – at 34%. This could well be due to the greater perceived safety of low tar cigarettes and their resultant neutralization of the health threat** . . . The number of cigarettes smoked per day per smoker continues to climb, in part at least because **low tar cigarettes seem to cause people to increase the number of cigarettes they smoke**.

2049455309-5318 at 5313 (US 22218) (A) (emphasis added); Bonhomme WD, 25:15-26:1, 46:19-47:7.

3006. A February 7, 1984 Philip Morris memorandum to Leo Meyer from Myron Johnston included a chart that showed that 60.4% of white males had "made a serious attempt to quit." 2001255595-5615 at 5597 (US 36470) (A).

3007. A June 20, 1988 memorandum on Philip Morris USA letterhead from consumer researcher Jan Jones to Dr. Ed Gee, entitled "Statement of Position on the Social Pressures Construct," discussed Philip Morris's goal of introducing a "socially acceptable cigarette" that "could capture the trend-setters who might find such a product preferred over current cigarettes, **be a welcomed alternative to quitting**, and might attract new smokers who would not otherwise choose to become product users." The memorandum further stated:

> With the recent attrition rate of smokers, attaining 'new' smokers is no longer synonymous with capturing young smokers. **We already have Marlboro as the brand of choice for young smokers entering the market. We do not have a product that meets the needs of the growing population of ex-smokers. Many of these ex-smokers will resume smoking, and the product that they choose could cause a swing in market share**. These quitters (and those who are soon to become quitters) are dissatisfied with certain aspects of a product that previously met their needs . . . . These consumers have not yet as a group found a satisfactory replacement for their previous product – **a textbook example of a market opportunity**.

2050801835-1853 at 1845 (US 38763) (A) (emphasis added); Bonhomme TT, 2/10/05, 12936:6-12939:7.

3008. In a July 20, 1988 memorandum entitled "Quitting," Andrew Schwartz, a Philip Morris Manager, wrote: "About one quarter of adults who smoked in the past year report having tried to quit (27%) . . . among those . . . about one-third report having successfully quit." 2043898156-8166 at 8156 (US 69923) (A).

3009. In deciding how to package Marlboro Extra Lights, a Philip Morris marketing research report, dated February 12, 1991, described the smoker profile of a Marlboro Extra Lights smoker as close to that of a traditional low tar smoker. That profile included both smokers who were attempting to cut down and smokers who were attempting to quit. 2041497481-7503 at 7485 (US 22145) (A).

3010. A March 1993 Philip Morris document entitled "Quitting Dynamics" showed statistics from "Smoker Tracking" that indicated that more Low Tar smokers did not try to quit (53.5%) compared to Full Flavor smokers (43.5%). 2062362453-2474 at 2473 (US 39555) (A).

3011. In a July 1993 Philip Morris presentation entitled "Merit Franchise" prepared by Norma Suter Drew, Brand Manager and Marketing Director for Merit cigarettes from 1992-1994, Drew reported that the "Intended Audience" of Merit advertising was "self-conscious low tar smokers who want to cut down on tar and nicotine but who won't sacrifice taste completely." 2070661683-1727 at 1714 (US 40337) (A); accord 2041453659-3754 at 3678 (US 23906) (A) ("Merit's consumers are self-described ‘Uncomfortable Smokers' who tell us they are self-conscious about the fact that they smoke"); 2063690017-0018 (US 85002) (O); LeVan PD, United States v. Philip Morris, 6/25/02, 178:13-181:2.

3012. Philip Morris's 1993-1997 Research and Development Strategic Plan stated: "Historically, in the US market, there have been only two causes of major, technically related, share-change influences – cost (per puff) and perceived health concerns." For 1955-1965, in the

category of "Perceived health," the "Specific Influence" listed was "Filters, menthol." For 1975-1985, in the category of "Perceived health," the "Specific Influence" listed was "Low tar." 2021323192-3347 at 3247 (US 85099) (O).

3013. In November 1994, Philip Morris commissioned a study from the research firm Guiles & Associates entitled "B & H Qualitative Research Exploring Out-Switching," to "understand more about how Benson & Hedges smokers exit the franchise." One of the conclusions reported in the study was: "For many smokers, the ultimate ramification of all the anti-smoking rhetoric has been their heightened commitment to quit (or at least reduce) their smoking. For these, the greatest evidence of this commitment has been in shifting tar levels (even to different brands, as necessary). . . . **For many, lowering tar levels is the next best thing to quitting**." 2072622442-2451 at 2444, 2445, 2449 (US 41562) (A) (emphasis added); see also 2063688212-8284 at 8226 (US 39823) (A) (Jan. 18, 1994 document prepared for Philip Morris USA indicating that Merit is perceived as a "quitters brand"); Bonhomme WD, 41:4-44:5.

3014. Philip Morris's 1994-1998 Plan Overview stated: "If ultra low tar segment growth accelerates, we will launch Marlboro Ultra Lights **to prevent Marlboro from losing smokers**. Marlboro Ultra Lights will reinforce Marlboro's appeal among tar 'conscious' Lights smokers and **improve Marlboro's ability to retain smokers as they age**." 2071032180-2206 at 2188 (US 21964) (O) (emphasis added); Bible PD, United States v. Philip Morris, 8/22/02, 163:8-165:2.

3015. An internal July 1995 draft presentation entitled "Marlboro Women," bearing the handwritten notation "Approved as Revised, VMM [Virginia Murphy, a Philip Morris attorney] 8/9/95," includes a section entitled "The Marlboro Lights Female." The presentation stated that "[p]opularity and low tar are why they initially smoke the brand." The presentation further noted that for female Marlboro Lights smokers, 27% of 18-24 year olds, 29% of 25-29 year olds, and

34% of 30-39 year olds were "Under Pressure To Not Smoke," and that 21%, 16%, and 30% of each age group, respectively, "Intends to Quit." 2071373667-3751 at 3709, 3750 (US 27272) (A).

3016. In a March 26, 1996 cover memorandum, Shari Teitelbaum, a consumer researcher for Philip Morris, delivered to Jodi Sansone, then Brand Manager for Merit cigarettes, a consumer research report commissioned by Philip Morris to "gain an understanding of consumers perceptions of the lowest category, as well as the motivations and wants of smokers of Carlton, Now, and Merit Ultima, and potential down-switchers to this category." Under the heading "The Decision to Enter the Lowest Category," the attached consumer research report found:

> At some point in their smoking histories, these smokers decided or became more receptive to the idea of a lighter or lower brand than the one they were currently smoking. Some cited perceived health concerns. **Others had been 'bugged' by family members at home to cut down, or stop smoking**.

2045628312-8328 at 8320, 8326 (US 22217) (A) (emphasis added).

3017. In August 1996, Natalie Ellis, Senior Manager at Philip Morris, and Urvashi Kohli disseminated a June 1996 consumer research study entitled "Marlboro Ultra Lights: A History" to a distribution list of Philip Morris employees, including Norma Suter Drew, then Director of New Products for Marlboro, gauging consumer reactions to the contemplated launch of Marlboro Ultra Lights. The study found that Marlboro Red smokers see Marlboro Ultra Lights as "**a brand for quitters and people who are trying to cut down**." 2071535027-5090 at 5090 (US 22020) (A) (emphasis added).

3018. A Philip Morris document bearing the heading

2071178333-8340 at 8335 (US 40396) (Confidential) (A).

3019. In a Leo Burnett October 4, 1999 letter to certain Philip Morris employees, entitled "Schedule for Merit Competitive Lights and Ultra Lights Study," Beth Hooper of Leo Burnett discussed an upcoming Philip Morris study being conducted to "[e]xplore adult smoker attitudes toward the Lights/Ultra Lights category" and to "[b]etter understand the impact of Marlboro Ultra Lights on the category overall." Under the heading "Background," Hooper noted:

> The dynamics of the Lights/Ultra Lights category have changed significantly over the past several years, particularly with the entry of Marlboro Ultra Lights. **In the past, Lights and Ultra Lights were stops on the way to leaving the tobacco category. However, today, we are seeing that both segments are the destination of choice for many adult smokers**.

2080929561-9562 at 9561 (US 27786) (O) (emphasis added).

3020. Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified that Philip Morris was aware that some "consumers who wanted to quit were switching to several of its light cigarette brands instead of quitting." Bonhomme WD, 45:17-19.

3021. Bonhomme further testified that "I have been involved in research where smokers have said ‘I know I should quit smoking, but I can't' or ‘I tried and I have not been able to' or ‘I am not ready yet to do it, so I am going to switch to a low tar' because they thought that it would be less hazardous for them to smoke a low tar brand." Bonhomme WD, 40:17-22.

(c) R.J. Reynolds

3022. A 1969 RJR Survey of Cigarette Smoking Behavior and Attitudes recognized that "[a]s a group filter cigarette smokers were more conscious of a possible relationship between smoking and health," and recognized the "**willingness of an increasing number of smokers to**

compromise – to smoke what they considered to be a less harmful cigarette rather than give up smoking entirely." 650340129-0193 at 0180, 0183 (US 20948) (A) (emphasis added).

3023. RJR's advertisements for Vantage cigarettes employed signed testimonials by smokers who claimed to have considered the risks of smoking and decided not to quit smoking, but rather to switch to Vantage. The Vantage advertisements included the following:

1971: "You don't cop out. Why should your cigarette? Vantage doesn't cop out. It's the only full-flavor cigarette with low 'tar' and nicotine." (US 3545) (A).

1974: "**Instead of telling us not to smoke, maybe they should tell us what to smoke**. For years, a lot of people have been telling the smoking public not to smoke cigarettes, especially cigarettes with high 'tar' and nicotine. But the simple fact is that how more Americans are smoking than ever before. Evidently many people like to smoke and will keep on . . . no matter what anyone says or how many times they say it. Since the cigarette critics are concerned about high 'tar' and nicotine, we would like to offer a constructive proposal. **Perhaps instead of telling us not to smoke cigarettes, they can tell us what to smoke. For instance, perhaps they ought to recommend that the American public smoke Vantage cigarettes**." (US 4403) (A) (emphasis added); Schindler WD, 79:9-23.

1976: "**To smoke or not to smoke. That is the question**. With all the slings and arrows that have been aimed at smoking, you may well be wondering why you smoke at all." (US 5198) (A) (emphasis added); Schindler WD, 78:18-79:8.

1975: "Out of the last 6 years of smoking, I've only enjoyed the last 5 months. I started to pay attention to all the fuss about smoking about 6 years ago. That's when the uproar about 'tar' and nicotine started to get in the way of my pleasure. For me, it made the real difference between just liking smoking and really enjoying it. **I thought of quitting, but I really didn't want to. So I decided to switch to a low 'tar' and nicotine cigarette**." (US 4954) (A) (emphasis added); Schindler WD, 79:24-80:9.

1976: "How many times have you decided to give up smoking? **If you're like a lot of smokers these days, it probably isn't smoking that you want to give up.** It's some of that 'tar' and nicotine that you've been hearing about." (US 4998) (A) (emphasis added); Biglan WD, 377:12-379:22.

3024. A 1974 RJR document entitled "Winston National Introduction Project WG,"

prepared in contemplation of the introduction of Winston Lights, theorized that "[e]ntry of a new Winston brand in a category in which the Brand does not have representation creates a new opportunity for gaining additional Winston volume, thereby establishing a potential for increasing market share as well as total volume." 500496713-6740 at 6716 (US 22122) (O).

3025. A 1975 Marketing Plan Presentation by RJR boldly stated that: "The fastest growing category is low 'tar'/nicotine cigarettes. We have almost a third of that category and we want more." 501421310-1335 at 1326 (US 23052) (A).

3026. A June 1975 RJR marketing plan stated that the introduction of a Salem high filtration line extension was, in part, to "**[p]rotect the current Salem franchise from quitting and switching losses**." The introduction was to "**[t]erminate the trend toward reduced consumption** currently in evidence among the Salem Brand franchise." RJR recognized that Salem King smokers were reducing their daily cigarette consumption "at least partly due to concerns about the alleged health hazards of smoking." 502313230-3308 at 3235, 3240 (US 22151) (A) (emphasis added).

3027. In discussing RJR's Limit, a then-new low tar cigarette, a 1976 memorandum made clear that the marketing and promotion of the product was to convey a healthy image based on its claim of being the lowest tar product on the market. The memorandum noted that "LIMIT will satisfy the needs of smokers who wish for the ultimate in low 'tar' assurance – **providing the strongest health reassurances available in cigarettes today**." Under the heading "Target Audience," the memorandum stated:

> The extreme worriers. **That large group of smokers on the fringe of quitting who are on the verge of that final step: quitting smoking all together. This enormous group of smokers of various ages who have unsuccessfully tried to quit**. Our target group will also include smokers whose concern with the health implications of smoking surpass their needs for full flavor in

a cigarette.

502784092-4100 at 4097 (US 22153) (A) (emphasis added); Schindler WD, 77:11-78:11.

3028. An August 19, 1976 RJR document entitled "New Product/Merchandising Directions" indicated that "'Numbers' Products," i.e., those with low FTC tar and nicotine numbers, serve to "assuage" smokers' worries about the harmfulness of smoking. It stated that the "'worrier' segment of the market (17% of smokers are so classified) . . . seek products with tangible/visible features to assuage their 'concern' about smoking. 'Numbers' products have a growing appeal to these smokers. Products in the 1-6 mg. 'tar' range will continue to build successful long-term franchises (e.g., Carlton's growth rate, NOW's immediate acceptance)." 500672011-2172 at 2069 (US 20645) (A).

3029. A document circa 1977 labeled "RJR/SECRET," entitled "Mission Statement For Behavioral Aspects of Smoking," stated:

> It is imperative that we fully understand smoker satisfaction, particularly for those smoking low-tar cigarettes. **In the wrong hands this information could be used to decrease or modify the basic motivations for smoking or perhaps be used to develop other means to fulfill needs currently met by smoking. In either case reduced cigarette consumption would result.** If RJR had at least one trained behavioral scientist, it is possible that our own understanding could be increased to the point that opportunities would emerge. It might allow us to anticipate more effectively action by anti-smoking or governmental bodies and perhaps help us to develop means to **off-set potential losses in cigarette consumption**.

500892080-2083 at 2082 (US 85028) (O) (emphasis added).

3030. A July 9, 1980 RJR memorandum from Kay Duffy to Uziel Frydman entitled "Teenage Smokers (14-17) and New Adult Smokers and Quitters" revealed RJR's concern for losing business to quitters as people switched to low tar cigarettes. The memorandum included an analysis intended to "**identify trends among new smokers and quitters, and to estimate**

their impact on company and key brands' share." The memorandum analyzed the percentage of quitters by the following cigarette categories: full flavor, low tar, fuller flavor low tar, and ultra low tar, and found that in Fall 1979 ultra low tar smokers had the lowest percentage of quitters with 6.2%, compared to 33% of full flavor smokers. Under the heading "Key Findings," the memorandum stated:

> There is no indication as of yet that the ultra low tar category is walking smokers out of the market: relative to their share, ultra low tar smokers are no more likely to quit smoking than are fuller flavor low tar smokers or full flavor smokers . . . **New smokers and quitters by category will continue to be tracked in the future in order to gain a better understanding of the effect ultra low tar category has on new smokers and quitters**.

The memorandum also analyzed the effect that quitters had on market share for RJR (Winston and Salem), Philip Morris (Marlboro), American, B&W (Kool), Lorillard (Newport), and Liggett, and found as follows for the Fall 1979: RJR lost .16 share points, which was "due to both a decrease in new smokers and an increase in quitters"; Philip Morris gained .30 share points, which was "primarily due to a surge of new smokers to Marlboro"; Lorillard lost .20 share points, which was "due to both a decrease in new smokers and an increase in quitters"; while American, B&W, and Liggett were "relatively stable in terms of their gains/losses from new smokers and quitters." 518015005-5017 at 5013-5017 (US 80222) (A); 501254289-4301 at 4297-4301 (US 20674) (A); Orlowsky WD, 86:8-87:1; Schindler WD, 80:16-82:4.

3031. RJR understood that smokers' guilt was a key concern in their attempts to quit. For instance, an August 5, 1980 RJR memorandum marked "RJR SECRET" from M. D. Shannon to Dr. W. M. Henly and Dr. R. A. Lloyd (all three were RJR researchers), titled "Project HR," stated:

> ULT [‘Ultra Low Tar'] smokers. . . . Very health conscious – These smokers are well aware of the smoking and health controversy and

> have switched to ULT products in an effort to decrease ‘tar' intake. Many of these smokers are victims of pressure from peers and loved ones to quit or reduce smoking. Therefore, they smoke ULT brands to ‘get people off their backs' . . . . **Feelings of guilt about smoking are very strong . . . . Many would like to quit smoking but cannot. This tends to fuel their low self-esteem . . . . These smokers do not feel good about themselves.'** [S]everal concepts were developed to appeal to these smokers: 1. To convince the HR target that the new brand represents a payoff or reward for his forced decision to sacrifice by going down in ‘tar' level . . . . 2. To convince the HR target that the new brand is a reflection of his rational, sensible decision to switch to a low ‘tar' . . . . Again **an attempt is made to make him feel better about smoking . . . . Advertisements were developed . . . to address these concepts and present them in a manner that would be positively received by the target audience**.

Dr. Dolan explained the significance of this document, testifying that it "shows that R.J. Reynolds understood that smokers had strong guilt feelings and low tar brands were a way of trying to deal with this guilt, while they were not able to quit smoking." 500251567-1570 at 1567-1569 (US 21563) (A) (emphasis added); Dolan WD, 122:1-11; see also Orlowsky WD, 86:4-7.

3032. An August 1981 report prepared for RJR by The Beaumont Organization advised that ultra low tar brands, such as Now, Carlton, Cambridge and Barclay, can cause smokers who seek to eliminate the "danger" of smoking to keep smoking, because these smokers believe the ultra low tar brands "reduce the alleged health risks" of smoking "to an acceptable – minimal – level":

> Some smokers have been strongly alarmed by the extensive publicity concerning alleged health hazards of smoking, to the extent that they seek not merely to moderate their smoking but to eliminate entirely the ‘danger' that it may present. Such a smoker has two options. Firstly, he may simply cease smoking altogether. However, in some cases, the smoker does not wish totally to elimate [sic] the benefits of smoking. His second option is to seek a cigarette which he perceives to reduce the alleged health risks to an acceptable – minimal – level. Within this second option, the

> smoker essentially seeks a brand that will protect him from the dangers that are alleged to attend smoking. He is often prepared to sacrifice most of the benefits he previously derived from smoking to achieve this. Such a brand provides the consoling sense that the smoker has eliminated the risks of smoking by 'quitting', while continuing to engage in ritualized behaviors associated with cigarettes. An increasing number of brands addressed this benefit, including Now, Carlton, Cambridge and, perhaps, Barclay.

503972013-2063 at 2038 (US 66448) (A); Orlowsky WD, 86:4-7.

3033. A 1983 NOW Brand Image report prepared for RJR recognized that "[a] major motivation in brand switching has been concern over health. . . . Most people chastise themselves for continuing with what they refer to as a 'bad habit.' They are aware of mounting pressures and criticism from non-smoking groups. They speculate about planning to quit, but they are not sure if they will be able to do so. . . . **The typical solution to this dilemma is the two pronged approach of trying to cut down and/or moving to a lower tar brand**." The report further stated:

> Respondents were asked what the words 'low' and 'lowest' in the ads meant to them. At the literal level they say this means that the two brands are very low or lowest in the amount of tar and nicotine they contain. **They interpret this to mean that the two brands are 'safer' and pose less of a health hazard**. Consequently, they reason, this would make the brands more appealing to younger people who are very health conscious or to older, long-time smokers who are concerned about the long-range effects of tobacco.

506671319-1418 at 1326, 1379 (US 22160) (A) (emphasis added); Orlowsky WD, 85:8-19.

3034. A May 11, 1983 RJR R&D Project Outline by J.H. Reynolds entitled "Smoke Component Dose," discussed the need to understand human smoking behavior to accurately determine the amount of smoke/tobacco components delivered to individual smokers, and stated that RJR's Commercial Goal (RJRT Key Issue 5) was: "Arrest the declining social acceptability of smoking." 506047899-7900 at 7899 (US 85054) (O); 519192755-2756 at 2755 (US 80230)

(O).

3035. A June 21, 1990 RJR report entitled "U.S. Cigarette Market in the 1990s" stated "[t]he number of smokers attempting to quit also increased in the 1980s" and included a chart detailing the percentage of "smokers who tried to quit in past year" which showed that 13% tried to quit in 1978 and 32% tried to quit in 1986. 507798137-8230 at 8144 (US 20789) (A).

3036. A November 3, 1998 e-mail from Mario Possamai to Randy Tompson, then Director of Issues and Information Management for RJR, discussed the results of an October 20, 1998 Gallup Survey regarding quitting behaviors and motivations. The survey found that "the number of smokers who are very interested in quitting has increased dramatically in the last five years," specifically noting that 36% of all current smokers are "very interested" in quitting. Health concerns were cited as the primary reason smokers want to quit, with 43% of smokers reporting that they were more concerned about health than they were five years earlier. Although 77% of smokers had tried to quit an average number of seven times each, more than half (54%) of smokers reported resuming smoking within one month. Over half of all smokers (53%) smoked light, low-tar or ultra-light cigarettes. According to the survey, "many of these smokers believe that they will get some health benefit from smoking non-regular cigarettes, including: ‘to be healthier/improve health' (11 percent), ‘reduce exposure to toxins/tar' (10 percent), and ‘reduce exposure to nicotine' (9 percent)." 700173214-3217 at 3214, 3215, 3216-3217 (US 22121) (A).

(d) Brown & Williamson

3037. A January 19, 1978 memorandum from Dr. E.F. Litzinger to E.T. Parrack, with copies to Dr. R.A. Sanford and M.L. Reynolds, entitled "Social Smoking Studies," stated:

> We search for answers to the questions ‘Why do people smoke?' and ‘Why do people stop smoking?' to provide us with direction in

> developing new products. Perhaps answers to another question 'How do people stop smoking?' could lend insight into the creation of new products. **Having answers to this latter question we might then design products to 'intercept' people who are trying to give up smoking**.

650510607-0607 (US 87138) (A) (emphasis added); Smith WD, 63:10-64:7.

3038. A February 7, 1979 letter from Stephen D. Schwartz of Grey Advertising Inc., stated that ultra low tar smokers of brands like B&W's Carlton and RJR's Now, have "consciously decided to sacrifice taste for low tar," and that these smokers "**want a way to quit smoking**." 774138538-8545 at 8539 (US 54613) (A) (emphasis added).

3039. A "confidential" March 5, 1980 report prepared for B&W by Hawkins, McCain & Blumenthal discussed marketing strategies for a proposed new B&W brand pursuant to its "Project Omega." The report stated: "The objective of all advertising and promotion will be to convince low 'tar' smokers that this new brand is the only one that combines the two most important qualities a contemporary cigarette should have – a satisfying taste and the lowest 'tar.'" The report further stated, under the heading "Conclusions":

> 2) Low tar and ultra low tar smokers share personal 'concern.' The difference between them lies in the depth of the concern. . . 3) **Most of these smokers would quit if they could**. The pressure to quit is omnipresent from all sources. . . 5) **To reach these smokers we must acknowledge their concerns**. 6) **This acknowledgment must make them more comfortable (at ease) about smoking the Omega cigarette**.

The report further stated: "These executions are built on an expanded **strategy which includes an understanding of the target audience and the need to create a maximum ease or comfort level that addresses the concept of 'cognitive dissonance**.'" 660026713-6718 at 6714, 6717-6718 (US 85030) (A) (emphasis added); Smith WD, 64:19-65:14.

3040. A May 7, 1982 report prepared by a consultant for Imperial Tobacco Ltd. (the

Canadian sister company of B&W) revealed that many smokers, young and old, view light cigarette brands as vehicles for quitting for health reasons, but that they are unsuccessful, leaving smokers frustrated and smoking more. The report stated that youth believed the "truly light brands" were "false safety brands for the older worried smoker who cannot quit . . . . Of course, they knew this because some . . . had tried to go very low for exactly the same reasons as smokers two or three times their age do so. All they found was increased consumption and frustration." Statements from young smokers included: "I think all the stuff coming out the past couple of years about how bad smoking is for you made a lot of people go down to a light cigarette to sort of ease their own conscience." 566627751-7824 at 7817-7818 (US 20938) (A).

3041. A 1984 B&W internal marketing research document entitled "Why People Smoke, Brand Imagery and New Product Opportunities" made clear that B&W was aware that its Barclay cigarette (which B&W marketed as an ultra-low tar cigarette) appealed mainly to those who otherwise would quit smoking. The document stated that both smokers of B&W's Barclay cigarettes and smokers of other brands "perceive BARCLAY to be for one who wishes not to smoke." 670132512-2597 at 2566 (US 20964) (A).

3042. A 1986 B&W document stated: "**Quitters may be discouraged from quitting, or a least kept in the market longer**. . . . A less irritating cigarette is one route (indeed, the practice of switching to lower tar cigarettes and sometimes menthol in the quitting process tacitly recognizes this). The safe cigarette would have wide appeal." 566628004-8083 at 8015 (US 20940) (O) (emphasis added).

3043. A December 16, 1999 "Presentation of Findings" for "STAR Tobacco Focus Groups" prepared for B&W by "Rabid Research" identified "4 segments of light/ultra smokers (segmented based on motivation for smoking light/ultra variant)." One of the four segments was

identified as "those who switched to lights/ultras because they were attempting to quit." It also noted that some consumers "started smoking lights after making an attempt to quit." In addition, this document shows that Defendants intended that their claims of reduced harm regarding low tar cigarettes lessen the social pressure on smokers to quit: "The benefits of switching to this new cigarette are not just health related[.] **Would reduce the pressure on them from friends and family members to quit[.] Would allow them to feel better about themselves[.] At least I'm smoking a cigarette that isn't as bad for me[.] Maybe people wouldn't be as worried about me smoking around them cause it's a better cigarette**." 190200047-0116 at 0061, 0071, 0106 (US 22162) (A) (emphasis added); Ivey WD, 59:1-10.

3044. A July 27, 2000 document prepared for B&W by Kay Harwood Marketing Analysts, Inc., entitled "Topline Report of Findings for Carlton Advertising Research," reported that smokers view Carlton cigarettes as a less harmful alternative to quitting smoking:

> As participants described their transition from heavier to lighter (i.e., higher tar to lower tar) cigarettes, they frequently used phrases like 'working my way down' and being 'that much closer to quitting.' **Ultra light cigarettes were frequently associated with trying to quit smoking**. . . . [M]any participants intimated that ultra lights already represent a sacrifice (i.e., less taste for a cigarette lower in tar and nicotine).

A "summary of the most common perceptions/images associated with" Carlton and Merit Ultra Light included descriptions of Carlton as for "[s]omeone trying to quit/cut back/smoke lighter" and descriptions of Merit Ultra Light as a "[c]igarette used to quit smoking/almost ready to quit/cutting back." Among the Report's "Key Findings" were the statements from the focus groups describing their perceptions of several Carlton campaigns. The statements included:

> Trying to quit/cut down . . . . to change/cut down. . . . **If you can't stop smoking, smoke Carlton – it's better for you if you can't quit**. . . . Cut down on smoking – better for you. . . . Diet restrictions/quitting/cutting back. . . . The least you could do. . . if

> you have to smoke. . . smoke the less harmful cigarette. . . . If you've got to smoke, smoke this one. . . . Cut down on your smoking. . . . Directed to someone who wants to cut down is better for you if you cannot quit. – Quit smoking, or smoke less nicotine cigarettes. . . . **Don't feel bad if you can't stop smoking; if you smoke Carltons, you have accomplished something**. . . . Use these in case of emergency nicotine fit while quitting. . . . Smoke when trying to quit – emergency cigarette. – Switch to Carlton when quitting.

250255336-5347 at 5339, 5343-47 (US 22031) (A) (emphasis added). These statements were repeated in an August 8, 2000 document prepared for B&W by Kay Harwood, Marketing Analysts, Inc., entitled "Carlton Advertising Research: Report of Key Findings." 250255060-5075 (US 22170) (A); Ivey WD, 60:13-62:22; Smith WD, 62:9-63:6.

(e) BATCo

3045. A circa 1976 BATCo document from S.J. Green to P.L. Short and P. Sheehy revealed that the true aim of BATCo's cigarette marketing was to increase the number of smokers: "**We should aim to maintain or increase the smoking habit**." 110076428-6432 at 6428 (US 34957) (A) (emphasis added).

3046. A March 29, 1976 BATCo report entitled "The Product in the Early 1980s," that "considers the main threats to the smoking habit [and] the probable constraints on the type of product in the future," showed BATCo's concern that making cigarettes that could not deliver enough nicotine to sustain addiction might facilitate quitting:

> Taking a long-term view, **there is a danger in the current trend of lower and lower cigarette deliveries – i.e. the smoker will be weaned away from the habit**. . . . Nicotine is an important aspect of satisfaction and if the nicotine delivery is reduced below a threshold satisfaction level, then surely smokers will question more readily why they are indulging in an expensive habit.

At trial, Dr. Henningfield explained that "[t]his document expresses concern that the trend toward cigarettes with lower FTC tar and nicotine ratings could mean that the market would

extinguish because people would get to the point that smoking really would be a matter of taste and pleasure and not nicotine receptors in the brain; at that point, people would find it easier to quit." 110069974-9982 at 9974-9975 (US 20268) (A); Henningfield WD, 97:13-98:3.

3047. A February 15, 1978 memorandum entitled "An Outline for Research in the Psychology Group" presented "a brief description of the research area believed to be the most appropriate to the psychology group." The memorandum stated that the psychology group "should be interested in those aspects of the individual which predispose him to change his behaviour: to quit smoking, modify his consumption, alter his brand choice." The memorandum recommended that the group conduct "careful research" into quitting and switching behavior and stated that "[w]e believe that this new emphasis will have greater relevance and utility in defining the market and is a necessary co-ordinate" with BATCo's study of smoker dependence and brand preference. 105399785-9791 at 9786 (US 85031) (O).

3048. A March 22, 1979 internal BATCo document written by Terry Hanby, who researched "Smoking & Health reassurance" for BATCo, concluded that the sale of low tar cigarettes as "health reassurance" products would stem the decline in cigarette sales:

> It is quite clear that the emergence of Hi-Fi products has been welcomed by much of the smoking community and their use is emerging as an important health reassurance mechanism for many smokers . . . . [T]he growth of Hi-Fi brands will increasingly ensure that up-market smokers will turn to them as a health reassurance mechanism . . . . **[W]e feel that in the markets of 'developed nations' the incidence of smoking may continue to decline but that the various reassurance mechanisms listed above will ensure that this decline will eventually plateau at a level not too far removed from current incidence levels**.

109883112-3117 at 3115, 3117 (US 20264) (A); 105657908-7909 (US 20248) (A).

3049. A BATCo memorandum dated April 4, 1979 entitled "Year 2000" contained predictions for the future of the tobacco industry:

> Low tar products will eventually and substantially define the tobacco business. **This will serve as an important mechanism for reassuring smokers** . . . . **Quitting rates will also not increase as existing smokers become increasingly reassured by the growth of Low Tar brands** . . . . the ready availability of Low Tar brands will supply high reassurance.

109883101-3103 at 3101, 3102 (US 21518) (A) (emphasis added). Dr. Dolan explained the significance of this document, testifying that "[i]t shows that the false reassurance about health became a fundamental driver of the cigarette market. This creation of a misperception – its 'important mechanism for reassuring smokers' – was so important that BATCO saw the deceptively marketed low tar products as the products which 'substantially define the tobacco business.'" Dolan WD, 121:15-23.

3050. An April 23, 1979 BATCo Research Report found that "most smokers wish to quit smoking." Dr. Dolan explained that this document shows "the vast magnitude of potential business loss due to quitting." 105562110-2189 at 2114 (US 21516) (A); Dolan WD, 103:6-10.

3051. An April 28, 1981 memorandum by Dr. Martin Oldman, entitled "Low Delivery Cigarettes and Quitting" and delivered to Dr. L.C.F. Blackman, Director of Millbank, stated:

> **With the emergence of lower delivery cigarettes there was understandable concern that the provision of cigarettes containing less nicotine and yielding less taste would facilitate an individual's quitting the smoking habit**. It was feared that, by using such products, the smoker could more easily wean himself from smoking by progressively moving from one product to another of lower delivery. Eventually, it was posited, he would be smoking cigarettes of such low 'satisfaction' that he would question the utility, and the cost, of his continued smoking.

The memorandum further stated:

> The role of low delivery cigarettes in a health-conscious market, and for the health concerned individual, can probably be best explained in terms of a simple balance model. This would suggest

> that **the individual smoker seeks to reduce the tension arising from the perceived incompatibility between his health concern and continuing to smoke by making various psychological and behavioural adjustments. For some the tension will only be sufficiently reduced by quitting. For others, an adequate discharge will be achieved by reducing the number of cigarettes smoked and, for yet others, a switch to lower delivery cigarettes is the appropriate modification**. In all cases, the model would suggest, the individual makes only that change in his smoking behaviour which is sufficient to offset to a tolerable level the tension arising from the perceived conflict between smoking and his health concern.

105399687-9689 at 9688, 9689 (US 85032) (A) (emphasis added).

3052. An April 1983 document entitled "Brown & Williamson Report to BATUS Board of Directors on Smoking and Health" indicated that "[t]hirty-three percent of smokers would 'very much like to quit.'" Dr. Dolan explained that this document "gives an indication of the strength of the desire to quit. The tobacco companies knew that one third of smokers had a very strong desire to quit." 512106944-6964 at 6959 (US 51618) (A); Dolan WD, 103:11-16.

3053. Notes of a July 12, 1983 meeting of BATCo's newly established "Sidestream Working Party" recognized that the company was aware that individual smokers view switching to low tar brands as an alternative to quitting. It stated: "Smokers who are concerned about the smoking and health aspect but who have not given up, have done all they can (by moving to lower tar brands) to avoid the pressure to quit." The notes continue, recognizing that "[m]arket research undertaken in the US and the UK indicates that smokers would welcome a reduction in the visible smoke they are creating as it would ease the social pressures being increasingly placed upon them and provide a degree of solace, in that they themselves can do no more – short of quitting – having already moved down the tar scale." 109881462-1467 at 1462, 1463 (US 26230) (O).

3054. A circa 1984 BATCo "R&D/Marketing Conference" report stated: "**It is useful to**

consider lights more as a third alternative to quitting and cutting down – a branded hybrid of smokers' unsuccessful attempts to modify their habit on their own." This document also stated that lights "offered one solution to the smokers dilemma" regarding the adverse health effects of smoking. 100501581-1657 at 1593 (US 20187) (O) (emphasis added – bold type).

3055. A February 28, 1985 internal memorandum by W.D.E. Irwin, a scientist at BATCo's Group Research & Development Centre, to Dr. R. Binns, Manager, BATCo's Group Research & Development Centre, titled "New Initiatives – Less Contentious Products" acknowledged that lower deliveries likely resulted in increased sales:

> In many markets, stagnation or contraction in total market size is due primarily to the health issue. **If that issue were removed or substantially reduced in importance then total market size would either increase dramatically or, at worst, contract more slowly**. . . . [T]he strategy . . . has been to reduce all smoke components whilst trying to minimize effects on product acceptability . . . this approach has probably led to a less rapid contraction in some markets than would have been the case if deliveries had not been reduced.

103020940-0943 at 0940-0941 (US 34704) (A) (emphasis added).

3056. An internal document from Imperial Tobacco Ltd., the Canadian sister company of B&W, subsidiary of BATCo, revealed that the company viewed the promotion of light cigarettes as the "**ability to reassure smokers, to keep them in the franchise for as long as possible**." 689466032-6789 at 6351 (US 31053) (O) (emphasis added).

3057. A BATCo document bearing the heading "Barclay Business Review 1996" reported that ultralight cigarettes are particularly attractive to people who may start smoking again after quitting. The document stated that, due to its packaging, the Barclay cigarette (in the Netherlands) was "not clearly perceived as an ultra light and consequently lost attractiveness particularly amongst **re-starters who look for an ultra light offer**." This appeared under the

heading "The core positioning of the brand needs to be clarified in the minds of the consumer." 700767443-7457 at 7446 (US 22123) (A) (emphasis added – bold type); Ivey WD, 79:5-22.

3058. A "Qualitative Research Report on Light Cigarette Brand Perceptions" dated January-February 1997, and also contained in BAT Russia's 1999 Brand Plan, stated:

760008596-8803 at 8681, 8683-8685 (US 54588) (Confidential) (A) (emphasis added).

3059. A January 2001 BATCo file entitled

325238922-8994 at 8992-8993 (US 22079) (Confidential) (O) (emphasis added).

3060. A January 15, 2001 BATCo document written by Steven Coburn entitled "Project Balcony," that referenced California marketing studies related to proposed advertising campaigns, acknowledged that low tar cigarettes are smoked by people who want to quit: "3rd

board highlights low nic/tar aspect – quitters cig." 325239014-9022 at 9015 (US 22082) (O). A document with the same author, title and date that also referenced California smokers stated "less tar less nic – less harmful . . . . 2nd board implies **a cigarette to be used as a substitute for quitting**." 325239014-9027 at 9017 (US 22082) (O) (emphasis added). A January 24, 2001 BATCo document with the same author and title that referenced Tokyo, Japan marketing studies related to proposed campaigns, stated: "[L]ights are supposed to be healthier. . . . What is the difference between lights and full flavour? . . . . Some had tried lights as a step down to quitting." 325239001-9013 at 9008-9009 (US 22081) (O).

(f) American Tobacco

3061. A November 11, 1976 report prepared by Fay Ennis Creative Research Services for F. William Free & Company, an advertising agency used by American Tobacco, summarized focus group sessions relating to low tar cigarettes. The report stated: "**By changing to a lower tar cigarette, [the panelists] felt less guilty about continuing to smoke** and eventually hoped to stop smoking completely." The report stated that "[s]ome of the panelists actually tried smoking brands of low tar in a downward progression of milligrams in order to quit smoking entirely." ATC037310-7324 at 7318, 7320 (US 87890) (O) (emphasis added).

3062. A May 25, 1977 report entitled "Tareyton Lights Field Trip Report," prepared for American by SSC&B Advertising, reported results of focus group research conducted on Tareyton Lights in order to "insure success of this very important product entry." The report stated:

> In general, **most people who smoke would like to quit**. Primary reasons for smoking low tars are: It is a means of cutting down on the amount of tar ingested. **It is a first step in quitting**; people step down in stages to a lower tar cigarette until finally they are smoking the lowest tar. Even among those who enjoy smoking low tars help alleviate their concern.

ATC0136995-7017 at 7005, 7006 (US 87906) (O) (emphasis added).

3063. A January 20, 1987 "Lucky Strike Brand Review" noted that "**[d]ecreasing category consumption has required innovative approaches to gain consumer awareness, trial repeat and cigarette purchase . . . Importantly, the style featured in the advertising is Lucky Lights, the mildest product within the franchise**. This product portrayal is important to signify the change in Lucky from the strong taste of Lucky Straights to the lower tar cigarettes of today." ATC274 5221-5267 at 5228 (US 87907) (O) (emphasis added).

3064. A November 12, 1990 memorandum from C.J. Brown, Product Manager, to R.E. Smith, Vice President-Brand Management, recommended "next steps toward halting TAREYTON's volume decline, while bringing vitality to an important franchise." The memorandum concluded that: "TAREYTON's position in the Low Tar and Ultra Low Tar Category has never been fully exploited." ATC1095215-5217 at 5216 (US 87908) (O).

(g) Lorillard

3065. A November 1964 Lorillard plan entitled "Old Gold Spin Filters 1965 Marketing Plan" noted that "[o]nly about one-half of smokers say they really enjoy smoking." Dr. Dolan explained that this document "shows that cigarette companies faced an unusual challenge. About one-half of the users of their product did not really enjoy using it. It's obvious that if the situation developed such that you don't enjoy something and you have to pay to do it, you will consider giving it up. The cigarette companies did not want this to happen." 84443158-3221 at 3190 (US 67524) (A); Dolan WD, 102:1-16.

3066. As Dr. Dolan testified, Lorillard's True advertisements from the mid-1970s specifically offered True as an acceptable alternative to quitting smoking:

1975: "Considering all I'd heard, I decided to either quit or smoke True. I smoke True." (US 4853) (A); (US 4939)(A); (US 5000) (A) (1976 advertisement

in Sports Illustrated magazine noting same); Biglan WD, 233:20-235:22.

1975: "With all the talk about smoking I decided I'd either quit or smoke True. I smoke True." (US 87206) (A).

1975: "With all I've read about smoking and things I decided to: 1. Play as hard as I work. 2. Cut out the heavy lunches. 3. And either quit smoking or smoke True. I smoke True. The low tar, low nicotine cigarette. Think about it." 03496228-6630 at 6268 (US 20057) (O).

1975: "I thought about all I'd read and said to myself, either quit or smoke True. I smoke True." (US 10447) (A); 03061394-1394 (US 21700) (A).

1975: "I'd heard enough to make me decide one of two things: quit or smoke True. I smoke True." (US 87462) (A); 01408237-8237 (US 21808) (A); 03496228-6630 at 6269 (US 20057) (O).

Dolan WD, 125:1-5.

3067. Lorillard's internal marketing documents demonstrate that Lorillard commissioned extensive consumer research to make sure that its intended message – that True was an acceptable alternative to quitting – was getting through to consumers. For instance, an August 4, 1975 presentation given to Lorillard by a marketing research consultant entitled "Cigarette Advertising 1974-1975," showed that several of the respondents concluded that Lorillard's "Quit or smoke True" advertisements communicated that True cigarettes are "LESS HARMFUL/BETTER FOR YOU." 03496228-6630 at 6277, 6280 (US 20057) (O).

3068. As a 1981 FTC Report on cigarette advertising noted, Lorillard's True advertisements "incorrectly impl[y] that when the alternatives of quitting smoking or smoking a low ‘tar' cigarette are weighed, the low ‘tar' cigarette is the healthier option." FTC, 1981 Report at 2-12 to 2-13 (JD-004744) (A).

3069. A December 1976 report prepared for Lorillard by the Nowland Organization, Inc. "to develop market information useful to Lorillard in strengthening its position in the SHF [super high filtration]/low T&N [tar & nicotine] cigarette market" and entitled "SHF Cigarette

Marketplace Opportunities Search and Situation Analysis Volume I" revealed that low tar cigarettes were alleviating the concerns of health-conscious smokers, thereby dissuading them from quitting. The document stated: "As would be expected, **the advantages of low tar and nicotine cigarettes are seen as health related**." The document further stated:

> **On the more positive side, many SHF [super-high filtration] smokers note that the existence of low tar and nicotine cigarettes, and their switch to such cigarettes, has alleviated some of their health concerns** . . . . A number of SHF smokers note that they turned to this 'compromise' smoke because, while they felt they should quit smoking (a few on doctors' advice), they were unwilling or unable to do so...yet. They see smoking low tar and nicotine cigarettes both as a way to cut back on the intake of harmful substances without cutting back on the number of cigarettes habitually smoked; and (in some cases) . . . so that they will be able to quit more easily at some future time. The fact that many SHF smokers (women especially) now find themselves smoking more than when they smoked regular cigarettes works to defeat their purpose in switching, and is a source of considerable annoyance to them.

Under the heading "Reasons for Prior Brand Switching The Switch to SHF," the document stated:

> As discussed, **most SHF smokers deliberately chose to switch to low tar and nicotine cigarettes because of health concerns – to get less tar and nicotine**, for a milder/gentler smoke, and/or to relieve specific smoking-related symptoms. Often, the actual switch was precipitated by . . . .
>
> - experiencing or becoming more aware of, or more concerned about personal ill-effects from smoking (e.g., cough, throat irritation, difficulty breathing)
>
> . . .
>
> - a failed attempt to quit, or a (perceived) **inability to quit, coupled with the heightened perception that one 'should' quit**
>
> The main advantages which they feel they experienced in this switch are . . . they have less (or no) smoking irritation . . . they like knowing they are getting less tar and nicotine.

84053616-3706 at 3618, 3628, 3632, 3637, 3678-3679 (US 55997) (A) (emphasis added);

Orlowsky WD, 67:6-10.

3070. Volume II of this Report contained the following "Key Highlights":

> **Health concerns are the usual reason for switching to a low T&N brand. Such cigarettes are 'better for you' – milder and less irritating** (now) as well as less likely to cause serious problems (later). . . . To many SHF smokers, **a low T&N cigarette represents a compromise smoke between a more satisfying smoke and not smoking at all**.

The report also stated: "Those who smoke low tar and nicotine cigarettes generally do so because they believe such cigarettes are 'better for you' . . . there is less tar and nicotine to do long-term damage . . . **reduces smoking anxiety, guilt**." 84053709-3744 at 3712-3713, 3716-3719 (US 21073) (A) (emphasis added); Orlowsky WD, 67:6-10.

3071. Dr. Dolan testified that US 21073 "says quite a lot about low tar and nicotine cigarettes and the impression created by Defendants' marketing of them." Dr. Dolan explained that:

> First is the simple point that Lorillard's research on consumers established that those who smoke low tar brands do so because they believe these cigarettes are 'better for you.' This is an incorrect belief. The companies knew it was a false belief but sought to build on the misperception rather than correct it. Second, **the research showed that smoking low tar and nicotine helped a smoker to reduce guilt about smoking and thus made a smoker less likely to quit. Smoking a 'health reassurance' product with its low tar was a 'compromise' to justify not quitting. This document shows the deep impact on consumers and why these products were important in deterring quitting**.

Dolan WD, 118:23-119:21 (emphasis added).

3072. A February 13, 1980 "secret" memorandum on Lorillard letterhead from Richard E. Smith to J.R. Ave, Lorillard Senior Vice President of Marketing, J.G. Flinn, and Dr. A.W. Spears shows that the company's desire to keep smokers from quitting guided Lorillard's marketing efforts:

> Information on reduced tar, ULT [indicating ultra low tar] and Carlton 85 smoking, **as well as quitting, will give generally valuable perspectives to Lorillard marketing**. Next Steps – There is a good deal of information available on the general physiology and psychology of smoking, **especially with regard to quitting motivation**. It was agreed that the general literature and existing Lorillard marketing research will be reviewed; within the focus of our task force goal.

01394380-4381 at 4381 (US 21543) (O); 95539778-9779 at 9779 (US 22808) (O) (emphasis added).

(h) Liggett

3073. In a December 2, 1968 letter from Max Samfield, Senior Assistant Director of the Liggett Research Department, to Copeland Robinson, New Products Manager at Liggett, Samfield discussed the importance of releasing Dorset brand cigarettes, citing: "The obvious void in the 4-6 mgm range for a low tar cigarette with acceptable taste. I firmly believe that those who switch to Marvels, Carltons, or Life cigarettes are in the last stages of quitting smoking. **The Dorset, however, is a low tar cigarette one can 'live' with**." LWDOJ8006760-6760 (US 87909) (O) (emphasis added).

(3) To Reassure Consumers, Defendants Falsely Marketed and Promoted Low Tar Cigarettes As Less Harmful than Regular Cigarettes

3074. The evidence immediately above shows that Defendants introduced health reassurance cigarette brands as part of a scheme to dissuade health-conscious smokers from quitting smoking. The evidence detailed in the following section demonstrates that Defendants effected their scheme to dissuade health-concerned smokers from quitting by engaging in massive, sustained, and highly sophisticated marketing and promotional campaigns intended to portray their health reassurance brands as less harmful than regular cigarettes. Defendants' internal marketing documents show that Defendants conducted tremendous amounts of consumer

research over the last five decades to ensure that their marketing campaigns were effectively communicating their deceitful health reassurance message.

3075. The evidence shows Defendants' initially sought to communicate health reassurance by adding filters to cigarettes. Medical historian Dr. Brandt testified that "the industry sponsored massive advertising campaigns for filtered cigarettes which implied to consumers that they were protected from possible harms." Brandt WD, 131:5-132:8; DXA0310399-0650 at 0612 (US 58700) (A).

3076. As marketing expert Dr. Dolan testified, "[a]dvertisements in the late 1940s and early 1950s were relatively explicit in their health claims." Expert economist Dr. Harris testified that:

> Prior to the formation of the TIRC in December1953, the advertisements of cigarette manufacturers frequently contained claims that their own brands were milder, were less irritating, contained fewer toxic substances, offered some form of protection, or were otherwise safer than other companies' competing brands. While this pattern of advertising had been prevalent for a number of years, it intensified in the early 1950's, at least through early 1954.

Drs. Dolan and Harris identified as examples of explicit health claims Lorillard's advertisements for Kent with its Micronite Filter, American Tobacco's advertisements for Carlton, Liggett & Myers' advertisements for Chesterfield and L&M, Philip Morris's advertisements for Parliament, and B&W's advertisements for Viceroy. Dolan WD, 123:21-125:5; Harris WD, 68:12-70:20.

3077. Defendants' plan with respect to filtered cigarettes was highly successful. As a 1967 FTC report noted, "the belief that filter cigarettes are less hazardous appears to be widespread. It may be assumed therefore that to people holding this belief, the word ‘filter' itself connotes ‘less hazard.' And through the addition of suitable adjectives to the word ‘filter', this impression can be enhanced. Thus, in current advertising there are ‘recessed filters' (Benson &

Hedges and Parliaments), ‘white filters' (Yorks), ‘menthol filters' (Springs)." 92382035-2095 at 2058-2059 (US 57179) (A).

3078. As Dr. Brandt testified, "filtered cigarettes, and their advertising and promotion, constituted a critical aspect of industry strategy in the wake of categorical scientific evidence demonstrating the harms of smoking." Dr. Brand explained that:

> At the same time that the tobacco industry continued to insist that there was no credible scientific evidence of the harmfulness of smoking, they nonetheless undertook major campaigns to develop and market filter cigarettes. The industry understood that in the face of the mounting scientific knowledge of the harmfulness of smoking, smokers needed various forms of support. This support or affirmation might come in the notion that there was a controversy about whether of not smoking was dangerous; or it might come in the notion that filters effectively eliminated those dangers. **The industry walked a fine line in its aggressive marketing and promotion of filter cigarettes through the 1950s and 1960s. On the one hand, it sought scrupulously to avoid any public acknowledgement that its product was now, or had ever been, unsafe, a claim it would maintain into the 1990s. On the other, it sought to reassure smokers whose legitimate concerns had been raised by the emerging scientific data**. As a result, the industry sought to indicate that any harmful elements in tobacco smoke could be easily removed through the technical innovation of filters.

Brandt WD, 138:19-139:12; 132:9-133:14 (emphasis added).

3079. As expert economist Dr. Harris testified, Defendants realized that "[b]y reminding consumers about the health risks of smoking, [Defendants'] advertisements may very well have induced smokers to quit or cut down on the number of cigarettes smoked." Therefore, for the good of the industry, the chief executive officers of the leading tobacco manufacturers at that time, including American Tobacco, RJR, Philip Morris, and B&W, agreed to cease making explicit health claims for competitive advantage. Harris WD, 70:21-79:11; 2048375960-5964 at 5060, 5962 (US 85819) (A); DXA0310399-0650 at 0612 (US 58700) (A).

3080. In his testimony before the Court, Dr. Harris cited to several documents as illustrations of Defendants' agreement not to compete using explicit health claims, including an RJR document entitled "Forwarding Memorandum: To Members of the Planning Committee," that stated:

> **Develop some understanding with companies that, on this problem, none is going to seek a competitive advantage by inferring to its public that its product is less risky than others**. (No claims that special filters or toasting, or expert selection of tobacco, or extra length in the butt, or anything else, makes a given brand less likely to cause you-know-what. No 'Play-Safe-with-Luckies' idea - or with Camels or with anything else.)

MTP0023539-3547 at 3546-3547 (US 21408) (A); Harris WD, 76:12-79:11.

3081. Defendants' agreement not to make express health claims is made clear by a 1987 meeting with the Food & Drug Administration attended by RJR attorney Peter Hutt, regarding RJR's Premier cigarette. In a letter by Hutt recounting the meeting, he wrote:

> Near the end of the discussion, Assistant Secretary Lee Miller asked me several questions about the relationship of the new cigarette to potential health claims. I again responded that **Reynolds did not agree that the current cigarette is unsafe and would not contend that the new cigarette is safer or safe**.

506147781-7783 at 7782 (US 93089) (A) (emphasis added); see also HHS0880359-0364 at 0361 (US 85828) (A) (minutes of meeting: "Mr. Hutt stated that RJR had no intention at this time to promote or label its new 'smokeless' cigarette as safer than conventional cigarettes. He commented that such a claim would be an indictment of the tobacco industry and its long standing position that conventional cigarettes are not unsafe").

3082. Dr. Harris testified that economists have considered alternative explanations for Defendants' discontinuation of explicit health claims, including "the hypothesis that cigarette manufacturers did not reach an explicit agreement, but were instead complying with Federal

Trade Commission guidelines concerning false and deceptive advertising," but concluded that "collusion was the cause of the cessation of advertising, and not the FTC [advertising] Guidelines." Indeed, Defendants' expert witness regarding FTC regulation, Dr. James Langenfeld, failed to provide the Court with a single example in which Defendants stated that their course of conduct was constrained by the concerns of FTC enforcement actions, or the 1955 FTC Guidelines. Dr. Langenfeld admitted he was in no position to opine on Defendants' intent to defraud because he had not conducted any review of Defendants' internal documents. By contrast, Dr. Harris reviewed thousands of Defendants' internal documents in reaching his conclusions that Defendants acted collusively. Dr. Harris characterized the involvement of the FTC in advertising and marketing issues concerning smoking and health as "toothless" and concluded that the actual influence of the FTC is minimal. Dr. Harris's testimony was confirmed by the testimony of FTC Staff Economist Dr. Joseph Mulholland, who has been at the FTC for some 35 years, who testified that the FTC "has never focused, nor at any given time have more than a handful of staff focused, on cigarette-related issues." Harris WD, 81:11-83:6; Harris TT, 10/14/04, 2547:24-2548:19; Langenfeld TT, 3/10/05, 15171:7-15173:1, 15175:7-20; Mulholland Written Direct at 5:16-18.

3083. The FTC's 1967 report to Congress revealed that Defendants were using the word "mild" in advertising as a euphemism for "cloaking the dangers of increased cigarette smoking . . . . Carlton filters have ‘Good mild taste . . . created for those who are interested in the amount of tar and nicotine in the smoke of their cigarette . . . . Montclair (menthol filter) cigarettes are made especially for smokers who seek exceptional mildness . . . . You get Pall Mall's famous extra length of fine tobaccos . . . and a filter tip. Result? A new longer length, a full 100 millimeters long and a new milder taste . . . . (Chesterfield kings) made to taste even milder

through longer length." 92382035-2095 at 2058-2059 (US 57179) (A).

3084. The FTC explained further in its 1968 report how Defendants' use of the phrase "mild taste" in advertising is just another way to communicate "less harmful":

> Advertising in 1966 featured the phrase ‘mild taste' to describe the satisfactions obtained from smoking and also as a **euphemism to cloak the dangers of cigarette smoking. The euphemistic effect derives from the possibility that the public assumes ‘mild' tasting cigarettes to be less strong, i.e. lower in tar and nicotine than many cigarettes, and hence less hazardous**.

TIMN288040-8122 at 8055-8056 (JD-043418) (A).

3085. The evidence, as detailed below, shows that from the 1960s to the present, Defendants' marketing of their health reassurance brands has featured claims of lowered tar and nicotine accompanied by written statements that implied a health benefit as a result of the lowered tar levels, as well as marketing imagery to communicate to smokers that Defendants' health reassurance brands were "lighter" and lower in tar, such as lighter color cigarette packaging and white tipping paper. Dr. Dolan testified that "[t]ar levels were trumpeted in advertising and both new brands and line extensions such as Lights and Ultra-Lights were introduced. Virtually every major brand undertook line extensions and by 1980 over 50% of cigarettes sold were ‘low-tar' (by industry definition ‘low-tar' was less than 15 milligrams tar on the FTC Method)." As examples, Dr. Dolan cited Philip Morris's introduction of the purportedly low tar Merit brand cigarettes in 1976 as well as RJR's introduction of low tar Vantage brand cigarettes in 1971 and Now brand cigarettes. Defendants' internal documents reveal that Defendants, with their marketing of health reassurance brands, carefully targeted smokers concerned with the ill health effects of smoking. Dolan WD, 123:21-124:7.

3086. The evidence shows that over the last five decades, Defendants have not only introduced numerous stand-alone cigarette brands that purport to be low in tar (e.g., Merit,

Vantage, and Carlton brand cigarettes), but also have introduced what they refer to as low tar "brand extensions" of existing full flavor cigarette brands (e.g., Marlboro Lights and Ultra Lights as extensions of the full flavor Marlboro brand). Defendants have used so-called brand descriptors such as "light," "medium," "mild," and "ultralight" to market their brand extensions as low in tar. Defendants acknowledge that, today, every major manufacturer continues to manufacture and sell low tar brands and brand extensions in both the 'light' and ‘ultra light' categories. Ivey WD, 54:6-17; Bonhomme WD, 8:13-9:18.

3087. Denise Keane, Philip Morris General Counsel, testified that the FTC does not formally classify cigarettes according to tar or nicotine yield, but that "[i]ndustry practice has long been to apply the ‘light' descriptor to cigarettes with 7 to 14 milligrams of tar, and the ‘ultra light' descriptor to cigarettes with fewer than 7 milligrams of tar." As Dr. Mulholland testified, brand descriptors "have been developed **by cigarette manufacturers** through their advertising." Keane WD, 56:14-23; Mulholland WD, 26:4-27:9 (emphasis added); accord Henningfield WD, 56:8-11 (testifying that the FTC has no "control over which cigarettes Defendants advertise as 'light' or 'ultra light'").

3088. Dr. Farone testified that the terms "Light" and "Low Tar," as they are used by Defendants, are "meaningless" and "arbitrary", because:

> [T]here are lights of certain brands with higher tar levels than regulars of other brands from the same company, and there are also lights and regulars of the same brand that have the same FTC tar rating. So therefore the term ‘light' is not related to tar or taste. For example, according to the most recent FTC report of tar and nicotine yields, Philip Morris sells versions of Virginia Slims and Virginia Slims Lights that both deliver 15 mg of tar by the FTC method.

Farone WD, 116:3-14; 525311179-1223 at 1185, 1207-1208, 1222 (US 52977) (A).

3089. A 1971 FTC report noted that "[r]elieving anxieties about the risks to health posed

by cigarette smoking" was among Defendants' three main advertising themes and that "[c]laims of low tar and nicotine content present yet another appeal to relieve concern about the dangers to health associated with cigarette smoking." In 1975 and 1976 reports, the FTC reported that this theme, used separately or with themes regarding taste or desirable personality characteristics, "continued to predominate in 1975," and "continued to dominate in 1976, with little variation in format and copy except in the greatly increased promotional emphasis given to the lower and lowered 'tar' varieties." 680043553-3595 at 3564, 3567 (US 87922) (A);1005121108-1119 at 1114 (US 87921) (A); FTC, 1976 Report at 4-5 (JD-003563) (A).

3090. As a 1981 FTC Report on cigarette advertising noted, many of Defendants' advertising campaigns had, over the course of the preceding four decades, "impl[ied] that smoking a particular brand solves the health problem or at least minimizes the risk." The report noted that Philip Morris's Parliament and American Tobacco's (subsequently B&W's) Tareyton cigarettes "imply that their special filters minimize the risks of smoking." The report also cited the advertisements for RJR's Vantage, B&W's Viceroy, and Lorillard's True cigarettes as examples of advertising campaigns implying that the brands marketed are either not harmful or less harmful. FTC, 1981 Report at 2-12 to 2-13 (JD-004744) (A).

3091. Similarly, a prominent report prepared by the Institute of Medicine in 2001 cited the advertisements of Defendants Philip Morris, RJR, B&W, American Tobacco, Lorillard, and Liggett as examples of advertisements that relate health benefits to particular low tar cigarette brands. Institute of Medicine, Clearing the Smoke: The Science Base for Tobacco Harm Reduction, National Academy of Sciences (K. Stratton, et al., eds., National Academy Press 2001) (US 20919) (A); 99053048-3558 at 3124-27 (US 57494) (A).

3092. Dr. Harris testified that Defendants' shift from competing on explicit health claims

to competing on machine-measured tar and nicotine yields did not signal the end of their collusive arrangement. Dr. Harris testified that " Defendant manufacturers continued to collude not to make damaging health claims about each other while, at the same time, they could still compete on tar numbers. With competition ‘on the numbers' carved out of the collusive agreement, collusion and competition could prevail at the same time." Harris WD, 98:12-99:4.

3093. The FTC noted in a 1976 report that "[t]he lower and lowered ‘tar' and nicotine cigarettes have in the last year been the subject of an **intensive promotional effort by cigarette manufacturers**." Indeed, the evidence shows that Defendants' spending on the advertising and marketing of filtered cigarettes was disproportionately high. A 1997 FTC report, which includes information provided by the tobacco industry regarding their cigarette advertising and promotion expenditures, shows that, for every year from 1963 to 1995, Defendants' total expenditures on advertising and promotion of filtered cigarettes exceeded their domestic market share of sales. For example, the report states that, in 1964, while filtered cigarettes comprised 61% of the market, the cigarette manufacturers devoted 78% of their total advertising and promotional expenditures to those cigarettes. The FTC's 1967 report concluded that "**[t]he figures indicate that the cigarette companies were even more quick to promote filter cigarettes than was the American public to purchase them**." The 1967 report found that then current cigarette advertising contained "two principal elements – a portrayal of the desirability of cigarette smoking and assurances of the relative safety of smoking." FTC, 1976 Report at 4 (JD-003563) (A) (emphasis added); 92382035-2095 at 2049, 2052-2053 (US 57179) (A); HHS1311770-1805 at 1799 (US 76080) (A).

3094. Defendants' marketing spending on low tar cigarettes (i.e., cigarettes yielding 15 mg. or less tar per the FTC Method) also was disproportionately high. The FTC's report for 1997

revealed that for every single year from 1967 to 1992, Defendants' advertising and promotional spending for low tar cigarettes exceeded their domestic market share. Dr. Dolan testified that low tar cigarettes came to "substantially reshape and define the cigarette market," explaining that:

> [T]he real 'boom' time for these cigarettes is the late 1970s. In 1974, manufacturers devoted about 15% of their advertising and promotion dollars to these products. **By 1979, this spending grew to 67%. At the time, the percent of sales represented by low tar was only 30%, so spending was disproportionately high on these 'health reassurance' brands**. These products, which accounted for less than 15% of cigarette sales in 1975 came to hold the majority of the market by 1981.

Dr. Dolan further noted that it was not until the mid-1990s that the percentage of sales held by low tar brands finally equaled the amount that Defendants were spending to promote them, at about 70% of the industry total. The fact that Defendants' spending was disproportionately high on filtered and low tar cigarettes directly refutes Defendants' claim that they introduced low tar cigarettes only **in response** to consumer demand for them, and that their marketing of low tar cigarettes was not intended to increase demand for those cigarettes (see US FF § III.D(3)(c), infra, for a discussion of Defendants' false statements regarding their marketing of low tar cigarettes). HHS1311770-1805 at 1799 (US 76080) (A); Dolan WD, 125:6-126:7 (emphasis added).

3095. Dr. Dolan explained how Defendants successfully marketed health reassurance brands:

> [C]igarette manufacturers were perpetuating the controversy. They were not denying cigarettes carried negative health impacts, just saying that 'we don't know' if they do or not. Now, with the low tar cigarettes, in case you as a smoker are concerned, here is a way to address that concern. These brands were 'responsive' to consumers' health concerns and this ability to address these concerns was behind the success of new products.

Dolan WD, 119:22-120:13.

3096. As Dr. Samet explained, "tar" is what is generally referred to as the solid material in tobacco smoke, the material that certain members of the public health community had suggested from the very beginning was causing cancer in cigarette smokers. Dr. Dolan testified: "Defendants knew that smokers accepted the low tar and nicotine brands due to the 'health reassurance' they offered." For instance, an April 30, 2001 e-mail from Shari Teitelbaum, a Philip Morris consumer researcher, to Nancy Conrad, former Marlboro Brand Manager and Category Director, and others at Philip Morris stated: "As we have heard in recent qualitative research, **smokers seem to associate the risks of smoking with tar and nicotine levels** . . . ." Samet WD, 145:8-13; 161:1-10; Dolan WD, 120:14-23; 2712800348-0348 (US 46209) (O) (emphasis added); Conrad PD, United States v. Philip Morris, 7/30/03, 245:24-247:16.

3097. Dr. Burns likewise testified that Defendants "used low machine-measured tar and nicotine levels to reassure the public that smoking filtered or 'low tar' cigarettes was safe, or at least safer than unfiltered or high tar products." However, as Dr. Burns testified, "the term 'lights' as a brand descriptor is misleading to consumers of cigarettes;" Defendants in this case use the misperception associated with low tar cigarettes to allay smokers' health concerns, despite understanding that these cigarettes are not actually less harmful. Dr. Burns further testified that Defendants' documents "confirm the conclusions" in NCI Monograph 13 and "demonstrate that the tobacco companies recognized that the smoking public was being misled by the tar values and by the use of terms such as low tar and light." Burns TT, 2/16/05, 13652:18-21; Burns WD, 1:10-15; 12:10-11; 41:12-18; 49:11-20; 55:7-16 (citing US 58700 (A), US 20919 (A), and US 88621 (A)); Burns TT, 2/15/05, 13311:9-15.

3098. Dr. Henningfield, "drawing on [his] background and experience in drug labeling and providing information to consumers," which informed his review of "how smokers

understand information they are given about cigarettes," testified that smokers are not always familiar with the FTC rating of their cigarette, however they are aware of whether their cigarettes are "light" cigarettes or "regular." Dr. Henningfield further testified that consumers believe that "light" cigarettes deliver less tar and nicotine than regular cigarettes, and that consumers believe that regular cigarettes are more hazardous than "light" cigarettes. Henningfield WD, 56:12-57:10.

3099. Dr. Neil Weinstein, a psychologist with an expertise in the area of risk perception and a professor in the Department of Human Ecology at Rutgers University, has extensive experience in the study of risk perception associated with smoking and authored a chapter in Monograph 13 on the subject. Dr. Weinstein's expert testimony was that not only do most individuals not understand the risks associated with smoking low tar cigarettes, they believe that smoking low tar cigarettes is "healthier" or "less risky" than smoking full flavor cigarettes. See generally, Weinstein WD, 52-58.

3100. First, a phenomenon knows as optimism bias operates on the human psyche, allowing humans to believe that their own risk is less than the risk of others. Optimism bias affects smokers' perception of risk by enabling them to conjure rationalizations that lower their own perceived risk associated with their smoking. One rationalization that smokers engage in is the belief that smoking low tar or light cigarettes lowers the risk of health problems. Weinstein WD, 43:5-19 and 50:15-22.

3101. In conjunction therewith, research clearly reveals that a significant number of smokers believe that low tar cigarettes are healthier or less risky than full flavored cigarettes. For example, one survey on various issues related to smoking showed that 37% of teen smokers and 17% of adult smokers believe that low tar or light cigarettes are safer. Weinstein WD, 52:5-10

(citing Weinstein N. D., Slovic P., Public Understanding of the Risks from Smoking and Opinions About Smoking Control Policies. Unpublished survey summary. (New Brunswick, NJ, Department of Human Ecology, Rutgers University, 2001)). Another survey showed that 45.7% of ultralight smokers; 32.2% of light smokers; and 29.4% of full flavor smokers believe that low tar cigarettes reduce the risk of cancer. Benowitz WD, 60:11-21; Weinstein WD, 52:17-21 (citing Giovino, et al., Ch. 4 of NCI Monograph 7, "Attitudes, Knowledge, and Beliefs about Low-yield Cigarettes among Adolescents and Adults" ("Giovino, et al., 1996")). A consideration of the many relevant studies analyzing this issue reveals that the median result is that approximately 40% of people believe that it is safer to smoke light cigarettes than to smoke full flavored cigarettes. Weinstein WD, 52:11-17.

3102. In contrast, relatively few people understand that smoking low tar or light cigarettes can be – and often is – just as dangerous as smoking full flavor cigarettes. Weinstein WD, 54:21-55:20. Scientific research so establishes. A peer-reviewed, published study showed that 70% of low tar cigarette smokers believe that low tar cigarettes decrease one's daily intake of tar. Weinstein WD, 55:5-8 (citing Kozlowski et al., Smoker reactions to a "radio message" that Light cigarettes are as dangerous as regular cigarettes. Nicotine & Tobacco Research, 1(1);67-76(1999)). Similarly, another study showed that approximately half of all respondents did not know how many light cigarettes would have to be smoked to get the same level of tar intake as from one full flavor cigarette. Fewer than 10% believed that it would be one light cigarette. Weinstein WD, 55:12-15 (citing Kozlowski, L.T., Goldberg, M.E., Yost, B.A., White, E.L., Sweeney, C.T., Pillitteri, J.L. Smokers' misperceptions of light and ultra-light cigarettes may keep them smoking. American Journal of Preventive Medicine, 15, 9-16 (1998) ("Kozlowski, Goldberg, et al., 1998")).

3103. As Dr. Burns testified, "the perception of most smokers when they see a . . . low tar cigarette, is that they believe that when they smoke this cigarette, they're going to get less tar and nicotine. And that isn't true. They get the same amount of tar and nicotine as they would get if they were smoking a higher tar and nicotine cigarette." Burns WD, 45:14-18.

3104. Indeed, the evidence shows that Defendants have used this misperception to their advantage. As Dr. Dolan, a marketing expert, testified, "the tobacco companies' marketing had the impact of creating the belief among some smokers that there was a differential health impact, i.e., that low tar/nicotine brands were 'better for you' and less likely to cause health problems." A 1996 article in the American Journal of Public Health cited a 1993 Gallup survey in which 56% of smokers understood use of the term "low tar" to be intended to convey relative safety compared to full flavor cigarettes. The journal article also cited a 1987 National Health Interview Survey that found that 46% of smokers of cigarettes with tar yields of 6 mg. or lower (per the FTC Method) believed they had reduced cancer risk compared with smokers of cigarettes with higher FTC tar yields. Dolan WD, 118:15-22; 2074759740-9746 at 9741 (US 43526) (A); accord 99053048-3558 at 3112 (US 57494) (A) (2001 Institute of Medicine study stating "When filtered and low-yield cigarettes were introduced into U.S. markets, they were heavily promoted and marketed with both explicit and implicit claims of reducing the risk of smoking. Even as data accumulated, albeit slowly, that these products did not result in much – if any – decrease in risk, consumers have continued to believe otherwise. . . . Consumer misunderstanding is explained in part by the ways in which these products are marketed . . . . [T]he tobacco companies have appealed to health concerns of smokers at least since 1927. Claims about tar and nicotine levels appeared as early as 1942").

3105. Thus, many people smoke low tar cigarettes because of a perceived reduction in

risk. In fact, various research shows that approximately 61% of current low tar smokers offer reducing their health risk as one reason they smoke light cigarettes. Likewise, research shows that approximately 44% of low tar smokers smoke light cigarettes to reduce their health risks without having to quit smoking. Still other studies show that approximately 42% of individuals who switch from full flavor cigarettes to light cigarettes do so as a step toward quitting. Together, this research makes clear that approximately 50% of all low tar smokers smoke what they perceive to be a "healthier" cigarette, potentially as a step toward quitting. Weinstein WD 53:3-54:20; Benowitz WD, 60:18-21.

3106. A closer look at some of the specific studies elucidates these findings. For example, a 1987 National Health Interview Survey showed that 44% of current smokers had, at some point, switched to low tar cigarettes to reduce their health risk. Weinstein WD, 53:19-22 (citing, Giovino, et al., 1996). Correspondingly, another national survey showed that 58% of ultralight smokers and 39% of light smokers chose those cigarettes to reduce their health risks without having to quit. Furthermore, 49% of ultralight smokers and 30% of light smokers did so as a step toward quitting. Weinstein WD, 53:23-54:7 (citing, Kozlowski, Goldberg, et al., 1998). Finally, the 1993 Teenage Attitudes and Practices Survey showed that 21% of light or ultralight cigarette smokers chose those brands because they perceived them to be healthier. Weinstein WD, 54:13-15 (citing Giovino, et al., 1996).

3107. Dr. William Farone, former Director of Applied Research at Philip Morris USA and expert in "the chemistry and biochemistry of alkaloids and addictive drugs, the chemistry and physics of cigarette smoke, cigarette design and technology, and the chemistry and biochemistry of toxic substances and how they interact with living systems," testified that one reason that low tar cigarettes "are more dangerous" than full-flavor cigarettes is that "they lead people to believe

they are [safer] so that they smoke them in manners that cause them to get just as much toxins." Farone WD, 2:2-8; 2:15-19; Farone TT, 10/7/04, 1878:16-22; Farone TT, 10/12/04, 2171:25-2172:8; 2182:11-2190:7.

3108. Dr. Farone explained that:

> The problem is that when people see that word 'light', it is my opinion that they believe it's safer and, in fact, it isn't, so that's what this is all about. . . . they are more dangerous because people are smoking them thinking they are doing themselves some good, they think they are safer. . . . there is no benefit to a smoker from Marlboro Lights compared to Marlboro. That's the main point. So that makes it more dangerous.

Farone TT, 10/7/04, 1865:9-23.

3109. In relation thereto, smokers of light and ultralight cigarettes are more concerned about the risks of smoking than are smokers of full flavor cigarettes. A 1986 CDC control study showed that 85% of those who switched from full flavored cigarettes to light or ultralight cigarettes were concerned about the health risks of smoking, as compared to 70% of full flavor smokers. Weinstein WD, 56:13-20 (citing Giovino, et al., 1996). Ultralight smokers are also more likely to use tar numbers in judging the relative risk of cigarettes. A study showed that 56% of ultralight smokers rely on tar numbers to determine cigarette safety, as compared to 14% of the overall sample. Moreover, 83% of the ultralight smokers believed that switching from a 20 mg to a 5 mg cigarette would significantly reduce health risks, whereas 50% of other smokers shared that same belief. Weinstein WD, 56:3-12 (citing Cohen, J.B., Ch. 9 of Monograph 7, "Consumer/smoker Perceptions of Federal Trade Commission Tar Ratings").

3110. The evidence shows that Defendants have profited enormously from consumers' mistaken perception that filtered and low tar cigarettes are less hazardous. FTC reports demonstrate that **the market share of filtered cigarettes has increased from 58% in 1963 to**

97% in 1994. A 1967 FTC report states that "in 1964, when cigarette sales declined by about 10.7 billion, the sales of regular cigarettes dropped 20 billion while filter cigarettes sales increased almost 10 billion." Similarly, **the percentage of low tar cigarettes (i.e., cigarettes with an FTC-reported tar yield of 15 mg. or less) has increased from 2% in 1967 to 81.9% of total cigarette sales in 1998**. FTC, 1994 Report at Table 6A, Table 7 (US 86655) (A); 92382035-2095 at 2057 (US 57179) (A); FTC, 1979 Report at 8 (US 87925) (A); FTC, 1998 Report at 22-26 (Issued 2000) (US 60434) (A).

(a) Defendants Made False Statements of Reduced Harm and Used Misleading Brand Descriptors

3111. As detailed below, to effect their concerted campaign to reassure smokers and dissuading them from quitting, Defendants made, and continue to make, false and misleading statements regarding low tar cigarettes, including: (1) assertions that they deliver "low," "lower," or "less" tar and nicotine than regular cigarettes and claims that they are "mild" or deliver "clean" taste; and (2) brand names with descriptors such as "light" and "ultra light," with full knowledge that consumers interpret these claims and descriptors as an indication of reduced harm. In addition, Defendants use marketing imagery, such as lighter colors, to communicate low tar and health reassurance. Defendants' internal documents show that their campaign of deception has been a calculated – and extremely successful – scheme to increase their profits.

(i) Philip Morris

3112. As Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified, "Philip Morris aims its low tar cigarette marketing at least in part at smokers of regular cigarettes who are concerned about the amount of tar they are inhaling and want to reduce it." Bonhomme, who has been conducting consumer research for Philip Morris since 1979, further testified that she has been "aware from Philip Morris's consumer research that some consumers were

switching to low tar cigarettes because they wanted to lower their tar for health reasons," and that she "knew when [she was] marketing low tar cigarettes for Philip Morris that some consumers were switching to them and buying them because they thought they were less harmful." Bonhomme WD, 43:11-14; 65:15-22.

3113. As demonstrated below, like all Defendants, over the last 50 years Philip Morris has used a variety of marketing techniques to reassure smokers that certain brands and types of cigarettes would reduce their health risk from smoking by reducing their exposure to tar. Philip Morris advertisements in the early 1950s made explicit claims of reduced harmfulness, such as the following:

1952: "If, like millions today, you are turning to filter cigarettes for pleasure plus protection . . . it's important that you know the Parliament Story." 696000888-0916 at 0894, 0905, 0908 (US 21387) (A); Harris WD, 70:3-6.

1952: "Parliament's exclusive Filter Mouthpiece gives you the important extra protection of the Parliament 'Safety-Zone' Construction . . . As the irritants, brown tars and colorless nicotine are trapped, they remain where they belong–in the recessed filter, completely out of contact with your lips." 696000888-0916 at 0894, 0905, 0908 (US 21387) (A)

1954: "You're So Smart to Smoke Parliaments." (US 2731) (A) (emphasis in original); see also (US 2756) (A) (1956 Parliament advertisement in Sports Illustrated magazine noting same).

1954: "The cigarette that takes the FEAR out of smoking!" 696000888-0916 at 0908 (US 21387) (A).

3114. In addition to explicit health claims, since the 1970s Philip Morris has used so-called brand descriptors such as "light" and "ultra light" to communicate that certain brands of cigarettes are low in tar and nicotine. James Morgan, who was Brand Manager of Marlboro from 1969 to 1972, around the time when Philip Morris introduced the first "light" cigarette – Marlboro Lights – gave a deposition in a 1974 trademark case in which he explained the intended meaning of the "lights" descriptor. Morgan testified that, from the very beginning, the "lights"

descriptor was intended to communicate that the brand was low in tar – as opposed to a brand that was lighter in taste:

> From the very beginning the phrase, 'Lowered tar and nicotine' was going to be on the package [of Marlboro Lights]. That was the phrase that described to the consumer what the product was in our judgment . . . . **We felt the brand name, Marlboro Lights, was a real help in terms of the description of the product being low in tar and nicotine** which appeared on the pack from the inception of the project . . . . [T]he proposition that we were going to push . . . was described on the pack with a lowered tar and nicotine cigarette . . . . **We are not talking, in my judgment, talking about light . . . as a taste**. It's not a term that means anything in terms of taste, and the name Marlboro Lights as I said before, a word which we feel has appeal in a different sense than suggesting what the cigarette even tastes like . . . . **It was our desire in this entire Marlboro Lights brand project to constantly position Marlboro Lights as being – as having lower tar and nicotine from Marlboro [Reds]**.

Morgan PD, Philip Morris Inc. v. R.J. Reynolds Industries, Inc., 10/15/74, 4:9-10; 10:15-11:4; 78:20-79:14; 79:25-80:5; 81:8-12; 85:23-86:4 (emphasis added); Morgan PD, Philip Morris Inc., 11/25/74, 247:11-14.

3115. Morgan, who later rose to become CEO of Philip Morris, testified in a 2002 deposition that rather than relying on the tar and nicotine numbers from the FTC Method, "the major influence in people's perceptions in the tar of a cigarette would have come from the marketing positioning of a brand as opposed to people literally reading the FTC [tar and nicotine figures]." Morgan explained that, "if you took the advertising, the point of sale, whatever may have been said on the racks or the cartons, the whole panoply of what the consumer saw about a cigarette brand would be more influential in that consumer's perception of the tar of that brand . . . than the fact that they may or may not have sat down and looked at a newspaper that had the latest Federal Trade Commission report." Morgan further testified that part of the image that Philip Morris was marketing was the concept of lowered tar and nicotine. Morgan testified in

1974 that although Philip Morris marketing research had, in 1974, found that to consumers, the phrase “lower tar and nicotine” meant not just less tar, but also better for you, Philip Morris decided to continue using the phrase lower tar and nicotine to market Marlboro Lights. Morgan PD, Price v. Philip Morris, Inc., 6/5/02, 45:2-45:25; 46:2-46:25; 47:2-47:25; 48:2-48:25; 49:2-49:25; 50:2-50:25; 51:2-51:5; 52:15-52:20; Morgan PD, Philip Morris Inc., 11/25/74, 174:10-175:4; 175:16-175:25; 502641641-1646 at 1641 (US 85008) (O) (1974 Philip Morris consumer research document stating that "Lowered Tar and Nicotine" on Marlboro Lights packs "clearly means ‘less tar' and ‘better for your health'" and that actual FTC tar and nicotine yield numbers have less of "this positive kind of connotation" with smokers).

3116. Morgan's testimony was echoed by that of Jeanne Bonhomme. Bonhomme testified that, in her experience, consumers are not aware of the specific tar levels of the cigarettes they smoke, and instead use descriptors such as "lights" or "lower" tar as indications of their tar levels: "Philip Morris was aware that consumers understood the ‘lights' brand descriptor from its advertising and marketing pieces to be equated with low tar." Bonhomme WD, 12:6-11; 13:17-19; 15:1-4; 16:1-7.

3117. Bonhomme testified that, in her experience, a cigarette's name as well as its packaging can cause consumers to perceive it as being lower in tar. Indeed, Bonhomme testified that in or around 1995, Philip Morris considered changing the name of Merit to Merit Lights, because "Philip Morris was concerned that consumer research showed that Merit marketing no longer effectively conveyed to consumers that Merit was low in tar." Bonhomme WD, 13:1-22.

3118. This contemplated name change is documented in a June 23, 1995 internal Philip Morris memorandum entitled "Merit ‘Filter' vs. ‘Lights' Test - Research Proposal," from Lauren Schwed, Philip Morris Analyst, to Jodi Sansone, then Brand Manager for Merit at Philip Morris

USA, and Rebecca Gordon, a Philip Morris USA Assistant Brand Manager under Sansone. The memorandum demonstrates that Philip Morris was aware that changing the name to "lights" would imply low tar, but at the same time could imply poor taste. The memorandum described the motivation behind an attached consumer research study as follows:

> Merit is considering changing the name on the Parent pack from 'Filter' to 'Lights' in order to clarify the tar level of the cigarette. **There is a thought that changing the wording on the pack to replace the word 'Filter' with the word 'Lights' would help clarify what the true tar level is** for Merit Parent. However, there is some concern that changing the name to 'Lights' could possibly detract from the brand's flavor heritage.

2045628330-8330 (US 26955) (A) (emphasis added).

3119. In a memorandum dated November 27, 1995, Shari Teitelbaum, a consumer researcher for Philip Morris, summarized the results of the "Merit 'Filter' vs 'Lights' – Final Report" for Sansone. Teitelbaum noted that the name change affected Merit smokers' perceptions: "Before tasting the cigarette, Merit smokers seemed to think that Merit Lights was lower in tar than Merit Filter." Indeed, Teitelbaum noted that changing the name to Merit Lights caused one third of current Merit smokers to "alter their perception of Merit in terms of taste and tar level." The study also confirmed Philip Morris's fear that changing the name to Merit Lights would imply a poor tasting cigarette: for current Merit smokers, "[t]he name change did seem to have a significantly adverse impact on perceptions of the brand's taste." 2045596010-6012 at 6011 (US 26952) (A); 2045596013-6040 at 6032 (US 26953) (A); Bonhomme WD, 14:1-15:4.

3120. Nancy Lund, Senior Vice President of Marketing at Philip Morris, testified in 2002 that Philip Morris changed the name of Merit Filters to Merit Lights, and that there was no difference in the cigarette. Brennan-Lund PD, Price v. Philip Morris, Inc., 9/20/02, 157:15-22.

3121. Similarly, Philip Morris marketed a 15 mg. cigarette as both Virginia Slims and

Virginia Slims Lights. 525311179-1223 at 1222 (US 52977) (A).

3122. Philip Morris has known for years that by communicating low tar, brand descriptors also communicate health reassurance. Jeanne Bonhomme testified that Philip Morris has known for years from its consumer research that some smokers "interpret brand descriptors as communicating a less hazardous cigarette than full-flavor brands." Bonhomme WD, 20:3-6.

3123. Indeed, in an October 21, 1994 memorandum entitled "Marlboro Medium Smoker Image Study," Marian Halpern, an employee in the Philip Morris consumer marketing research department, reported to Tom Keim, a Philip Morris brand manager, that the "Reasons for Smoking Medium" were as follows: "**Most smokers said they chose Medium because of its perceived health benefit**. Over half of the Medium smokers said they started smoking Medium because they wanted a cigarette with lower tar and nicotine (56%). For many respondents, the name ‘Medium' communicated information on this product feature, with almost one quarter (24%) of these smokers saying that ‘Medium' refers to the cigarette's lower tar and nicotine." 2063731671-1688 (US 22222) (A) (emphasis added); Bonhomme WD, 18:1-19:5.

3124. Bonhomme testified that she was unaware of whether or not Marlboro Medium actually delivered lower tar and nicotine to consumers, and as a result, she did not know whether the majority of people who started smoking Marlboro Medium started smoking it for something it actually provides. Bonhomme WD, 19:9-18.

3125. Bonhomme also testified that Philip Morris tries to create marketing pieces that communicate certain brands are low in tar, not just with words like the "lights" brand descriptors, but also with the imagery they present to consumers, such as the color it selects for the cigarette pack and tipping paper. Indeed, Bonhomme testified that when packaging decisions are made at Philip Morris, it is recognized that the color influences peoples' perception of the strength and tar

level of the product. Bonhomme WD, 20:10-17; 22:1-4.

3126. For example, Philip Morris knows that consumers perceive a blue cigarette pack and white tipping paper as an indication that a cigarette is low in tar, and that generally speaking, the lighter the cigarette package color, the lower its tar content is perceived to be by consumers. Philip Morris continues to this day to market and sell Marlboro Lights and Marlboro Ultra Lights with lighter color packaging and tipping paper. Bonhomme WD, 21:13-18; 23:20-22.

3127. Philip Morris's marketing department employees share this awareness that marketing imagery can convey the perception of low tar. As Jeanne Bonhomme explained, Philip Morris tests each of its marketing campaigns "for communication of the main idea, theme, or images of the campaign," and that "before any marketing campaign is run, the consumer research department tests to determine that the intended message is being effectively communicated to consumers." Bonhomme WD, 6:8-22.

3128. Nancy Brennan-Lund, Philip Morris Senior VP of Marketing, testified in 2002 that in order to communicate low tar in cigarettes, Philip Morris USA has used a "lighter, more white background" and a "white filter as opposed to a cork colored filter." Susan Norris, Marlboro Brand Manager from 1995-1999, testified that, in her experience, colors such as silver and light blue communicate to consumers that a cigarette is an ultra light brand. Brennan-Lund PD, Price, 9/20/02, 179:6-17; Norris PD, United States v. Philip Morris, 7/31/03, 162:6-165:8, 179:17-184:19.

3129. According to Jeanne Bonhomme, "[c]onsumer research conducted by Philip Morris has indicated that while consumers believe that all cigarettes pose some health risk, some consumers believe that low tar cigarettes are less harmful than regular cigarettes." Bonhomme further testified:

> I learned from various research that we conducted that some consumers do believe that low tar cigarettes are less of a health risk than non low tar cigarettes. These consumers had a perception that smoking is not good for me, so if I can smoke fewer cigarettes, it is probably better for me, if I don't smoke the cigarette all the way down on the rod, it is probably better for me, and if I smoke a lighter cigarette, it is probably better for me.

Bonhomme WD, 25:7-14.

3130. Bonhomme testified that Philip Morris was aware that some consumers were switching to lights in part because they believed it was better for them. Bonhomme WD, 45:20-22; 27:10-15.

3131. The evidence detailed below shows that, over the last five decades, Philip Morris has conducted massive amounts of consumer research to perfect the delivery of its "light" and low tar cigarette brand marketing message to ensure it provided smokers with health reassurance and offered an alternative to quitting.

3132. Marlboro Lights. Jeanne Bonhomme testified that, with respect to Marlboro Lights, Philip Morris designs the packaging to distinguish it from Marlboro Red and communicate to consumers that it provides "the best of both worlds," – low tar and good taste. Bonhomme WD, 22:5-18.

3133. A November 15, 1971 "Philip Morris U.S.A. Inter-Office Correspondence" to James Morgan from the Philip Morris USA Marketing Research Department set forth results of a Philip Morris consumer study on Marlboro Lights. Under the heading "Advertising Awareness," the report stated that "[l]ow tar and nicotine remained the most frequently mentioned comment." 1000292744-2762, 2745 (US 35205) (O).

3134. A December 1971 Marlboro Lights "Product Promotion Plan" distributed to the Philip Morris sales force discussed the introduction of Marlboro Lights and ways to market and

maximize sales of the brand. It stated: "The introduction of Marlboro Lights is a very timely move on the part of your company. The consumer is becoming increasingly aware of tar and nicotine contents in cigarettes and many are searching for one with low tar and nicotine content and full flavor. Marlboro Lights will fill this need." 2045404133-4163 at 4141 (US 85000) (O).

3135. A retrospective Philip Morris document dated September 1991 entitled "Background Information on PM Brands," stated: "To capitalize on the booming low tar market, Marlboro Lights was introduced in 1972. It became the first successful low tar line extension in the industry . . . Marlboro further broadened its appeal to low tar smokers with the addition of Marlboro Lights 100's in 1978, Marlboro Lights King Size Flip-Top Box in 1980 and Marlboro Lights 100's Flip-Top Box in 1984." 2070143190-4433 at 3192 (US 27257) (A).

3136. James Morgan, former President and CEO of Philip Morris USA, testified in 2002 that Marlboro Lights were positioned as "lower in tar and lighter in taste than Marlboro Red" and were marketed to people seeking a low tar and nicotine cigarette, including smokers of both high and low tar cigarettes. A circa 1974-1975 Philip Morris magazine advertisement for Marlboro Lights stated: "Marlboro Lights. The spirit of a Marlboro in a low tar cigarette." Morgan testified in 2003 that Philip Morris has used the phrases "lowered tar and nicotine" and "Lights" in association with Marlboro Lights for over 30 years. Morgan PD, Price, 6/5/02, 20:13-25, 21:2-6, 32:22-25, 33:2-25, 34:2-11; 2045404133-4163 (US 85000) (O); 03496228-6630 at 6323 (US 20057) (O); Morgan TT, Price v. Philip Morris, Inc., 2/18/03, 64:4-7.

3137. A May 31, 1988 Philip Morris USA Marketing and Research Department report co-authored by N. Stamell and K. Goldstein from Philip Morris's primary advertising agency, Leo Burnett, and Philip Morris consumer researchers Karen Eisen and Jeanne Bonhomme, that copied Nancy Lund, then in the Marketing and Research Department of Philip Morris USA,

recited focus group results and stated that "[m]any felt that Marlboro Lights was gaining in favor because of health concerns." 2044743883-3891 at 3885 (US 85001) (A); Brennan-Lund PD, Price, 9/20/02, 190:1-192:11; Bonhomme WD, 23:5-19.

3138. Benson & Hedges. A 1974-1975 advertisement for Philip Morris's Benson & Hedges Multifilter brand stated: "Today people not only want a great tasting cigarette, but one that's low in 'tar' and nicotine. Nothing's simple anymore. . . . we've managed to lower the 'tar' and nicotine and still give you a cigarette with full rich flavor for you to enjoy." (US 87184) (O); see also 03496228-6630 at 6326 (US 20057) (O).

3139. A September 1991 Philip Morris document entitled "Background Information on PM Brands," stated:

> Benson & Hedges 100's Lights and Lights Menthol were introduced in 1977 in response to consumer preference for a milder, lower tar cigarette . . . today Benson & Hedges is among the leading low tar cigarettes. In mid-1982, Benson & Hedges Deluxe Ultra Lights was launched to take advantage of dynamic growth in both the 100mm and ultra low tar markets. The regular and menthol packings, both at 5mg tar, were instant successes. Fueled by distinctive packaging and taste richer than that of other ultra low (hence the ad slogan "rich enough to be called deluxe"), Deluxe Ultra Lights is a major contributor to the image and sales strength of Benson & Hedges.

The document listed the following "Benefits Statement" regarding Benson & Hedges 100's Deluxe Ultra Lights: "Benson & Hedges 100's Deluxe Ultra Lights gives you only 5mg tar, yet is rich enough to be called Deluxe" and "Benson & Hedges 100's Deluxe Ultra Lights Menthol delivers cool, rich taste with only 5mg tar." 2070143190-4433, 3211-3214 (US 27257) (A); see also ADV004 1118-1120 (US 745) (O) (1982 advertisement).

3140. Cambridge. The misleading and deceptive use of brand descriptors by Philip Morris is demonstrated by Philip Morris's selective use of brand descriptors to name and market

products with similar or identical machine-delivered tar and nicotine yields. Notes from the scientist charged with recording the discussion at the regular "new products" meetings of Philip Morris scientists – known as "Richmond meetings" – demonstrated Philip Morris's awareness of the consumer appeal of low tar numbers and confirmed Philip Morris's intent to capitalize on consumers' perception of Cambridge as the lowest tar cigarette. Tom Goodale's handwritten notes from the October 15, 1979 Richmond meeting reflect Philip Morris's plan to create an impression in consumers' minds of Cambridge as extremely low in tar by introducing it with a tar level below the then-lowest FTC tar brand sold – Carlton – and then to raise the tar level over time. The notes reveal, under the heading Project Trinity (Cambridge's project name prior to commercial introduction), "Hit mkt [market] below Carlton tar - **afterwards can drift higher**." 1001507595-7596 at 7595 (US 85102) (A) (emphasis added).

3141. Dr. William Farone, Philip Morris USA employee from 1976 to 1984 and former Director of Applied Research at Philip Morris USA, testified that, based on his participation in numerous monthly meetings in 1979 relating to Cambridge:

> The long-range plan [for marketing Cambridge] was to introduce the product as a low tar product and then eventually to increase the tar of the product. . . . [I]t was anticipated that the product would not sell very well at that low tar and eventually they would increase the tar, and having sold it as a low tar product people still would think of it as a low tar product. In my view, and from my experience, the lowest yielding version of many brands, including the original Cambridge, but also B&W's Carlton, RJR's NOW, etc., were created to give the brands a lowest tar image, while the sales are in the higher tar and nicotine versions of those brands. Those lowest yield versions of the brand are very hard to find in stores.

Farone WD, 2:2-8; 2:15-19; 128:4-128:22.

3142. The evidence shows that in 1979, Philip Morris promoted Cambridge as a low tar brand yielding **0.0 mg tar** (less than 0.1 mg tar) on the FTC test. Dr. Farone testified that the 0.0

mg tar Cambridge cigarette was removed from the market and replaced by Cambridge light and ultra light brands, all of which that had considerably more tar than the original Cambridge cigarette, which did not have a "low tar" descriptor. Dr. Farone further testified that: "The plan all along was to deceive the public into thinking that the Cambridge Light cigarette was a low tar cigarette, when in fact it was not. . . . **the trend to increasing tar deliveries in the product is very clear and there is no advertising that says that such increases are being made.**" Farone WD, 129:18-132:17; 2024983860-3862 at 3860 (US 20015) (A).

3143. Dr. Farone further testified that "Philip Morris never even bothered to consumer test the 0.0 mg [Cambridge] version against the similar variant of Carlton and this is a major piece of evidence that they had no plans to keep it on the market." Dr. Farone's testimony is supported by a September 20, 1979 Philip Morris memorandum entitled "Project Trinity" states, with respect to the 0.0 mg tar version of Cambridge: "**Consumer testing is not required for this model**." Dr. Farone testified that an extremely low delivery Benson & Hedges brand was also marketed by Philip Morris without consumer testing. Farone WD, 128:23-129:17; 1000774422-4422 (US 35306) (A).

3144. Nancy Brennan-Lund, Senior Vice President of Marketing at Philip Morris, admitted in a 2002 deposition that Cambridge Lights had more tar and nicotine than the original Cambridge. She further admitted that, as the tar and nicotine numbers were not on the packs of Cambridge Lights cigarettes, the only way consumers could possibly know that Cambridge Lights had more tar than Cambridge regular was by a perceived taste difference. Brennan-Lund PD, Price, 9/20/02, 145:5-154:16.

3145. This Cambridge story demonstrates Philip Morris's ability to develop and successfully market a product that delivered no measurable tar by the FTC method, followed by

its misleading and deceptive use of brand descriptors. The brand descriptors were misleading and deceptive because, as demonstrated above, Philip Morris first sold a product called "Cambridge" with less than .1 mg tar without a low tar brand descriptor. Then, after establishing consumers' association with "Cambridge" as a low tar (i.e., "healthier") product, Philip Morris introduced "Cambridge Lights," and "Cambridge Ultra Lights," which in fact had many times more tar than the original Cambridge.

3146. Merit. Dr. Dolan testified that "in 1976 Philip Morris introduced a new brand, Merit, at 9 milligrams Tar with 'enriched flavor.' Merit formed the basis for line extensions to Merit Ultra at 4 milligrams and later Merit Ultima at 1 milligrams. The three were jointly advertised in a "low, lower, lowest" presentation of the product line." Dolan WD, 124:1-4; 1002325022-5022 (US 21510) (A).

3147. Jeanne Bonhomme testified that Philip Morris's marketing for some of its low tar cigarette brands, including Merit, "encouraged consumers [whom Philip Morris referred to as potential "down-switchers"] to switch from regular cigarettes to low tar cigarettes." Bonhomme testified that, historically, "Philip Morris targeted potential down-switchers with its marketing for Merit" and that "Merit [consumer] research is used to target potential down-switchers." Bonhomme WD, 13:4-5; 27:16-21; 29:3-30:5; see also 03297227-7249 at 7240 (US 88631) (A) (report prepared for Lorillard indicating: "In 1976 Philip Morris introduced Merit (9 mg tar), accompanied by the heaviest advertising spending plan since the arrival of Marlboro in the mid-1950's").

3148. Suzanne LeVan, Philip Morris Vice-President of Premium Brands from 1991-2001 with responsibility for Merit, testified at her deposition in this case that "the Merit strategy is to convince smokers who are switching down [in tar levels] and who are looking for a good

tasting cigarette that Merit is a brand that they should try." LeVan PD, United States v. Philip Morris, 6/25/02, 178:13-181:2; accord 2063690017-0018 (US 85002) (O).

3149. Philip Morris consumer research documents confirm Bonhomme's and LeVan's testimony that Philip Morris targeted potential down-switchers with Merit marketing. A September 21, 1995 memorandum from Esther Franklin of Leo Burnett to Shari Teitelbaum of Philip Morris's consumer research department recommended consumer research to "determine in the 'mature' world of low tar products, how the relationship between taste and tar impacts brand choice at all tar levels." The memorandum stated that this information would be used to "assist in the development of the 1996 direct communication messages and 1997 advertising messages which more clearly address the needs of smokers who are contemplating switching to a lower tar product." 2063711117-1117 (US 27137) (A); 2063711118-1120 (US 27138*) (A); Bonhomme WD, 28:18-30:5.

3150. Bonhomme further testified that "Philip Morris's marketing for Merit cigarettes targeted 'self-conscious' and 'uncomfortable' smokers." A Philip Morris memorandum entitled "The Uncomfortable Merit Smoker," dated January 6, 1993, stated: "'Self-conscious' smokers are defined as people who are uneasy with their status as smokers. They see smoking as a sign of personal weakness and are starting to feel ashamed that they smoke." 2044905001-5007 at 5001 (US 20454) (A); Bonhomme WD, 49:1-3; 47:8-48:11; see also Teitelbaum PD, United States v. Philip Morris, 4/16/02, 132:21-137:21.

3151. Philip Morris's targeting strategy was recorded in a retrospective June 13, 1995 document from Leo Burnett – Philip Morris USA's long-time marketing agency – entitled "Merit Advertising Overview Historical and Current for Jodi Sansone." Under the heading "Merit - Current 'You've Got Merit' Campaign," the document stated: "Strategy," "Convince:

Self-conscious and **uncomfortable** smokers who want to switch to a low tar alternative but won't sacrifice taste completely,""That: With Merit, **you can switch down to lower tar and still enjoy smoking,**" "Because: Merit delivers satisfying taste at every level of low tar." The document described the "Merit Brand Essence" as follows: "Since the brand's introduction twenty years ago, the core Merit proposition has been low tar with good taste. Once a smoker has made the decision to switch to a lower tar product, they are faced with the challenge of finding one that delivers on taste. Merit offers a positive solution–they can switch down to lower tar and still get satisfying taste." 2048200699-0727 at 0707 (US 38648) (A) (emphasis added – bold type); Bonhomme WD, 48:12-49:3.

3152. Jeanne Bonhomme testified at trial that Philip Morris's strategy was successful: "Philip Morris research confirmed that switching down in tar made some Merit smokers feel better about the fact that they smoked." In a July 1993 Philip Morris presentation prepared by Norma Suter Drew, Philip Morris Vice President for Portfolio Brands and former Brand Manager and Marketing Director for Merit cigarettes from 1992-1994, entitled "Merit Franchise," Drew reported that "Merit is a brand smokers switch to in order to reduce tar/nicotine." Elsewhere in the presentation, Drew wrote that one of the top two "Goals" for Merit advertising was to achieve a "[s]ignificant increase in Merit's highest brand image statement, 'Are among the lowest in tar/nicotine', versus Carlton and Now." The presentation also noted that "70% of industry switching is between tar levels." Under the heading "Merit Advertising," the presentation noted that "Merit smokers tell us that they come to the franchise because they desire a lower tar cigarette that still tastes good – **switching down makes them feel better about the fact that they smoke**." Bonhomme WD, 49:4-14; 2070661683-1727 at 1685, 1687, 1713, 1716 (US 40337) (A) (emphasis added - bold type).

3153. According to a retrospective Philip Morris document dated September 1991 and entitled "Background Information on PM Brands," the "Benefits Statement" of Merit was: "You'll enjoy low tar and good flavor with Merit." "At only 7 mg. of tar, Merit delivers the rich flavor of leading cigarettes with twice the tar." "With Merit Menthol you get rich menthol flavor at only 8 mg tar." The document indicated that Merit Ultra Lights and Merit Ultra Lights 100's were introduced in 1981. 2070143190-4433 at 3211-3214 (US 27257) (A); accord 2063724711-4714 (US 39838) (Confidential) (A).

3154. Consistent with the internal marketing documents detailed above, Merit advertisements communicated to consumers that, with Merit, they could reduce their tar intake and thus reduce their health risk, without sacrificing taste:

1976: "New Low Tar Entry Packs Taste of Cigarettes Having 60% More Tar." (US 5087) (A).

1976: "The greatest challenge to cigarette-makers in the last two decades has been how to make a low tar cigarette that wasn't 'low'; in taste. It seemed impossible. *Until now.* After twelve long, hard, often frustrating years, Philip Morris has developed the way to do it. The cigarette is called MERIT. **It delivers only 9 mg. tar. One of the lowest tar levels in smoking today**." (US 4981) (A) (emphasis added - bolded text); Biglan WD, 203:17-207:3.

1977: "New MERIT 100's. Only 12 mg of tar. Yet packed with extra flavor. The kind of **flavor that makes 'low tar, good taste' a reality** for 100's smokers." (US 5342) (A) (emphasis added); Biglan WD, 203:17-207:3.

1978: "Merit Solving Smoker Dilemma." (US 5704) (A); Biglan WD, 203:17-207:3; (US 5483) (A) (1977 advertisement).

1978: "Best Move Yet. MERIT['s] . . . . ability to satisfy over long periods of time could be the most important evidence to date that MERIT is what it claims to be: The first real alternative for high tar smokers." (US 5951) (O); see also (US 6112) (A) & (US 6131) (A) (1979 Merit advertisements in Sports Illustrated magazine stating same); Biglan WD, 203:17-207:3.

1978: "Research concludes MERIT taste makes move from high tar to low tar smoking unexpectedly easy." (US 5803) (A); Biglan WD, 203:17-207:3.

1988: "You Won't Miss What You'll Miss." (US 8505) (A).

1988: "Our Less Is Your Gain." (US 8556) (A).

1989: "If at first you don't succeed, try ours." (US 8659) (A); Biglan WD, 203:17-207:3.

1989: "Smoke This Page. If That Reminds You of Your Ultra Lights, Read This Ad." (US 8711) (A).

1994: "You can do it! You really can switch down to lower tar and enjoy satisfying taste." (US 12892) (A); Biglan WD, 203:17-207:3; 970469347-9474 at 9421; (US 85104) (O).

1994: "Yes you can! You can switch down to lower tar and still get satisfying taste. You've got MERIT." Jeanne Bonhomme testified that "one component of this advertisement's message is addressed to smokers contemplating downswitching." (US 9241) (A) (emphasis in original); Bonhomme WD, 30:6-18.

3155. A March 20, 1984 Philip Morris marketing report entitled "The Cigarette Consumer" stated, with regard to switching to low tar cigarettes, "[h]istorically, motivation has come from health issue. People willing to stick with lower tar because they feel are doing themselves a favor. Most successful new brands have had low tar/health motivation: Merit." Dr. Dolan explained that this document "indicates that Philip Morris's own consumer research showed that those who smoked low tar and nicotine cigarettes did so because they perceived them as a way to address the health issue. As of 1984, Philip Morris saw that the reason for most new brands' success was this health motivation." 2500002189-2207 at 2199 (US 21460) (A); Dolan WD, 122:21-123:8.

3156. A September 16, 1987 Leo Burnett U.S.A. research report for Philip Morris entitled "Merit Brand Image Study," noted in the section "Attitudes Toward Smoking" that "[w]hile health concerns are motivating factor, taste/enjoyment are still key." A summary at the end of the report stated: "Merit smokers we sampled are committed smokers . . . However, they have mixed feelings about smoking – health concerns/loss of control . . ." and their switching to

Merit "provides health reassurance." 2072735414-5500 at 5431, 5492 (US 41598) (A); Bonhomme WD, 27:22-28:17.

3157. A January 1991 document entitled "Merit Positioning Study" assessed "perceptions of Merit's positioning within the low tar category." The document stated: "While they are feeling pressure to quit, Merit smokers find low tar cigarettes to be a satisfying alternative." Under the heading "Attitudes that define Down Switchers," the document noted that an overwhelming majority of downswitchers agreed with the following statements: "I'm planning to cut down;" "I feel uncomfortable smoking when others are not;" "I feel more pressure not to smoke;" "Low tar cigarettes are a sensible choice;" "Friends pressuring me to quit;" and "I'm starting to feel self-conscious that I smoke." Under the heading "What Down Switchers want in a cigarette," the document noted that approximately half of downswitchers found "very low tar" (50%) and "very low nicotine" (48%) to be "absolutely essential." 2048976844-6906 at 6850, 6890, 6892 (US 85004) (A).

3158. Consumer feedback confirmed the successful delivery of Philip Morris's intended message. An August 1991 report prepared for Philip Morris entitled "Merit Positioning Strategy Development" observed that, "[i]n addition to advantages associated with lesser tar and nicotine delivery, low tar users note that **such brands allow higher volume, deeper inhalation smoking with few tradeoffs**." The report also commented that Ultra Light users "note their further downswitching to ultralights from lights for health benefits primarily." The report noted that **Merit users "like perceiving [Merit cigarettes] as rather safe, sensible, middle-of-the-road, non-threatening, and generating the feeling that they aren't doing anything wrong**." 2072735123-5247 at 5131, 5132 (US 41596) (A) (emphasis added); Bonhomme WD, 49:15-22.

3159. An internal Philip Morris memorandum dated May 16, 1995 from Lauren

Herman, an employee in the market information and planning group, to Norma Suter Drew, then acting Brand Manager for Merit cigarettes, entitled "Merit Alternative Campaign Qualitative Exploratory – Final Report," discussed the results of research conducted to gauge consumer interest and appeal of Merit marketing campaigns. Under the heading "Key Findings," Herman reported that "Competitive smokers appear to be most likely to respond to the concepts that offer the clearest product cues. These smokers require the most rational reason why they should smoke Merit, (e.g. lower tar)." Under the heading "Implications," Herman recommended that "[s]ince low tar is essentially the core of these alternative concepts, the low tar message should be more pronounced." 2063724960-4962 at 4960, 4962 (US 39842) (A).

3160. In a March 26, 1996 memorandum, Shari Teitelbaum, a consumer researcher for Philip Morris, delivered to Jodi Sansone, then Brand Manager for Merit cigarettes, a consumer research report commissioned by Philip Morris to "gain an understanding of consumers' perceptions of the lowest category, as well as the motivations and wants of smokers of Carlton, Now, and Merit Ultima, and potential down-switchers to this category." Under the heading "Reasons for and Perceived Benefits of Smoking Lowest Brands," it was reported that "perceived health concerns" was one of the two main reasons for initially switching to light cigarettes, and that "[w]hen perceived health benefits were cited as the reasons for choosing a lowest brand, the strongest analogy made by lowest smokers was with low fat considerations. Full flavored cigarettes were likened to high-fat food, while lighter and lowest brands of cigarettes were analogous to low-fat and light alternatives." The report found that many of the smokers who smoked Merit Ultimas had switched to a lower tar cigarette due to perceived health concerns. 2045628312-8328 at 8312, 8321 (US 22217) (A); Bonhomme WD, 15:5-17:1; see also Teitelbaum PD, United States v. Philip Morris, 4/16/02, 137:22-141:25 (discussing US 22217).

Jeanne Bonhomme admitted that Philip Morris was aware that some consumers were analogizing light and low tar cigarettes with light and low-fat foods, commonly considered to be healthier food choices. Bonhomme WD, 16:18-17:1.

3161. The research report further acknowledged that consumers smoke low tar cigarettes **despite**, not because of, their taste. Under the heading "Reaction to Alternative Merit Concepts," the report discussed consumer reactions to several proposed marketing concepts for the Merit Ultima cigarette. One marketing concept was as follows: "Concept M. Until New Merit Ultima, if you wanted lower tar, you had to settle for less taste. Not any more! New Merit Ultima, the new rule is Lowest tar, more Taste!" 2045628312-8328 at 8326 (US 22217) (A).

3162. A September 4, 1996 Leo Burnett document reported on an August 27, 1996 meeting held in New York between Leo Burnett and Philip Morris (Jose de Castro, Suzanne LeVan, and Jodi Sansone) to discuss Merit marketing for 1997. The document acknowledged that past Merit marketing focused heavily on communicating that it is low in tar, more so than sending a message about the brand's taste. Under the heading "Discussion/Agreements Reached," the document stated: "Client/agency agreed that we need to move the bar forward in terms of taste communication, as currently it is not as recognizable/prominent as low tar in Merit awareness ratings, yet it is a key driver of consumer choice/purchase." 2071522201-2203 at 2201 (US 27299) (O).

3163. A February 9, 1998 draft research report prepared for Philip Morris by the research firm Kane, Bortree & Associates, entitled "Merit Strategic Revitalization Plan, Stage I Learnings," analyzed ways to "build Merit's share of the low tar segment." Under the heading "Light Segment Learnings," the report noted that "[t]here are two very distinct benefits associated with the light segment," namely "[l]ight flavor that is not too strong" and "[b]etter for you." The

report found that low tar cigarette smokers could be divided into four attitudinal quadrants separated by the following two axes: "[w]hether or not consumers find a light taste satisfying" and "[c]onsumers' general level of comfort with smoking." 2063687348-7527 at 7350, 7353-7356 (US 39820*) (A); see also 2063686921-6942 at 6934 (US 88629) (A) ("Kane Bortree makes use of a variety of innovative, psychologically derived techniques. These techniques allow us to get inside the consumers' heads").

3164. The 1998 report discussed two types of low tar smokers who find the taste of light cigarettes unsatisfying and do not feel comfortable smoking: "Quitters" and "Validation Seekers." Quitters were described as follows: "I would really like to quit. I feel it will be easier to quit if I smoke a light. Even if I don't quit, which I may not, I believe it's better for me to smoke a light." The report cited Merit Ultima, Merit Ultra Lights, Camel Lights, and Marlboro Ultra Lights as brands for those who do not feel comfortable smoking. 2063687348-7527 at 7356, 7357, 7359 (US 39820*) (A).

3165. The "Merit Strategic Revitalization Plan, Stage I Learnings" draft research report was followed by a March 31, 1998 report by Kane, Bortree & Associates entitled "Merit Strategic Revitalization Plan, Stage II Learnings/Stage III Recommendations." Under the heading "Positioning Learnings to Date," the March report noted that "'Light' is a bigger promise than low-tar with opportunity for broad appeal" because it conveys "Tastes light," "Feels light," "Low tar," and "**Better for you**." The report recommended that Merit's "positioning should convey acceptability of smoking." The report further discussed a contemplated "Additive Free" Merit line extension, and under the heading "Additive-Free Learning" noted that: "Additive-free is an excellent fit with 'light'" because it "[r]einforces 'better for you.'" 2080486996-7108 at 7010-12 (US 45330) (A) (emphasis added); Bonhomme WD, 17:2-16.

3166. The report also discussed the results of consumer testing of contemplated Merit advertisements. For two proposed advertisements, the report noted that the advertisements' greatest strengths included the following communications to consumers: "Looks healthy. . . . Lower tar means better for you and still tastes good." Other strengths of these Philip Morris advertisements included: "For people who want to quit" and "Means are you ready to make a healthier choice." 2080486996-7108 at 7080, 7084, 7085, 7106 (US 45330) (A).

3167. A May 14, 1998 internal Philip Morris document entitled "Merit Brand Initiatives" incorporated the findings of the March 31, 1998 Kane, Bortree & Associates study, recreating that study's representation of the four segments of the lights market and stated, under the heading "Merit Strategic Positioning Copy Strategy": "What we would like smokers to believe - Merit offers a viable alternative to Light brands with full flavor heritage." In a section entitled "Star Market Segmentation Key Consumer Segments," the document described "Low Tar Seekers" as those who feel that: "I smoke light cigarettes because they're lower in tar. I would like to switch down to a lower tar than I am currently smoking." 2070657640-7650 at 7644, 7646 (US 22015) (A).

3168. Marlboro Ultra Lights. A June 1979 draft report prepared for Philip Morris by Goldstein/Krall Marketing Resources, Inc., entitled "Smokers' Reactions to an Ultra Light Brand Extension for Marlboro," discloses that Philip Morris began conducting consumer marketing research on a new cigarette line extension of the Marlboro brand, Marlboro Ultra Lights, as early as 1979. Discussing the reactions of Marlboro Red smokers to the concept of Marlboro Ultra Lights, the report stated: "The introduction of a Marlboro Ultra Light brand appeared to be viewed in the following manner: . . . "An attempt to produce a safer cigarette for those interested in cutting down their smoking and in a lighter cigarette . . . A ‘smart' way to prevent the loss of or

switching of Marlboro smokers to other brands if they are currently unsatisfied in their quest for a lighter/safer cigarette." 2041097977-7999 at 7984 (US 85006) (A); Bonhomme WD, 31:10-34:17.

3169. Under the heading "How Marlboro Ultra Lights Were Positioned," the report stated: "The following is a description of a brand image developed from the discussions [with consumers] in all three groups: . . . Safer cigarette–less tar and nicotine . . . Probably a better/innovative filter." The report further stated: "With regard to smoker image, respondents suggested: . . . People cutting down for health reasons/people trying to quit. More concerned people (about health). More aware people (those reading the numbers in the ads)." 2041097977-7999 at 7987 (US 85006) (A).

3170. On May 1, 1989, Philip Morris began test marketing Marlboro Ultra Lights, which it positioned as delivering 6 mg. of tar (per the FTC Method). In a February 8, 1989 internal Philip Morris memorandum, Richard Camisa delivered to colleagues at Philip Morris the "Marlboro Ultra Lights Marketing Plan Overview." The overview set forth the target audience for Marlboro Ultra Lights, noting that "[c]onsumer research suggests that there are vast numbers of smokers, including Marlboro smokers, who are seeking lower tar but who are also unwilling to sacrifice flavor and/or smoking satisfaction in return. The opportunity for Marlboro lies in its ability to offer smokers the lower tar they seek with less trade off in taste." 2070624747-4763 at 4748 (US 22014) (A).

3171. The document further stated: "A blue/gray pack with white tipping. . . provides traditional ultra low tar reassurance." Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified that "low tar reassurance," as used in the document, referred to the fact that:

> Within the context of selecting a pack color for Marlboro Ultra Lights there was discussion about what pack color would make it readily apparent that the brand was an ultra low tar. Many of the lights and low tar products used blue packaging as a signal of being lower tar, so there were discussions about making sure that advertising and packaging easily communicated that Marlboro Ultra Lights was an ultra low tar.

2070624747-4763 at 4748 (US 22014) (A); Jeanne Bonhomme WD, 64:1-6.

3172. Philip Morris conducted research to determine how cigarette pack and tipping color influenced consumer perceptions of Marlboro Ultra Lights' strength and tar level. In a June 25, 1990 memorandum from Jeanne Bonhomme, then a contract consumer marketing researcher for Philip Morris, to Richard Camisa, entitled "Marlboro Ultra Lights Portfolio Test," Bonhomme reported the results of a cigarette ad pack test conducted on consumers for Marlboro Ultra Lights. Bonhomme reported that for consumers tested, "[p]redictably, expectations about [Marlboro Ultra Lights'] strength and tar level were influenced by the pack and tipping color. Red/Cork was viewed as being strongest tasting and higher in tar than the two white tipped options, particularly Blue/White." 2070197338-7340 at 7338 (US 40255) (A); Bonhomme WD, 21:4-22:4.

3173. A February 16, 1990 interoffice memorandum from Nancy Lund, former Marlboro Brand Manager, to David Dangoor, Senior Vice President of Marketing for Philip Morris, discussed a testing plan for Marlboro Ultra Lights. Lund wrote: "[a]ccelerated category growth could result from heightened health/social concerns and/or a marketplace destabilized by the introduction of a revolutionary product." 2041268603-8605 at 8603 (US 37934) (O).

3174. A November 15, 1990 interoffice memorandum from Richard Camisa to Nancy Lund, entitled "Nashville Focus Groups Top-line Report," noted that, from the Nashville focus group, "[c]learly, MUL [Marlboro Ultra Lights] is a brand for smokers looking to quit, cut down,

and/or otherwise concerned about health." 2062149029-9032 at 9029 (US 39406) (O).

3175. An internal Philip Morris memorandum dated May 7, 1996 from Natalie Ellis and Urvashi Kohli revealed that Philip Morris was aware that consumers believed ultra light cigarettes had poor flavor and that Philip Morris feared that introducing an ultra light would weaken consumers' perceptions of Marlboro as being a flavorful cigarette brand. The memorandum, entitled "Marlboro Ultra Lights Image Risk Study," summarized the results of an attached consumer research study conducted to determine the impact of the national launch of Marlboro Ultra Lights on Marlboro Red and Light brand images. Susan Norris, a fifteen-year Philip Morris employee who served as Brand Manager for Marlboro from 1995-1999 and was heavily involved in creating the marketing for the national launch of Marlboro Ultra Lights, testified that the research study was conducted because the Marlboro brand group "wanted to make sure that having a low tar brand available from Marlboro didn't change people's, you know, perception, belief, that now – that Marlboro has less flavor. They just didn't want to have any negative impact on consumers' understandings/perceptions that Marlboro stood for flavor." 2063716549-6549 (US 27140) (A); 2063716550-6586 (US 27141) (O); Norris PD, United States v. Philip Morris, 7/31/03, 96:14-98:19; 100:20-101:23; 102:19-102:25; 105:3-105:22; 106:19-107:10; 161:9-165:8.

3176. An internal Philip Morris cover memorandum dated August 19, 1996 from Natalie Ellis and Urvashi Kohli delivered a June 1996 presentation entitled "Marlboro Ultra Lights: A History" to a distribution list of Philip Morris employees, including Norma Suter Drew, then Director of New Products for Marlboro. In discussing the results of qualitative research conducted to determine consumer perceptions of Marlboro cigarette packages, the study reported that "[c]olor has a huge impact on perceptions of product strength," with the "[r]ed pack

considered the strongest and closely associated with Marlboro Red," the "[b]lue pack viewed as the mildest and consistent with an Ultra Light," and the "[g]old pack seen as positioned between red and blue and closer to lights." The Marlboro Ultra Lights study concluded that "[b]oth before and after trial, Blue/white better communicated the brand's taste and tar positioning to Ultra Light smokers." 2071535027-5090 at 5033, 5043 (US 22020) (A).

3177. Marlboro Ultra Lights was launched nationally on January 28, 1998, and Philip Morris continues to market and sell Marlboro Ultra Lights to this day. Susan Norris testified that Philip Morris targeted **all** Marlboro smokers with Marlboro Ultra Lights, not just current low tar smokers. Norris PD, United States v. Philip Morris, 7/31/03, 132:17-23, 162:6-165:8, 121:13-125:11; Bonhomme WD, 34:15-17.

3178. Marlboro Medium. In June 1991, Philip Morris launched Marlboro Medium, a lower tar line extension of the Marlboro brand. Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified that the target consumer for Marlboro Medium was a full flavor smoker who wanted a lower tar cigarette. Bonhomme WD, 17:20-22.

3179. A September 1991 Philip Morris document entitled "Background Information on PM Brands" stated that Marlboro Medium was aimed at "consumers still looking for a satisfying low tar cigarette with flavor." 2070143190-4433 at 3206 (US 27257) (A).

3180. Philip Morris's November 1994 continuous smoker tracking survey (a random smoker phone survey Philip Morris has conducted continuously since the 1980s) provides an example of how Philip Morris targeted health-conscious smokers by promoting low tar cigarettes as less harmful. The document stated that male smokers of Marlboro Medium age 18-24 "need affirmation as smokers" and may be candidates for ultra lights. In this survey, Philip Morris created a profile of 18-24 year old male Marlboro Flavor Low (Marlboro Medium) smokers as

individuals who are less comfortable with smoking, feel pressure to quit, and do not enjoy some of the "image benefits" to the same degree as other smokers. The Marlboro Flavor Low (Marlboro Medium) male smokers age 18-24 are more likely to cite the low tar level as influential in determining their regular brand. 2048735500-5604 at 5562, 5543, 5548-5549 (US 21971) (A).

3181. A December 1994 report entitled "Report for a Concept Test for Marlboro Medium in Saudi Arabia," prepared for Philip Morris by Pan Arab Research Center W.L.L. found:

> Brand switching within the Marlboro family from the regular to the lights version, has been initiated due to a combination of health factors and the need for a lighter cigarette. In particular, Marlboro lights has been chosen because it is less harsh on the chest.

2501130255-0360 at 0287 (US 45898) (A).

3182. An internal February 10, 1995 Philip Morris memorandum from Marian Wood to Tom Keim, entitled "Marlboro Medium Brand Imagery," revealed that in 1991, Philip Morris spent $50 million on advertising for Marlboro Medium, 36% of Marlboro's total advertising budget for that year. 2063731689-1710 at 1695 (US 79820) (A).

3183. Philip Morris continues to sell Marlboro Medium. Bonhomme WD, 20:1-2.

3184. Parliament. Philip Morris marketed the Parliament brand as a low tar brand featuring a "recessed" filter. A Philip Morris document entitled "Background Information on PM Brands," dated September 1991, stated:

> It was during the proliferation of filtered cigarettes in the 1950's that Philip Morris gave Parliament its hallmark of today – the recessed filter. Unlike ordinary filter tip cigarettes, Parliament's famous recessed filter kept tar from touching the smoker's lips. Since the addition of this unique filter, Parliament smokers have enjoyed their brand's approach to smoking: clean, sophisticated, and distinctive. In 1979, Parliament's name was changed to

> Parliament Lights. This change reflected the brand's low tar status and helped capitalize on a growing low tar trend.

A "Benefit Statement" in the document was: "Parliament Lights – since tar on the filter tip never touches your lips, the taste is refreshingly light." 2070143190-4433 at 3217-3218, 3222 (US 27257) (A).

3185. A 1975 Parliament advertisement in Sports Illustrated magazine stated that, although cigarette holders gave "cleaner taste," there was "[n]o need for a cigarette holder today. Parliament's filter is recessed, so you taste only rich, clean tobacco flavor. It's the neatest trick in smoking." (US 4709) (A); see also (US 4885) (O) (1975 Parliament advertisement featuring recessed filter).

3186. A 1977 Parliament advertisement in Cosmopolitan magazine stated: "As you smoke, tar builds up on the tip of your cigarette filter. That's called 'filter feedback.' Ordinary flush-tipped cigarettes put that tar build-up against your lips. And that's where Parliament has the advantage. Parliament's filter is recessed to keep tar buildup from touching your lips." ADV029 0247-0249 (US 10614) (A); Bonhomme WD, 35:5-19.

3187. As noted in the 1981 FTC Report on cigarette advertising, Philip Morris's Parliament advertisements from the time period preceding the Report (i.e., late 1970s – 1981) implied that its "**special filters minimize the risks of smoking**." FTC, 1981 Report at 2-12 (JD-004744) (A) (emphasis added).

3188. Jeanne Bonhomme testified that although the recessed nature of the filter did not further reduce the tar delivery or make the cigarette any less harmful, she could "recall learning that some consumers believed that a recessed filter produced a cigarette that was better for you because it reduced tar and less tar was perceived to be less of a health risk." Indeed, a November 23, 1988 Philip Morris USA memorandum co-written by Bonhomme and Karen Eisen, with the

subject heading "Parliament Super Lights In-Depths," stated "[f]or many, the recessed filter implied a health benefit – 'keeps tar away.'" Bonhomme WD, 34:18-35:1; 35:20-36:15; 2071388176-8178 at 8178 (US 40452) (A).

3189. An April 12, 1995 Philip Morris memorandum from Lauren Herman to Shelby Rafferty, former Parliament Brand Manager, entitled "Parliament Menthol Research - Summary," reported consumer marketing research findings intended to "understand the awareness, attitudes and perceptions that white menthol smokers had toward light menthol cigarettes in general and Parliament in particular." In the memorandum, Herman reported to Rafferty that: "Approximately 4 in 10 of the smokers said they knew what a recessed filter was. There was a variety of perceptions regarding what a recessed filter is; however, the benefit most often associated with a recessed filter was lower tar levels. About one-quarter of these smokers, in total, had tried a recessed filter." 2063709250-9252 at 9250 (US 27136) (A) (emphasis in original).

3190. A Philip Morris document entitled "Parliament Menthol Lights Update, NPC Meeting March 27, 1996" stated that the marketing objectives of Parliament Menthol Lights advertising included: "Communicates low tar." 2072651442-1456 at 1448 (US 27339) (A).

3191. A Philip Morris presentation from January 1997 entitled

2080490776-0774 at 0779 (US 77751) (Confidential) (A).

3192. Philip Morris Research On the Low Tar Cigarette Category. Internal Philip Morris documents reveal that Philip Morris conducted consumer marketing research not just on

individual low tar cigarette brands, but on low tar cigarettes as a category. These documents reveal that Philip Morris has long known and intended that its advertisements and marketing for low tar cigarettes, featuring claims of lowered tar and nicotine and "light" and "ultra light" brand descriptors, contributed to and reinforced consumers' mistaken belief that low tar cigarettes are better for their health, and caused consumers to smoke them for this reason. For example, a July 24, 1958 Philip Morris memorandum from C.V. Mace to Dr. R.N. DuPuis, entitled "Brief comments on a program to produce a low delivery filter cigarette with flavor," proposed a push for developing a "low delivery cigarette having good flavor." The memorandum stated:

> I'll bet that the first company to produce a cigarette claiming: a substantial reduction (say 50% less than the present Parliament and Kent) in tars and nicotine, or an ersatz cigarette whose smoke contains no tobacco tars, and with good smoking flavor, will take the market. Further, if he has the intestinal fortitude to jump on the other side of the fence (provided he has some convincing experimental evidence to back him up) on the issue of tobacco smoking and health, just look what a wealth of ammunition would be at his disposal. Of course, we would have to be careful to infer that the reason for the change in dress was the continuing evidence linking cigarette smoking with health, and that although the evidence is not altogether irrefutable we have decided upon this course of action in the public interest. **In this way, we have protected our bridges behind us because we have not admitted there is a direct relationship between smoking and health, and we are building new bridges ahead which we will need if there is a flood, but which we will not need if there is no flood**. In other words, we are planning for the worst; and in the event it proves unnecessary in the future, the experience gained should be useful for other purposes.

1001920356-0357 at 0357 (US 85007) (O) (emphasis added).

3193. A June 1966 Philip Morris report prepared by researcher Myron E. Johnston, Jr. for Helmut Wakeham and others, entitled "Market Potential for a Health Cigarette," stated:

> Available evidence from surveys shows conclusively that smokers are concerned about the relationship of cigarette smoking to health but that they do not want to quit smoking. They are, however,

> changing their smoking habits, generally toward higher filtration, even at the expense of a loss of some tobacco flavor. That these changes are health motivated is clear from the timing of the shifts: The boom in filters came on the heels of the first health scare, and the Surgeon General's Report stimulated the shift to charcoal filters.

As expert historian Dr. Allan Brandt testified: "The public had been conditioned to accept the filtering effects of charcoal in other fields, and when charcoal was added to cigarette filters it proved to be an effective advertising gimmick." 1001913853-3878 at 3858-3859 (US 20123) (A) (emphasis added); Brandt WD, 135:15-136:11.

3194. Nancy Lund, Senior Vice President of Marketing at Philip Morris, testified in 2002 that Philip Morris was aware in the 1970s and 1980s that some consumers believed that light/low tar cigarettes were safer than full-flavored cigarettes. Lund further testified that, during this time period, Philip Morris marketed such cigarettes to these consumers and profited from those sales. Brennan-Lund PD, Price, 9/20/02, 158:6-161:15.

3195. James Morgan testified in 2002 that the trend in the 1970s toward low tar cigarettes was due in large part to consumer perception that they were less hazardous to health than higher tar cigarettes, specifically admitting that "the consumer was perceiving in the 1970s lower tar as tied to less hazardous." Although Morgan conceded that "we were aware of that," he testified that, despite being armed with this knowledge, Philip Morris took no additional steps to counter that mistaken perception. Morgan PD, Price, 6/5/02, 42:16-42:25; 43:2-43:25; 44:2-44:25; 45:2 - 45:25; 63:10-63:25; 64:2-64:25; 65:2-65:21; 1004888470-8484 (US 85009) (A); 502641641-1646 (US 85008) (O).

3196. A May 1976 study prepared for Philip Morris by The Roper Organization, entitled "A Study of Smokers' Habits and Attitudes With Special Emphasis on Low Tar Cigarette," stated:

> [T]his study shows that the smoking public is convinced that to the extent any brands are better for health, it is the low tar brands that are. . . Low tar brand smokers cite as the most liked characteristic of their brand . . . as compared with smokers of flavor filters, they say it is '**better for your health**' and cite its 'more effective filter.' . . . **Brands Thought Better For Health – The low tar brands have cornered opinion that to the extent any brands are better for your health, they are**. . . Three in ten of all smokers said some brands were better for health than others, and almost half of the low tar brand smokers said this. . . . Furthermore, it is the lower tar content of these brands that make people say they are better for your health.

2024921314-1612 at 1333, 1348, 1352-1353 (US 20403) (A) (emphasis added).

3197. A January 1979 study prepared for Philip Morris stated:

> **These ultra low tar smokers indicated that they are aware of the low tar levels in their brands and that they switched to them specifically because of advertising calling this fact to their attention** . . . As lower and lower tar brands become available, it would appear smokers are subject to advertising pressure and brand availability, and the opportunity for switching obviously occurs. . . Characteristics of ultra low tar smokers were: people who want to quit . . . more interested in health. . . When asked how they happened to switch to the brand they are now smoking many of the Carlton smokers cited advertising and tar and nicotine ratings. . . . When Carlton ads were shown in the groups, it was obvious that most respondents had seen them and were aware of the copy claims. It was these claims and other Carlton ads to which smokers referred prior to exposure and when discussing the fact that advertising had been one of the factors causing them to try the brand. **This would seem to indicate that ultra low tar smokers are paying attention to and being attracted by the advertising**. Respondents . . . appeared to react favorably to the Triumph ads. They said that 3 mg. tar was within the ultra low tar range implying that it represented a safer cigarette.

2040066740-6766 at 6747, 6748, 6751-52, 6754, 6756, 6757 (US 20435) (O) (emphasis added).

3198. A Philip Morris document circa 1979 prepared by Judy John and Helmut Wakeham and entitled "Breakthrough of the High Taste, Low Tar Cigarette: A Case History of Innovation," stated that the cigarette companies' "emphasis on low-tar products is the result of

consumer demand spurred at least in part by the smoking and health controversy." 1000208603-8625 at 8604 (US 85010) (O).

3199. A March 1979 report prepared for Philip Morris, entitled "A Study of Smokers' Habits and Attitudes With Special Emphasis on Low Tar and Menthol Cigarettes," stated:

> **The appeal of low tars is simple and single–better for you, less harmful, easier on the lungs, throat, etc.** The weakness or objection to low tars is also simple–tasteless, lacking in satisfaction, and the related factor of hard to draw on. At the same time **there is clear evidence that if the appeal–safety–is strong enough, people can over time grow used to, and in some cases come to actually like, the main objection to low tars–low taste**.

2049455309-5318 at 5315 (US 22218) (A) (emphasis added); Bonhomme WD, 25:15-26:14.

3200. A June 1979 draft report prepared for Philip Morris by Goldstein/Krall Marketing Resources, Inc. entitled "Smokers' Reactions to an Ultra Light Brand Extension for Marlboro, stated, under the heading "Awareness of Tar and Nicotine Levels":

> One of the points on which respondents were probed when first shown the array of packs used as stimuli was their awareness of tar and nicotine levels for the brands. While most smokers in the groups could not give correct tar figures for each brand, they seemed to know a general range in which brands fell . . . . **Respondents attributed their knowledge . . . to advertising. Evidently, the heavy weight of advertising concentrated against tar claims has penetrated these various groups of smokers to some extent**.

2041097977-7999 at 7990 (US 85006) (A) (emphasis added).

3201. A January 23-24, 1984 report by employees in Philip Morris's Product Evaluation Division, entitled "Product Testing Short Course," noted, after reciting how public dissemination of reports linking smoking as a cause of disease affected sales, that smokers' "susceptibility to **our traditional response to anti-smoking publicity – lower tar** – is . . . decreasing." Dr. Dolan explained that this document "shows that Philip Morris regarded low tar brands as a way to deal

with negative information about the effects of smoking." 202028817401-7576 at 7506 (US 20016) (A) (emphasis added); Dolan WD, 122:12-20.

3202. A July 27, 1987 Philip Morris Asia letter from Joe Tcheng to Cecil Yow stated: "The mild/lights segment is the fastest growing segment in the Hong Kong market. . . . There is definitely a growing health consciousness in the market due to regular Government anti-smoking campaign. . . . **Research shows that Lights = Mild = Less Harmful**. Government's anti-smoking measures will intensify and . . . . [t]his may further increase health concern and it is very likely that the mild/lights segment will continue its rapid growth." 2504046594-6601 at 6594 (US 85012) (A) (emphasis added).

3203. An August 13, 1987 research report prepared for Philip Morris by Leo Burnett entitled "Marlboro Ultra Low Tar Campaign Strategy," observed that "[l]ights smokers perceive current Ultra Low Tar smokers as: ‘a chronic smoker who's noticed a smoker's cough'." The report also found that smokers primarily try Ultra Low Tar cigarettes due to "health concerns = downswitching." 2049437636-7689 at 7666, 7678 (US 38741) (A).

3204. A February 12, 1988 Philip Morris USA memorandum from L. Suwarna to D.E.R. Dangoor, stated: "[T]he combination of increased consumer demand for 'safer' cigarettes with a technological breakthrough delivering acceptable tasting filter cigarettes led to the transformation from non filter to filter cigarettes." 2043876284-6291 at 6285 (US 26943) (A); Bonhomme WD, 54:2-12.

3205. A circa 1990 Philip Morris transcript of a conversation between Richard Carchman and John Tindall acknowledged that Philip Morris had used filters and claims of low tar as health reassurance mechanisms and that cigarette sales were tied to health concerns. Tindall stated:

> [T]he things that happened in the market in the past I put under basically three groups. One has to do with **people's health concerns which we addressed first through filters and then through low tar and ultra low tar**. . . . The main thing that has happened in the market over which we have some control is that we have addressed peoples' health concerns through the number of steps I have mentioned. . . . the[re] are opportunities in the market now in the area of smoking and health. People's perceptions of cigarettes with regard to their effects on them. . . . [I]f **we are going to do something significant enough to possibly even reverse the declining sales in the market, we're going to have to make advances in the area of people's health**.

2023148544-8550 at 8545-8546 (US 85098) (O) (emphasis added).

3206. A Philip Morris document circa 1990 relating to "New Brand Development" in Pakistan revealed Philip Morris's knowledge that cigarette packaging can communicate "mildness" to consumers anxious about the "health/safety issue":

> There was little doubt that the pack design with its reliance upon the central gold panel against a white background effectively projected the impression of a very mild cigarette. . . . The evidence as a whole seemed to indicate, in fact, that anxiety about the health safety issue had not yet reached the level where avowedly very mild cigarettes . . . could expect an extensive franchise. . . . Over time, anxiety levels would rise, as they have done in other markets and when this happened mild/light brands . . . would begin to achieve respectable sales.

2504008471-8519 at 8478, 8518 (US 85013) (A).

3207. A February 12, 1991 Philip Morris marketing research department report described the smoker profile of a Marlboro Extra Lights smoker as close to that of a traditional low tar smoker, which included "Health Conscious Smokers." 2041497481-7503 at 7485 (US 22145) (A).

3208. A September 26, 1991 research report entitled "Qualitative Research on Menthol/Nonmenthol Smokers," prepared for Philip Morris by the research firm ASI Market Research (Japan), indformed Philip Morris that the ideal cigarette for both menthol and

non-menthol smokers would present no risk or minimal risk to health. 2057096412-6532 at 6526, 6528 (US 87881) (A).

3209. Philip Morris USA's 1992-1996 Strategic Plan for Research and Development stated, under the heading "Perceived Health Concerns," that: "An analysis of the cigarette market over the last 50 years suggests that there have been only two major influences on smokers buying patterns; namely smokers seeking to address their perceived health concerns and smokers seeking price relief." The document further stated:

> The development of products which address perceived health concerns . . . is very much an R&D issue. **Previous product changes driven by 'perceived health concerns' were the growth of filtered products from 3 to 70% of the market between 1945 and 1953, and the growth of the low tar segment to nearly 50% of the market by 1985**. . . . Filtered cigarettes now make up over 96% of the market.

2021529528-9638 at 9608 (US 85084) (A) (emphasis added). Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, referring to this document, testified: "I assume that Philip Morris's management would have been aware of its contents." Bonhomme WD, 54:2-55:12.

3210. An internal August 30, 1994 Philip Morris memorandum from Jeanne Bonhomme, then Manager of Marketing Research, to John Heironimus, entitled "Motivations for Merit and Low Tar In-Switching," examined reasons why consumers "switch down" to lower tar cigarettes. Reasons identified by Bonhomme included "[m]aking a responsible choice" and "thinking to the future." At trial, Bonhomme explained her reference to making responsible choices: "What I was referring to was the notion among some smokers that low tar cigarettes were a better choice, that they were healthier." 2071535456-5469 at 5456 (US 22021) (A); Bonhomme WD, 25:2-6.

3211. Faxes dated November 17, 1994 and December 7, 1994 from Thomas R. Keen of

the consumer research company Censydiam USA to Marian Halpern, an employee in the Philip Morris consumer marketing research department, described an agreement with Philip Morris whereby Censydiam would produce "write-ups" to Philip Morris on consumer "trends," including, among others, "Health & Fitness," "Delusions of Youth & Beauty," "Dieting Dilemma," and "Quality of Life." A November 14, 1994 fax from Censydiam USA to Philip Morris advised that with respect to the "Health & Fitness" trend: "Outside pressures have made consumers more concerned about health and fitness. They are interested in finding 'user friendly' ways of making their lives healthier without making dramatic changes in their current lifestyles." As examples of the consumer health trend, the document noted increased consumer interest in package labeling that included references to "low/no fat/salt" and "all natural," as well as an increase in the sale of products considered "good for you" such as fruits and vegetables. A 1994 Strategic Trend Analysis prepared for Philip Morris by Censydiam USA illustrating the "Health & Fitness" trend recognized how Defendants had capitalized on this trend, noting that: "Implications for Tobacco Companies: While **the trend toward health and fitness is still alive**, it has tapered off from its rage in the 1980's. The 1990's focus on moderation. The **importance of low/ultra low products should continue in the near future**." 2063704131-4132 (US 39829) (A); 2063704088-4091 at 4090-4091 (US 39827) (A); 2063704135-4136 (US 27135) (A) (emphasis added).

3212. In a March 26, 1996 memorandum, Shari Teitelbaum, a consumer researcher for Philip Morris, delivered to Jodi Sansone, then Brand Manager for Merit cigarettes, a consumer research report commissioned by Philip Morris to "gain an understanding of consumers perceptions of the lowest category, as well as the motivations and wants of smokers of Carlton, Now, and Merit Ultima, and potential down-switchers to this category." One of the "Key

Findings" of the report was that:

> Consumers do not appear to be generally aware of the lowest category as we define it. Few were able to discuss specific tar levels of their cigarettes. . . **Consumers tended to use the words light or lower when discussing tar levels of their brands**.

2045628312-8328 at 8312 (US 22217) (A) (emphasis added).

3213. A May 1996 research report prepared for Philip Morris by the Sun Research Corporation, entitled "Highlights of 17 Triads with Potential In-Switchers, Merit Ultima and Carlton/Now Smokers," was intended in part to "[b]etter understand the wants, motivations, and decisions of potential downswitchers about what they seek in the way of taste, lightness, and brand imagery for a lowest tar brand." The report hypothesized that "[p]otential in-switchers seem very far from actually switching to a lowest tar cigarette although they say they are 'definitely' or 'probably' interested. They <u>say</u> they are concerned about perceived health issues." The report found that "[e]ach potential in-switcher had a rationale for their particular choice in a light brand, believed that it was lighter . . . perceived to be better for them . . . than the brand they had previously smoked." 2048941177-1201 at 1180, 1183, 1187 (US 38731) (A) (emphasis in original).

3214. A September 10, 1999 Davis Polk & Wardell memorandum to Mark Berlind of Philip Morris includes "a series of questions that might arise, as well as possible answers, relating to low delivery cigarettes and brand descriptors." In answer to the question "If the brand descriptors do not indicate what smokers actually inhale or serve as a point of comparison among competing brands, what purpose do they serve?," the memorandum's proposed response states that Philip Morris's brand descriptors **do** communicate that Philip Morris's lower tar brands deliver less tar and nicotine than full-flavor brands: "For example, the 'Lights' in Marlboro Lights indicates that the smoke yields for Marlboro Lights is lower than that for Marlboro, and Marlboro

Ultra Lights delivers less smoke 'tar' and nicotine than Marlboro Lights." 2072675414-5417 at 5415 (US 27347) (A).

3215. This document's proposed response to a question as to whether "Philip Morris ever intend[ed] to or propose to take advantage of" the "perception" of consumers that "lower-yielding brands [are] 'safe' or 'safer' than full-flavor brands" reveals that Philip Morris has intended to take advantage of the perception that lower-yield brands are safe or safer: "Philip Morris has never**[?]** intended or proposed to take advantage of this perception. (although **over time various individuals in the Company may have suggested that the Company do so**)[.]" 2072675414-5417 at 5415-5416 (US 27347) (A) (emphasis added – bracketed material in original).

3216. Ellen Merlo, then Senior Vice President of Corporate Affairs at Philip Morris USA, testified in 2002 that, notwithstanding the placement of the Surgeon General warning on cigarette packs, some people were smoking low tar cigarettes because they thought they were better for their health. Merlo PD, Price v. Philip Morris, 10/2/02, 159:7-18; 160:13-24.

3217. As to whether Philip Morris took advantage of the situation (that smokers switched to low tar cigarettes under the mistaken perception that they are healthier and whether Philip Morris profited from the misperception), Nancy Brennan-Lund gave the following testimony in a 2002 deposition: "[D]id we take advantage of the fact that people wanted low tar cigarettes, the only answer I can give is yes, we did." Brennan-Lund PD, Price, 9/20/02, 160:18-161:15.

(ii) R.J. Reynolds

3218. Camel. Camel Lights advertisements in 1978 used the slogan "Introducing the solution," representing Camel Lights as the solution to the problem "[e]verybody knows," i.e.,

that low tar cigarettes do not have an acceptable taste (1978, Penthouse magazine: "New Camel Lights Introducing the solution."); ("Introducing the solution. New Camel Lights. Everybody knows the problem [referring to poor taste of low tar cigarettes]. Now Camel Lights has the solution."). (US 5872) (A); (US 87195) (A); (US 87192) (A); (US 87204) (A); (US 5709) (A); Orlowsky WD, 87:22-89:16.

3219. Camel Lights advertisements in the 1980s continued to promise the "solution" of low tar cigarettes that provided "[s]atisfaction" by containing acceptable "taste," which was lacking in low tar cigarettes:

> 1980: "Discover Camel Lights. Satisfaction. Low tar."
>
> 1980: "Discover satisfaction. Camel Lights. The Camel World of satisfaction comes to low tar smoking. . . . Camel Lights brings the solution to taste in low tar."
>
> 1981: "Camel Lights. Low tar. Camel taste."
>
> 1981: "Camel Lights. . . . Same low tar, same Camel taste."

519315781-5797 at 5788-5789, 5792-5793, 5795, 5796 (US 79583) (A).

3220. In the 1990s, RJR used slogans such as "GET ULTRA" to advertise its Camel Ultra Lights brand. 970469347-9474 at 9442 (US 85104) (O) (circa 1991 Camel "GET ULTRA" advertisement).

3221. RJR's 1994 marketing research on Camel Special Lights advertising ("Concept #17: The Special Lights Filter. Takes out impurities other filters can't touch") included the following statements from smokers that the advertisement conveyed to them:

- "It sounds like it's taking the poison out of the cigarette."
- "Takes out the impurities–makes it sound like a healthier cigarette."
- "The special filter would clean the cigarette and make it a healthier cigarette to smoke."

- "It makes me feel I can enjoy smoking without harming myself because the filter takes out impurities. It sounds safer to smoke."
- "[I]t's safer for you."
- "Sounds like it would save your lungs."

509619620-9625 at 9620, 9622, 9624, 9625 (US 85015) (O).

3222. Doral. RJR marketed Doral as a low tar cigarette brand in the 1970s. A January 1972 Doral advertisement in Newsweek magazine stated: "Doral, the low 'tar' and nicotine cigarette. . . [t]he filter system you'd need a scientist to explain. . . But Doral says it in two words: 'taste me.'" (US 87452) (O); Schindler WD, 68:12-13.

3223. A June 1975 RJR Doral advertisement in Sports Illustrated magazine implied a health benefit to smoking low tar cigarettes by analogizing them to a "Doral Diet." The advertisement, depicting a man lighting a cigarette, stated:

> "How I lost 700 mg. of 'tar' the first week . . . without losing out on taste. I'm not too big in the willpower department. But I lost 700 milligrams of 'tar' the first week on what I call 'The Doral Diet.' Now I can still enjoy smoking, and cut down on 'tar' and nicotine, too. . . . For a pack a day smoker like me, my Doral Diet really ads up."

(US 4746) (A); Schindler WD, 68:14-69:9; 03496228-6630 at 6329 (US 20057) (O).

3224. A June 24, 1975 advertising research report for the Doral "Diet Filter" advertising campaign prepared by Reynolds's Marketing Research Department and "conducted to aid in evaluating six 'Doral Filter' executions in recall impact and communication," recorded smokers' impressions and perceptions of Doral advertisements. The research report also noted that respondents, when asked about a specific "Doral Diet" advertisement, indicated that they believed that it promoted the notion that Doral cigarettes, because they were low tar, were healthier to smoke than other cigarettes. Consumers had the following perceptions of the

campaign:

"The ad said something about a diet of tar and nicotine. My impression was that they had less tar and nicotine than other brands. **The main idea was that they're better for you because of the cut-down in tar and nicotine**." (Id. at 7581).

"My impression was that they claim it's safer to smoke Doral than other cigarettes." (Id. at 7585).

"My impression was that it's worth a try if it is healthier for me." (Id. at 7585).

"The main idea was that it would be better to smoke it because it's lower in tar." (Id. at 7586).

"The main idea was that it's safer to smoke." (Id. at 7586).

"I got the impression that they want you to switch to Dorals and save your health." (Id. at 7587).

"They brought out the idea that it might be a good cigarette to try if you're worried about the amount of 'tar' and nicotine your lungs are absorbing. The main idea was to save your health, but if you still want to smoke, smoke Doral." (Id. at 7588).

"It showed a man sitting in a chair and lighting up a Doral. It said that it had less 'tar', but the taste didn't change. **The impression it brought out was just the fact that it's a safer cigarette for your health**, if you have to smoke. They were trying to get across that it has less 'tar', and is still as good in taste as the other cigarettes." (Id. at 7591).

"Nothing was brought out except, I guess, if you have to smoke, you should choose a low 'tar' cigarette for health reasons." (Id. at 7592).

"The main idea was that it's less dangerous to your health than any other cigarette." (Id. at 7593).

"The main idea was that you would get as much satisfaction, and it wouldn't be as bad for you." (Id. at 7595).

"The ad said it is lower in tar; therefore, it is healthier. **The idea brought out was it would be a safer cigarette**. The main point was it is healthier to smoke, since it is lower in tar." (Id. at 7599).

"The ad showed a man with a cigarette. It's a small black and white picture surrounded by writing. There's a pack of cigarettes. The ad said that this man lost so many mg. of tar on his Doral Diet. My impression was that by smoking Doral, you are taking in less harmful tar. **The main idea of the ad was to try a healthier smoke, try the Doral Diet**." (Id. at 7600).

"The main idea they were trying to get across was they're better for your health." (Id. at 7603).

"The main point of the ad was that they were safer for your health because of lower tar and nicotine." (Id. at 7607).

"A man was smoking a cigarette. The ad said that Doral is lower in tar and nicotine than any other cigarette. The impression that came across was that they would be less harmful if you smoked them. There's a lower tar and nicotine count. **The main idea of the ad was that smoking Doral is better for your health**." (Id. at 7608).

"Their main idea was that they would still taste good, but they're low in tar and nicotine and would consequently be better for you." (Id. at 7611).

"The main idea was you have less chance of danger to your health with Doral than another brand." (Id. at 7613).

"My impression was it's much less of a health risk." (Id. at 7613).

"My impression was that obviously because of dangers, cigarette companies are starting to cut down on tar." (Id. at 7614).

"The main point was it's safer because you take in less tar." (Id. at 7617).

The pitch was if you smoke Doral, you may have better health." (Id. at 7618).

"It gave me the idea if you are conscious of your health, you should smoke these." (Id. at 7619).

"The main point was that it's a healthy cigarette to smoke compared to other cigarettes." (Id. at 7620).

501457575-7706 at 7576 (US 22150) (A) (emphasis added); Schindler WD, 69:14-71:21.

3225. Two months after this Doral Diet research report, RJR placed another Doral Diet

advertisement in the August 4, 1975 edition of Sports Illustrated magazine that doubled the claimed loss of tar – to 1400 mg. – compared to the June 1975 advertisement, (US 4746) (A). The August 1975 advertisement featured the headline: "How I lost 1400 mg. of 'tar' the first week... without losing out on taste." (US 4789) (A); Schindler WD, 72:5-17.

3226. A 1975 study regarding the effectiveness of another Doral advertising campaign found that: "Attitude diagnostics indicated that smokers had no problem understanding the 'Wise Up' campaign. Respondents felt that 'Wise Up's' main point was a low tar and nicotine claim (84%) with some taste mentions (24%)." By way of example, some of the respondents noted:

> "The main idea they were trying to get across was it's less dangerous to the health and better tasting."
>
> "I guess the idea is that Doral is safer to smoke, as it has less tar and nicotine than others."
>
> "My impression was that Doral is less harmful."
>
> "The main idea they were trying to get across was to smarten up because the cigarettes have less tar."
>
> "The main point of the ad was you can have good taste and be a little less harmful, too."

501719738-9761 at 9738, 9748-49, 9752, 9755 (US 22075) (A); Schindler WD, 72:18-73:19.

3227. A July 27, 1976 letter to RJR employee Ed Blackmer discussed Doral's marketing positioning. The letter noted that the "**smoker we are going after must be concerned about the health controversy**. It is understood that we cannot necessarily target our media against 'concerned' smokers, but that this must be accomplished via creative. Nevertheless, we believe it is an important factor in further 'segmenting' our target audience." 50224143-4151 at 4147-4148 (US 22103) (A) (emphasis added).

3228. In discussing a Doral 4 advertising research proposal in June 1977, the copy

strategy was described as: "Convince the Prime Prospect that new Doral 4 is the solution to his concern about the smoking controversy because it offers the optimum combination of ultra-low tar and taste satisfaction." As a result, the advertising was to be addressed to smokers "seriously concerned about the alleged hazards of smoking," and who, "because of [their] concern, seek[] one of the lowest tar levels available (or an ultra-low level)." 501533008-3011 (US 22107) (A); Orlowsky WD, 69:1-23.

3229. Vantage. Martin Orlowsky, former Executive Vice President of Marketing and Sales for RJR, testified that RJR's advertisements for Vantage were targeted toward smokers who, due to their concerns about health risks, were seeking a low-tar cigarette. Orlowsky TT, 10/13/04, 2288:24-2289:19.

3230. Vantage advertisements from the 1970s used purported testimonials characterizing Vantage as delivering low tar to smokers and thereby reducing the health risk from smoking:

1972: "Why I smoke Vantage. I read the papers. I watch TV. I hear the things some of them are saying about smoking. . . . And then, frankly, all that the critics say about 'tar' and nicotine has to make an impression. Fact is, **they don't make me feel guilty about smoking Vantage**." (US 3683) (A) (emphasis added); Biglan WD, 377:12-379:22.

1977: "**Smoking. Here's what I'm doing about it** . . . . like a lot of people I'm . . . aware of what's being said [about the harm of cigarette smoking]. And like a lot of people I began searching for a cigarette that could give me the taste I like with less tar . . . . Vantage. It's everything the ads say it is . . . . **What am I doing about smoking? I'm smoking Vantage**." (US 5578) (A) (emphasis added); see also (US 324) (A) (1978 Vantage advertisement in Rolling Stone magazine noting same).

1977: "**Vantage is solving a lot of my problems about smoking**. (US 239) (A) (emphasis added).

1977: "Vantage is changing a lot of my feelings about smoking. . . . I'm not living in some ivory tower. I hear the things being said against high-tar smoking as well as the next guy. And so I started looking for a low-tar

smoke that had some honest-to-goodness cigarette taste. . . . As far as I'm concerned, when I switched to Vantage, I changed to a cigarette I could enjoy." (US 87456) (A).

1977: "My wife got me to switch to Vantage. . . . My wife . . . would remind me of the stories being told about high-tar cigarettes. Well, I began looking into those new low-tar cigarettes. . . . [Vantage] tasted really good and they actually had less than half the tar of my old brand. . . . So now, I smoke Vantage. **I get the taste I want and the low tar** . . . ." (US 87457) (A) (emphasis added).

1978: "'Why I choose to smoke. . . . **I'm not deaf to what's being said about tar. So I searched out a cigarette that would give me taste with low tar**. . . . Vantage has all the taste I enjoy yet, surprisingly, much less tar than my old brand." ADV017 1589-1591 (US 5756) (A) (emphasis added).

1978: "'Vantage gives us more taste and less to argue about. **My husband and I . . . . [are] both aware of the things being said against high tar**. So there we were facing each other every day, smoking our high-tar cigarettes and daring each other to switch to something lower. . . . Today, we both smoke Vantage. **You could say we're getting less tar** and we're getting along – with Vantage." ADV108 0001-0003 (US 87504) (A) (emphasis added).

1978: "These days, why do I smoke? . . . . With all the talk about smoking and high tar, it didn't take much imagination for me to conclude that the cigarette of the future would taste good and probably be low in tar as well. . . . Then I discovered Vantage. It was my kind of cigarette. It gave me taste. Pleasure. And the low tar I was looking for." (US 295) (A).

1979: "New Vantage Ultra Lights. Ultra taste. Never-before, silky smooth, truly satisfying taste – in an ultra low tar cigarette! (And we do mean ultra low. At only 6 mg of tar, it's lower than 90% of all the cigarettes that people buy.) How is it possible? Through a unique blend of very select, very flavorful tobaccos. That's the Ultra Cigarette – new Vantage Ultra Lights from Vantage." (US 6255) (A); (US 6286) (A); Biglan WD, 377:12-379:22.

1988: "Vantage Ultra Lights. How can anything so ultra light taste so ultra good? Find out for yourself. Try a pack today." (US 1613) (A); Biglan WD, 377:12-379:22.

See also Orlowsky WD, 73:1-76:22 (discussing US 5578 (A); 324(A); 239(A); 87456 (A); 87457(A); and 295 (A)); 76:23-77:11 (discussing US 6255 (A)); 77:12-78:21 (discussing US 5756 (A) and 87504 (A)); Orlowsky TT, 10/13/04 2284:14-2285:20 (discussing US 87504 (A)).

3231. Advertisements for Vantage from the 1970s also included the following, which encouraged health conscious smokers to switch to Vantage:

> 1974: "**Maybe the people who criticize smoking should stare the facts in the face. Then they might recommend that if you've decided to smoke, but are concerned about 'tar' and nicotine, you might smoke Vantage**. Vantage offers smokers the rich, tobacco flavor they've come to appreciate. With a substantial cut in 'tar' and nicotine. So if you're one of those smokers who is now deciding between high 'tar' and nicotine cigarettes that taste good, and low 'tar' and nicotine cigarettes that taste like nothing, you might appreciate Vantage . . . **Vantage is both high in flavor and low in 'tar' and nicotine**." 03496228-6630 at 6313 (US 20057) (O) (emphasis added).
>
> 1976: "Are you still smoking? In the years since the criticism against smoking first appeared, many people have given up cigarettes. But many more people haven't. . . . [W]e'd like to talk to. . . . [t]hat even larger group of people who are still smoking today. If you're a smoker, you've probably heard the charges leveled against 'tar' and nicotine. You may have become concerned. And chances are you even tried to do something about it. Like trying . . . low 'tar' and nicotine cigarettes. . . . **Vantage cuts down substantially on the 'tar' and nicotine you may have become concerned about. . . . So, if you still smoke, but would like to cut down on 'tar' and nicotine, Vantage is one cigarette you should seriously consider**."

500713420-3420 (US 48350) (O) (emphasis added).

3232. An internal February 11, 1975 B&W memorandum by "J.V.B." commenting on RJR's Vantage advertisements stated that RJR's advertisement ("Why do you smoke? With what you've been hearing about smoking these days, you probably wonder sometimes why you smoke at all") was "address[ing] the health issue for competitive purposes." 690007757-7760 at 7759 (US 21039) (A).

3233. The foregoing marketing campaigns demonstrate, and an April 19, 1978 memorandum makes clear, that "Vantage has traditionally limited its target market to 'concerned' full flavor smokers." That same memorandum points out, however, that "[m]any current VANTAGE smokers, in an effort to alleviate their concerns for smoking, are switching to lower

tar cigarettes offering compatible taste." 500210073-0075 (US 22108) (A); Orlowsky WD, 70:12-71:6.

3234. In a 1981 memorandum to M.M. Sheridan entitled "Reactions to the VANTAGE/Merit Image Study," K.A. Schmitt reported that, based upon the study, "smokers in our target category have two primary product desires: a lower tar product which addresses their safety/health concerns, and a product which provides taste satisfaction." The memorandum further reported that "VANTAGE is seen as not dealing as directly or effectively with the health/safety concerns of the consumer as Merit. Our current advertising approach focuses much more heavily upon the taste/pleasure aspects of our brand than on the safety/health aspects." As a result, the memorandum recommended that Vantage marketing be modified to better "target" smokers with health concerns: "Perhaps a more balanced approach is needed, both to tone down the perceptions of harshness and to renew the belief that VANTAGE does indeed address the target consumer's health/safety concerns." 523474848-4851 at 4848 (US 22156) (A); Orlowsky WD, 71:15-72:16.

3235. A 1981 RJR marketing document entitled "Vantage Family" discussed a "moderation" smoker, to whom they targeted Vantage Ultra Lights. The "moderation" segment "realizes that there are both positive and negative aspects of smoking, resulting in a desire to resolve the conflict by compromising/moderating on their brand choice." 502177978-8009 at 7981 (US 49058) (A); Orlowsky TT, 10/13/04, 2283:13-2284:13.

3236. An August 1981 consumer research study entitled "Vantage Personalities," prepared for RJR by Social Research, Inc., noted that people in the Vantage target market "have very definite concerns about the alleged health hazards connected with smoking. It is these qualms that have prompted many of them to seek out lower tar brands." That report likewise

noted that the target market "abandoned [] harsher brands in search of milder **brands with lowered tar and nicotine. This movement was almost always prompted by health concerns**. In some cases, people were experiencing actual problems such as coughing, throat irritation, and shortness of breath. Others may not have experienced actual symptoms, but were worried about the publicized alleged health hazards associated with stronger cigarettes." 503148009-8077 at 8006, 8070 (US 22159) (A) (emphasis added); Orlowsky WD, 80:18-81:3.

3237. An April 1982 research study entitled "Vantage and Merit Smokers," prepared for RJR by Social Research, Inc., stated:

> Both Vantage and Merit smokers have similar early smoking histories . . . switching to lighter cigarettes to relieve physical symptoms and as an acknowledgment of increased concerns about alleged health hazards. . . . [quoting a Vantage smoker]: 'They are lighter, lower in tar and nicotine. . . . They are satisfying like a full-tar cigarette, but they are better for my health. . . . The filter seems strong and effective as a trap for 'harmful' ingredients.' Vantage smokers believe that the filter itself is strong enough to catch these impurities. . . . These ideas make them think the end product is a milder and more 'healthful' smoke. . . . [Quoting a Vantage smoker]: 'I like the filter because there's a lot of it, like it's filtering out a lot of the harmful things, like the tar.'

511469097-9250 at 9105, 9116 (US 20842) (A) (emphasis in original); Orlowsky WD, 72:17-23; 81:4-8.

3238. Winston. An April 1974 Qualitative Consumer Evaluation for four Winston Lights Positionings noted that those who liked Winston Lights believed that a low tar cigarette was a "'safe' cigarette." Some of the panelists admitted to switching to a lower tar and nicotine cigarette for health reasons. It was further explained that "[f]or Winston smokers becoming concerned with health it could make the transition to a low tar cigarette easier by 'staying in the family.'" With respect to the target audience, it was understood that the "women felt that men and women are equally concerned about the harmful effects of smoking and would be glad to

switch to a brand which could deliver good taste with low tar and nicotine." 502041366-1415 at 1373, 1383, 1385, 1385-86, 1391 (US 22147) (O).

3239. A 1979 study prepared for RJR, entitled "An Exploratory Study of Smokers' Comprehension of and Reaction to Several Proposed Winston Lights Campaigns," noted, with respect to one of the Winston Lights advertisements, that consumers typically reported that they understood the advertisement to mean: "A low tar cigarette that tastes good, is satisfying and **safer**." 501071439-1530 at 1453 (US 22110) (A) (emphasis added); Orlowsky WD, 83:7-12.

3240. Similarly, advertisements for Winston Ultra Lights described them by indicating that they were ultralight cigarettes with rich taste: "New Rich Winston Ultra Lights The Search For Taste Is Over . . . . THE RICHER ULTRA 6mg. 'tar', .05 mg. nicotine av per cigarette by FTC method . . ." 970469347-9474 at 9435, 9437 (US 85104) (O).

3241. Now. Advertisements for RJR's Now cigarette in the late 1970s and 1980s described Now as "the lowest," "lowest in tar," and "lowest tar champion," and included the following:

> "Now. It's a Satisfying Decision." (US 5852) (A) (1978).
>
> "LOWEST TAR CHAMPION. NOW MENTHOL IS LOWEST By U.S. Gov't. testing method."
>
> "NOW is LOWEST Of All Softpack 100's."
>
> "Pick the Lowest. NOW IS LOWEST By U.S. Gov't Testing Method."
>
> "WHEN IT COMES TO THE LOWEST IN TAR, ONLY ONE MEASURES UP. NOW IS LOWEST Of All Soft Pack 100s. By U.S. Gov't. testing method."

970469347-9474 at 9430, 9429, 9427, 9431 (US 85104) (O).

3242. A 1983 Now Brand Image report prepared for RJR recognized that health

concerns played a major role in determining which cigarette individuals used and that the perception was that the lower the tar, the more healthy the product was. It stated that "[a] major motivation in brand switching has been concern over health. . . . The typical solution to this dilemma is the two pronged approach of trying to cut down and/or moving to a lower tar brand." The report went on to indicate that, when respondents were asked what the words "low" and "lowest" in the advertisements meant to them, "**[t]hey interpret this to mean that the two brands are 'safer' and pose less of a health hazard**. Consequently, they reason, this would make the brands more appealing to younger people who are very health conscious or to older, long-time smokers who are concerned about the long-range effects of tobacco." 506671319-1418 at 1379 (US 22160) (A) (emphasis added).

3243. R.J. Reynolds's Research on the Low Tar Cigarette Category. Internal RJR documents reveal that RJR conducted research not just on individual low tar cigarette brands, but on low tar cigarettes as a category. These documents establish that RJR has long known and intended that its advertisements and marketing for low tar cigarettes featuring claims of lowered tar and nicotine and "light" and "ultra light" brand descriptors contributed to and reinforced consumers' belief that low tar cigarettes are better for their health, and caused consumers to smoke them for this reason. For instance, an RJR report on tar and nicotine ("T&N") awareness stated: "In 1971, curiosity was the main reason for interest in T&N numbers. Since then, increased interest has been health related." In fact, by 1975, more than 60% of every age group (from 18 to 50+) exhibited a concern over the hazards of smoking cigarettes. At the same time, a 1974 survey showed that "**a substantial majority of smokers said they agreed with the statement, 'low tar and nicotine cigarettes are a major step in making smoking less harmful to their health**.'" Those concerned about health became labeled as "worriers" and were targeted

accordingly. 501238259-8269 at 8265, 8269, 8271 (US 22072) (A); 501238270-8357 (US 48736) (A) (emphasis added).

3244. An internal January 15, 1975 RJR memorandum, under the heading "UPDATED REVIEW AND ANALYSES OF 1974 COMPETITIVE BRAND DATA," stated: "The VANTAGE and Kent 100 brands performed better than expected according to the correlation. This was most probably due to the low ‘tar' and nicotine image." 500615944-5960 at 5949 (US 21786) (O).

3245. As part of a 1975 marketing plan to introduce a new low tar Salem product, RJR recognized that "[l]ow numbers are the primary benefit/feature which can solve the concerned smoker's anxiety about health." 50231320-3308 at 3253 (US 22151) (A).

3246. A November 17, 1975 report prepared for RJR by Rosenfeld, Sirowitz & Lawson, Inc., entitled "An Evaluation of the 120MM Market and Its Potential for RJR," stated:

> Currently RJR divides the total cigarette market into three basic categories: Full Flavor; Medium Flavor; High Filtration. However, the recent rapid growth of the High Filtration segment, may be a signal that the consumer is beginning to be more health conscious than ever before, and will be even more so as time goes on. If this is the case, we believe that consumers will ultimately divide the market into three categories which in their minds would be categorized as: ‘Least Safe Brands' ‘Safer Brands' ‘Safest Brands.'"

The RJR report defined the "Safer" and "Safest" brand categories as follows:

> Safer Brands: These are brands which are perceived to combine an acceptable level of taste with mildness. Smokers of these cigarettes, while not overtly concerned with health, do switch to them after feeling some physical discomfort from their previous brand. Although they are not aware of T&N numbers, they know they are ‘moving down' to a milder cigarette.
> Safest Brands: Cigarettes in this category are perceived to have a mild taste. Smokers of these brands are very concerned about health and quite aware of T&N numbers. Their concern – more than any physical discomfort – causes them to switch to brands

with low T&N numbers.

The report further stated: "We believe that the most dramatic evidence of the growing interest in Safer Cigarettes may be seen in the growth of the various Lights/Milds line extension products." 500671364-1454 at 1402, 1403, 1405 (US 22158) (A) (emphasis in original); see also Burger PD, Arch v. The American Tobacco Co., 8/21/97, 226:9-14 (E.D. Pa. 96-5903) (consumers told Reynolds that they wanted light cigarettes "because they believe [they're] better for them").

3247. In analyzing the reasons why smokers switched to their current brand, the RJR report recognized that:

> [S]mokers of High Filtration brands really believe they are killing themselves by smoking. While they have not been able to give up smoking to date, they feel the low tar and nicotine brands are much safer and much less of a health hazard. **They are readily willing to sacrifice taste for a 'longer life.'**

The report also stated: "As previous research has indicated, Smokers of Lights/Milds products (designated in this report as Safer Brands) are not aware of T&N numbers. Hence, the fact that a 120MM Lights entry will have high T&N numbers (on a total cigarette basis) should not impede its progress." 500671364-1454 at 1408, 1436-37 (US 22158) (A) (emphasis added); Schindler WD, 75:5-13.

3248. In 1976, the research firm Leber Katz Partners prepared a research report for RJR entitled "New Product Concepts." In a section entitled "Smoker Awareness of Tar and Nicotine Levels," the report identified "worried about my health" as a key reason for increased interest in knowing tar and nicotine numbers. The report also noted that there was an increase in familiarity with tar numbers between 1971 and 1975. Also at this time, smokers attributed harm to tar content. 500742394-2419 at 2401, 2409-2411 (US 48362) (A).

3249. A November 16, 1976 RJR document entitled "New Brand Development"

recommended introducing a "New, Single-Minded Advertising Campaign" that would "convey our lowest ‘tar' benefit." In terms of future plans, the document stated "[f]or example, in the new and special wants area, there is style and value which we met with MORE, extreme health concerns which we are meeting with NOW [brand cigarettes], and with the evolution of the market toward low ‘tar', many more opportunities will be present in this area . . . ." A section of the document entitled "Super Low ‘Tar' Products" stated: "We will also be working on super low tar products which address the wants of very concerned smokers. A growing number of smokers seek products with tangible/visible features to assuage their concern about smoking." 501282466-2513 at 2480-2481, 2488, 2496, 2502 (US 48813) (A).

3250. A 1980 internal RJR document entitled "Salem Lights" identified part of the "Psychographic Profile" for Salem Lights smokers as "[t]hey are health conscious and want low tar but still desire a satisfying, refreshing menthol taste from their cigarette." 503515298-5301 at 5298 (US 50406) (A); Orlowsky WD, 84:12-85:7.

3251. A May 8, 1980 "Copy Research Project Request Memorandum" from Vicki J. Forrest, Brand Research Manager, to Jack Bellis described a test advertising project for Salem HC, an ultra low tar Salem line extension. In the memorandum, the "Prime Prospect" to smoke Salem Ultra is identified as a woman who is ". . . very aware of the smoking and health controversy, but enjoys the light refreshing taste of a low tar menthol cigarette." 501357172-7189 at 7172, 7175 (US 48837) (A).

3252. A June 21, 1982 Product Research Report on Non-Menthol Ultra Low Tar Consumer Probes, published by RJR's Marketing Development Department, stated: "Most respondents [ultra low tar smokers] preferred a white filter to a cork filter because they considered white to be more indicative of ULT cigarettes. The white filter generated strong

associations with gentleness, purity, cleanliness, modernization, and innovativeness." 503394459-4485 at 4464 (US 85036) (A).

3253. A May 1991 consumer research report prepared for RJR by Gene Shore Associates, entitled "R.J. Reynolds Project XB," explored smokers' reactions to the following new cigarette concepts: (1) for full flavor/lights smokers: "A new ultra low tar cigarette with all the great taste and easy draw of the light cigarette you currently smoke. All the taste with less than half the tar"; and (2) for ultra lights smokers: "A totally new cigarette with the extra low tar of a Carlton or a NOW, but all the great taste and easy draw of the cigarette you currently smoke. All the taste with less than half the tar." The report found that "ULT [ultra low tar] smokers want more to believe smoking a lower tar cigarette has potentially more personal benefits than smoking a full flavor or FF/LT cigarette." The report further stated: "Some ULT smokers are more likely to express a desire to quit smoking. Although they enjoy smoking, some tend to describe it as a 'Bad habit.' Their negative feelings about smoking motivate them to experiment with a variety of lower tar brands." 514343517-3566 at 3522 (US 51848) (O).

3254. The report also stated: "Women are more optimistic about new brands that could offer lower tar. They are more **willing to compromise on taste if they feel a cigarette has more personal benefits, although 'It would be great if it has good taste, too.'"** The report further stated that ultra low tar smokers "want as little tar as possible, but they want taste to be at least on par with current ULT brands. They feel they have made taste trade-offs by smoking a ULT." The report continued: "It is unlikely ULT smokers would switch brands if the tar level of the new cigarette is equivalent to their current brand. Lower tar is a strong motivating factor." The report also recognized that smokers perceive low tar cigarettes as having less desirable taste, stating: "The main obstacle appears to be to convince smokers the new cigarette delivers a more

flavorful, richer taste, and lowering the tar does not reduce taste and smoking satisfaction." The report also noted: "Women seem to be more accustomed to moderation in their lifestyles. For example, they are inclined to trade-off some taste for the weight control and health benefits of low calorie and low fat foods. They **want some taste assurance, but are open to compromise. They are willing to tolerate an adjustment period as they become acclimated to a new product they perceive to be better for them**." The document further stated: "**ULT smokers perceive low tar claims to be credible**. They try to balance their desire to smoke and personal concerns." Finally, under the heading "ULT Mindset" the document stated that this smoker "[w]ould like to quit smoking . . . . [p]erceives smoking as a bad habit, although he/she enjoys it . . . . [and] [w]ants to believe lower tar cigarettes are safer." 514343517-3566 at 3522, 3524-26, 3530, 3540, 3556 (US 51848) (O) (emphasis added).

3255. Gary Burger, RJR Senior President of Research & Development, testified at a 1997 deposition that RJR was aware that consumers smoke low tar cigarettes for the perceived health benefit. Burger testified that "[c]ertainly, smokers perceive lower tar cigarettes in some ways to be better for them and therefore they want them." Burger further testified that consumers "have that impression that there are higher levels of bad stuff in high tar cigarettes and lower levels of bad stuff in low tar cigarettes." Burger PD, Arch v. American Tobacco Co., 8/21/97, 226:9-243:18.

(iii) Brown & Williamson

3256. Kool. A B&W document entitled "Kool Family Utopian Objectives 1979-1985" stated, under the heading "Share Objectives," that "Kool must move into the health reassurance segment so that 45% of KOOL business will be in the perceived product safety arena by 1982 which will approximate the 45% of total smokers who will be smoking hi-fi products by 1982."

Under the heading "Strategies," the document stated: "Provide product safety reassurance while enhance [sic] the satisfaction and refreshment perception of the appropriate KOOL styles through the successful national launch in 1979 of either: 1. Low ‘tar' parent [or] 2. Repositioned KOOL Milds." 680559149-9162 at 9149-9150 (US 54048) (A); Dolan WD, 122:12-15; Smith WD, 69:15-70:8.

3257. An internal March 25, 1983 B&W memorandum from A. J. Mellman, a B&W marketing employee, to R.A. Blott, B&W Senior Vice President of Domestic Marketing, regarding current cigarette project ideas for the Kool brand family, including low tar brands, stated: "KOOL maintained a three share level for over 30 years (through mid-60's) while positioning itself as a specialty cigarette to be smoked only for remedial or medicinal purposes." The fourth project idea was: "Improve health aspect: Anything that can be done to decrease the risks associated with cigarettes is a positive to most consumers." 514110006-0009 at 0007-0008 (US 21745) (A).

3258. An April 28, 1998 document prepared for B&W entitled "Kool Natural Lights Round I & II Focus Groups: Presentation of Findings Prepared for Brown & Williamson," under the heading "Highlights : Natural Lights Idea," stated: "Respondents assumed that a natural light cigarette would be less harmful than a regular cigarette, they did not assume it would be 'healthy'." Sharon Smith, former Director of Marketing Services and Operations at B&W, testified that "I agree that some consumers reported that they assumed such a cigarette was ‘less harmful.'" Smith further testified that B&W placed advertisements for Kool Natural Lights in magazines in 1998, and that Kool Natural Lights are still available for sale today." 210430297-0396 at 0322 (US 67711) (A); Smith WD, 83:18-84:20, 85:6-8, 85:14-15.

3259. Viceroy. B&W Viceroy advertisements in the early 1950s made express health-

related claims about the benefits of its filter. For example:

1951: "Filtered cigarette smoke is better for your health."

1951: "The nicotine and tars trapped by this Viceroy filter cannot reach your mouth, throat or lungs!"

1952: "Filtered Cigarette Smoke is Better for Your Health . . . Yes! The Nicotine and Tars Trapped by the VICEROY FILTER Cannot Reach Your Throat or Lungs!"

1952: "Prominent physician tells patients– 'Smoke Viceroy Filter-Tip Cigarettes. The nicotine and tars trapped by this Viceroy filter cannot reach mouth, throat or lungs!' . . . . For Greater Health Protection Get Viceroy with the new Health-Guard Filter."

1953: "New King-Size Viceroy gives Double-Barreled health protection." (US 87465) (A); (US 87466) (A); (US 87467) (A); Smith WD, 72:2-4.

1953: "[Viceroy] is safer for throat, safer for lungs than any other king-size cigarette."

1953: "Viceroy Gets the Votes . . . from Happy Throats."

696000888-0916 at 0914, 0915 (US 21387) (A); 682811354-1354 (US 21465) (A); 672010223-0223 (US 53895) (A); Harris WD, 70:13-20.

3260. Susan Ivey, former President and Chief Executive Officer of B&W, testified: "I believe the Viceroy ads contained health claims." Indeed, BATCo's Viceroy marketing campaign from 1955-1956 was "promising superior health protection." B&W's objectives for the 1957-1961 Viceroy advertisements were to "[a]ttract smokers . . . promising . . . implied health benefits because of filter" and "with substantial health benefit implications, because of blend and filter." Nearly each of these promises of health benefits resulted in a substantial increase in sales of Viceroy cigarettes. Ivey WD, 51:15-52:13; Smith WD, 71:18-72:1; 670001750-1766 at 1754-1755 (US 20962) (A).

3261. An internal B&W document stated: "The January 1950 issue of *Reader's Digest*

featured an article, ‘How Harmful Are Cigarettes,' that mentioned the value of filters. Within a week [of that article], VICEROY advertising headlined *‘Reader's Digest* tells why filtered cigarette smoke is better for your health.**' Sales increased from 700 million in 1949 to 1.2 billion in 1950**." 524000897-0917 at 0898 (US 20916) (A) (emphasis added).

3262. A retrospective 1985 internal B&W document explained that in 1946 "[a] comprehensive sampling plan [for Viceroy cigarettes] among dentists to secure their recommendation was started. Sales responded immediately even though the media budget was not increased until 1948." The document further explained that, in 1953, several things "combined to push the demand for VICEROY far beyond production capacity," most notably "the new filter" and "greatly increased public attention to the ‘Health aspect' of smoking. VICEROY advertising exploited this to the fullest extent as ‘double-barreled health protection' copy, which . . . was backed up with factual evidence of the nicotine and tar reduction offered by VICEROY . . . . Sales went to 6.0 billion in 1953 even though the brand . . . could not begin to supply the demand." 524000897-0917 at 0898 (US 20916) (A).

3263. A 1975 B&W document entitled "Viceroy Marketing Strategy" identified the "Problem Advertising Must Solve": "[A]dvertising must . . . cope with consumer attitudes about smoking, **providing either a rationale or a means of repressing the health concern**." 680113760-3763 at 3762 (US 20987) (A) (emphasis added); accord 680116947-6968 at 6959, 6961 (US 21877) (A) (circa 1975 document entitled "Viceroy Agency Orientation Outline" stating, under the heading "Test Market Campaigns": "Strategy-Given consumers awareness of the smoking and health issue, full flavor smokers must deal with their illogical behavior. Therefore, we attempted to communicate Viceroy's flavor/satisfaction benefits by providing consumers a rationalization for smoking or a repression of the health concern"); Smith WD,

73:2-17.

3264. A July 19, 1976 B&W internal memorandum from E.A. Willets III to G.T. Reid, entitled "VICEROY Advertising Objectives and Creative Strategies 1936-1975," demonstrates that B&W was aware that its deceptive marketing portraying its low tar cigarettes as less harmful was effective at misleading consumers. The memorandum noted the following marketing objectives:

- Prior to 1942: "[a]ttract smokers of competitive non-filter brands by promising mild, clean smoke and health benefits because of filter."
- 1942 -1946: same as prior to 1942, but adds the word "implied" in parentheses in front of the promise of general health benefits.
- 1950-1952 (3rd quarter): to "[a]ttract smokers of competitive non-filter brands by promising health benefits, supported by published research by independent body, because of VICEROY's filter."

The memorandum's "evaluation" found that this strategy had resulted in a "[p]rompt and effective exploitation of an advertising windfall" and, as a result, B&W developed a "[s]tronger commitment to high filtration, low risk positioning." 670001750-1766 at 1750-1752 (US 20962) (A); Smith WD, 72:5-73:1.

3265. The memorandum noted that, in 1953-1954, Viceroy's advertising campaign slogan was "'VICEROY's double barreled health protection' and ‘Better Your Health,' with the ‘objective and creative strategy' being to ‘[a]ttract smokers of all other cigarette brands by promising superior health protection because of more effective filtration from both a new filter and a longer length.'" The memorandum concluded that "**[t]hese two product changes firmly positioned VICEROY as a high-filtration**, **healthier cigarette and attracted smokers in droves**." The same theme continued in 1955-56, when one of the "Objectives and Creative Strategies" listed was to "Attract smokers of non-filter brands and the new filter brands by

promising good taste equivalent to non-filter brands and superior health protection because of blend and filter." 670001750-1766 at 1752-1754 (US 20962) (A) (emphasis added); see also (US 87468) (A); (US 87469) (A); (US 87470) (A) (1953 magazine advertisements featuring claim of Viceroy's "double barreled health protection").

3266. Carlton. Carlton is a low tar brand that was originally manufactured by American Tobacco until that brand was acquired by B&W in 1994, along with American Tobacco's Lucky Strikes, Pall Mall, & Tareyton brands. Gesell PD, State of Minnesota v. Philip Morris Inc., 9/18/97, 6:10-17; 117:3-15; 25:23-26:3; 93:2-13; see US FF § III.D(3)(a)(v), infra, for a recitation of American Tobacco's marketing of Carlton prior to 1995.

3267. Sharon Smith, former Director of Marketing Services and Operations at B&W, testified that "Carlton advertising focused on tar delivery." Smith explained: "For Carlton, it's not an imagery campaign. **It's more communication of tar levels**. I'm familiar with consumers of competitive brands to Carlton saying in focus groups that **to convince them to switch from their brand to Carlton, an understanding of what the tar levels are is more important to them**." Smith further testified that, for those smokers, her research has found that their understanding of the tar and nicotine numbers based "**certainly on our advertising, even on our competitors' advertising**." Smith WD, 69:10-14; 75:3-23 (emphasis added).

3268. A B&W document circa 1996-1997 entitled "Carlton Creative Plans" disclosed that the first "Primary" trait of Carlton's target audience was "Health conscious." With respect to print advertisements, the report stated: "Magazine [advertisements for Carlton] Will be Driven by Editorial That is: 'Health Conscious.'" Carlton's "brand strategy" was "to continue to defend the franchise while communicating its 'lowest' positioning to maintain switching inflows from those smokers trading down in tar levels." The document went on to state that "CARLTON packaging

issues will be explored to determine how best to communicate ultra light product cues . . . . hype its increased communication of ultra low tar." 176020783-0800 at 0785, 0792, 0798 (US 23351) (A); accord 176020856-0926 at 0868-0869 (US 23357) (A).

3269. In 1999, B&W began a promotional campaign promoting Carlton cigarettes as Ultra Ultra Light, including packs stating that Carlton delivered only "1 mg." of tar. Susan Ivey testified that B&W's advertisements featured the slogan "Isn't it time you started thinking about number one?" Ivey further testified that "many factors drove consumers' preference for Carlton, and for some smokers, one of those factors was a belief that ultra low tar could reduce one's risk." Marketing expert Dr. Anthony Biglan testified that this advertising slogan indicates the smoker depicted in the advertisement "is thinking about smoking a low tar cigarette to reduce her health risks." Ivey WD, 52:14-53:15; ADV027 0780-0782 (US 9846) (A) (1999 Carlton magazine advertisement); ADV045 0468-0470 (US 11362) (A) (1999 advertisement); ADV027 0924-0926 (US 9892) (O) (1999 advertisement); ADV032 0011-0013 (US 10678) (A) (2000 advertisement); Biglan WD, 281:17-283:22.

3270. In March 1999, Nicholas Brookes, B&W Chairman and CEO from 1995 to 2000, became aware of a discrepancy in the tar delivery of Carlton cigarettes. The cigarette, when smoked by human smokers, delivered 3 milligrams instead of the advertised 1 milligram. Because B&W had just introduced a new advertising campaign "touting Carlton as the ‘1' for you," Brookes attempted to delay the publication of a study that would have alerted the public to the findings. Brookes did **not** direct B&W's marketing department to discontinue the "Carlton is the ‘1' for you" campaign, even though he acknowledged that it might cause confusion for consumers. 190245079-5080 (US 85018) (O); Brookes PD, United States v. Philip Morris, 3/31/03, 146:18-148:12; 149:3-149:20; 150:14-150:18.

3271. A July 27, 2000 document prepared for B&W by Kay Harwood Marketing Analysts, Inc., entitled "Topline Report of Findings for Carlton Advertising Research," indicated that smokers continue to view Carlton cigarettes as healthier, stating: "Focus groups were allowed to submit two words in addition to those suggested by the group hosts. Among the words independently chosen to describe Carlton cigarettes were 'feeling healthier' and 'healthier.'" Among the Report's 'Key Findings' are the statements from the focus groups in response to several Carlton campaigns. The statements include:

> Healthier– **trying to sell a healthy cigarette** – Very few people have realized that Ultra is better . . . Purity/better for you . . . . Fewer people have health problems smoking this brand . . . This cigarette is best for you . . . . better for you . . . . Clean & improved – healthier brand; less nicotine. . . . Healthier living . . . . **Carlton is healthier for you** . . . . Gives next to nothing harmful – means healthier – Carlton is healthier for you. . . . safe cigarette. . . . They are much better for you – A healthier cigarette. . . . Healthier . . . . This is the best for you – lowest in bad stuff . . . . Better for you, lighter smoke . . . . Carlton will make you happier and healthier . . . . Health-minded, concerned people (get healthier). . . . The safe cigarette – Cut down your risk – Light and less harmful . . . . This will save you – this is the solution you have been waiting for.

250255336-5347 at 5340, 5343-5347 (US 22031) (A) (emphasis added). These statements were repeated in an August 8, 2000 document prepared for B&W by Kay Harwood, Marketing Analysts, Inc. entitled "Carlton Advertising Research: Report of Key Findings." 250255060-5075 at 5064, 5066-5068, 5071-5075 (US 22170) (A).

3272. A document entitled "Carlton Advertising Research: Four Focus Groups," bearing MAI (Marketing Analysts, Inc.) and B&W insignia on the cover, discussed July 2000 focus groups stating that both Carlton and competitive Ultralight smokers associated Carlton cigarettes with being "[b]etter for you/[h]ealthier." The Report concluded that the Carlton "It's the Least You Can Do" campaign (labeled the "U" campaign) created the impression that "Carlton is better

for you," and the Report's "Key Recommendations" include: "If the primary objective of the advertising campaign is to position Carlton as a lower/the lowest tar and nicotine cigarette, the current research suggests the "U" campaign (It's the least you can do) effectively conveys this positioning." 250221262-1294 at 1275, 1277, 1287 (US 22030) (A); Ivey WD, 59:20-6060:12.

3273. Belair. In a 1980 advertisement, B&W encouraged smokers to "Lighten Up!" with its Belair brand cigarettes. (US 6546) (A).

3274. Brown & Williamson's Research on the Low Tar Cigarette Category. Susan Ivey testified that she is aware that "some smokers choose lights because they perceive a health benefit," and that "Brown & Williamson's consumer research . . . indicates that certain smokers switch to low tar cigarettes because they believe that these cigarettes are 'less harmful' than regular cigarettes." As demonstrated below, these consumer research documents establish that B&W has long known and intended that its advertisements and marketing for low tar cigarettes, featuring claims of lowered tar and nicotine and "light" and "ultra light" brand descriptors, contributed to and reinforced consumers' mistaken belief that low tar cigarettes are better for their health, and caused consumers to smoke them for this reason. For instance, a 1967 B&W advertising and marketing strategy for high-filtration/low tar products describes B&W's marketing strategies to "capitalize" on smokers' perception that low tar cigarettes are less harmful by portraying them as such:

- [Vanguard brand strategy:] "To capitalize upon a prevalent smoker desire to lessen the health risk involved in his smoking via a switch to a low tar cigarette . . . . Advertising Objective – Communicate a dual smoker benefit: low tar and satisfying taste."

- Modified LIFE "Marketing Strategy - To fully capitalize on health vs. cigarette smoking publicity and publishing of tar/nicotine data by marketing LIFE as the lowest tar cigarette in the filter 85 segment."

- Filter 70's "Marketing Strategy – To capitalize on smoker concern of

> ‘smoking too much' by offering a means for reducing smoking without . . . cutting down on number of cigarettes smoked . . . . Advertising – Filter 70's would offer smokers the opportunity to smoke up to one-third less (shorter tobacco section), but they can light up as often."

Ivey WD, 57:22-58:10, 63:1-8; 670186789-6824 at 6790, 6792, 6798, 6802, 6804 (US 21431) (A); accord Smith WD, 51:11-19 (testifying that there exist "Brown & Williamson marketing research documents that talk about the fact that consumers perceive lower tar cigarettes to provide a health benefit"); see id. at 56:20-23, 74:11-14 (noting same).

3275. An August 1967 B&W document entitled "A Psychological Map of the Cigarette World" stated that "PEOPLE WHO SMOKE FILTER CIGARETTES . . . ARE MORE CONSCIOUSLY IN CONFLICT ABOUT SMOKING . . . . THEY CAN'T COMPLETELY ENJOY SMOKING BECAUSE THEY KNOW IT IS NOT HEALTHY. . . . THEY MAY BE RECEPTIVE TO ADVERTISING WHICH HELPS THEM ESCAPE FROM THEIR INNER CONFLICTS ABOUT SMOKING." 680282619-2668 at 2642 (US 85305) (O).

3276. A 1969 marketing document from B&W's files prepared by a consultant for Imperial Tobacco, the sister company of B&W, stated that the smoker "seeks a new covenant between himself and the tobacco industry" and has "**trust**" that the industry "**is going to provide him with a product that he can enjoy without fear of physical or psychological reprisal**." 680082943-3125 at 2959-2960 (US 20983) (O) (emphasis added).

3277. An October 21, 1971 Philip Morris document acknowledged that it "was abundantly clear" that manufacturers in the United States, and B&W in particular, "are concentrating on the low TPM [total particulate matter] and Nicotine segment in order to create brands with distinctive product features which aim . . . to **reassure the consumer that these brands are relatively more ‘healthy'" than regular full-delivery cigarettes**. "Hence B&W is devoting its efforts entirely to the Hi-Fi ["high filtration"] segment, and its two major projects . . .

demonstrate this strategy." 100028935-8937 at 8935 (US 20089) (O) (emphasis added).

3278. A September 1974 B&W marketing research study entitled "The 'New' Smoker," that examined the "Behavioral Factors" of new smokers, concluded that new smokers are "mis-informed on cigarette strengths." The study concluded that new smokers believed that low tar cigarettes were "**better for you**." 779217794-7833 at 7822-7823 (US 21055) (A) (emphasis added).

3279. A November 29, 1976 B&W memorandum from F.E. Latimer to B.L. Broecker and M.J. McCue, all B&W marketing employees, represented the role of cigarette advertising as allaying smokers' fears of the health consequences of smoking:

> [B]ecause such large numbers of the institutions and leaders he believes in are against smoking, the average smoker often seeks self-justification for smoking. Good cigarette advertising in the past has given the average smoker a means of justification on the two dimensions typically used in anti-smoking arguments. . . . **All good cigarette advertising has either directly addressed the anti-smoking arguments prevalent at the time or has created a strong, attractive image into which the besieged smoker could withdraw**.

680086039-6044 at 6039-6040 (US 20984) (A) (emphasis added).

3280. A January 1977 report prepared for B&W by Post Keyes Gardner, Inc., concluded that the most successful cigarette marketing has promised "'real' or 'perceived to be real'" health benefits by indicating that the cigarette is "the most reasonably 'safe'":

> The fundamental long term trends in the business are for smokers to move gradually to products that represent benefits of 'health' and modernity . . . . Successful brands have offered 'real' or 'perceived to be real' products benefits that are founded on smokers' needs for 'health' and modernity . . . . **Successful advertising in the cigarette business is achieved by establishing a brand image based on a product benefit that fulfills consumers' needs for taste, 'health' and modernity** . . . . Historically, brands that have achieved the most success are those that offer taste within the confines of 'health.' . . . . **[T]he real 'action' is in products that**

> **deliver, or are perceived to deliver, taste while representing the most reasonably 'safe' product available** . . . products have evolved along the long term continuum toward 'health' and modernity. Those that have **capitalized on these trends with a point-of-difference are the ones that have been the most successful** . . . . Viceroy was the first brand to directly capitalize on [the perceived health benefits of filters] by featuring its filter benefit, and sales were dramatic for the brand . . . . [In 1965,] Carlton was introduced – the first real response to the 'health' issue as we see it today . . . . **Three hifi [high filtration] brands, True, Doral and Vantage (with new, more modern filters) were successfully introduced [in the late 1960's], capitalizing on the 'health' atmosphere that the anti-smoking forces were creating** . . . . FORECAST FOR THE FUTURE . . . . In sum, the dynamics of 'health' and modernity trends will be dominant. The smoker appears to be ready to make another major shift, losing gratification and obtaining a 'safer' product, to a new generation of products with single digit tar numbers . . . . The smoker will be inundated with 'health' oriented advertising.

776158413-8426 at 8416, 8419, 8422-8423, 8425 (US 22339) (A) (emphasis added – bold type).

3281. B&W's 1977 New Products Annual Marketing Plan reviewed marketing strategies for new "health oriented" low tar brands to be directed at "the extremely health conscious (worried) segment of the market." According to the plan, the "Overall Objective" was "[t]o develop and successfully launch a product which distinctively positions itself as being the 'safest' alternative in smoking." In a review of Savannah brand cigarettes, the plan noted that the "Hi-Fi [high filtration] segment stems directly from the increasing concern over the smoking and health issue." The Savannah brand was to be "positioned against those consumers with serious health concerns who continue to smoke full flavor brands." 670156293-6424 at 6303, 6323-6324, 6342 (US 53746*) (O).

3282. This same 1977 Marketing Plan recommended that the:

> [a]dvertising copy should assume the tone of objectivity and genuine importance. **The authenticity and frankness of the copy must be arresting enough to gain the attention of those consumers concerned about their health. Taste reassurance**

> **for the brand should be subordinated in efforts to play up health reassurance claims**.

In a section titled "Market Review," the plan went on to say that "[t]he appeal of the brands competing in this segment [enriched flavor ultra low tar] is solely on the basis of implied health claims." 670156293-6296 (US 53745) (A); 670156297-6242 at 6324, 6327 (US 53746*) (O) (emphasis added).

3283. A May 1977 Brand Position Paper prepared for B&W identified a link between interest in low tar cigarettes and "smokers who harbor ‘health' concerns." The paper, entitled "B&W New Products Part II - Progress," noted that the "key growth segment" for that time was called "taste with a contemporary health benefit." The paper also stated that "[c]igarette brands that have succeeded have had consumer benefits which tend to evolve along the long-term continuum toward ‘health' and modernity." 660931250-1282 at 1250, 1252-1253, 1263 (US 53595) (A).

3284. A June 21, 1977 letter from D.A. Litwin, B&W Assistant Brand Manager in marketing, to Andy Millar, an attorney for the tobacco industry, included a chart illustrating B&W's recognition of a market share for "Taste with implicit health benefit," "Taste with contemporary health benefit," and "Explicit health benefit" cigarettes. It was anticipated that these market segments with health claims would increase their market share. 660041050-1051 at 1050 (US 20952) (O).

3285. A July 25, 1977 B&W Internal Marketing Study entitled "Low ‘Tar' Satisfaction, Step 1 Identification of Perceived and Underperceived Consumer Needs" recited the percentage of starters and quitters from 1969-1976, and stated:

> As the dynamic proportion of quitters continues to be larger than the proportion of starters, actual smoking incidence has declined about ten percentage points over the last ten years . . . . Increases

> in per capita consumption are assumed to correlate with lowered 'tar' delivery as well as other factors . . . . **HEALTH REASSURANCE: Almost all smokers agree that the primary reason for the increasing acceptance of low 'tar' brands is based on the health reassurance they seem to offer** . . . . It must be assumed that Full Taste smokers come down to 'low tar' expecting less taste . . . [t]hey are willing to compromise taste expectations for health reassurance.

Dr. Dolan explained that this document "shows that Defendants knew that smokers accepted the low tar and nicotine brands due to the 'health reassurance' they offered. This was a complement to the doubt creation campaign. Companies could not prove their product was safe so reassurance was offered by these 'health reassurance' cigarettes." 23775036039-6067 at 6043-6044, 6047, 6052 (US 21053) (A) (emphasis added); Dolan WD, 120:14-23; Ivey WD, 57:11-58:11.

3286. A document circa 1977 bearing the B&W seal strongly supports that B&W's Belair cigarette was intended to convey reduced harmfulness by providing "'health' reassurance" due to its low tar:

- "Does Belair have growth opportunities? – Increasing 'health'-orientation of cigarette marketing and the correspondingly greater potential for "lighter" cigarettes."

- "To realize this growth opportunity, Belair must: . . . – compete directly in the low 'tar' segment where greatest potential is. . . ."

- "Current Positioning Objective: To reestablish and maintain the relevancy of Belair's heritage as a cigarette which provides a light, yet, satisfying menthol alternative and a 'health' reassurance relative to full-taste brands . . . ."

- "July 1977 'tar' reduction . . . will allow for specific low 'tar' support of the important 'health' reassurance element of this brand positioning . . . ."

- "Overall Belair Operating Strategy: - Through advertising, make the Belair historical image/positioning as a "light" cigarette more relevant to the current 'tar' conscious environment . . . ."

- "Belair Copy Strategy: To position Belair as a cigarette which offers . . .

lower "tar" reassurance relative to full-taste brands. . . ."

- "Belair Prime Prospect: The current Belair smoker with whom the reassurance of the lower "tar" positioning addresses possible concerns which might otherwise prompt the user to switch to a competitive low "tar" cigarette."

779027336-7360 at 7339-40, 7350-51, 7354-55 (US 22163) (A).

3287. A September 26, 1977 letter from P.J. Tighe, B&W Senior Brand Manager of New Products, to colleague Don Johnson discussed additions to Low Tar Brand Plans. The letter stated that the "Low 'Tar' Menthol Plan" needed to provide "**Health Reassurance**." 660093935-3935 (US 53576) (A) (emphasis added).

3288. A document entitled "Fact Operational Plan for Fourth Quarter 1977 and 1978" noted that "[t]o the extent that health reassurance equates with smoking fewer of less 'harmful' cigarettes, the reassurance must be handled carefully, since **consumers clearly consume low 'tar' cigarettes in greater quantities**." The document also concluded that "[t]he greatest need in the marketplace is for a cigarette that promises and delivers: 1) Taste/Flavor, 2) Product Quality, and 3) Health Reassurance." 676038502-8796 at 8573, 8578, 8590 (US 53923) (A) (emphasis added); Smith WD, 59:12-61:6.

3289. A B&W document entitled "Fact Operational Plan for Fourth Quarter 1977 and 1978," discussed smokers who moved to the low tar segment. The plan stated that those smokers who switched to low tar "hold health reassurance as their primary need briefly. Once a commitment to the segment is made, taste/flavor takes over as the primary need and becomes the key brand selection criterion." Based on this theory, the plan concluded that "[h]ealth reassurance, then, is a short lived primary need that is satisfied, generally, by virtue of the brand's position as a low 'tar'. It continues as a secondary need after brand selection and may vary in importance over the long term dependent on external pressures." In a summary of information

taken from smoker group studies, the document maintained that "[t]he vanguard of low ‘tar' smokers consciously traded off taste and satisfaction to attain a greater measure of health reassurance. **Social pressures and advertising appear to be leading greater numbers of smokers to make this trade-off**." 676038502-8796 at 8691-8692, 8695 (US 53923) (A) (emphasis added); Smith WD, 59:12-61:6.

3290. A 1978 B&W document entitled "Purite Filter" acknowledged that the "common area of leverage" of successful brands was implied health benefits due to low tar:

> The move to hi-fi cigarettes is continuing, motivated by consumers who demonstrate personal concerns towards smoking in either the health, social areas, or both. To capitalize on these perceived consumer needs, **three successful positionings have emerged in hi-fi: health reassurance, taste reassurance, and social acceptability. All three positionings use low "tar" as a common thread**. . . . To stem the continued decline in smoking incidence, the industry must rapidly move to a point where it can address cigarettes in a totally positive light . . . . The modern hi-fi segment . . . has been growing dramatically over the last five years. This growth has been spurred by the consumer desire for health protection, as achieved through particulate matter reduction and the industry response in offering low "tar" brands with heavy marketing support. . . . Although the hi-fi segment is continuing its rapid expansion to a projected 50% by 1982, only three positionings are demonstrating vitality and durability among the freestanding low "tars": low "tar"/implied health, i.e. Carlton, True; extra flavor, i.e. Merit; social acceptability, i.e. Vantage. . . . Low "tar"/implied health is the common area of leverage with all these entries.

680559100-9124 at 9100, 9101, 9110, 9120 (US 21003) (A) (emphasis added).

3291. A March 22, 1978 "Private and Confidential" B&W memorandum from G. Reid to F.E. McKeon evidenced B&W's understanding that both low tar claims and the "low gas" claims it sought to promote with its FACT brand of cigarettes were understood by consumers to be claims of reduced harmfulness. The document stated: "Extensive testing of FACT advertising over a three-year period has indicated that consumers do not perceive low gas as a

different benefit than low ‘tar'. **They both are perceived as generic health ideas**." 667059296-9299 at 9296 (US 69068) (O) (emphasis added).

3292. A June 5, 1978 document entitled "Purite Filter Concept: Strategic Brand Review" listed as a decision requested from management: "[c]oncurrent initial pursuit of Health Reassurance and Social Acceptability positionings." The document also commented on the "[c]ancer concern" and "[h]ealth positioning." 300116546-6558 at 6547-6549 (US 46537) (A).

3293. A November 14, 1978 document entitled "Low Delivery Cigarette Project For Brown & Williamson Tobacco Corp." reported that, between 1974 and 1976, 60-74% of consumers believed that "‘low tar and nicotine cigarettes represent a major step in making smoking less harmful,'" and under the heading "'Health' vs. Image/Taste/Satisfaction" that B&W's marketing plan included "**using acceptably Low Delivery numbers to provide assurance that the brand is at least at parity with its health-oriented competitors**." 670133560-3690, 3572, 3581 (US 87887) (A) (emphasis added).

3294. An October 1979 "History and Key Trends in the U.S. Cigarette Market," compiled by E.T. Parrack, B&W Vice President of Brand Management, confirmed B&W's knowledge that smokers turn to low tar cigarettes in response to health concerns, stating that one of the studies "pinpoints the location of various market segments on a continuum from high ‘tar'/low health concern smokers to low ‘tar'/highly concerned smokers." 670624932-5364 at 4935 (US 53869) (A). The compilation contains the following statements, reflecting B&W's knowledge that the increase in filtered and low tar cigarette sales from the 1950s through the 1980s resulted from consumers' belief that these products were less harmful, as a result of Defendants' extensive marketing of these products:

- "The major developments in the cigarette market since 1950 are the most readily understood as a continuous effort by consumers and the industry to

mitigate the perceived dangers of smoking. . . . this is clear in the growth of filters and in the emergence and growth of successive generations of Hi-Fi and low-tar cigarettes." Id. at 4944.

- "[F]iltered products took off, rocketing from 3% of the market in 1950 to 53% in 1960. **The most important reason for this growth would have to be growing health concern**." Id. at 5277 (emphasis added).

- "Starting in 1953, filter cigarettes began a meteoric rise, growing 44 share points in five years. The pace of change reached its peak in 1957 and began to slow down to a low level in 1961. By then, filters had a 53% share." Id. at 4945.

- "Filter Brands' Share of Market . . . Spurred by health concerns." Id. at 5275.

- "Hi-Fi was catapulted into existence . . . 1957. . . . There was no doubt as to the underlying interest at the time in protection from the dangers of cigarettes. Id. at 5342.

- "**The success of hi-fi brands is due in part to the large sums being spent to advertise them**." Id. at 5279 (emphasis added).

- "[Between 1957 and 1960] the consumer was bombarded with messages regarding high filtration." Id. at 5036.

- "Among the troubles of the early entrants [in the filter cigarette category, referring to Parliament, Viceroy, Kent and L&M] were: . . . All got into trouble with the FTC due to their filter claims and had to change their advertising." Id. at 5321.

- "1964-1975 – Emergence of brands using low ‘tar' as primary appeal. . . . appearance of brands which actually based their appeal on low tar and nicotine numbers." Id. at 5275, 5277.

- "During th[e] period [from 1975 to 1976], unfiltered cigarettes continued to be crowded out at an increasing rate, corresponding to an increase in public concern about the dangers of smoking." Id. at 4937.

- "Personal Concern – the dominant trend in the market influencing all major shifts in smoking habits since 1980. . . . Historically, products offering taste and personal reassurance benefits have been most successful. . . . The move from non-filters to filters in the 1950's was spurred by personal concerns . . . . Menthols performed strongly due to perceived personal concern benefits. . . . [From 1966 to 1970] True, Doral, and Vantage (new high-filtration, free standing brands) are introduced and

successfully capitalize on the resurgence of personal concerns. . . . Currently . . . . [a] strong concern for health has drawn [smokers] . . . to the ultra-low 'tar' brands . . ., they are trying to eliminate the risks of smoking." Id. at 5222-5223, 5239.

- "The Hi-Fi smoker wants cigarettes that reduce or appear to reduce the risks of smoking. . . . In view of the interest of Hi-Fi smokers in low-tar and the stress that Hi-Fi brands have placed on it in the past, it seems likely that: – Hi-Fi smokers will be strongly attracted to the new lower-tar cigarettes." Id. at 4950.

- "Two forces are driving the current high rates of brand switching: Smoker concern about personal health [and] Smoker concern about social censure . . . . successful new brand development would have to be aimed at and satisfy the smoker needs arising out of these two key forces." Id. at 5165.

- "About half of the smokers express a significant degree of concern about smoking. . . ." Id. at 5170.

- "29% of smokers who have significant concerns about either health or social pressure . . . are a market of opportunity for new brand development." Id. at 5187.

- "The health concerned smoker, we suspect from these data, finds it difficult to give up [nicotine] impact or effect. Target Audience For Lts" [second sentence handwritten]." Id. at 5197.

Regarding the perceived health benefits of menthol cigarettes, the compilation stated:

- "[T]he split between menthol and Hi-Fi continued. Smokers were forced into a trade off of Hi-Fi vs. menthol. But was it indeed a trade-off? As we have noted, Salem was perceived as a relatively mild cigarette, and menthol itself had been promoted for years for soothing throats irritated by smoking and was the cigarette used by many when they had colds. Thus Salem and other menthols could be regarded as equivalent to a Hi-Fi." Id. at 5036-5037.

670624932-5364 (US 53869) (A).

3295. The B&W International Tobacco 1980 Preview, dated May 6, 1980, noted that "[r]egulation and publicity of an anti-cigarette nature could influence brand choice favorably for BWIT with its portfolio of reassurance products." 660912814-2879 at 2824 (US 53582) (A).

3296. A June 2, 1980 B&W memorandum from Brian R. O'Hare to J.F. Roberts stated:

"It now becomes necessary, in light of the increasing importance of the smoking and health issue and Kent's repositioning as the health reassurance brand[,]" to implement the remaining phases of B&W's plan to position Kent as a less harmful brand. The memorandum noted the importance of implementing this plan "as the smoking and health issue becomes more important on a worldwide basis." 660942115-2116 at 2115 (US 53580) (A) (emphasis in original).

3297. In a July 2, 1982 B&W report entitled "What Are the Obstacles/Enemies of a Swing to Low 'Tar' and What Action Should We Take?," B&W Assistant General Counsel J. Kendrick Wells opined that B&W should respond to attacks on low delivery cigarettes with a far-reaching campaign of misinformation:

> B&W will undertake activities designed to generate statements by public health opinion leaders which will indicate tolerance for smoking and improve the consumer's perception of ultra low "tar" cigarettes (5 mg. or less). The first step will be the identification of attractive scientists not previously involved in the low delivery controversy who would **produce studies re-emphasizing the lower delivery, less risk concept. Through political and scientific friends, B&W will attempt to elicit from the administrative and legislative branches of the federal government, and perhaps voluntary health groups, statements sympathetic to the concept that generally less health risk is associated with ultra low delivery cigarette consumption. The program is designed to produce statements of sufficient news interest to reach the public through the media**. In addition, B&W would seek to generate spontaneous mainstream media articles dealing with component deliveries, much as the old Readers Digest articles. . . . B&W will urge the industry to sponsor research in the ultra low delivery cigarette area which turns the principles used against the industry to positive use. . . . Industry positions favoring the low delivery cigarette can be effectively presented, but must be carefully structured.

680592164-2169 at 2164-2168 (US 21009) (A); (US 76213) (O) (emphasis added); Wells WD, 46:11-49:3.

3298. A March 27, 1985 B&W memorandum from E.T. Parrack, Jr., Vice President of

Domestic Marketing, to Thomas E. Sandefur, Jr., B&W's CEO, stated that "health reassurance" is one of the "'rational' benefits" that have been grafted on to the two "basic benefits" that cigarettes have always offered to consumers. The two basic benefits are: "physical smoking satisfaction" (i.e. adequate nicotine delivery) and "Emotional (image/social) reinforcement: 'The me I want to be.'" After superior product and brand imagery meeting specific consumer emotional needs, the third strategic priority was exploiting rational benefits. The memorandum added that "[n]ew or developing rational benefits represent the most direct and efficient means of obtaining short-term incremental volume." 528010755-0759 at 0755, 0757 (US 20926) (A); Smith WD, 58:12-59:11.

3299. A February 13, 1989 cover letter from Eugene Peck of Shook, Hardy & Bacon to Robert H. Sachs, General Counsel, Product Litigation for B&W, transmitting a memorandum entitled "A Proposed Response to the 'Bad' Ads: The Calfee Defense to Express Warranty Claims," written by Peck and based on the opinions of Jack Calfee regarding the company's potential liability for claims of breach of an express warranty of health or safety for the self-proclaimed "bad" cigarette advertisements of the 1950s, acknowledged that Defendants' advertisements during the 1950s contained explicit claims of reduced harmfulness:

> [R]oughly between 1952 and 1955, [cigarette advertising] continued to address symptomatic aspects of smoking but added a new element: fear appeals containing general, brand-related suggestions of safety . . . . This is the era of the most troublesome ads. Some advertisements stated that a particular brand was 'safer' or offered greater 'health protection' than another . . . . Calfee would agree that the manufacturers probably intended to reassure consumers by the 1952-55 health ads.

682718536-8559 at 8541, 8553 (US 21029) (O).

3300. A 1999 B&W document, "Current Trends in Lights and Ultra Lights," stated under the heading "Learnings": "Consumers were ready for low tar before Marlboro Lights. Health concerns. . . . Anti-smoking pressure and PM's initiative ignited the process.

Manufacturers' focus on Lights accelerated the growth." 430403186-3194 at 3193-94 (US 22084) (A) (emphasis added).

3301. A December 16, 1999 "Presentation of Findings" for "STAR Tobacco Focus Groups" prepared for B&W by "Rabid Research," identified "4 segments of light/ultra smokers (segmented based on motivation for smoking light/ultra variant)." One of the four segments was identified as "those who switched because they believed lights/ultras are less harmful than full flavor and who feel they will not quit smoking." The Presentation noted these smokers were "very interested in the concept" of STAR reduced-nitrosamine tobacco, and that they "know they want to quit and want to reduce their risk . . . . focused on less 'bad stuff.'" The Presentation went on to acknowledge that many consumers smoke low tar cigarettes because they believe they are healthier, stating: "It's important to understand that **not all** light/ultralight smokers are smoking a non-full-flavored cigarette specifically due to health concerns. . . . Of those who switched due to some sort of 'health' concern, respondents who were consciously seeking a less risky cigarette in their switch to lights/ultras are the most interested in the Star [reduced-nitrosamine] proposition." This document also illustrates that, as is the case with low tar cigarettes, the advertisements and marketing efforts of the Defendants were intended to (and did) condition consumers to respond favorably to Defendants' harm reduction claims: "Nobody knows what a nitrosamine is[.] Consumers are currently focused on tar & nicotine[.] A direct statement helps to add 'nitrosamines' to the list of things I don't want in a cigarette." 190200047-0116 at 0061, 0071, 0073, 0095 (US 22162) (A) (emphasis added).

3302. Sharon Smith, former B&W Director of Marketing Services and Operations, testified that her consumer research indicated that, as compared to ultra lights smokers, smokers of lights cigarettes "did not have the same level of understanding of the tar numbers, and instead

spoke in terms of full flavor versus lights," and as a result "rely primarily on brand descriptors like ‘light,' ‘medium,' and ‘ultra light' as relative indicators of the cigarette's tar level," and that they "think of light and ultra light cigarettes as being lower in tar and nicotine." Smith WD, 76:4-12.

(iv) BATCo

3303. du Maurier. Like the other Defendants' advertisements, BATCo's advertisements in the 1950s for its du Maurier brand included explicit health claims, including the following:

> 1954: "[N]ow you don't have to choose between a filter cigarette and a good smoke . . . you get both with Du Maurier." ADV01120001-0003 (US 88730) (O).
>
> 1954: "A new frontier in safer smoking."
>
> 1954: "If you have been concerned about your cigarette habit . . . du Maurier tip filters out so much harmful smoke it will also filter out much of the ‘worry' in every puff you take."

696000888-0916 at 0895 (US 21387) (A) ("A Review of Health References in Cigarette Advertising 1927-1964" – document contains a "Brown & Williamson – Louisville" variance sheet).

3304. BATCo's Research On the Low Tar Cigarette Category. Susan Ivey, who worked in marketing for BATCo from 1990 and 1999, testified that while she was at BATCo, the company "conducted market research on consumer perceptions of light cigarettes." Ivey WD, 75:5-7. As demonstrated below, BATCo's research documents indicate that BATCo has long known and intended that its advertisements and marketing for low tar cigarettes featuring claims of lowered tar and nicotine and "light" and "ultra light" brand descriptors contributed to, and reinforced consumers' notion that low tar cigarettes are better for their health, and caused consumers to smoke them for this reason.

3305. A 1972 BATCo memorandum explained that health reassurances usually result in

increased sales: "Over the years manufacturers have provided the public with a variety of platforms to . . . ‘enhance the association in smokers minds between the benefits of smoking and our cigarette products'. Increasingly, by implication, these claims have turned to a health orientation and **very often the closer these have come to relating the smoking benefit to being one of "health" the more successful has been the brand**." 100006864-6868 at 6864 (US 20076) (A) (emphasis added).

3306. A May 3, 1974 note from Anthony D. McCormick of BATCo's Legal Department "[t]o all Members of the Conference" enclosed a document for discussion by BATCo employees at an upcoming internal conference. Under the heading "SMOKING AND HEALTH ASSUMPTIONS," the enclosed document stated: "**On legal grounds alone it will continue to be to the industry's advantage not to make explicit health claims. The industry will make increasingly competitive use of products for which health claims are implied.**" The statements quoted above are repeated later in the document in a chart under the same headings. 100428581-8599 at 8581, 8583, 8599 (US 34649) (O) (emphasis added).

3307. An internal April 14, 1977 BATCo memorandum by P.L. Short, Manager of BATCo's Marketing Department, describing BATCo's marketing plan, stated that "[a]ll work" would be "directed toward providing consumer reassurance about cigarettes and the smoking habit . . . **provided . . . by claimed low deliveries, by the perception of low deliveries and by the perception of ‘mildness.'** Furthermore, advertising for low delivery or traditional brands should be constructed in ways so as not to provoke anxiety about health, but to alleviate it, and enable the smoker to feel assured about the habit and confident in maintaining it over time." 100427791-7800 at 7794, 7799-7800 (US 34641) (O) (emphasis added - bold text).

3308. An August 5, 1980 BATCo memorandum signed by J. Kendrick Wells III, B&W

Assistant General Counsel, demonstrated the Defendants' concern that their unsubstantiated representations that low tar products were less harmful could lead to legal liability, because smokers would likely rely on these representations: "Statements by a manufacturer that certain cigarettes may be smoked with reduced or zero health risk could constitute an express warranty. A plaintiff who followed the representation and then got lung cancer might have a stronger case because the defense of voluntary smoking could be eliminated." 680050983-1001 at 0986 (US 20981) (O).

3309. An April 1982 document entitled "Conference on Marketing Low Delivery Products: January 1982" stated: "The BATCo.'s Board policy stated in the Market Expansion document is to lead the industry in the trend towards lowering deliveries. . . . [C]onsumers will probably believe that lower deliveries mean less ‘risky' products." 690120722-0756 at 0726, 0728 (US 21043) (A); Ivey WD, 80:14-81:9.

3310. A March 29, 1976 BATCo report entitled "The Product in the Early 1980s," indicated that BATCo's focus was on portraying the "image" that its products were less harmful, as opposed to producing products that were, in fact, less harmful. The report stated that "opportunities exist for filter and cigarette designs which offer the **image** of ‘health re-assurance.'" 110069974-9982 at 9974, 9979 (US 20268) (A) (emphasis added).

3311. An undated BATCo document entitled "Lights Segment Project Consumer Insight Into Smoking Lights" listed under the heading, "How to Create a Positive Lights Culture," the following three ways to "differentiate the lights from full flavor smoking . . . Color, Cues e.g. Blues & Whites . . . Lighter Lifestyles e.g. water related outdoor fun activities . . . Light symbols e.g. Bubbles[;] Air balloons[;] Light winds." 321546706-6724 at 6719 (US 46770) (O).

3312. Susan Ivey, who worked in marketing for BATCo from 1990 and 1999, testified

that, in her experience, "while many smokers know they are buying a lights product, their actual understanding of what the specific delivery numbers are is quite limited. For example, consumers might know they are smoking a lights version of a brand, but they wouldn't know what the machine-measured tar yield was for that cigarette." Similarly, a September 1992 BATCo Business Review prepared by Norma Simamane, BATCo Lights Project Manager, stated that "[g]enerally, the specific meaning of Tar and Nicotine is not understood by consumers. However, **they perceive a strong association between the numbers with 'perceived health effects'. Basic understanding is that 'the higher the numbers, the stronger the negative health effects'**." Instead of prohibiting advertisements intimating that low tar cigarettes are healthier, the document stated: "**Reference to overt communication of health related issues must be avoided**." The document also advocated using brand descriptors such as "'Light,'" "'Ultra'" and "'Suave (indicating Lights)'" as opposed to tar and nicotine yields, because "T&N numbers . . . tend to highlight negatives and to remind consumers of the negatives of smoking thereby increasing the 'guilt' feeling." The document further stated: "The importance of the Lights segment is demonstrated by the growth trend that is 5 times faster than total world cigarettes volume . . . . In addition to being profitable, future projections indicate an even faster growth of lights." Ivey WD, 76:10-12. Ivey WD, 82:4-11, 76:10-18; 321683062-3099 at 3087, 3090, 3065 (US 28586) (A) (emphasis added).

3313. A November 1994 BAT presentation entitled "Low Tar Band Market Overview and Lights Review" sought to use recent and previous studies and other market data to provide a review of "the dynamics and characteristics of the 0-4mg tar band segment and the perception of Lights" within the Australian cigarette market. A goal of this presentation was to provide feedback for "the expansion of Lights and lower tar deliveries in other BATCo markets." In

discussing smoker understanding of lights descriptors, the document conceded that the lights descriptors misled smokers into believing that the lights brands had less tar than they actually did, stating: "**Respondents got a 'surprise' when they read the mg content of the proposed range. They feel they have been somewhat mislead from the point of view that these are really 'normal' mild's posing as 'something' healthier**." 500262133-2183 at 2134, 2170, 2174 (US 48139) (A) (emphasis added); Ivey WD, 75:12-76:9.

3314. The same document reported as a "Key Finding" that Lights were "**perceived as a clever psychological ruse intimating that the smoker was indulging in a low tar content, an innocuous cigarette**." The presentation cited a September 1992 survey that found more than half of the smokers reported being under pressure to quit, and wished to quit, and **the group that most wanted to quit was in the Ultra Low Tar category**. 500262133-2183 at 2155-2156, 2173-2174, 2179-2182 (US 48139) (A) (emphasis added).

3315. A January 1995 research report prepared for BATCo entitled "Silk Cut Brand Status Check & Concept Evaluation" stated, under the heading "Attitudes to LTN [low tar and nicotine]":

> There was universal agreement . . . amongst ff [full flavor] smokers that they would switch to LTN if and only if a lights brand with taste could be produced. But that seemed almost a contradiction in terms for many of them as many ff [full flavor] smokers described a direct correlation between tar and nicotine levels and taste. Regular lights brands smokers – even Marlboro Lights – were reassured about health concerns by choosing to smoke such brands.

800056515-6581 at 6526 (US 31643) (A).

3316. A July 28, 1995 research report, prepared for Malaysian Tobacco Company Marketing by Acorn Marketing and Research, entitled "Project Grasshopper: Exploratory Research into the Lights and Menthol Segments," was directed at better understanding consumer

dynamics in relation to Menthols and Lights. The research suggested that brands were successful when a market niche was created, and that there was now a niche for Lights, in that social forces have worked ". . . to create a gap for a cigarette less hazardous to health." The report also concluded that "[l]ights are compatible with the 'healthy', 'moderation' lifestyle of the new generation," and that "**[h]ealth considerations would provide the rational justification for overcoming the 'less taste' attribute of Lights**." Under the heading "Understanding and Perceptions of Lights" the report noted that "[most] Smokers know that lower tar and nicotine relates to health considerations," and one focus group respondent was quoted as saying "[lights] is not so bad for the body." 800504239-4268 at 4241, 4244-4247, 4257-4259, 4267-4268 (US 56650) (A) (emphasis added).

3317. A report prepared for BATCo in January 1995 entitled, "Ultra-Lights Consumer Dynamics: Research to Assist BATCo to Better Understand Consumer Motivations, Behaviour & Requirements," examined the Ultra Lights segment in the Swiss market, and advised that "[r]isk management" is a "Key Motivation" for the terminology "Ultra Low Tar." 700326442-6455 at 6446, 6449 (US 54501) (A); Ivey WD, 76:19-77:6.

3318. A June 1995 draft report prepared for BATCo by Marketing Improvements Research entitled "Low Tar Consumer Dynamics Phase 2 Report" examined various aspects of Light, Ultra Light, and low tar cigarettes, including attitudes towards smoking, consumer behavior and usage patterns, and impacts of market terminology. The report noted: "Lights/UL smokers described their ideal cigarette as offering," among other things, "lowest possible damage to health." The report concluded that one of the "transitions in attitude and behaviour that need to be achieved" was that "[f]ear of negative health consequences" needed to change to an attitude of "[p]ersonal gain in physical well-being." The report also stated that some smokers who "trade

down" to Lights/Ultra Lights "report stronger inhalation" and that "[p]hysical sensation (associated with intake of "active" substances) . . . can be achieved by UL smokers very quickly by smoking several cigarettes." 500154681-4727 at 4689-4692, 4695, 4699-4700, 4706, 4716, 4721 (US 67903) (A); Ivey WD, 77:7-22.

3319. A June 23, 1995 document entitled "B.A.T. Industries Strategy Review" stated that "BAT must take advantage of the opportunity to develop a free-standing Lights brand." The first reason given for this "strategic imperative" was that "[t]he world market is gradually shifting to lower tar and nicotine levels. This is partly in response to health concerns and partly because Lights brands are seen as more contemporary." 321797455-7518 at 7489 (US 67830) (A); Ivey WD, 73:18-74:4.

3320. Two documents entitled "Kent Filter Issue Q&A Draft: September 21st 1995" reflect that BATCo's proposed response – "Some consumers probably choose lighter products because they believe they are safer" – to the question: "Do filters make cigarettes safer?" was edited out by hand by BATCo lawyers. 800493953-3954 at 3954 (US 56649) (O).

3321. A BATCo document bearing the heading "Barclay Business Review 1996" concludes both that consumers rely on product packaging and marketing (as opposed to FTC tar and nicotine deliveries) to indicate low tar level and that reduced tar level significantly increases purchase interest:

> Consumers – with the exception of 1MG smokers – are not able to quote correct tar/nic deliveries of the brand they are smoking currently. This means that the consumer does not segment the market in terms of deliveries but he uses colour coding and descriptors to distinguish FF, Lights and Ultra Lights. . . . shelving according to [FTC tar and nicotine] deliveries has a positive impact on the awareness of the Lights category in general. The willingness to try Barclay increased significantly.

700767443-7457 at 7452 (US 22123) (A); accord 321184656-4672 (US 22045) (O).

3322. This BATCo document further found that, "[i]n non-developed light markets" such as Norway, "[t]he growth of the [brand] family is driven by Barclay Number One which is an attractive offer for smokers switching down because of health concerns." It went on to state that:

> The results of the . . . smokers motivations study in Belgium show that the key drivers to the [ultralights] segment are health concern and peer/family pressure. . . . In the past the key driver to lights was consumers switching down from higher delivery products predominantly because of health concerns. Within this scenario Barclay attracted full flavour smokers around the age of 25-35.

700767443-7457 at 7444, 7448, 7451 (US 22123) (A).

3323. A February 8, 1996 report entitled "Project Tailight," prepared by On Track Marketing and Research Consultants for BAT Services Limited, Taiwan Branch, summarized "exploratory qualitative research" undertaken to analyze the growth of the lights/mild segment in Taiwan due, in part, to "[i]ncreased anti-smoking and health pressures." The report stated that the "Lights Phenomenon" was attributed in part to "[c]onsumers . . . growing awareness and concern for health" and that those not interested in lights were "[n]ot concerned/worried about health yet." It further noted that "[t]he stronger the addiction or need, the more likely 'lights' cannot fulfill the 'satisfaction'." A "key finding" listed in the report was that "true lights" smokers "claim to be smoking a light cigarette due to concerns about the health-related dangers (particularly death) of smoking." 800493562-3773 at 3565, 3569-3571, 3588 (US 56616) (A).

3324. An October 6, 1997 BATCo document stated: "The Lights segment is growing fast for the last two years due to the strong adoption among YAUS [young adult urban smokers] who smoke Lights for being less harmful for the health." 760008107-8111 at 8107 (US 54587) (A).

3325. In a BATCo Kent Super Lights Brand Plan, BATCo discussed ways in which to

"accelerate its lights segment growth." Under the heading of "Key Insights from 1997," the plan reported that "[l]ights franchise is skewed towards upscale 35+ female smokers, this is consistent with associated smoker (who is assumed to be health conscious)" and that "'[h]ealth conscious' brand choice is seen by ASU [adult smokers under] 30s as purchase pattern for 40+ smokers." 321551304-1323 at 1304, 1305 (US 22057) (A); Ivey WD, 78:1-13.

3326. A "Qualitative Research Report on Light Cigarette Brand Perceptions" dated January-February 1997, and also contained in BAT Russia's 1999 Brand Plan, stated, under the heading "Benefits Sought From Lights":

" The "Conclusions" Section stated:

760008596-8803 at 8686, 8692-8693 (US 54588) (Confidential) (A) (emphasis added).

3327. A 1998 BATCo research report entitled "Poland - The Drive to Lights" examined the "phenomenal" growth of the lights segment in Poland to "provide an insight into the key factors driving the remarkable development of the Lights segment in Poland" and "develop key learning's [sic] to share with Markets in order to support their Lights business and help drive the Lights Segment." The report found that the lights segment had "the greatest penetration in the ASU [adult smoker under] 30 group" and that this was caused in part by the fact that "[t]he ASU 30 group will also plan the future that they have ahead of them and are therefore looking for a

potentially less harmful substitute." 321541810-1835 at 1810 (US 22053) (A).

3328. A 1998 BATCo research report entitled "Hungary – The Drive to Lights" examined the growth of the lights segment in Hungary to "develop key learning's [sic] derived from the Hungary example to share with markets in order to support their Lights business and help drive the Lights segment." The report concluded that "the primary motivator for people smoking Lights cigarettes in Hungary is related to health." Noting the prevalence and influence of Western culture in the country, the BATCo report found that: "Western culture advocates a healthier way of life educating consumers about potential health and social issues associated with consumable products. Through this exposure, consumers begun [sic] to make the association between Lights cigarettes and their perceived 'health' benefits." The report also examined consumer perceptions of the word "lights," and found that the word 'Light' is "associated with a 'healthier' product that is less harmful to the health," while "Lights products are perceived to serve as an intermediate stage between healthy and harmful, mainly in the case of cigarettes." 321629213-9245 at 9213, 9222, 9243 (US 22065) (A).

3329. A February 1998 internal BATCo report entitled "The Evolution of Lights in the USA" provided "an analysis of the light evolution for the cigarette category in the unique scenario of the USA market" in order to "identify the forces that ignited and accelerated the [lights] segment development and extract learnings from the strategies that the key players applied to take their brands to top positions." The report noted that the "Ultra Lights segment's franchise is mainly composed by 51+ year smokers who are willing to trade off taste by ultra low tar due to their health concerns." 321629186-9196 at 9190, 9194 (US 22062) (A); Ivey WD, 80:1-13.

3330. A February 24, 1998 BATCo document contained in BATCo's "Kent BAT Russia

1999 Brand Plan" noted that

760008596-8803 at 8768-8769

(US 54588) (Confidential) (A) (internal numbering omitted).

3331. A March 4, 1998 internal BATCo draft report entitled "Lights Information Kit," that provided "a summary of British American Tobacco's understanding of Lights cigarettes" to assist BATCo in its attempt to "take an increasing share of this segment," equated cigarette brand descriptors with brand descriptors used for food and drink products. The report noted that "[t]here has been a clear trend over the past two decades in many food and beverage categories towards lighter products, often on the basis of an offer of lower calories or lighter taste but also often portrayed as a modern choice." Citing diet colas, light beers, and lower fat foods as examples, the report noted that "[t]rends for lighter food and beverage products can act as an indicator of trends towards lighter cigarette brands." 321478980-8985 at 8980, 8982 (US 22049) (A); Ivey WD, 74:5-75:4.

3332. A BATCo document from 1998 or thereafter entitled "Perception of Lights," based on BAT research in Hungary, reported under the heading "Advantages of Lights" that clearly the most cited reason that smokers choose light cigarettes (given by 40.5% of the smokers questioned) is that they are believed to be "[l]ess damaging to overall well being." The document

stated that "**[p]eople see advantages of 'Lights' to mainly be 'less damaging to overall well-being', 'milder, lighter', and 'less nicotine, tar'**. . . . Lights smokers cite reasons for smoking them as – health, social pressure, prestige and as an attempt to reduce addiction." Taste was not mentioned as a "reason for smoking" light cigarettes. 321541609-1679 at 1609, 1644, 1652 (US 22052) (A) (emphasis added); Ivey WD, 78:14-79:4.

3333. A 1999 BATCo document entitled "Lightning – Extreme Smoking Regimes Testing Results and Implications for IT and The Light-Mild Issue" cited a "Smokers' attitudes report" that found that 39% of those who switched to a Light/Mild brand did so for "[h]ealth reasons" and 18% did so as a "step to quit[ting]." Further results showed that more smokers perceive the terms "light" and "mild" to indicate low tar than to connote taste or any other characteristic. 321989078-9276 at 9121-9122 (US 28819) (O).

3334. A 1999 BATCo presentation on marketing in Europe bearing the headings "Research" and "Heathrow Proposition" stated that many smokers want to "trade down" in tar in order to minimize risk and harm caused by their cigarettes: "[S]trong potential for a new low tar brand – many smokers looking to trade down. . . . Low tar Minimise Risk, Maximise Pleasure. . . . New Product Proposition Low tar product with smoother yet fuller smoking experience[.] All, bar quitters, welcome proposition – more fun/enjoyment, less harm." 321628040-8076 at 8056, 8059, 8061 (US 22060) (A).

3335. A document on BAT Russia letterhead contained in BATCo's "Kent BAT Russia 1999 Brand Plan" demonstrates British American Tobacco's plan to exploit, for profit, smokers' false perceptions that low tar cigarettes are less harmful.

A

November 8, 2002 BAT Russia document entitled "Market Research – Initiating Project Brief" contained a nearly identical admission:

760008596-8803 at 8770, 8800 (US 54588) (Confidential) (A).

3336. A Market Research Summary Report bearing a BAT legend and contained in BAT Russia's 1999 Brand Plan presented the following "Key Conclusions" from research conducted for BAT in Moscow

760008596-8803 at 8676-8679 (US 54588) (Confidential) (A).

3337. A January 2001 BATCo file entitled "Consumer Concept Trial Notes Jan 2001 Project Baltec II" contains a section dated January 10-12, 2001, entitled "Philadelphia – General Impressions and Summary," that revealed the results of consumer research on low tar cigarette smokers.

325238922-8994 at 8981, 8991-8994 (US 22079) (Confidential) (O).

3338. A January 10, 2001 BATCo document written by Steven Coburn, entitled "Project Balcony," that referenced Philadelphia, Pennsylvania marketing studies related to proposed campaigns, acknowledged that low tar and nicotine messages in advertising imply a health benefit. The document stated "3rd board impresses the low nic/tar idea – **appears to imply healthier though no cig is healthy**." 325239028-9036 at 9029 (US 22083) (O) (emphasis added). An identically titled document from the same author dated January 11, 2001, stated under the heading "Benefit": "Lights are supposed to be more healthy." 325239035-9036 at 9035 (US 22083) (O). A BATCo document dated January 15, 2001 with the same title and author, but which referenced Santa Monica, California marketing studies related to proposed campaigns, stated "less tar nic – less harmful." 325239014-9027 at 9015 (US 22082) (O). A January 23, 2001 document with the same title and author and referencing Tokyo, Japan smokers stated "low nic tar idea is positive – healthier." 325239001-9005 at 9004 (US 22081) (O). Another document with the same date, title and author (also regarding smokers in Tokyo and Japan) stated "3rd board – sounds healthier – lower nic/tar. . . . Other Benefits/potential issues: What do you look for if you change brands? Tar/nic levels – low as possible but still get satisfaction from cig[;] Taste[;] Health consciousness – lower tar." 325239006-9007 at 9006-9007 (US 22081) (O).

3339. Dr. Sharon (Boyse) Blackie, former Head of the Smoking Issues Department at BATCo, testified that she has "been aware for some time that some smokers believe that low tar cigarettes are less hazardous to their health," and that "some smokers believe that by switching to low tar cigarettes, they will achieve a health benefit." Blackie WD, 184:14-21.

(v) American Tobacco

3340. American Tobacco's brands included Carlton, Lucky Strikes, Pall Mall, and

Tareyton, until they were acquired by B&W in 1995. Gesell PD, State of Minnesota v. Philip Morris Inc., 9/18/97, 6:10-17; 117:3-15; 25:23-26:3; 93:2-13. Like the other Defendants, American Tobacco used descriptive terms and low FTC tar ratings to convey misleading and unsubstantiated health messages to the public regarding their low tar cigarettes. For instance, a "1969 Survey of Cigarette Smoking Behavior and Attitudes" performed for American Tobacco illustrates American's understanding that consumers perceived certain brands as less harmful to smoke than others. The survey contained the following questions: "What brand or brands of cigarettes come to mind when I say: Is safest to smoke? Is most effective in eliminating the things that are bad for you? Can prevent cigarette cough? Is best for people who are just starting to smoke regularly?" 650340129-0193 at 0151 (US 20948) (A); (US 22117) (O).

3341. A November 11, 1976 report prepared by Fay Ennis Creative Research Services for F. William Free & Company, an advertising agency used by American, summarized focus group sessions relating to low tar cigarettes. The report noted that all of the group participants had switched to low tar cigarettes "because they felt that low tar cigarettes are healthier than high tar cigarettes." The report identified as another reason for switching, "[t]here was a feeling low tar cigarettes are packed with less tobacco than the high tar variety and therefore are less harmful because there is actually less tobacco, i.e., less tar and nicotine in each cigarette." When asked to define a low tar cigarette, some participants responded: "Lets less tar and nicotine get into my lungs." ATC013 7310-7324 at 7318-7319 (US 87890) (O).

3342. Carlton. American Tobacco led the way in the use of low tar brands as a marketing tool to keep smokers in the market with its introduction of Carlton. For nearly 30 years, American placed advertisements in nationally-circulated magazines that touted Carlton's purportedly low tar. For instance, American's advertisements in Time and Newsweek in 1964 for

Carlton cigarettes stated: "Everything about Carlton is selected and crafted to produce this one result: A cigarette that is low in ‘tar' and nicotine – yet high in smoking pleasure. Carlton is so low in ‘tar' and nicotine that we print test results on all packs, on all cartons. . . . Carlton – lightest smoke of all. See for yourself." ATX040070514-0519 (US 21125) (O); see also ADV011 1575-1579 (US 3028) (A); ADV107 0020-0022 (US 88689) (A); ADV107 0023-0027 (US 88690) (O) (1964 Carlton advertisements).

3343. A June 8, 1964 report prepared by Gardner Advertising Company for American Tobacco, entitled "A Summary Report of Two Carlton Research Studies," summarized "Carlton Concept Research" and "Carlton Penetration Research." The report stated as a "Highlight" that "Based on Ad Exposure Before Product Availability," smokers "[s]aw CARLTON as a high filtration cigarette, low in tar and nicotine. Although the advertisement made no mention of it, there was a tendency to interpret CARLTON as lower in tar and nicotine, safer, less harmful." ATC2503644-3706 at 3650 (US 87891) (O) (emphasis in original).

3344. A 1967 Annual Report of American Tobacco shows that its Carlton cigarette, which "was developed to appeal to those smokers preferring a light cigarette – one that is low in ‘tar' – and nicotine yield," achieved "sizeable sales increases in 1967" resulting from "favorable publicity" as a low tar, low nicotine cigarette. MNAT00029170-9201 at 9176 (US 21222) (O).

3345. American Tobacco labeled Carlton an "unusual new cigarette" that is "so low in ‘tar' and nicotine we print test results on all packs and cartons." In 1968, American's Carlton advertising stressed the fact that it was found lowest in ‘tar' by U.S. Government testing and cited its "unique Air-Stream Filter" as the source of its ability to reduce tar to 4 mg. (as compared to a then industry average of over 20 mg.). ATX40397140-7141 (US 85020) (A); MNAT00386652-6652 (US 85112) (A); Dolan WD, 124:12-17.

3346. By using the FTC machine test yields to imply that the Federal Government had endorsed the company's "low tar" claim, American Tobacco's advertisements in the 1970s suggested that Carlton cigarettes were less harmful:

1973: "For 10th straight published Gov't Report Carlton. Still lowest in ‘tar' of all regular filter kings tested . . . . For the last 10 consecutive Government Reports. Carlton has been found lowest in ‘tar' of all regular filter kings tested. That's every Report since October 1968." ATX040070514-0519 at 0515 (US 21125) (O).

1974: "Of all filter kings tested: Carlton is lowest. For the 12th straight time, the U.S. Government has reported Carlton to be the lowest in tar of all filter kings tested." (US 87178) (O).

1975: "Of all filter kings tested: Carlton is lowest. Look at the latest U.S. Government figures for other brands that call themselves low in tar." US 4605 (A); Biglan WD, 281:17-283:22; (US 87183) (O).

1975: "U.S. Government Report shows only one is lowest... Carlton." (US 88691) (O).

1978: "U.S. GOVERNMENT REPORT: CARLTON LOWEST. Carlton claim confirmed. Many cigarettes are using national advertising to identify themselves as ‘low tar.' Consumers, however, should find out just how low these brands are–or aren't. Based on U.S. Government Report: 14 Carltons, Box or Menthol, have less tar than one Vantage. 11 Carltons, Box or Menthol, have less tar than one Merit. 11 Carltons, Box or Menthol, have less tar than one Kent Golden Lights. 6 Carltons, Box or Menthol, have less tar than one True . . . . This same report confirms of all brands, Carlton Box to be the lowest with less than 0.5 mg. tar and 0.05 mg. nicotine." (US 5961) (O); (US 5978) (O).

1978: "Carlton is lowest. See how Carlton stacks down in tar. Look at the latest U.S. Government figures [table comparing Carlton favorably with Winston Lights, Vantage, Salem Lights, Kent Golden Lights, Merit and True cigarettes]" (US 5811) (O); (US 5707) (O).

1978: "Based on latest U.S. Government Report: Carlton is lowest. See how Carlton stacks down in tar. Look at the latest U.S. Government figures [referring to table indicating Carlton has lower tar than Winston Lights, Vantage, Salem Lights, Kent Golden Lights, Merit and True cigarettes]." (US 5948) (O).

1983: "Read the numbers on the pack. Carlton is lowest." (US 7637) (A); Biglan WD, 281:17-283:22.

ATX040070514-0519 (US 21125) (O); 03496228-6630 at 6309, 6310, 6580 (US 20057) (O).

3347. A September 1973 report prepared for American entitled "Tareyton, Iceberg 10, Carlton" discussed marketing strategies for these three brands. In the "Advertising Strategy Statement" for Carlton, in a section entitled "The Prospect's Problem," the report noted that in focus group interviews "the 'health' problem is most frequently mentioned, but people tend to ignore the negatives and continue to smoke out of pleasure or habit." The report went on to say that "Carlton's copy strategy for 1973/1974 will continue to be straight forward and factual, **appealing to those smokers whose concern for 'health' hazards leads them to seek out a cigarette with truly low 'tar' and nicotine content**." ATC2472182-2243 at 2216, 2225 (US 87892) (O) (emphasis added).

3348. When Eric Gesell, designated representative of American who worked for American from 1963-1994, was asked in a 1997 deposition what American intended by its Carlton cigarette advertisements from 1974 and 1978 with the slogans "Carlton is lowest" and "Carlton lowest," Gesell testified that, "[w]hat [American is] doing in this ad is using the FTC figures in order to try to sell a cigarette." Gesell also testified that "[w]hat [consumers] would get from" the advertisement "is that Carlton is the lowest in tar." Gesell had no evidence that smokers are aware that the way they smoke a cigarette significantly affects the tar delivery. Gesell PD, State of Minnesota v. Philip Morris Inc., 9/18/97, 5:8-25, 6:5-6, 6:10-17, 115:19-118:14; ATX040070514-0519 (US 21125) (O).

3349. Carlton's 1981 Marketing Plan, dated August 18, 1980, discussed ways to make Carlton cigarettes "the brand of the 1980's." The forward of the plan noted that "[t]he Ultra Low segment of the market is continuing to grow rapidly as more and more smokers search for smoking pleasure at tar levels more in tune with the mores of the times. **Carlton, as innovator**

and category leader, is well poised to capitalize on this trend by its inherent positioning."

ATC0735197- 5261 at 5199 (US 87893) (O) (emphasis added – bold type).

3350. The Carlton 1981 Marketing Plan also discussed "1981 Specific Problems and Opportunities." In this section, the report stated:

> [i]t is anticipated that a new FTC Report will be released in January, 1981. Although the Report may cite the tar and nicotine data of a Box product we are not currently marketing, **we will create new advertising to capitalize on the Report as fully as possible**.

ATC0735197- 5261 at 5237-5238 (US 87893) (O) (emphasis added).

3351. A circa 1983 letter to H.W. Bahrenburg, American Tobacco Product Manager, from Tom Keane of Laurence, Charles & Free, Inc., discussed advertisements for American's Carlton cigarettes, stating that American would proceed with the advertisement that best communicated that Carlton was "'lowest'" in tar and nicotine: "Our recommendation was to go with the B ad – 'Compare' with the 'U.S. Gov't Report.' This ad did very well in the general low-tar area and in fact it was the only ad which showed a 'lowest' playback on the primary question – 'What do you get out of this ad?' . . . . [W]e are proceeding with 'Compare' and 'U.S. Gov't' on the new . . . ad." The advertisements attached to the letter stated: "Compare to your brand . . . . Box King – lowest of all brands – less than 0.01 mg. tar, 0.002 mg. nic. Carlton is lowest. . . . U.S. Gov't Report – no brand lower than Carlton Box King – less than 0.5 mg. tar, 0.05 mg. nic . . . . FTC Report Mar. '83." 991034809-4816 at 4809, 4816 (US 85113) (O); see also (US 7536) (O) (1983 Carlton advertisement that appeared in Sports Illustrated magazine).

3352. An August 4, 1983 American Tobacco memorandum from John A. McGinn, Product Manager, to W.J. Moore, Marketing Director, entitled "CARLTON Slims," stated: "At a 6 mg. tar level, this 100 mm product would be responsive to those consumers seeking low tar . . .

. It would also extend CARLTON's 'lowest' position to yet another cigarette category." 991341428-1440 at 1428 (US 85114) (O).

3353. A February 1987 magazine advertising campaign for Carlton also prominently featured claimed tar and nicotine reduction: "If you smoke . . . Compare your cigarette to Carlton. If you're interested in smoking an ultra low tar and nicotine cigarette, you should compare the tar and nicotine content of your cigarette to Carlton. Most cigarettes sold today have 10 times the tar and nicotine of Carlton Box Kings & Box 100's." Another Carlton advertisement campaign from the late 1980s also had lowest tar as its centerpiece and implied a United States Government endorsement, listing Carlton as having lower tar than Philip Morris's Merit and RJR's Vantage cigarettes:

> If you smoke . . . Here's the latest comparative information for smokers who want lower tar & nicotine. . . . CARLTON became the first brand to put these figures right on the pack. . . . In the last 21 reports issued by the U.S. Government, no cigarette has tested lower than Carlton. . . . If you are interested in the tar content of your cigarette, you should compare the tar content of your cigarette vs CARLTON. If you are interested in the lowest . . . LATEST U.S. GOV'T REPORT CONFIRMS: no brand lower than Carlton Box King.

MNAT00746229-6229 (US 21230) (O); (US 8246) (O) (1986 Carlton advertisement that appeared in Sports Illustrated magazine).

3354. A 1987 advertisement for American's Carlton cigarette stated: "**Carlton cuts tar by 40%! . . . . Carlton is lowest**. Reduced to 3 mg. tar." Eric Gesell testified in 1997 that American did not place any disclaimer with this advertisement to indicate that the FTC yields that were the basis of American's claim that "Carlton cuts tar by 40%" did not refer to the amount of tar and nicotine to which a smoker of these cigarettes would be exposed. Gesell PD, Minnesota, 9/18/97, 5:8-25, 6:5-6, 6:10-17, 128:4-17, 131:22-132:19.

3355. A February 29, 1988 American Tobacco memorandum from R.E. Smith, Director of Brand Management, to K.P. Noone, Product Manager, stated:

> The singular objective of all consumer communication should be registering Carlton's lowest positioning. We must continue to hammer this lowest message home to our current franchise. It's why they came to Carlton. As switching losses to Now show, it's the best way to lure them away. . . . It is my belief that most smokers will continue to seek lower tar. They have switched for it in the past, often several times.

991216857-6858 at 6857 (US 85115) (O).

3356. In the 1990s, American's advertisements for Carlton also featured purported testimonials of smokers who claimed to have reduced their exposure to tar by switching to Carlton, including the following:

1994: "**I switched to less tar**. Like many other smokers, I wanted less tar. But I thought I'd have to sacrifice flavor... and isn't that what smoking's all about? Then I tried Carlton... and I switched! Carlton is the lowest in tar. . . I figure if you're going to switch to less tar, why not go the distance!" (US 9257) (O); ATX040268971-8971 (US 21127) (O) (emphasis added).

1994: "I switched to lowest tar." (US 9285) (A).

1994: "If you want less tar please try Carlton . . . . U.S. Gov't. Test Method confirms of all king soft packs: Carlton is lowest in tar and nicotine." 970469347-9474 at 9460 (US 85104) (O).

See also 970469347-9474 at 9452-9457 (US 88612) (O) ("Carlton Creative" collection of advertisements including Carlton's "I Switched To Lowest Tar" advertisements); 970557462-7465 (US 85116) (O) (Dec. 6, 1993 letter on American Tobacco letterhead from James M. Murray to Nancy Gavlick attaching similar "print ad comps" for Carlton).

3357. American Tobacco also placed advertisements for Carlton in the 1990s claiming that smokers could smoke ten packs of Carlton and still receive less tar than they would from smoking one pack of Marlboro, Camel, Winston, Kent, or Viceroy. (US 9182) (A) (1993

advertisement in Sports Illustrated magazine stating: "10 packs of Carlton Menthol have less tar than 1 pack of these brands"); (US 9122) (A) (1992 advertisement noting same); Biglan WD, 281:17-283:22; (US 9093)(O) (1992 Carlton advertisement stating same); 970469347-9474 at 9464-9466 (US 85104) (O) (1990s Carlton advertisements stating same); (US 9186) (O) (1993 advertisement stating: "A WHOLE CARTON OF CARLTON . . . HAS LESS TAR THAN 1 PACK OF THESE BRANDS. . . Carlton is lowest in tar and nicotine"); Smith WD, 68:15-21.

3358. A September 13, 1994 document prepared for American Tobacco entitled "LCF & L Agency Orientation Handbook" describes American's print advertising strategy to "[p]rompt competitive target smokers to question their Brands Tar Level and present CARLTON as a contemporary, satisfying answer for those smokers seeking lower tar. The strategy and presentation should start and build from a common 'truth' in our prime prospects mindset – to serve as a reminder that they too want less tar." The "Positioning Statement" was: "Carlton is the brand chosen to 'switch' to in the ULT category because it is the lowest in tar and nicotine, as confirmed by the U.S. government FTC method. By smoking Carlton you get the lowest and you do not have to sacrifice flavor." 970469347-9474 at 9354, 9411 (US 85104) (O).

3359. Lucky Strikes. In 1974, American Tobacco advertised that by switching to Lucky Strikes, smokers could: "Cut your 'tar' in half with Lucky 100's." (US 4405) (A); (US 4415) (A); Smith WD, 74:3-14; Ivey WD, 52:4-8.

3360. Pall Mall. American Tobacco advertisements for Pall Mall Gold cigarettes in the 1950s and 1960s featured claims of "mildness" and lowered tar and nicotine, and stated: "You make out better at both ends." Eric Gesell testified in 1997 that this advertisement indicated two benefits, "flavor at one end on the cigarette, and the other is a longer filter." Regarding a Pall Mall Gold advertisement with the same slogan, Gesell testified that: "[T]his is an ad that says

Pall Mall Gold is now lower in tar than the best-selling filter king." (US 88720) (O) (1953 Life magazine advertisement); (US 87209) (O) (1969 Life magazine advertisement); ATX040696413-6413 (US 88613*) (O) (1968 Time magazine advertisement); (US 87476) (O) (1968 Time magazine advertisement); MNAT00282147-2147 (US 88614) (O) (1969 Life magazine advertisement); Gesell PD, Minnesota, 9/18/97, 5:8-25, 6:5-6, 6:10-17, 93:2-21, 94:10-17, 96:3-12.

3361. A 1976 advertisement for American's Pall Mall Extra Mild cigarettes published in Sports Illustrated magazine stated: "Lower in tar than 95% of all cigarettes sold. De-tarred but not de-tasted." (US 5232) (O); MNAT00742048-2048 (US 21229) (O) (1976 New York Post advertisement stating same).

3362. Tareyton. A 1954 Tareyton advertisement explicitly stated that its cork filter provided health protection, stating: "Tareyton's genuine cork tip protects your lips." 696000888-0916 at 0913 (US 21387) (A).

(vi) Lorillard

3363. Kent. Lorillard introduced Kent cigarettes in the early 1950s as a health reassurance brand with advertising featuring explicit claims of health protection. Early Kent advertisements emphasized the supposed benefits of its Micronite filter and stated that it rendered Kents less hazardous to health. Dolan WD, 123:21-125:5; Harris WD, 68:19-69:18.

3364. Explicit health claims in Lorillard's Kent advertisements from the 1950s included the following:

1952: "No other cigarette approaches such a degree of health protection and taste satisfaction. Stop and think . . . and you'll start to smoke KENT." 91797854-7855 (US 74413) (A) (*Daily News* advertisement).

1952: "This is the story of the birth of a new cigarette and the birth of a new idea in health protection for cigarette smokers." 696000888-0916 at 0897 (US 21387)

(A).

1952: "[A] new freedom from worry about the effects of tobacco irritants." 696000888-0916 at 0897 (US 21387) (A).

1953: "The new KENT can make a world of difference in your smoking pleasure and in the effect smoking has on your health." (US 87185) (A).

1953: "First cigarette ever to give you black and white proof of greatest health protection!" (US 88703) (A); 696000888-0916 at 0897 (US 21387) (A).

1953: "Kent-the one cigarette that can show you proof of greater health protection. . . . Kent with exclusive MICRONITE Filter full smoking pleasure . . . plus proof of the greatest health protection ever." (US 87481) (A).

1953: "To 1 out of 3 smokers: Here's how science solved your problem of sensitivity to nicotine and tars... with a great new cigarette KENT. . . . Health protection that's not a matter of opinion. . . . KENT gives smokers the combination they've wanted *– a really good smoke and real health protection.*" (US 88705) (A) (emphasis in original).

1953: "To 1 out of every 3 smokers: Which cigarette gives you the greatest health protection? . . . . Kent with exclusive MICRONITE filter." (US 87187) (A); (US 87483) (A).

1953: "To 1 out of every 3 smokers . . . get the health protection you definitely need . . . . Kent with exclusive 'MICRONITE' FILTER. . . . on these pages is visual proof of KENT's greater health protection. . . actual photographs of the now-famous KENT demonstration performed in thousands of stores, and every week on TV's 'The Web.'" (US 87482) (A).

1953: "You are about to see something vital to 1 out of every 3 smokers. . . . Kent – and Kent alone – offers the health protection they need." (US 87188) (A); (US 87484) (A).

1953: "If you're looking for pleasure, plus the greatest health protection ever developed . . . . If you think you need the kind of protection that only KENT offers–the greatest in cigarette history–you should smoke KENTs . . . . see if KENT doesn't add to your feeling of well-being." (US 87189) (A).

1953: "If you're looking for pleasure plus the greatest health protection ever developed, this may help you find it! . . . . of all these 27 brands, there is ONE which in impartial tests proved to give sensitive smokers far greater health protection than any of the others. This cigarette is KENT with the 'Micronite' Filter - undoubtedly the greatest filter development in cigarette history. . . . In an exhaustive and continuing series of chemical and physiological tests - conducted

both in the P. Lorillard laboratories and by independent research scientists–KENT is providing convincing additional evidence of health protection. These findings – which show the effects of various types of cigarettes on the human system, and put KENT in a class all by itself where health protection is concerned– have been made available to doctors." (US 88704) (A) (emphasis in original).

1953: "There are many reasons why KENT has skyrocketed into the greatest popularity of any new brand of cigarette introduced in the last twenty years. . . . the biggest reason for KENT's success is right before your eyes. It is the fact that KENT's 'Micronite' Filter removes up to seven times more nicotine and tars than other filter cigarettes." (US 87186) (A).

1954: "If you need the protection of a filter cigarette... get KENT, the cigarette that takes out *far* more nicotine and tars than *any* other filter cigarette, old or new. . . . KENT has the exclusive Micronite Filter . . . the safest, most effective filter material ever used on a cigarette." (US 88698) (A).

1954: "The **American Medical Association** voluntarily conducted in their own laboratory a series of independent tests of filters and filter cigarettes. As reported in the Journal of the American Medical Association, these **tests proved** that of all cigarettes tested, one type was the **most effective** for removing tars and nicotine. This type **filter is used by Kent** . . . and only Kent! . . . For the greatest protection of any filter cigarette." (US 88731) (A); 82159133-9133 (US 67414) (A); 92437410-7410 (US 57188) (A) (emphasis in original); Harris WD, 70:6-12.

1954: "The difference in price is just a few pennies . . . the difference in protection is priceless! Only Kent goes to the extra expense to protect you with MICROSCOPIC FILTERING." (US 88728) (A).

1954: "If you're the 1 in every 3 smokers who needs protection against tars and nicotine . . . Look at Kent's proof of greatest filter protection and see why you should change to Kent! . . . . the greatest filter protection in cigarette history!" (US 88700) (A).

3365. Kent marketing serves as an illustrative example of Defendants' evolution from using explicit health claims – which established in consumers' minds that low tar/filtered cigarettes are less harmful – to later implicit health claims that added to and reinforced their earlier explicit claims. This approach is evident in Lorillard's advertisements for its Kent cigarettes. Kent advertisements from the late 1950s and 1960s including the following:

1955: "Your voice of wisdom says SMOKE KENT." (US 2746) (A); (US 2749) (A); (US 2747) (A).

1955: "KENT... for those who really care." (US 2751) (A).

1956: "If you smoke a lot, you'll relax even more with…KENT." (US 2775) (A).

1956: "If you smoke a lot…CHANGE TO KENT…CHANGE TO KENT." (US 2777) (A); (US 2780) (A).

1962: "KENT with the MICRONITE filter refines away harsh flavor. . . makes the taste of a cigarette mild and kind!" (US 10104) (A); see also (US 10110) (A); (US 10111) (A); (US 10113) (A); (US 10114) (A) (1963 Kent advertisements in Cosmopolitan magazine featuring claims that Micronite Filter "[r]efines away harsh flavor... refines away rough taste... for the mildest taste of all!").

1963: "Kent with 'MICRONITE' filter gives you the best combination of filter-action and satisfying taste." (US 3003) (A).

1963: "KENT with the Mirconite Filter offers smokers the best balance of filtration and mild, satisfying taste." (US 10115) (A).

1966: "A filter that does its work." (US 3147) (A); (US 3152) (A).

3366. In a May 20, 1958 letter to Morgan J. Cramer, Lorillard's Director of Export & Government Operations, the General Manager of a Venezuelan distributor of Kent cigarettes noted that "the health angle" had been "our main selling and advertising point" for Kent advertising in the United States. The letter added: "We have succeeded in covering a good part of the American colony who are by far the majority of people who are sticking to Kent. **No doubt they are influenced by American advertising and no doubt the mildness of Kent chimes in with the 'protection' angle**." 95508397-8398 (US 32365) (O) (emphasis added).

3367. A July 31, 1963 Lorillard memorandum from R.F. Kieling, Director of Market Research, to M.J. Kramer, President of Lorillard, that bore the subject heading "1963 Gallup Attitude Survey on Smoking," reached the following conclusions concerning the public's perception of the "safest" cigarette brand based on Gallup polling: "As in the past two studies (1959 and 1962) Kent leads the field here, with 18% of all cigarette smokers saying this brand is 'safest' to smoke. Among filter smokers, Kent rates even higher (21%) . . . . Winston and Salem

are second and third choice brands, although considerably below KENT. . . . Filter and mentholated cigarettes are considered most favorably, with most people voting them ‘very safe' or ‘moderately safe'. . . ." The "General Wrap-Up" stated: "Although the American public is considerably more antagonistic towards the cigarette industry this year, the Kent brand continues to stand alone as the one brand believed ‘safest' by a significant proportion of other brand smokers, as well as among Kent smokers themselves." 89836071-6076 at 6074-6076 (US 32095) (O).

3368. A September 15, 1964 Lorillard memorandum from M. Yellen to Morgan J. Cramer, President and CEO, concerning Lorillard's marketing and sales policies, stated that, for several months before the release of the first Surgeon General's Report in January 1964, "LARK [a Liggett cigarette brand] was setting a base for future sales activities through the use of hospitals via rumors or otherwise . . . that medical scientists endorse LARK as the safest cigarette. This marketing technique on the part of LARK proved successful." This memorandum also acknowledged that Lorillard's marketing of Kent cigarettes as a less harmful brand contributed to its increased sales:

> **As all of us are aware, KENT was marketed as a ‘safer' cigarette for the smoker who was concerned about smoking and health**. In 1956 when an innocent third party (Reader's Digest) created an awareness to the consumer that KENT was the ‘safest' of all popular cigarettes, Lorillard exploited this advantage so that within a short period of two years the KENT volume grew from less than four billion cigarettes to thirty-eight billion annually. . . . I feel we were successful in accomplishing our objective and maintaining the safety image of KENT among consumers sensitive to health.

01124257-4265 at 4259, 4257-4258 (US 20033) (A) (emphasis added).

3369. In the early 1970s, Lorillard returned to the Micronite filter, refocusing on the product feature it had promoted for decades as providing health benefits to smokers. With

respect to Kent's "marketing strategy," the "Lorillard Brand Reviews & Projections 1970/71" report stated: "Losses sustained as a result of moves to higher filtration brands will be stemmed through revitalization of the Kent health assurance heritage provided by the 'Micronite' Filter." 04105292-5384 at 5296 (US 29394) (O).

3370. A May 1971 Report prepared for Lorillard entitled "A Study of the Meaning of the Micronite Filter to Smokers Today" demonstrated that Lorillard targeted "health-anxious" smokers with "health reassurance:" "The marketing strategy has been to hold on to its current Kent smokers and to attract lo-fi smokers by promising taste satisfaction plus health reassurance. With the growth of the hi-fi segment, a third target is those health-anxious hi-fi smokers who are looking for more taste satisfaction than these current hi-fi brands can deliver." The report added that "Kent and micronite filter may be, after years of advertising, strongly associated in smokers minds. . . . Prior research suggests that dropping micronite for five years had little effect on Kent's health filter image. This does not mean, however, that if Kent had not dropped micronite for those 5 years that Kent might not have been even more strongly perceived as a health brand." 03340192-0201 at 0195-0196 (US 29265) (O).

3371. A Lorillard document circa 1972 entitled "Kent Status" stated: "Kent became a major brand after the 1957 *Reader's Digest* article had proclaimed it as the brand with the most effective filter. In the next years of gains and consolidation, the micronite filter was advertised as a unique Kent benefit, giving health reassurance to its growing franchise of older, better-educated, health concerned smokers." 03300409-0418 at 0411 (US 29263) (O).

3372. A document entitled "Kent Local Newspaper Support Summary Apr/August '73," under the heading "Kent Creative Strategy," stated: "1) Consumer Benefit To convince smokers that Kent offers a combination of satisfying taste . . . . With **health reassurance** through

superior filtration." 03078097-8110 at 8100 (US 74705*) (emphasis added - bold type).

3373. A November, 1976 study entitled "Lorillard 1976 Switching Study Summary," prepared for Lorillard by Marketing Corporation of America, found that "low T&N [tar and nicotine] brands, seem to be satisfying smokers' intellectual T&N concerns." The study noted that the results "fully support the Lorillard strategy in the 5-year plan (updated 11/15/76) to: 1. Focus marketing and R&D efforts against brands responsive to the cigarette controversy." Dr. Dolan explained that because "many people wanted to quit because of their concerns over health," this Lorillard study "showed the role of low tar and nicotine brands in addressing these concerns." Dr. Dolan further explained that "[i]t also shows that in 1976, Lorillard planned to focus its marketing on the low tar brands with the foundation of a false premise of being more responsive to consumers' health concerns." 03296482-6544 at 6485, 6498 (US 46455) (A); Dolan WD, 121:1-14.

3374. A March 21, 1978 "Kent Advertising Brief" was prepared for the consumer research firm Foote, Cone and Belding, to provide "the background and brand information necessary to develop a global creative strategy for the Kent brand." In a section entitled "Brand Positioning," the brief recommended that "[a]dvertising and support materials should emphasize Kent's mildness in taste and health terms. The white pack and tipping will be exploited to reinforce this positioning." Also in this section, it was noted that "Kent Deluxe will present an image consistent with the King Size styles in offering health reassurance." In a section entitled "Target Audience," the brief stated that "[a]s the Smoking and Health controversy expands, it is assumed that some smokers from all socio-economic and age groups will be prepared to switch to milder, healthier brands which provide an acceptable taste and prestige." The brief maintained that "**we wish to try and develop advertising for the Kent parent brands which clearly**

offers the smoker health reassurance. . . . The Come/Stay campaign goes some way to projecting a health image for Kent while retaining a taste message and communicating prestige." 661076440-6453 at 6445, 6446 (US 53620) (O) (emphasis added).

3375. Also on March 21, 1978, a "Kent Golden Lights Advertising Brief" was prepared for Foote, Cone and Belding, to provide advertising guidelines for Kent Golden Lights, that stated: "In industrialized nations the target consumer is unlikely to need education on the benefits of smoking low deliver products in general terms. . . . Prospective Golden Lights' consumers will know and understand the vocabulary of mildness, low tar and nicotine." 464012420-2429 at 2424 (US 47672) (O).

3376. Lorillard's implicit health claims in Kent advertisements from the 1970s and 1980s included the following:

1972: "Micronite filter. Mild, smooth taste. For all the right reasons. Kent." (US 3785) (A); (US 87460) (A); (US 3837) (A); (US 10229) (A); (US 3797) (A); (US 3816) (A); see also (US 10257) (A); (US 3932) (A); (US 3949) (A) (1973 magazine advertisements noting same).

1982: "Kent. When you know what counts." (US 7275) (A); (US 7379) (A) (1983 magazine advertisement noting same); (US 7504) (A); (US 7702) (A); (US 7746) (A) (1984 magazine advertisements noting same).

3377. True. In 1966, Lorillard introduced True brand cigarettes, which Lorillard touted as being low in tar and nicotine. Martin Orlowsky,Chairman, President, and Chief Executive Officer

of the Lorillard Tobacco Company, testified that Lorillard's True advertisements were targeted toward smokers who, due to their concerns about health risks, were seeking a low-tar cigarette. Orlowsky TT, 10/13/04, 2288:24-2289:19.

3378. A report entitled "Lorillard Brand Reviews & Projections 1970/71" stated that one of True's "marketing objectives" was to "[s]eek out highly health-conscious smokers from all

filter brands." One of True's "marketing strategies" was to "[p]roject TRUE's low tar and nicotine benefit in a way that is compelling to health oriented smokers." The report also listed the following as the "copy strategies" for True: "1. Capitalize on the basic True low tar and nicotine image and the thought that health-conscious smokers have devoted to the cigarette/health issue [and] 2. Switch to True characterized as being the logical, appropriate and popular thing to do." 04105292-5384 at 5328-5329 (US 29394) (O).

3379. As demonstrated in Section III.D(2)(g), supra, Lorillard's True advertisements from the mid-1970s expressly portrayed True as an acceptable alternative to quitting smoking. Dr. Dolan testified that, through its advertisements, Lorillard positioned True as "a means of making not only smokers but also those concerned about a smoker's health feel better." As an example, Dr. Dolan cited a circa 1974 True advertisement that stated:

> "My wife bugged me into it, would you believe it? It seemed every time I'd light up a cigarette, my wife would put on that look . . . So, we had one of our little talks . . . Look hon, I said . . . would it make you feel better if I changed to a low tar and nicotine cigarette? She smiled. So I bought a pack of True next morning."

01767161-7161 (US 74702) (A); Dolan WD, 124:18-23.

3380. Lorillard's True advertisements in the early 1970s made the following statements, which implied that switching to True brand cigarettes would provide health benefits:

1971: "Think about it. Doesn't it all add up to True?" (US 3436) (A).

1973: "U.S. Government tests show True lower in both tar and nicotine than 98% of all other cigarettes sold. . . Think About It." (US 4029) (A); see also (US 3846) (A) (1972 True advertisement); Biglan WD, 233:20-235:22; (US 4221) (A) (1974 True advertisement).

1973: "The True System: (Patent No, 3,396,733)." (US 4117) (A); Biglan WD, 233:20-235:22.

1974: "True. Easy on your mind. Easy on your taste. . . . because True is so low in tar and nicotine, every cigarette is as easy on your mind as it is on your

> taste. Think about it." (US 4491) (A); see also 03496228-6630 at 6271 (US 20057) (O) (circa 1974 True advertisement noting same).

3381. Several other True advertisements from 1974-1975 implied a government endorsement of True cigarettes as less hazardous based on the FTC method tar and nicotine measurements:

> "U.S. Govt. tests show True is lower in both tar and nicotine than 98% of all other cigarettes sold. That means True is not only gentle on your mind, it's gentle on your taste."
>
> "No other cigarette can make this statement: U.S. Government tests of all cigarettes show True is lowest in both tar and nicotine of the 20 best-selling cigarettes. In fact, True is lower than 99% of all cigarettes sold. . . . Doesn't it all add up to True?"

03496228-6630 at 6272, 6274 (US 20057) (O).

3382. A May 1987 report prepared for Lorillard entitled, "AN EXPLORATORY STUDY – AN OVERVIEW OF THE TRUE BRAND," which bears the handwritten notations "draft copy" and "This is the most exciting report I've drooled over in a long time!" discussed smokers' perceptions of Lorillard's True cigarette. The report contained the following statements:

> **Use of the True brand or consideration of it via trial is viewed as an expression of health concern**. . . . Both True smokers and those who smoke other brands expressed awareness of the way True has been advertised. It was not uncommon to attribute initial trial of the brand to being attracted by that presentation of the brand. Respondents specified having noticed the emphasis on tar count and filter. . . . Based on these findings, it would appear important to continue to stress True as a low tar brand with taste, and the "specialness" of the filter, since those are clearly important factors in motivating trial, and in conversion to the brand. . . . The respondents were also asked whether they think the image of True has changed over a period of time. Most felt unable to answer this, but it was suggested that **True stood alone originally, as the brand for the health concerned**.

93359378-9437 at 9378, 9385, 9387, 9420 (US 57295) (O) (emphasis added).

3383. Advertisements for Lorillard's True cigarette in the 1980s and 1990s stated:

1980: "Now you don't have to smoke higher than 5 mg tar to get that good taste you've been hoping for in a low tar." (US 6538) (O); see also (US 6682) (O); (US 6711) (O) (True magazine advertisements stating "Still only 5 mg tar").

"The Lowest With True Satisfaction True Ultra Low Tar. True Smooth Taste. TRUE DELIVERS." 970469347-9474 at 9433 (US 85104) (O).

3384. Lorillard's Research On the Low Tar Cigarette Category. As demonstrated below, internal Lorillard documents reveal that Lorillard conducted research not just on individual low tar cigarette brands, but on low tar cigarettes as a category. These documents demonstrate that Lorillard has long known and intended that its advertisements and marketing for low tar cigarettes, featuring claims of lowered tar and nicotine, and "light" and "ultra light" brand descriptors, contributed to and reinforced consumers' notion that low tar cigarettes are better for their health, and caused consumers to smoke them for this reason.

3385. A February 1972 report prepared by the Lorillard Market Research Department indicated that numerous health conscious smokers switched to lower tar cigarettes for health reasons: "HEALTH About 25% to 30% [of smokers] gave health reasons for switching. As anticipated, health conscious smokers gave this reason more frequently (33%) than did taste conscious smokers (20%), and current Hi Fi [high filtration] smokers gave it more often (42%) than smokers of other types. The nature of the health reason varied by current cigarette type smoked. Hi Fi smokers and health conscious smokers emphasize the tar-nicotine-cancer reasons, while the . . . Lo Fi users, and taste oriented smokers emphasize throat irritation." 89824702-4785 at 4720 (US 32092) (A).

3386. A November 13, 1973 presentation by Alexander Spears, a Lorillard scientist and later Lorillard's CEO, noted in a discussion of "Health psychology" that smokers' concern about the health effects of smoking "has been used to an advantage in marketing both the KENT and TRUE brands." The document further stated: "Clearly the consumer is concerned about smoking

and health, and is convinced in varying degrees that smoking is a possible detriment to his health. Presently, this factor is of active interest to R&D, since it has been used to an advantage in marketing both the KENT and TRUE brands." 80634635-4642 at 4639 (US 21063) (O).

3387. Lorillard was well aware in 1976 that consumers perceived its low tar brands as less harmful. A November 30, 1976 Lorillard memorandum from R.E. Smith to fellow Lorillard marketing executive J.R. Ave, with the subject heading "1976 Switching Study," stated:

> I share MCA's overall conclusion that the Switching Study confirms the rightness of our 5 Year Plan; focussing [sic] Company effort against smokers' health concerns. . . . This view suggests sensible positionings for those Lorillard brands that directly address smokers' health concerns. (I believe these are totally compatible with ongoing work).

03918494-8495 at 8494 (US 74777) (A), 03296482-6544 at 6485 (US 64511) (O).

3388. A December 10, 1976 Lorillard memorandum from R.E. Smith to J.R. Ave, Lorillard marketing executive, with subject heading "NEW PRODUCT STATUS: DECEMBER, 1976," under the heading "New Brands," stated: "Low irritation, low tar menthol – Reasons for interest in this project are: a) Many sources indicate that irritation and health concern are the two major (related-but-different) reasons for brand switching . . . ." 03364622-4624 at 4622 (US 74748) (A) (emphasis in original); Orlowsky WD, 67:22-68:7.

3389. Lorillard's "CONFIDENTIAL" 1976 "DOMESTIC CIGARETTE MARKETING 5 YEAR PLAN 1976-1980" stated:

> Consumer preferences have shown a dramatic shift since World War II away from non-filter brands towards brands more responsive to the cigarette smoking and health controversy, and less harsh, filtered cigarettes, and, most recently, towards filtered brands offering low tar and nicotine.

The document further stated: "The most recent 6 year period has followed the traditional pattern in many essential characteristics. . . 2) impressive gains by brands offering a perceived solution

to health concerns." 03357128-7178 at 7137 (US 85023) (A); Orlowsky WD, 65:10-19; 65:20-66:2.

3390. Lorillard's Five Year Plan for 1977-1981 stated: "The structure of the market is changing in the direction we forecast in 1976 – toward brands responsive to the cigarette controversy." The plan further pointed out: "The success rate of new products. . . is again on the uptrend with the emergence of products responsive to very specific and tightly focused concerns about the cigarette controversy." Dr. Dolan explained that this document "shows that in the mid-1970s, Lorillard believed that low tar and nicotine products, being perceived by smokers as responsive to their health concerns, were changing the entire structure of the market." 904100641-0706 at 0642, 0646 (US 74853) (A); Dolan WD, 119:22-120:13.

3391. A document entitled "LORILLARD NEW BRANDS 1977" stated, under the "PLANS" heading: "[M]arket at least one brand that uses enriched nicotine technology to meet the growing need for good taste and health reassurance." 91792750-2766 at 2752 (US 57078) (A); Orlowsky WD, 66:3-9.

3392. A January 26, 1977 Lorillard memorandum from Dick Smith to J.R. Ave stated:

> CONCLUSIONS The Nowland Research **strongly confirms the rightness of Lorillard's marketing concentration in the area of health concern**. Smokers are extremely and increasingly health-concerned. And these smokers are actively interested in better ways to lessen/eliminate this concern – while continuing to smoke. More specifically, our going projects are on target . . . . I suggest that both the Kent and TRUE Brand Groups analyze the complete Nowland Report. Our established health concern brands should be able to develop specific strategic and executional actions from this rich, diagnostic research.

01244406-4408 (US 74669) (A) (emphasis added); Orlowsky WD, 66:10-67:5.

3393. A June 14, 1978 Lorillard document stated:

> There is a major opportunity for a brand which can simultaneously

> satisfy smokers and address the concerns arising from the cigarette controversy. 1. Very low tar products – line extensions and independent brands – have been the fastest growing cigarette segment during the last two years which indicates that an ever increasing number of 'concerned' smokers are striving to go as low in tar as possible while still getting acceptable taste. There is no reason to believe that these smokers have found their ultimate reduced tar brand. More likely, they are prime candidates to move even lower over time. Comparing 1976 with 1977 sales, the ultra low tar segment grew 14% and is now accounting for a total of 24 billion units. We project that by 1981, the category will increase to 47 billion units, a growth of 96%."

00138232-8233 at 8232 (US 74655) (A) (emphasis in original).

3394. A June 23, 1978 memorandum from George R. Telford to R.E. Smith stated, under the heading "Lorillard Needs," that "[t]here is an excellent opportunity to become entrenched in one of the fastest growing segments of the industry responsive to the cigarette controversy and thereby compete more effectively with Lights/Milds extensions . . . ." 91792851-2853 at 2853 (US 57091) (O).

3395. A July 13, 1978 Lorillard memorandum from G.R. Telford to R.E. Smith stated that "EFII", a proposed new Lorillard low tar cigarette, was "designed to strengthen Lorillard's position in the rapidly growing Very Low Tar market by providing non-menthol smokers responsive to the cigarette controversy with a superior tasting, reduced tar cigarette." 91792854-2855 at 2854 (US 57092) (O).

3396. A January 31, 1980 Lorillard memorandum from Larry DuLude to fellow consumer researcher Gordon Flinn stated, under the heading "Consumer Attitudes toward Smoking": "Increasing interest in Low Tar . . . Increased number of health-concerned smokers." 01782312-2322 at 2313 (US 74959) (A).

3397. A February 13, 1980 "secret" Lorillard memorandum from Richard E. Smith to J.R. Ave, J.G. Flinn, and Dr. A.W. Spears stated: "Levels of health concern vary, and are directly

related to the T&N [tar and nicotine] level of regular brand." 01394380-4381 at 4380 (US 21543) (O); 95539778-9779 at 9778 (US 22808) (O).

3398. A Lorillard document circa 1984 reported that Laurence Tisch, who served on Lorillard's Board of Directors in 1969 and 1985, and who from 1959 was the Chairman of the Board of Loew's, which merged with Lorillard in 1968, stated at a Department of Insurance hearing:

> Lorillard was the leader in the so-called health cigarettes, the low tar, the low nicotine cigarettes. They first introduced Kent with the micronite filter ten or fifteen years ago. It was a very successful entry because that was when the health scare first came into vogue. They followed that with the successful entry of True by Lorillard . . . . **We feel that we make cigarettes that are healthier than other cigarettes – low in tar and nicotine.**

91780361-0398 at 0362-0363, 0375, 0394 (US 85024) (O) (emphasis added).

3399. A Lorillard document discussing its three-year plan for 1985-1987 stated, below the "Influence of Low Tar" heading: "More smokers will continue to see low tar brands as a way of dealing with the smoking controversy. Reduced Tar volume now represents 48% of the total industry, up from 37% in 1979." 80403362-3376 at 3362 (US 55377) (A).

3400. Stephen Jones, a Lorillard chemist who, at the time of his April 22, 1997 deposition in Reed v. Philip Morris, had been working for Lorillard for twenty-eight years and had participated in the design of almost all the Lorillard cigarette brands, including Newport, Kent Golden Lights, Kent III, Triumph, Maverick, Style, Old Gold, and Max, testified that he believed that it was reasonable to assume that, starting in the mid to late-1950s, smokers began to prefer filtered cigarettes because they thought that filtered cigarettes reduced the risk of smoking by reducing levels of tar and nicotine, and that the switch to filtered cigarettes was due to the health perspective. Lorillard's marketing plans sought to address what the company thought

consumer preferences would be. Jones believed that consumers felt that there was a health advantage to smoking reduced tar or filtered cigarettes. Jones PD, Reed v. Philip Morris, 4/22/97, 136:5-139:21.

3401. Jones testified that he believed that, by and large, smokers of all ultra low tar cigarettes, including Lorillard's True brand, perceived such cigarettes to be more healthy. Jones PD, Reed, 4/27/97, 141:12-141:18; 143:12-143:15.

(vii) Liggett

3402. Like the other Defendants, Liggett's advertisements in 1950s featured explicit health claims. As Dr. Harris testified, in 1952 "Liggett & Myers widely publicized the results of tests run by Arthur D. Little, Inc. purporting to show that 'smoking Chesterfields would have no adverse effects on the throat, sinuses or affected organs.'" Harris WD, 69:19-70:3.

3403. Liggett advertisements in the early 1950s included the following:

1953: "L & M Filters . . . entirely pure and harmless to health." 696000888-0916 at 0900 (US 21387) (A).

1953: "Chesterfield is Best for YOU! For a full year now, a medical specialist has given a group of Chesterfield smokers thorough examinations every two months. He reports: no adverse effects to their nose, throat or sinuses from smoking Chesterfields." (US 88718) (A); (US 88723) (A); (US 88715) (A).

1953: "The medical specialist, after a thorough examination of every member of the group, stated: 'It is my opinion that the ears, nose, throat and accessory organs of all participating subjects examined by me were not adversely affected in the six-months period by smoking the cigarettes provided.' And it's so satisfying to know that a doctor reports no adverse effects to the nose, throat and sinuses from smoking Chesterfield." 696000888-916 at 0894 (US 21387) (A).

1954: "L & M Filters are Just What the Doctor Ordered!" (US 88732) (A); (US 88733) (A); (US 63543) (A).

3404. A March 25, 1970 Liggett research document prepared by Max Samfield, Liggett scientist, recounted that, following the Surgeon General's Report linking smoking with several

adverse health consequences, the average tar levels of cigarettes had decreased, and added that "it is obvious that the trend cannot be ignored." LATH00312742-2784 at 2746-2747 (US 21181) (O).

3405. In an e-mail dated September 5, 2001, from Dr. Anthony Albino to a number of recipients, including Bennett LeBow, Chairman of the Board and Chief Executive Officer of Vector Group, Ltd., and VGR Holding Inc., Dr. Albino admitted: "the adoption of 'light' cigarettes over the past 25 years was mainly due to the PERCEPTION of safety." VDOJ6743-6744 at 6743 (US 64727) (A) (emphasis in original); LeBow TT, 4/4/05, 17594:24-17596:17.

3406. Although Liggett sold its Chesterfield, Lark, and L & M brands to Philip Morris in 1998, Liggett Group Inc. continues to market light cigarettes under its brands Class A, Eve, Jade, Liggett Select, Montego, Pyramid, and under a generic Private Label. Bennett LeBow admitted that his company continues to market light cigarettes under these brand names because Liggett could not cease marketing light cigarettes and remain in business. LeBow further testified that every cigarette manufacturer in the industry must continue to sell light cigarettes in order to stay in business. (US 93254) (A); LeBow WD, 66:10-12; LeBow TT, 4/4/05, 17597:6-17598:16, 17600:4-17603:2.

3407. Harold Petch, President of Liggett's Northern Sales Business Unit, testified at his deposition in this case that the company does not do any market research to determine how its marketing of those low tar brands affects consumers. Petch PD, United States v. Philip Morris, 10/12/01, 128:1-7, 83:10-85:25.

(b) Defendants Knew that Smokers Were Switching to Low Tar Cigarettes For a Perceived Health Benefit, *Despite* their Poor Taste

3408. As demonstrated in Sections III.D(1), (2) & (3), supra, for decades Defendants have marketed and promoted low tar cigarettes using claims of low tar and nicotine and so-called

low tar "brand descriptors" to reassure health conscious smokers that low tar cigarettes are better for them, and are an acceptable alternative to quitting. Despite overwhelming evidence detailing Defendants' fraudulent marketing and promotion of low tar cigarettes, Defendants have stated publicly that they produce low tar cigarettes only to accommodate consumer taste preferences for "lighter," "milder" tasting cigarettes, and that they do not intend their use of brand descriptors or their marketing of low tar cigarettes to imply a less harmful product. See US FF § III.D(3)(c), infra (Defendants' false statements regarding their low tar cigarette marketing).

3409. As demonstrated below, and contrary to Defendants' public statements, Defendants' internal marketing documents establish beyond a preponderance that Defendants have known for decades that consumers prefer the taste of regular cigarettes to low tar cigarettes but are willing to forgo that preferable taste and smoke the worse tasting and less enjoyable low tar cigarettes because they believe low tar cigarettes are better for their health. Indeed, for decades, Defendants have treated the concept of cigarette taste as distinct from that of low tar, claiming that their lights products tasted good **despite**, not **because of**, the lowered FTC tar and nicotine levels. Defendants' conduct reflects both that they intended to downplay, not promote, the "lighter" taste of their low tar cigarettes, and that, in numerous instances, Defendants attempted to convince consumers that their low tar cigarettes had the same taste as regular "full-flavor" cigarettes, but with the benefit of less tar and nicotine.

(i) Philip Morris

3410. Refuting Philip Morris's post-hoc claim that it makes low tar cigarettes to accommodate consumer taste preferences, Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified that, in her experience, "there is a general perception among consumers that as you go down in tar, cigarettes have less taste." For this reason, Philip Morris planned to

produce a low tar Merit cigarette that tasted like a cigarette with higher tar. A June 30, 1993 document from a Philip Morris USA New Products Meeting entitled "Marlboro New Product Development" stated that the "Project" was to "**[b]uild the Merit business by introducing a 3 mg product that tastes like a 5 mg**." Philip Morris also planned to "**[d]evelop a 6 mg Tar Cigarette with the Sensory Attributes of an 8-9 mg Tar Cigarette**." Bonhomme WD, 56:13-57:6; 2041453659-3754 at 3681, 3743 (US 23906) (A) (emphasis added); see also 2021323470-3540 at 3478 (US 85034*) (O) (Philip Morris's 1992 R&D Operational Plans for the Product Development Department issued to Cliff Lilly of Philip Morris USA included the following objectives: "Design and develop an 3mg [Merit] product with the subjective attributes of a 6mg cigarette. . . . Design and develop a 6mg [Merit] product with the subjective attributes of a [sic] 8mg cigarette. . . . Develop 6 mg [Marlboro Ultra Lights] line extension . . . providing enhanced subjective quality and Marlboro character. . . . **LOW TAR HIGH FLAVOR Objective: Develop new technologies which will allow us, within the next two to four years, to produce**. '**Ultra Low' tar, 2 to 4 mg, cigarettes with the sensorial experience of** '**Lights' or** '**Full Flavored' cigarettes**") (emphasis added).

3411. Bonhomme further testified that "Philip Morris's own marketing research shows that there are consumers who switch to low tar cigarettes even though they do not prefer the taste or flavor, because they believe it is better for them," and that "for those people the reason for switching to a low tar brand is not taste or flavor, but perceived health benefits." Bonhomme testified that these smokers are willing to sacrifice taste for perceived health benefits. Bonhomme WD, 56:6-12; 60:21-61:1; 63:13-18.

3412. Thus, Philip Morris's marketing for low tar cigarettes has attempted to communicate that Philip Morris's low tar cigarette brands have acceptable taste **despite**, not

because of, their claimed lower tar delivery. For instance, Bonhomme testified that Philip Morris's Merit brand of cigarettes utilized a marketing strategy entitled "Merit Solutions," that was intended to communicate to consumers that "Merit was a solution to the problem of finding a low tar brand with good taste." Bonhomme WD, 59:10-17.

3413. The deposition testimony of Defendants' own expert, A. Clifton Lilly, demonstrates that Philip Morris did not intend to market Merit as a "lighter tasting" cigarette, but rather as one that tasted just like a full flavor cigarette, yet with a health benefit. Lilly, Vice President of Technology and Research for Philip Morris at the time of a 1998 deposition, testified that:

> The Merit brand, as I remember, came out in 1976. . . . R&D did a lot of basic research on taking tobacco and actually getting compounds for a flavor system that were the most flavorful ones in smoke, **so that the cigarette would be lower tar but taste like it was more like the popular cigarettes, and they were all at that time full flavor**.

Lilly PD, Engle v. R.J. Reynolds Tobacco Co., 5/7/98, 34:3-39:2 (emphasis added).

3414. An undated Philip Morris document entitled "Background Information on Philip Morris Brands" included "Benefit Statements" for Philip Morris's various "light" brands that revealed Philip Morris's intent was not to market these cigarettes as "lighter" tasting, but rather as cigarettes that taste like full-flavor cigarettes but with the purported benefit of low tar and nicotine:

- Marlboro Medium: "gives you a flavorful smoke in a low tar cigarette" and "bridges the flavor gap between low tar and full flavor cigarettes."
- Benson & Hedges 100's Lights: "premium tobacco flavor in a satisfying low tar smoke."
- Benson & Hedges 100's Deluxe Ultralights: "only 5 mg tar, yet is rich enough to be called Deluxe . . . is an ultra low tar cigarette that gives you satisfying taste. . . . delivers cool, rich taste with only 5 mg tar."

- Merit: "You'll enjoy low tar and good flavor . . . . At only 7 mg tar, Merit delivers the rich flavor of leading cigarettes with twice the tar . . . get rich menthol flavor at only 8 mg tar."

- Merit 100's: "flavor that makes low tar and good taste a reality for 100's smokers."

- Merit Ultra Lights: "cool, flavorful smoke with only 5mg tar."

- Merit Ultra Lights 100's: "an ultra light with flavor."

- Virginia Slims Ultra Lights: "gives flavor and taste – and is an ultra low tar smoke."

- Parliament Lights: "enjoyable taste in a low tar cigarette."

2070143183-4433 at 3209, 3211, 3212, 3214, 3215, 3219, 3222 (US 40253) (A).

3415. A November 15, 1971 document to James Morgan, former CEO of Philip Morris, from the Marketing Research Department, bearing the letterhead "Philip Morris U.S.A. Inter-Office Correspondence," set forth results of a Philip Morris consumer research study on Marlboro Lights. Under the heading "Likes and Dislikes," the report stated: "Complaints continued to center around taste mentions (23%) and too mild (22%)." 1000292744-2762 at 2745 (US 35205) (O).

3416. Morgan testified in a 1974 deposition that Philip Morris **did not** intend for the name Marlboro Lights to communicate that it had light or lighter taste:

> I have trouble in describing what light taste really means . . . . Light taste, first of all, is not a positive attribute if it does mean anything . . . in my judgment, light taste is really a meaningless and nebulous claim . . . . **the bigger proposition is the lower tar and nicotine** . . . . We are not talking, in my judgment, talking about light . . . as a taste. It's not a term that means anything in terms of taste, and the name Marlboro Lights as I said before, a word which we feel has appeal in a different sense than suggesting what the cigarette even tastes like.

Morgan PD, Philip Morris Inc., 10/15/74, 82:25-83:13; 85:9-15; 85:17-86:4.

3417. Morgan testified in 2002 that around the time of the launch of Marlboro Lights in 197[4], a marketing dilemma existed: on one hand, the fact that a cigarette had a "lighter taste" was a **negative limitation in the minds of consumers** that made the cigarettes more difficult to sell, but, on the other hand, the term "light" also conveyed the beneficial message of low tar. Morgan PD, Price, 6/5/02, 39:19-25, 40:2-25, 41:2.

3418. Morgan further testified that Philip Morris's Marketing and Research and Development departments held regularly scheduled meetings where they discussed, among other things, how to increase the market of low tar cigarettes through research and development. Morgan testified that many discussions focused on the poor taste of low tar cigarettes: "marketing, represented by me, kept saying people don't like the taste of a low tar cigarette. They are finding it unsatisfactory . . . What can we do to develop a low tar cigarette that really tastes good. That to me looks like the great market opportunity. I remember lots of discussions about that." Morgan PD, Price, 6/5/02, 95:13-25, 96:2-25, 97:2-25, 98:2-25, 99:2-25.

3419. Ellen Merlo, then Senior Vice President of Corporate Affairs at Philip Morris USA, testified in 2002 that she "think[s] there was a general perception that low tar cigarettes did not taste as good as full flavor cigarettes." Merlo added that Philip Morris's Merit cigarette "was the first free standing cigarette entry in the light category that was positioned as tasting good." Merlo PD, Price v. Philip Morris, 10/2/02, 152:12-153:10.

3420. Dr. Jerry Whidby, Philip Morris scientist from 1972 to 1998 and presently a paid consultant for Philip Morris, who held the title of Senior Fellow - the highest non-management scientific position at Philip Morris, testified that "Philip Morris has designed low tar cigarettes that taste like they are higher tar cigarettes." In the context of Philip Morris's attempts to design low tar cigarettes that tasted like higher-tar cigarettes so they would have "maximum consumer

acceptability," Dr. Whidby testified that "the general direction we were trying to go was trying to add more flavor to the low-tar cigarettes so the consumers would accept those." Whidby WD, 2:3-7; 4:18-5:3; 5:14-19; 56:22-57:3; Whidby TT, 2/22/05, 14007:9-14008:9.

3421. For instance, an October 1975 Philip Morris USA Special Report distributed widely throughout the Research Center, titled "Low Delivery Cigarettes and Increased Nicotine/Tar Ratios, a Replication, confirmed that the "optimum nicotine to tar (N/T) ratio for a 10 mg tar cigarette is somewhat higher than that occurring in smoke from the natural state of tobacco. . . ." As a result, in the study, Philip Morris added additional nicotine in the form of nicotine citrate. The document urged development of a "low delivery cigarette that will both look and taste like a regular filter cigarette and thus will appeal to current regular filter smokers." The document further stated:

> If a low delivery cigarette with impact and flavor were developed, it may cause the segment of current regular filter smokers who are concerned about their health but demand a flavorful cigarette to voluntarily switch to the low delivery cigarette. . . . Furthermore, some portion of current low delivery smokers may desire to switch to a more flavorful cigarette and others may follow as consumer experience results in changing the image of low delivery cigarettes so that smokers believe a flavorful cigarette can really be 'healthy'.

1003288950-8967 at 8951, 8954, 8952 (US 20166) (A); Whidby WD, 57:4-58:3.

3422. Dr. Whidby testified that Philip Morris has a "Low Tar/High Flavor" Program, and developed cigarettes that tasted like they had more tar, for example, cigarettes that deliver "only 9 mg of tar but provide a full-flavor smoke," and "a 6 mg product designed to have subjectives [qualities such as taste and flavor] typical of a 10-12 mg cigarette." Dr. Whidby testified that these and other similar statements in Philip Morris documents "represent Philip Morris research efforts directed at making lower tar cigarettes that had the taste and flavor of higher tar cigarettes." Whidby WD, 58:9-62:16; 1000736380-6385 at 6384, 6385, 6381 (US

35282)(A); 2075820928-0939 at 0929, 0939 (US 43690)(A); 2021553929-4266 at 3930, 4114 (US 36768)(A) ("Low Tar/High Flavor" listed as one of "1990 Major Programs"); 2029114211-4357 at 4214, 4215, 4219-4221 (US 37444)(A) (objective to design 3 mg tar cigarette with subjectives of 6 mg cigarette); 2021348294-8725 at 8311, 8318, 8481, 8488 (US 36734) (A) (objective to develop 3 mg Merit cigarette to replace 5 mg Merit, so that smokers could reduce tar "without a taste sacrifice").

3423. Draft Philip Morris remarks dated January 7, 1976 relating to Merit cigarettes acknowledged explicitly that low tar cigarettes appealed to smokers because of their purported reduced harmfulness, but that smokers disliked the taste of low tar cigarettes:

> Undoubtedly because of the health allegations against cigarettes, many smokers have clearly wanted cigarettes that deliver less and less tar. . . . [D]espite the intense promotion efforts and the strong interest among smokers, ... [t]hey have been tried and rejected by the overwhelming majority of smokers. Obviously, there has been a conflict between the desire for low tar and the desire for the rich, satisfying taste that until now has been associated with higher tar delivery.

PM3000136418-6422 at 6420-6421 (US 61504) (A).

3424. A 1979 Philip Morris Merit advertisement entitled "Merit Taste Eases Low Tar Decision" appeared in national magazines, stating: "'Enriched Flavor' tobacco proving real alternative to high tar smoking. . . . Confirmed: Majority of high tar smokers rate MERIT taste **equal to – or better than – leading high tar cigarettes tested**! Cigarettes having up to twice the tar. [Merit's] ability to satisfy over long periods of time could be the most important evidence to date that MERIT science has produced what it claims: The first real alternative for high tar smokers." 1002325022-5022 (US 21510) (A) (emphasis added – bold type).

3425. A January 1979 study prepared for Philip Morris by Goldstein/Krall Marketing Resources, Inc., shows that consumers perceived light cigarettes as a compromise on taste in

order to smoke cigarettes that they believed delivered reduced tar and nicotine: "There appears to be a concept involved that might be called ‘limiting.' They have moved to limit their tar and nicotine intake. At the same time **they have accepted a limit on taste**." 2040066740-6766 at 6755 (US 20435) (O) (emphasis added).

3426. A September 1991 Philip Morris document entitled "Background Information on PM Brands" stated that, notwithstanding the introduction of Marlboro Lights in 1972 and the introduction of several variations on Marlboro Lights in 1978, 1980 and 1984, when Marlboro Medium was introduced in 1991, "consumers [were] still looking for a satisfying low tar cigarette with flavor." Marlboro Medium apparently "was successful in bridging the flavor gap between full flavor Marlboro and Marlboro Lights." 2070143183-4433 at 3206 (US 40253) (A). The document listed as separate features for Marlboro Lights "Lighter in taste" and "Lower in tar." 2070143183-4433 at 3207 (US 40253) (A).

3427. By way of a November 23, 1994 internal Philip Morris memorandum, Shari Teitelbaum, a consumer researcher for Philip Morris, delivered a study to certain Philip Morris employees entitled "Attitudes Toward Smoking - Final Report," that was based upon interviews conducted with 2,300 Americans aged 18 and older to gauge public opinion on a range of topics, including potential product concepts. The study's "Summary of Findings" reported: "Of all the new product concepts shown, **there is the most interest in a cigarette with reduced tar but the taste of a higher tar cigarette** and one that does not leave a lingering cigarette odor in the room." 2072251926-1980 at 1932 (US 22022) (O) (emphasis added).

3428. An internal Philip Morris memorandum dated January 17, 1995 from Rebecca Wallach Gordon to Virginia Murphy, a Philip Morris attorney, entitled "Merit RGA Claims" listed various Merit advertising claims used in the past. One such claim was: "Even if the

cigarette tested had 60 percent more tar than Merit, a significant majority of all smokers tested reported new 'Enriched Flavor,' Merit delivered **more** taste. In similar tests against 11mg to 15mg menthol brands, 9mg tar Merit menthol performed strongly too, delivering **as much – or more** – taste than the higher tar brands tested." 2048248129-8131 at 8130 (US 38670) (A) (emphasis added).

3429. Nancy Lund, Senior Vice President of Marketing for Philip Morris, testified in a 2002 deposition that when light cigarettes were first introduced, their largest drawback was that consumers disliked their taste. Lund further testified that **nine out of ten consumers did not like the taste of light/low tar cigarettes**. Smokers were buying them, nonetheless, because they were perceived to be less harmful. An April 20, 1987 memorandum on Leo Burnett letterhead from Elinor Bowen of Leo Burnett and Carolyn Levy of Philip Morris addressed to Nancy Brennan (later Nancy Brennan-Lund) of Philip Morris, among others, stated of light cigarettes generally: "Thus far in the cigarette category, lightness has been associated with low tar or ultra low tar products which represent, for many smokers, an absence of taste and an avoidance of problems associated with smoking." Brennan-Lund PD, Price, 9/20/02, 140:14-144:11, 186:12-189:19; 2040904809-4811 at 4809 (US 85035) (A).

3430. A Philip Morris document circa 1979 prepared by Judy John and Helmut Wakeham, entitled "Breakthrough of the High Taste, Low Tar Cigarette: A Case History of Innovation," stated that consumer demand for low tar cigarettes was spurred by indications that cigarette smoking caused disease in humans, but that "market research analysis ha[d] shown that nine out of ten smokers had tried low-tar brands, but had failed to accept them as their choice of cigarette." The document also stated: "Apparently not enough smokers could adapt to the diminished 'flavor' of the highly filtered low-tar cigarettes available at that time." 1000208603-

8625 at 8605 (US 85010) (O) (internal citation omitted).

3431. A June 1, 1994 document prepared for Philip Morris USA by Kane, Bortree & Associates, Inc., in its "Conclusions Product/Positionings" section, reported that Merit's "We Lowered The Tar...But Kept The Taste" slogan "generated interest among male Low Tar Seekers because of the fact that they are committed to lowering their tar consumption." The concept of lowering the tar, but keeping the taste, was referred to as a "product improvement." 2045629674-9712 at 9696 (US 88630) (A).

3432. A March 26, 1996 memorandum from Shari Teitelbaum, a consumer researcher for Philip Morris, to Jodi Sansone, then Brand Manager for Merit cigarettes, accompanying a consumer research report commissioned by Philip Morris, explained that once consumers made the decision to switch down to the category of low tar cigarettes based on health concerns, they then pick their low tar brand within that category based on taste preference. Under the heading "Reasons for and Perceived Benefits of Smoking Lowest Brands," the document stated: "Although many of these smokers made the decision to go lighter based on perceived health concerns, taste seemed the major reason to choose or stay within a particular brand." 2045628312-8328 at 8312, 8321 (US 22217) (A).

3433. A February 9, 1998 draft research report prepared for Philip Morris by the research firm Kane, Bortree & Associates entitled "Merit Strategic Revitalization Plan, Stage I Learnings" analyzed ways to "build Merit's share of the low tar segment." The report labeled low tar smokers who find the taste of light cigarettes unsatisfying but feel comfortable smoking "Taste Compromisers," summarizing the thought process of this group with the following quotation:

> I feel that I can really taste the difference between cigarettes. I try to smoke the best tasting light since I know that smoking a light is

> better for me. **I feel that smoking a light is a huge tradeoff but I know that it's worth it. I much prefer full flavor taste and do not think it's too strong**. I choose my brand on taste. I feel like I am on a permanent ‘diet' because I smoke a light.

The report listed Winston Lights, Marlboro Lights, and Camel Lights as brands for taste compromisers. 2063687348-7527 at 7362, 7357 (US 39820*) (A) (emphasis added); Bonhomme WD, 45:1-22; see also 2063686921-6942 at 6924 (US 88629) (A) (indicating that a goal of Kane Bortree was to "[i]dentify marketable positioning opportunity(ies) for revitalizing Merit via low tar technology (3 mg tar cigarette that smokes like a 5 mg tar or possibly higher levels)").

3434. Under the heading "Consumer Learnings," the report noted that "Merit can secondarily target Taste Compromisers by promoting taste," and under the heading "Preliminary Recommendations," the report recommended that Merit "[p]romote the benefits of light flavor rather than ‘apologizing' for the fact that it is less than full flavor." Under the heading "Positioning Learnings" and the subheading "Exploratory Positionings," the report stated: "'Low tar' should not be highlighted, but may be needed as reassurance to more health conscious smokers." 2063687348-7527 at 7352, 7354, 7376 (US 39820*) (A).

3435. An October 5, 1998 internal Philip Morris presentation regarding Philip Morris's premium cigarette brands discussed the Merit brand's positioning. Under the heading "Merit - Brand Essence," the document stated that "[s]ince the brand's introduction twenty-two years ago, the core Merit proposition has been low tar with satisfying good taste. Merit is the brand that understands the desire to seek a lower tar alternative." Under the heading "Merit - Brand Strategy," the document revealed that Merit's strategy was to "Convince: Smokers who want to switch to a low tar alternative, but won't sacrifice taste completely, That: With Merit, you can switch down to lower tar and still enjoy smoking Because: Merit delivers satisfying taste at every level of low tar." 2063690668-0687 at 0675-76 (US 39825) (A).

(ii) R.J. Reynolds

3436. An April 1974 Qualitative Consumer Evaluation for four Winston Lights Positionings noted that those who liked Winston Lights believed that a low tar cigarette was a "'safe' cigarette." **Consumers were excited by the possibility of having full flavor and low tar simultaneously** because it offered "a 'safe' cigarette with a taste if not exactly the same at least similar to their current brand." Some of the panelists admitted to switching to a lower tar and nicotine cigarette for health reasons. A reservation about the cigarette was noted as "believability." The report stated that "[t]hey were generally skeptical that a less harmful cigarette could give them what they want in a cigarette – taste – or would the taste be sacrificed in some way." Communications with smokers indicated that the target audience was "concerned about the harmful effects of smoking and would be glad to switch to a brand which could deliver good taste with low tar and nicotine." 502041366-1415 at 1373, 1383, 1385-1386 (US 22147) (O).

3437. A 1975 report entitled "An Evaluation of the 120MM Market and Its Potential for RJR" recognized that "smokers of High Filtration brands . . . feel the low tar and nicotine brands are much safer and much less of a health hazard. **They are readily willing to sacrifice taste for a 'longer life.'"** 500671364-1454 at 1436-1437 (US 22158) (A) (emphasis added).

3438. A circa 1976 Doral Brand Performance report noted in a section entitled 'Other Brand Measurements Psychographics' that with respect to lifestyle, Doral smokers (relative to total smokers) were "more conscious and anxious about health" and, with respect to attitudes and needs, would "sacrifice taste to get lowest 'tar' and nicotine." 501229581-9590 at 9589 (US 22118) (O).

3439. A document written by Murray Senkus, RJR scientist and eventually Director of

Scientific Affairs at RJR, reflecting talks Senkus delivered at RJR in late 1976 and early 1977 entitled "Some Effects of Smoking," revealed RJR's belief that nicotine was "the key" to cigarette taste: "[T]his is the key to taste – the transfer of nicotine to taste buds and body fluids in the mouth during the short time you hold the smoke in your mouth before inhalation. For any tar level – there is the right pH for maximum taste. For any tar level – if the pH is too high – the smoke is intolerable – if pH is too low – the smoke will produce very little so-called cigarette flavor in the mouth. . . . Nicotine and nicotine-like compounds are the major factors in the taste one discerns while the smoke is held in the mouth before inhalation." 500251711-1722 at 1717, 1719 (US 48076) (A).

3440. A 1979 study related to Camel Lights indicates that the marketing campaign stressed that Camel Lights provided a product to individuals who wanted to smoke a low tar cigarette, but did not want to compromise on "rich taste and smoking satisfaction." The message itself was "a specific low tar message." 500731672-1707 (US 22168) (O).

3441. A June 21, 1982 Product Research Report on Non-Menthol Ultra Low Tar Consumer Probes, published by the RJR Marketing Development Department, classified ultra low tar non-menthol smokers into two groups: (1) smokers who are extremely concerned about tar levels and (2) smokers who are moderately concerned about tar levels. The report went on to explain that "extremely concerned" smokers "primarily seek products that are lowest in tar. **These smokers are willing to trade-off such smoking benefits as strength, taste/flavor and ease of draw for brands which may not deliver these benefits but which are lowest in tar**." The report also explained that as compared to smokers of higher tar brands, "respondents generally characterized ULT cigarettes as having a harder draw, reduced smoke density - which they expressed as ‘smoking air,' less taste/strength/flavor, and less smoking sensation."

503394459-4485 at 4460-4461, 4463, 4467 (US 85036) (A) (emphasis added); Schindler WD, 75:14-76:16.

3442. A 1984 Vantage Family "Moderation" Situation Analysis explained that "relative to other segments, 'Moderator' smokers realize there are both positive and negative aspects of smoking, resulting in a desire to resolve the conflict by compromising/moderating on their brand choice." This process was depicted as adding the positives of smoking (personal ritual, anxiety reduction, social confidence) to the negatives of smoking (alleged health hazards and smoker image), compromising on the idea of taste and satisfaction with low tar products, and the image that they are "doing something positive." 502118237-8267 at 8241 (US 22119) (A).

3443. A December 16, 1988 RJR marketing presentation stated that: "For a successful product the **perceived health benefit must balance any sacrifice that must be made in terms of taste**, satisfaction and traditional smoking pleasures." 650900829-0849 at 0831 (US 20951) (O) (emphasis added).

3444. In 1990, RJR undertook a marketing campaign promoting the fact that Now cigarettes had the lowest tar and nicotine levels of any product in the industry. The campaign focused solely on the fact of Now's "lowest" tar and nicotine levels, implying that a low tar and nicotine rating made the product better. The campaign did not focus on taste. In fact, some of the advertisements implicitly admitted that good "flavor" or "taste" was intuitively less likely in a low tar cigarette. For example, one advertisement asked, "Merit Ultra Lights Smokers: Is there a way to get 60% less tar and nicotine **and still get flavor in a cigarette**? NOW is the way." Similarly, another advertisement asked, "Benson & Hedges Deluxe Ultra Lights Smokers: Can you get 50% less tar and nicotine **and still get taste in a cigarette**? NOW you can." Still another advertisement asked, "True Smokers: How can you get 67% less tar and nicotine **and**

still get real cigarette taste? NOW is how." Finally, an advertisement in this campaign asked, "Carlton Smokers: Can a cigarette have just 2 mgs. of tar **and still be satisfying to smoke**? NOW can." Along those same lines, one of the advertisements indicated, "THE LOWEST IN TAR & NICOTINE. Try Now. **Surprisingly** good taste." 2070717114-7436 at 7334, 7336, 7408, 7410, 7432 (US 22172*) (O) (emphasis added).

3445. A May 1991 consumer research report prepared for RJR entitled, "RJ Reynolds Project XB," stated: "Most respondents are interested in a new cigarette that could deliver the great taste and easy draw of current brands, with low tar equivalent to Carlton or NOW. They recognize Carlton and NOW are very low tar, but they perceive the taste and draw to be disappointing." The document further stated that "[r]espondents suspect there is a correlation between reducing the amount of tar and weakening the taste." As a "positive" of a proposed marketing concept, the document stated: "There is interest in an extra low tar cigarette that tastes great and has an easy draw. There is a consensus a lower tar product would be better for them." The document noted that the claim of "[e]asy draw is compelling" because it "addresses a major complaint that lower tar cigarettes are hard to draw, and less satisfying." As a "positive" of a different proposed marketing concept, the document stated: "Respondents, especially women, feel this cigarette could alleviate their concerns about tar levels. They expect the cigarette to be better for them." 514343517-3566 at 3559 (US 51848) (O).

(iii) Brown & Williamson

3446. Sharon Smith, former B&W Director of Marketing Services and Operations, testified that internal B&W research documents "indicate that some smokers are willing to smoke low tar cigarettes, even though these smokers feel they don't taste as good." Smith WD, 52:7-16, 55:16-22.

3447. A January 1977 report prepared for B&W by Post Keyes Gardner, Inc., stated that "health" was the most important driver of consumer trends, compared to mildness, which would not, of itself, cause smokers to switch brands:

> "Health": In our opinion, this is by far the most important factor and trend in the market. All major shifts in smoking habits seem to be a function of 'health' concerns, as they pose a deep psychological question that every smoker must somehow answer. The manifestation of 'health' concerns can be seen in the filter revolution of the 1950's, the emergence of menthol, as well as new hifi's in the 1960's and today . . . . Mildness: This is more or less a taste experience. It is best characterized by the acceptance of filter cigarettes – not the reason for them. In our view, mildness is not a dominant trend, and thus does not cause major shifts in smoking habits . . . . **It, therefore, is unlikely that smokers would switch to milder cigarettes primarily because they are milder. We suspect that the deeper concern of 'health' is the dominant motivator to mildness** . . . . Some smokers will seek justification (rationalization) for staying with a full taste brand, others will move on to the continuing compromise of less satisfaction while continuing to smoke [by switching to low tar cigarettes]. . . . the latest compromise between taste and tar.

Sharon Smith testified that this document shows that some smokers "were choosing their cigarette not due to a preference for a "milder" tasting cigarette, but out of health concerns." 776158413-8426 at 8418, 8419, 8425 (US 22339) (A) (emphasis added); Smith WD, 54:21-56:15.

3448. A July 25, 1977 B&W internal marketing study stated: "It must be assumed that Full Taste smokers come down to 'low tar' expecting less taste . . . [t]hey are willing to compromise taste expectations for health reassurance." 775036039-6067 at 6052 (US 21053) (A); Ivey WD, 57:11-58:11.

3449. An October 1979 B&W "History and Key Trends in the U.S. Cigarette Market" compiled by E.T. Parrack, Vice President of Brand Management, stated that some of the then "new products" such as Merit and Real "seem to be capable of attracting some smokers from the

Full Taste segment, thus drastically changing the terms of the basic tradeoff between taste and low tar in effect for 25 years." It added:

> Viceroy [is] perceived as smooth and perhaps mellow, but it is not significantly weak, mild, bland or light as are the Hi-Fi brands. . . . STRATEGIC ALTERNATIVE Increase Viceroy share of market by positioning Viceroy between full-filter flavor and Hi-Fi as the ideal compromise between the need for full taste and the need for low tar.

The document added that some smokers "have **struck a compromise between taste/satisfaction and personal concerns**. They smoke low 'tar' line extensions hoping for the full taste of high 'tar' brands and the relative benefits of lower 'tar.'" 670624932-5364 at 4942, 5102, 5157, 5240 (US 53869) (A) (emphasis added). Sharon Smith testified that "this document indicates that Brown & Williamson was aware that some smokers smoke lower tar cigarettes even though they prefer the taste of higher tar cigarettes because they wish to lower their tar intake." Smith WD, 52:17-53:21.

3450. A March 12, 1981 B&W memorandum from Sue Finley to B.L. McCafferty entitled "Apollo Strategy Recommendation," revealed that consumers were smoking ultra low tar cigarettes because they wanted to lower their tar intake, despite the fact that they disliked the taste:

> In 1980 the number of ultra low 'tar' (1-6 mg 'tar') cigarette brand styles on the market went from 24 to 38 and the segment's share grew from 6.28% in 1979 to 8.73% in the 4th Quarter of 1980 . . . **The segment's growth has been generated primarily by smokers' 'tar' concerns, as most of the ULT products have no other perceivable consumer benefits**. The products are considered extremely hard to draw and weak tasting. In qualitative research, smokers have said that drawing on ultra low products could 'cause hernias' and that they taste like 'sucking straws' and 'there's nothing to them' . . . . While cigarette marketing has historically been image oriented, initial ultra low 'tar' cigarette advertising was very clinical. All ULT brands advertised extremely low 'tar' with little, if any, taste support or smoker

imagery.

Discussing the marketing for the proposed new ultra low tar cigarette, APOLLO, the document stated:

> Smokers are subjected to relentless pressures to quit smoking or reduce ‘tar'. They continue to smoke because they derive pleasure for the experience and, while they may trade down in ‘tar', **they view ‘tar' reductions as pleasure reductions**. To make the switch to low ‘tar' a more satisfying experience, APOLLO should be presented in a positive, warm and enjoyable manner.

Sharon Smith testified that "this document states that people were smoking ultra lights because they wanted to lower their tar intake, despite the fact that they viewed it as a pleasure reduction." 670635571-5593 at 5571, 5576 (US 85037) (A) (emphasis added); Smith WD, 53:22-54:20.

3451. An April 1985 consumer research report prepared for B&W by ADI Research, Inc., entitled "Brown & Williamson Tobacco Corporation Light and Ultra Light Smokers Concept Reaction Study," attempted to "determine perceived taste and other problems with ultra products and assess the Barclay Brand Ad Copy communication of problem solution to light and ultra consumers." The report stated: "The light and ultra light categories are problematic to consumers because of problems with taste and inhaling and drawing. There is overwhelming agreement by all groups." The report discussed how Barclay's position was succeeding at getting consumers to believe that Barclay provided a solution to taste and draw problems. The report also noted, however, that "[t]hose in the minority that did not perceive a solution thought there would be drawbacks. If Barclay is better tasting and drawing, then it would have to be higher in tar and nicotine, hence, less safe and more harmful." 465626645-6722 at 6647, 6656-6657 (US 87911) (O).

3452. A B&W document circa 1996-1997 entitled "Carlton Creative Plans" stated that "CARLTON is the trademark of choice for smokers who have made an intellectual decision to

seek the ‘lowest' in tar and nicotine without unduly compromising taste." Carlton's "TARGET AUDIENCE" was described as: "**Smokers who want to cut down in tar and nicotine as much as possible and are willing to sacrifice some product performance**." The first "Primary" trait of the target audience was "Health conscious." The then-current brand positioning of Carlton as "The Lowest" was said to "satisf[y] the brand positioning." 176020783-0800 at 0783-0786 (US 23351) (A) (emphasis added); Smith WD, 66:23-67:21.

3453. A B&W document entitled "B&W 1997-1999 Plan" indicated that consumers "switch down" in tar primarily for health reasons, and that this switch down in tar represents a sacrifice in terms of cigarette taste. "Carlton Target Markets" were identified as "Smokers Who Want To Cut Down In Tar And Nicotine As Much As Possible And Are Willing To Sacrifice Some Product Performance – Primary – health conscious. . . . CARLTON Is The Trademark Of Choice For Smokers Who Have Made An Intellectual Decision To Seek The ‘Lowest' In Tar And Nicotine Without Unduly Compromising Taste." The document even discussed plans to reduce the emphasis on taste indicated by Carlton packaging to ensure that the message that Carlton had lowest tar and nicotine was conveyed: "CARLTON's Packaging May Contribute To The Low Awareness Of The ‘Lowest' Tar Positioning By Communicating A Higher Level Of Tar And Taste Than The Product Actually Delivers." 462224560-4766 at 4706, 4709-4711 (US 22085) (A) (emphasis in original).

3454. A B&W document faxed from "Marketing Operations" on January 20, 1999, entitled "Current Trends in Lights and Ultra Lights," stated under the heading "Learnings": "Consumers were ready for low tar before Marlboro Lights. Health concerns . . . . **First low tar cigarettes failed due to: Lack of flavor and smoking satisfaction** . . . . Smokability is critical for success." 430403186-3194 at 3193-3194 (US 22084) (A) (emphasis added); Ivey WD,

58:11-22.

(iv) BATCo

3455. A September 1992 BATCo Business Review prepared by Norma Simamane, BATCo Lights Project Manager, stated that consumers felt, regarding low tar cigarettes, that "'**[t]he lower the [tar and nicotine] numbers, the higher the sacrifice on smoking pleasure**.'" Lights represented "a total compromise," and negative aspects included: "'It's like smoking hot air'" and "'Deprive you of a true smoking experience.'" Lights were perceived as "for people who . . . want to quit but can not." The aspects of the "Inadequate product performance" of low tar cigarettes were: "lack of satisfaction/not satisfying"; "lack of smoking quality"; "poor quality of flavor"; "not strong enough"; and "need to smoke more." 321683062-3099 at 3087, 3090 (US 28586) (A) (emphasis added).

3456. A BATCo document circa 1996 entitled "Lights Segment Project Consumer Insight Into Smoking Lights" stated, under the heading "Benefits of Smoking," that "[l]ight smokers criticized Ultra's as bad tasting 'air' = less taste intensity and no positive flavor development. Ultra smokers agree but accept this lost taste characteristic." The document further stated "light cigarettes (especially ultra) = pleasure sacrifice." The document further stated that "Ultra smokers find it necessary to explain to others and themselves why they consume a product that provides hardly any pleasure (taste)" which led to the "negative cliche" of a 'weak willed addict.'" The document stated that to counter this, "**we need to reassure light/ultra smokers that it is okay to smoke lights through communication**." 321546706-6724 at 6707, 6708, 6709 (US 22052) (A) (emphasis added).

3457. A BATCo document bearing the heading "Barclay Business Review 1996" demonstrates that the main motivators for smoking light and ultralight cigarettes are health-

related, and the lighter taste of light and ultralight cigarettes is appealing insofar as it is an indication of lower tar: "The results of the 1MG smokers motivations study in Belgium show that the key drivers to the [ultralight] segment are health concern and peer/family pressure. Consumers expect a reduction of negative aspects . . . . As amount of taste is the main consumer indicator for strength, 1mg. products are expected to have the least taste among all cigarettes." 700767443-7457 at 7448 (US 22123) (A).

3458. A BATCo document entitled "Firefish Kent in Dublin Qualitative Research Debrief July 2000" concluded that, with respect to Kent's charcoal filter, consumers found communications providing health reassurance "more appealing" than communications about taste: "'Kent Taste System' The Charcoal Filter communication was appreciated . . . . However, they felt the emphasis should be on Filter – rather than taste – help **filtering out the 'crap' was more appealing than advantages in taste**." 321626872-6906 at 6901 (US 22059) (O) (emphasis added).

3459. In a document entitled, "What is a Light Cigarette," dated September 29, 1998, BATCo scientist David Creighton described two "main types of Lights smokers[:] Those who start smoking a Lights ... and those who have been smoking a full flavour product and wish to switch down to a Lights." Creighton explicitly acknowledged that Lights smokers who "switch down" do so because they believe it is a "conscious ... exchange" of taste for "the reassurance of the lower tar delivery":

> [T]he down switcher, who has been used to a higher taste level[,] would prefer to maintain as much taste as possible with the reassurance of the lower tar delivery of a Lights. ... **The down switcher makes a conscious decision to give up some taste satisfaction in exchange for the lower delivery potential**.

770009958-9964 at 9962 (US 78253) (O) (emphasis added).

3460. A January 15, 2001 BATCo document written by Steven Coburn and entitled

"Project Balcony," which referenced Santa Monica, California marketing studies related to proposed campaigns, reported that smokers prefer the taste of higher tar cigarettes, but smoke lower tar cigarettes because they believe lower tar cigarettes are less harmful: "[L]ights don't satisfy as much as a heavier cig when trading down . . . . less tar less nic – less harmful." 325239017-9018 at 9017 (US 22082) (O). A January 17, 2001 document with the same author and title that also referenced Santa Monica smokers stated under the heading "Benefit": "Has carcinogens of a lights but taste of full flavor[.] May be not as harmful – which is why some people smoke lights." 325239023-9024 at 9023 (US 22082) (O). An additional document with the same date, title, and author, referencing Santa Monica smokers stated: "**Benefit** . . . Lights that smoke like a full flavor – not sacrificing anything[.] Lights with a full flavour – important – lights better for you but still taste like a cig." 325239025-9026 at 9026 (US 22082) (O).

(v) American Tobacco

3461. A 1967 Annual Report prepared by American, describing American's Carlton cigarettes, defined a "light cigarette" as "one that is low in 'tar' and nicotine yield," and made no mention of any particular taste characteristics. MNAT00029170-9201 at 9176 (US 21222) (O).

3462. A March 2, 1976 American document entitled "Background and Product Positioning Recommendation Project LOTC," predicted that:

> [T]he most significant growth will take place in the 'middle ground' where taste claims prevail, yet where the perception of a 'health benefit' is still strong. In other words a compromise between low-tar and taste (which is unmistakable to consumers) may not represent as traumatic a change for full flavor smokers as a change to 'super low tar.'

ATC0494235-4235 (US 87912) (O).

3463. A January 1984 document from American Tobacco's files prepared by Andrew Thurm Associates entitled "'NO ADDITIVES' CONCEPT TEST" concludes that low tar

cigarettes are associated with weak taste and that Carlton cigarettes have a weak, negative taste perception with consumers: "Carlton . . . shows traces of an additional impediment – weak taste perceptions . . . . Carlton's weak taste image acts as a secondary impediment . . . . In a certain sense, being low in tar peripherally suggests a flavor identity because of its connotations to mildness at the expense of taste strength." 970384072-4111 at 4076-4078 (US 85121) (O).

3464. Eric Gesell, designated representative of American Tobacco, testified in 1997 that a 1987 advertisement for American's Carlton cigarette that stated "Carlton cuts tar by 40%! . . . . Carlton is lowest. Reduced to 3 mg. tar," did not "imply that [Carlton] is a safer cigarette." Gesell further testified that "taste is the primary motive" for smokers switching to light cigarettes. Gesell PD, Minnesota, 9/18/97, 5:8-25, 6:5-6, 6:10-17, 128:4-17, 131:6-21.

3465. A February 29, 1988 American Tobacco memorandum from Richard E. Smith, Director of Brand Management, to K.P. Noone, Product Manager, stated:

> If the switching motivation is better taste, [smokers] . . . . will certainly not switch to Carlton, a brand which their experience has often taught them is lower taste. . . . [M]ost smokers will continue to seek lower tar. . . . **They have demonstrated a disciplined willingness to sacrifice taste. . . . Carlton brings less than nothing to the better/stronger tasting party**.

991216857-6858 (US 85115) (O) (emphasis added).

3466. A February 29, 1988 American Tobacco memorandum from J.M. Murray, Assistant Product Manager, to T.M. Keane, Senior Product Manager, stated:

> The Carlton and Now Groups almost unanimously cited "Lowest in Tar" as the single most important motivating factor in brand selection. . . . Importantly, the 0-3 mg. groups identify "Lowest" as the driving force – they seem to have been prepared to make a taste compromise. There is nothing to indicate that [ultralight smokers] won't become available to Carlton. At present, they aren't ready to make a taste compromise . . . . As these people become prepared to step down, they will be ready to give up some level of taste and seek the "Lowest in Tar" (e.g. Carlton or Now). . . . present

> Carlton smokers . . . have already made the taste compromise and focus primarily on "Lowest." . . . In conclusion, I believe we should focus our efforts on developing suitable advertisements which single mindedly communicate our "Lowest" positioning.

980355176-5177 (US 85122) (O).

(vi) Lorillard

3467. A June 1978 Report prepared for Lorillard by Foote, Cone & Belding Advertising, Inc., "to assist Lorillard in understanding the . . . attitudes of reduced-tar smokers and their motivations in selecting brands" relayed smokers' beliefs that lower tar cigarettes had an unsatisfying lack of taste, and indicated that a low tar cigarette "with good taste" had not yet been developed, stating:

> The major problem with [ultra low tar] brands was decided lack of taste/smoking impact. "Sucking on a straw in an empty glass–nothing" was a typical reference to such brands. In point of fact, this was probably very close to the truth. . . . There is every reason to believe that ultimate technological breakthroughs will yield a tobacco product that is low in tar, with good taste. In that event, ultra low-tar products will serve as a viable net for **all** smokers who desire reduced tar plus the satisfaction of good taste.

03297227-7249 at 7229, 7233, 7246 (US 88631) (A).

3468. This document, discussing one of Lorillard's competitors' brands, added: "Carlton's success was all the more surprising in light of the fact that it was totally unable to offer any taste benefits to the consumers. Apparently, there existed a strong need among a sub-section of reduced-tar smokers for a cigarette that was 'as low as you can go' in its tar and nicotine levels." 03297227-7249 at 7240 (US 88631) (A).

3469. A December 1976 report prepared for Lorillard by the Nowland Organization, Inc., stated: "Those who do not now smoke SHF [super-high filtration] cigarettes perceive low tar and nicotine cigarettes in very much the same way as do current smokers – i.e., as **'better for**

you' but not as enjoyable." 84053616-3706 at 3638 (US 55997) (A) (emphasis added).

(vii) Liggett

3470. An undated Liggett press release stated: "The 'lighter' cigarette is achieved by lowering total smoke delivery," and made no mention of lighter taste. LWDOJ6135692-5692 (US 21215) (O).

(c) Defendants Continue to Make False and Misleading Statements Regarding Their Marketing of Low Tar Cigarettes

3471. The evidence in this section shows that Defendants continue to disseminate false and misleading public statements regarding the true intent of their marketing of low tar cigarettes. As Dr. Dolan testified, Defendants have consistently, and falsely, maintained publicly that "all of their marketing activities had one and only one purpose: to impact the brand choice of adults who had already chosen to smoke." Dr. Dolan further testified that, contrary to fact, "[t]he tobacco companies expressly stated they had no interest in either (1) increasing the likelihood of anyone's beginning to smoke or (2) decreasing the likelihood that a current smoker would quit." Similarly, Dr. Brandt testified that the industry has falsely "continued to insist that the rise of filter cigarettes merely reflected the nature of consumer demand." Dolan WD, 56:3-14; Brandt WD, 137:22-138:18.

3472. In an August 26, 1958 letter from Clarence Cook Little, Scientific Director of the Tobacco Industry Research Committee ("TIRC"), to Timothy Hartnett, Chairman of TIRC, Little admitted that the cigarette industry's statements of reduced tar and nicotine were perceived by the public as indications that these cigarettes were less harmful, and cautioned that insofar as industry advertisements promised a reduction in health hazard, they contained an implicit admission that cigarettes are harmful. Little stated that "[a]lthough this serious danger exists, I believe that it can and should be eliminated by prompt and unanimous action by the industry" in

the form of a denial that cigarettes are harmful and **a statement that the cigarettes and corresponding advertisements regarding filters and reduced deliveries are "in response to public demand and to nothing else**." 1002607478-7481 at 7480 (US 20138) (O) (emphasis added - bold text).

3473. In his testimony before the Court, Dr. Brandt cited a 1958 article in which James P. Richards, President of the Tobacco Institute, stated:

> The cigaret industry has not changed its mind. Our position was and is based on the fact that scientific evidence does not support the theory that there is anything in cigaret smoke known to cause human lung cancer. . . the production and marketing of filter cigarets are matters of individual company competitive business. Anyone familiar with the tobacco industry knows that **tobacco manufacturers constantly compete to make products to please customers**.

TIMN0122775-2775 (US 21326) (A) (emphasis added).

3474. Consistent with the approach recommended by Little in 1958, in April 1964, the Cigarette Company Defendants adopted the Cigarette Advertising and Promotion Code ("Code"). The Cigarette Company Defendants have claimed publicly that they obeyed and continue to obey the 1964 Code, last revised in December 1990, which includes provisions prohibiting "advertising which makes a representation with respect to health." Krugman WD, 164:6-21; see also US FF §§ III.E(3)(a)-(b), infra (Youth Marketing) for a more detailed discussion of the history of Defendants' Advertising Code and their false public statements about the Code.

3475. Defendants have repeatedly made public their adoption of the Code. Each Cigarette Company Defendant continues to state to the public on its website and in other public statements that it has adopted the Code and that it follows the Code in planning and executing its cigarette marketing. For example, a December 1990 pamphlet published by the Tobacco Institute, entitled "Cigarette Advertising and Promotion Code," emphasized that Defendants

continue to follow the Code. These statements are knowingly false and misleading. 2070557699-7702 (US 20519) (A). 2025345360-5362 (US 20414) (A); MNAT00608606-8614 (US 78779) (A); TIMN0102493-2494 (US 21271) (O); TIMN0015615-5617 (US 21265) (A); 2022976326-6335 (US 20370) (O); ATX040294056-4056 (US 58599) (A).

3476. More recently, Defendants agreed in the 1998 Master Settlement Agreement ("M.A.") not to make "any material misrepresentation of fact regarding the health consequences of using any tobacco product." Section III(r) of the M.A. states:

> Prohibition on Material Misrepresentations. No Participating Manufacturer may make any material misrepresentation of fact regarding the health consequences of using any Tobacco Product, including any tobacco additives, filters, paper or other ingredients.

Master Settlement Agreement, § III(r) (JD-045158) (A).

3477. Throughout trial, counsel for Defendants denied that Defendants' actions were responsible for consumer demand for low tar cigarettes, and instead attempted to claim that the Government was responsible for the consumer demand, because of a few, limited statements of the United States Department of Health and Human Services in the late 1960s to early 1970s. Andrew Schindler, Executive Chairman of Reynolds American Inc., claimed that Reynolds "developed and markets light and ultra light cigarettes in response to recommendations by the government and public health community and in **response to consumer demand** for those products as a result of government and public health community recommendations." Schindler WD, 65:11-18 (emphasis added). See also TT, 9/22/04, 288:16-22 (counsel for Defendants claiming during Defendants' opening statement that "[t]he evidence will establish that the government and the public health community helped to create demand for lower tar and nicotine cigarettes"); TT, 6/8/05, 23225:14-17 (counsel for Defendants claiming in closing argument that "these defendants did what the government and public health community wanted them to do").

3478. Defendants' statements recited immediately above are not credible in light of the overwhelming evidence adduced at trial that directly contradicts Defendants' claims. First, the evidence shows that Defendants intentionally marketed and promoted low tar cigarettes as a healthier alternative to regular cigarettes to **prevent** smokers from quitting, (see US FF §§ III.D(2)-(3), supra), in direct contravention of the Surgeon General's primary advice to smokers, which has always been, first and foremost, to quit smoking entirely. Dolan TT, 12/8/04, 8071:8-8074:12 (testifying that the "consistent" message from the public health authorities was to quit smoking, and that, by contrast, Defendants had a profit motive in using low tar cigarettes to keep smokers from quitting); 99054900-5150 at 4902 (US 74603) (A) (1981 Surgeon General's Report, stating that "smokers who are **unwilling or as yet unable to quit** are well advised to switch to cigarettes yielding less 'tar' and nicotine, provided they do not increase their smoking or change their smoking in other ways") (emphasis added); VXA0300208-0848 (US 64591) (A) (1988 Surgeon General's Report, stating "even the lowest yield of cigarettes presents health hazards very much higher than would be encountered if they smoked no cigarettes at all, and that the **single most effective way to reduce the hazards associated with smoking is to quit**") (emphasis added).

3479. In addition, as demonstrated previously (see US FF § III.D(3)(a), supra), Defendants' spending on the marketing and promotion of filtered and low tar cigarettes over multiple decades exceeded the market share of those cigarettes. This evidence directly refutes Defendants' claim that they were merely responding to consumer demand, and indicates that instead Defendants were attempting to increase demand. As Dr. Brandt explained, Defendants' false claim that they were only responding to consumer demand is merely an attempt by the industry to explain the inconsistency between Defendants' public position denying that any

cigarettes caused disease and their marketing of filtered and low tar cigarettes as less harmful. Brandt WD, 137:22-138:18.

3480. Second, Defendants' claim that they "did what the government and public health community wanted them to do" is belied by the fact that there is no evidence in the record of internal industry documents where Defendants stated that they were designing and marketing filtered and low tar cigarettes because the mainstream scientific community or the FTC had asked them to. See, e.g. Dolan TT, 12/8/04, 8077:1-6 (Dr. Dolan testifying that, during his review of internal industry documents, he saw no representation by Defendants that they were making, advertising, or promoting low-tar cigarettes because the government told them to). The overwhelming evidence proves Defendants did the exact opposite of what the Government and public health community wanted. The evidence shows that Defendants withheld and suppressed their extensive knowledge and understanding of smoker compensation from public dissemination, and instead used this knowledge to secretly design their low tar cigarettes with "elasticity" of delivery, so that they would register deceptively low tar and nicotine yields on the standardized testing machine operated by the Federal Trade Commission ("FTC"), while at the same time enabling smokers to compensate and obtain much higher deliveries of nicotine (and with it, tar); deliveries high enough to create and sustain addiction. Thus, rather than producing cigarettes that actually were less harmful, **Defendants did exactly the opposite of what the Government and the public health community had requested**, introducing instead cigarettes that merely gave the **appearance** of being less harmful, to the great detriment of smokers' health. See generally US FF §§ III.D(4)(a)-(c), infra (health effects, smoker compensation, and Defendants' deceptive design of low tar cigarettes, respectively).

3481. Therefore, Defendants' claim that the Government "endorsed" low tar cigarettes is

misleading and not credible. See, e.g. TT, 6/8/05, 23227:11-19 (counsel for Defendants claiming in closing argument that there were "specific endorsements by the public health community of lower tar and nicotine cigarettes and that they are safer for you than higher tar and nicotine cigarettes"). As explained more fully in Section III.D(4)(a), infra, the statements of the public health community were premised on the existence of a dose-response relationship between the amount that a person smokes and that person's risk of adverse health effects, and on the concurrent proposition that cigarette smoke with less tar and nicotine in it therefore may be less likely to cause lung cancer than smoke with more tar and nicotine. However, as Dr. Burns testified, unbeknownst to those outside the tobacco industry, low tar cigarettes, as designed by Defendants, did not deliver less tar to smokers, and therefore did not reduce smokers' health risks. Had the Surgeon General known what the tobacco companies knew and concealed regarding cigarette design and the extent of smoker compensation, the 1981 Report never would have made the recommendation that smokers who could not quit switch to low tar cigarettes. US FF § III.D(4)(a); Burns WD, 1:10-15; 12:10-11; 36:3-37:12; 55:17-56:13; 56:21-57:17; Burns TT, 2/15/05, 13311:9-15; Burns TT, 2/16/05, 13666:25-13667:24.

3482. Consistent with their scheme to defraud, Defendants have made statements in depositions and submissions to the Federal Government that directly contradict the vast amount of internal information developed by or for Defendants about consumer perceptions of low tar cigarettes and Defendants' deliberate efforts to exploit those perceptions in marketing those cigarettes. For example, in direct contrast to overwhelming evidence that for decades Defendants intentionally marketed low tar cigarettes as less harmful – and that consumers smoked them for that reason – Defendants Philip Morris, RJR, B&W, and Lorillard jointly stated to the FTC in February 1998: "The **manufacturers do not claim that lower-yield cigarettes are 'safe' or are**

‘**safer' than higher yield cigarettes**." Comments of Philip Morris Inc., RJR Tobacco Co., Brown & Williamson Tobacco Corp., and Lorillard Tobacco Co. on the Proposal Entitled FTC Cigarette Testing Methodology Request for Public Comment (62 Fed. Reg. 48,158) at 3, 94 ("Joint Comments") (US 88618) (A) (emphasis added).

3483. Despite clear evidence showing that Defendants know that consumers are generally unaware of the FTC tar and nicotine ratings of their own brands, and rely on brand descriptors as an indication of relative safety of the cigarette (see US FF § III.D(3)(a), supra), Defendants stated to the FTC: "**Smokers are familiar with the ratings produced by the current test method**, and continued use of the current test method assures historical continuity of the data. For these reasons, testing under the current FTC test method should continue." Joint Comments at 4 (US 88618) (A) (emphasis added).

3484. Despite evidence showing that Defendants have known for decades that consumers perceive brand descriptors such as "light" and "ultra light" to signify reduced harm products (see US FF §§ III.D(3)(a)-(b), supra), in response to the FTC's question regarding the need for official guidance on brand descriptors, Defendants stated: "**The manufacturers are not convinced that there is a need for official guidance with respect to the terms used in marketing lower rated cigarettes**." Defendants further stated that regarding terms like "light" and "ultra light," "**[t]he manufacturers believe smokers understand that these descriptors are terms of comparison rather than signifiers of absolute value**." Joint Comments at 94 (US 88618) (A) (emphasis added).

3485. In response to the following FTC query:

> What data, evidence, or other relevant information on consumer interpretation and understanding of terms such as ‘ultra low tar,' ultra light,' ‘low tar,' ‘light,' ‘medium,' ‘extra light,' and ‘ultima,' as used in the context of cigarettes exists? Do consumers believe they

> will get significantly less tar from cigarettes described as ‘light' or ‘low tar' than from regular full flavor cigarettes, and do they believe they will get significantly less tar from cigarettes described as ‘ultra low tar' or ‘ultra light' than from ‘light' or ‘low tar' cigarettes? Do the brand descriptors convey implied health claims?

Defendants Philip Morris, RJR, B&W, and Lorillard jointly stated in their joint comments to the FTC:

> **The manufacturers believe** that consumers choose ‘light' or ‘ultra' products for a variety of reasons, including lighter flavor, lighter taste, less menthol (or other flavor) taste, and smoother smoking characteristics. Some consumers may choose such products for other reasons. **The manufacturers do not intend the descriptors to convey any level of safety with regard to their products**.

Defendants' joint comments further stated: "**The manufacturers are not aware of evidence that consumers use descriptors in lieu of the FTC numbers as their primary source of information about the ‘tar' and nicotine yields of different brand styles**." Joint Comments at 95 (US 88618) (A) (emphasis added).

3486. The mountain of evidence adduced in this case shows Defendants' statements immediately above are misleading at best, if not outright false. See US FF §§ III.D(1), (2), (3)(a)-(b), supra.

3487. Defendants' statement to the FTC fails to make any reference to the vast amounts of consumer research Defendants conducted, and had conducted for them by their numerous advertising and marketing consultants, that expressly found that many consumers disliked the taste of low tar cigarettes, but were smoking them because they believed they were better for them. Accord 2041186475-6517 at 6478, 6504 (US 22181*) (A) (November 29, 1994 submission to the National Cancer Institute on behalf of B&W, American Tobacco, Lorillard, and Liggett contending that smokers use FTC tar and nicotine ratings primarily for information

relating to taste considerations, referring to what Defendants called "the well-established significance of the FTC's machine-determined yields for comparing the **flavor, richness and satisfaction** of different brands of cigarettes," and adding that if modifications to the FTC Method occurred, "[c]onsumers . . . would be deprived of important information about the **flavor, taste and feel** of cigarettes – information consumers consider to be highly relevant in distinguishing among" brands) (emphasis added).

3488. In response to the FTC's question:

> What available evidence exists concerning how consumers view cigarettes with relatively low tar and nicotine ratings and their perception of the relative risks of smoking such cigarettes rather than full flavor cigarettes?

Defendants Philip Morris, RJR, B&W, and Lorillard jointly stated:

> "**The manufacturers are unaware of evidence concerning such consumer views and perceptions except to the extent that such evidence is presented in [the National Cancer Institute's Smoking and Tobacco Control Monograph No. 7]**.

Joint Comments at 89 (US 88618) (A) (emphasis added).

3489. As shown above, Defendants have conducted a staggering amount of research on **exactly** this question, and this research has unequivocally found that most smokers view low tar cigarettes as better for them and smoke them for that reason, despite the less desirable taste. See US FF §§ III.D(3)(a)-(b), supra.

3490. Nancy Lund, Philip Morris Senior VP for Marketing, acknowledged that, as part of its mission statement, Philip Morris claims that it will keep the public fully informed, especially about health risks. Lund further admitted that in order to keep the public fully informed about the health risks of Philip Morris's cigarettes, she needs to know what the health effects of its cigarettes are. However, Lund testified that she was not aware of tests that the

company has done on its light cigarettes to indicate there are a greater number of harmful constituents in the lights than there are in regulars. She further testified that the company's internal research has never been discussed in any of the weekly Senior Team meetings of Philip Morris's top executives. Ms. Lund was also unaware of studies that showed that smokers of Marlboro Lights get as much tar and nicotine as smokers of regular Marlboros. Although she admitted that the research on tar yields was the kind of information that should, under the Mission Statement the company purports to follow, be communicated to consumers, they have not been discussed at any of the Senior Team meetings, nor has Ms. Lund, the most senior marketing executive at Philip Morris, been made aware of the company's internal research in this area. Brennan-Lund TT, Price v. Philip Morris, 2/25/03, 4:4-6; 4:8-5:5; 8:4-9:22; 21:16-22:18; 24:8-14; 70:10-19; 101:11-102:18; 103:7-13; 103:16-104:18; 104:22-105:8; 105:11-106:1; 106:22-107:8; 107:10; 107:13-107:15; 114:24-115:14; 115:22-116:5; 116:24-117:15.

3491. As Dr. Dolan testified, contrary to their repeated public statements from the 1970s, 1980s and 1990s, Defendants sought to maintain, and even increase, the overall number of cigarettes sold by controlling the number of new people (including teenagers) entering the market and becoming smokers, the number of smokers who quit, and the consumption rate of people who do smoke, as well as the number of people who have quit "restarting" as smokers. As Dr. Dolan explained:

> Contrary to their public statements, Defendants used marketing to decrease the number of people who quit smoking. My review of tobacco company documents shows that they were well aware that most people wanted to quit. The tobacco companies tracked how much business was lost to quitting and they devised programs to deter smokers from quitting. They were aware of how prevalent smokers' desire to quit was. The tobacco companies regularly collected data on this while claiming quitting was a phenomenon they had no interest in impacting.

Dolan WD, 62:7-65:16; 101:14-102:7.

3492. As such, as detailed below, Defendants' public statements on their websites, the statements of their executives in depositions, and their internal documents detailed in this section are false and/or misleading, and serve as further evidence of Defendants' scheme to conceal the truth about low tar cigarettes and defraud and mislead the American public.

(i) Tobacco Institute

3493. In a May 3, 1967 Lorillard letter from Manuel Yellen, Chairman of the Board, to the Board of Directors of the Tobacco Institute, Lorillard acknowledged Defendants' lack of candor and withholding of information regarding the health effects of cigarette smoking, stating: "The failure of the Institute for a number of years to conduct a reasonable dialogue with those agencies of the Federal Government most interested in the cigarette and health controversy seemed to us unwise and ultimately damaging to the industry." As an example, Lorillard cited the Institute's actions at a "meeting . . . to discuss the Federal Trade Commission's Special Report Order of March 17, 1967." 03768870-8872 at 8870-8871 (US 46515) (O).

3494. In 1979, the Tobacco Institute's pamphlet "Fact or Fancy?" stated: "The tobacco industry does not try to persuade anyone to smoke. Nor does it discourage anyone who makes up his of her mind to quit." TIMN0133740-3798 at 3786 (US 21280) (A).

(ii) Philip Morris

3495. Recent testimony of Philip Morris executives underscores Defendants' scheme to maintain their false public denials and to conceal their intent to market low tar cigarettes as less harmful. Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified that to her knowledge:

- "Philip Morris has always denied publicly that it markets low tar cigarettes as safe or safer than full-flavor brands;" and

- "Philip Morris has always denied publicly that it uses brand descriptors such as ‘light' and ‘ultra light' to communicate they are safe or safer than full-flavor brands."

Bonhomme WD, 11:18-20; 12:12-15.

3496. In May 1996, representatives from Philip Morris, including Denise Keane, Philip Morris General Counsel, RJR, B&W, and Lorillard met with the FTC to discuss in part "how Philip Morris and other tobacco companies use FTC test results in their advertising," and "whether the FTC test method could be modified to more accurately reflect actual smoker intake." Keane testified that, at that meeting, "the FTC referred to published research showing that smokers believe brand descriptors like ‘low tar' and ‘light' to convey relative safety messages." Keane further testified that, at the meeting, the FTC requested that the industry representatives provide the FTC with "any information the companies had concerning the issue of consumer perception of low tar, so-called "light" cigarettes." Despite the decades of consumer and marketing research conducted or commissioned by Philip Morris concerning consumers' interpretation of these terms (see US FF §§ III.D(3)(a)-(b), supra), Keane testified that "Philip Morris did not provide any such information" to the FTC. Keane WD, 46:18- 48:23; Keane TT, 1/18/05, 10369:20-10370:25; 2048216131-6135 at 6134 (US 38655) (A).

3497. Following publication of the NCI's Monograph 13 in November 2001, ABC News.com requested information from Philip Morris regarding low tar cigarettes and, as stated in a November 26, 2001 email from Philip Morris employee Christina Malito, "whether or not there are real health benefits to them." In an internal reply e-mail sent that same day, Ellen Merlo, then Senior Vice President of Corporate Affairs at Philip Morris United States and a decades-long Philip Morris employee, wrote that Philip Morris's response to the inquiry should be: "**[W]e make no claims. Started producing them in response to consumer demand** for lighter tasting

cigarettes." 2085802175-2176A at 2175B (US 85123*) (O) (emphasis added).

3498. In a 2002 deposition, Merlo testified that:

> [A]s far as Philip Morris's position publicly, **we would advise people not to in any way infer that light or lighter cigarettes are any safer than full flavor cigarettes** . . . my communication, both through our website and in any public statements that I make, would be that **the general public should not in any way infer that light or lighter means that that cigarette is safer than a full-flavor cigarette**.

Merlo PD, Price, 10/2/02, 96:24-101:24 (emphasis added).

3499. Susan Norris, former Marlboro Brand Manager from 1995-1999 who was heavily involved in creating the marketing for the national launch of Marlboro Ultra Lights, testified at her July 31, 2003 deposition that virtually no consumers smoked Marlboro Ultra Lights because they believed these cigarettes delivered less tar and it was a "rarity" that consumers believed doing so was better for their health. Norris PD, United States v. Philip Morris, 7/31/03, 125:2-130:4, 162:6-165:8.

3500. Nancy Brennan-Lund, then Senior Vice President of Marketing at Philip Morris USA, testified in a 2002 deposition that Philip Morris's use of the word "lights" in its marketing of low tar cigarettes is intended to mean a lighter tasting cigarette. Brennan-Lund PD, Price, 9/20/02, 19:21-24.

3501. As recently as 2003 and 2004, the Board of Directors of Altria (formerly known as Philip Morris Companies), publicly made false and misleading statements to its shareholders and to the U.S. Securities and Exchange Commission ("SEC") in documents it filed with the SEC. In a March 17, 2003 Proxy Statement, a group of Altria shareholders, proposed (at p. 34-35) to the Altria Board of Directors that "the Board find appropriate ways of informing our customers about the actual health risks of smoking ‘light and ultralight' cigarettes to disassociate them from any

belief that such products are safer and deliver less tar and nicotine," citing a NCI study that found that "most smokers believe ‘Lights' and ‘Ultra Lights' are less harsh and deliver less tar and nicotine," and that, "on average, smokers believe that Lights afford a 25% reduction in risk, and Ultra Lights a 33% reduction in risk;" the Canadian Government's conclusion that the terms low tar, light and ultra light are deceptive to the consumer; and that the World Health Organization recommends banning the terms light and ultralight as misleading. The Board of Directors of Altria recommended a vote against this shareholder proposal, stating: "for those adults who choose to smoke, PM USA and PMI believe descriptors such as ‘low-tar,' ‘mild,' and ‘light' serve as useful points of comparison for cigarette brands regarding characteristics such as strength of taste and reported tar yield." (US 87741) (O).

3502. In May 2004, Philip Morris, in clear contradiction to the substantial evidence presented in Sections III.D(1), (2) and (3)(a)-(b), supra, falsely stated on its website: "**Philip Morris USA does not imply in its marketing**, and smokers should not assume, that lower-yielding brands are safe or safer than full-flavor brands." TLT0770066-0088 at 0077 (US 72408) (A) (emphasis added); accord TT, 2/24/05, 14340:19-20 (counsel for Defendants referring to Philip Morris website and stating "we don't tell people that these cigarettes are safer"); see also PM3000185282-5319 at 5289, 5291-92 (June 2003 Philip Morris website stating same) (US 88095) (O).

3503. Philip Morris further stated on its website:

> Because smokers have varying preferences, Philip Morris USA offers products with differing yields of tar and nicotine, as measured by machine methods. We believe that it is appropriate to continue to differentiate our brands on this basis and that descriptors such as "lights," "ultra-lights," "medium" and "mild" help communicate these differences to adult smokers.

TLT0770066-0088 at 0077 (US 72408) (A); see also PM3000185282-5319 at 5289 (June 2003

Philip Morris website stating same and further stating "we believe that [low tar brand] descriptors serve as useful points of comparison for cigarette brands regarding characteristics such as strength of taste and reported tar yields . . .") (US 88095) (O).

3504. Similarly, on August 22, 2002, although Geoffrey Bible, former CEO of Philip Morris Companies, claimed he had never been presented with any data as to how consumers actually perceive brand descriptors, he testified that he believes that they "simply convey taste preferences." Bible PD, United States v. Philip Morris, 8/22/02, 165:3-166:7.

(iii) R.J. Reynolds

3505. In direct contrast to substantial evidence showing that RJR marketed low tar cigarettes to prevent smokers from quitting smoking (see US FF § III.D(2)(c), supra), RJR's website in May 2004 stated: "Reynolds Tobacco is not interested in trying to persuade any nonsmokers to begin smoking or in persuading any smokers not to quit." Andrew Schindler, Executive Chairman of Reynolds American Inc., testified that "Reynolds Tobacco is not interested in trying to talk any smokers out of quitting." TLT0770095-0128 (US 72410) (A); Schindler WD, 76:17-77:5.

3506. RJR's website further stated:

> Our company, like other cigarette manufacturers, uses brand descriptors such as ‘full flavor,' ‘lights' and ‘ultra lights' to differentiate cigarette brand-styles in terms of such characteristics as strength of taste, and reported ‘tar' and nicotine yield. **These terms do not, and are not meant to, imply that any cigarette brand-style or any category of cigarettes is safer than any other**.

TLT0770095-0128 at 0111 (US 72410) (A) (emphasis added); Schindler WD, 64:19-65:3.

3507. Andrew Schindler testified that "Reynolds intends for the public to rely on its statements as accurate reflections of the views and/or policies of the company." Schindler WD,

64:11-18.

3508. A March 21, 2003 RJR statement to stockholders presented a proposal to sharholders "to find appropriate ways of informing our customers about the actual health risks of smoking ‘light and ultralight' cigarettes to disassociate them from any belief that such products are safer and deliver less tar and nicotine." This proposal cited the conclusions of NCI Monograph 13 that low tar cigarettes present no significant reduction in harmfulness relative to full-flavor cigarettes, and that "'many smokers choose these products as an alternative to cessation'" out of a mistaken belief that they are less harmful. The proposal also referenced several pending lawsuits against one or more of the Defendants alleging fraudulent marketing of low tar cigarettes as less harmful. The Board of Directors of RJR recommended a vote **against** this proposal. One of the reasons for rejecting this proposal was that, "if implemented, this proposal could significantly interfere with RJR's defense of pending litigation." TLT0960025-0029 at 0027-0028 (US 87993) (A); Schindler WD, 66:4-67:16.

(iv) Brown & Williamson

3509. Susan Ivey, former B&W President and CEO, testified that since she joined B&W in 1981, the company's public position has been that "it has never marketed filtered or low tar cigarettes as less harmful than regular cigarettes." Similarly, Sharon Smith denied that the words "low tar" communicates any health benefit, testifying that "I would not say that low tar implies any sort of benefit, other than it's lower in tar." Ivey WD, 51:9-13; Smith WD, 66:19-22.

3510. Notwithstanding that B&W internally acknowledged that its low tar marketing portrayed low tar cigarettes as less harmful, a June 17, 1999 B&W Question & Answer ("Q&A"), labeled a "working document," stated that B&W did not lower the tar and nicotine in its cigarettes for health reasons and that B&W does not "claim that [low tar] cigarettes are any

better/safer for you than any other cigarette on the market." 127030138-0138 (US 22113) (A).

3511. In March 1999, Nicholas Brookes, B&W Chairman and CEO from 1995 to 2000, testified that B&W had not conducted research on consumer perception of light cigarettes and whether reduced risk was associated with these cigarettes. Brookes PD, United States v. Philip Morris, 3/31/03, 162:13-163:9.

3512. In direct contradiction to the multitude of documents cited in Section III.D(a)(iii), supra, establishing that B&W tailored its marketing of low tar cigarettes to communicate their supposed health benefits, Sharon Smith, former Director of Marketing Services and Operations at B&W, testified that "Brown & Williamson has only used the terms 'low tar' or 'light' with respect to its cigarettes to communicate lighter taste – lighter taste and nothing else," and that "consumers have overwhelmingly responded that lighter taste is the only benefit that Brown & Williamson's advertising for its low tar brands has indicated." Similarly, Susan Ivey testified that "[m]y experience is that most consumers choose lights for taste, because they prefer a lighter tasting cigarette." Smith WD, 50:7-51:2; Ivey WD, 57:18-21.

3513. Paul Wessel, a B&W Marketing Vice President who has worked for B&W since the 1970s, testified that, as of March 19, 2002, he was not aware of any B&W focus group research conducted "to determine whether consumers perceived light [cigarettes] as either a potentially safer[,] less harmful" or "potentially less hazardous cigarette." Nonetheless, Wessel testified that smokers switch to light cigarettes to "lower[] their perceived health risk." Wessel PD, United States v. Philip Morris, 3/19/03, 37:23-38:12, 63:25-66:10.

3514. Despite substantial evidence that B&W intentionally marketed low tar cigarettes to potential quitters to keep them from quitting (see US FF § III.D(2)(iv), supra), B&W stated on its website: "**We do not believe that people who are concerned about the health risks of**

smoking should view lower tar products as an alternative to quitting." TLT1040050-0055 at 0055 (US 88620) (A) (emphasis added); Ivey WD, 63:9-16, 64:1-6; Smith WD, 61:19-23.

3515. Despite substantial evidence that B&W has intentionally marketed low tar cigarettes as safer (see US FF § III.D(3)(a)(iii), supra) and was aware that consumers interpreted its low tar brand descriptors as indicating a less harmful cigarette, in May 2004, B&W stated on its website that brand descriptors were intended only to communicate taste:

> Cigarette brands in the U.S. are usually identified on packs, cartons and advertising as belonging to the following categories: 'Ultra Lights' or 'Ultra Low Tar', 'Lights' or 'Low Tar', and 'Full Flavor" . . . . Recent published studies suggest that **the majority of smokers use descriptors to guide their product selection based on taste**. . . . **It is not Brown & Williamson's intention to suggest that any individual brand, regardless of the category descriptor terminology used, or tar yield, is safer than any other.**

TLT1040056-0062 at 0061 (US 88628) (A); Ivey WD, 70:5-14.

(v) BATCo

3516. Susan Ivey, who worked in marketing for BATCo from 1990 and 1999, testified that BATCo's public position was that the use of low tar brand descriptors was "not intended to make any health claims," and was "not meant to imply that light or ultra-light cigarettes are less harmful." Ivey WD, 71:20-72:3.

3517. A February 17, 1999 BATCo memorandum entitled "EU- Labeling Directive" from Rolf Bielefeldt to Adrian Marchall and copied to B&W President Susan Ivey, discussed the European Union's proposal to prohibit the use of the terms "'low tar, light, ultra light, mild,' or any similar terms that have the aim or the direct or indirect effect of conveying the impression that a particular tobacco product is less harmful than others." The memorandum stated:

> CECCM [a European tobacco association] replied to these proposals on December 18th, 1998 that 'the use of these terms by manufacturers is **not intended as an explicit nor an implicit**

health claim and such terms are not used for such purposes.'

321625509-5511 at 5509 (US 46875) (A) (emphasis added); Ivey WD, 72:4-73:17. However, an earlier BATCo public relations document indicates that the company **did** intend to communicate that its low tar cigarettes were less harmful than full flavor cigarettes. A BATCo document entitled "P.R. – Questions & Answers File" from October 1974 to November 1977 stated: "[W]e have progressively modified our products to reduce those smoking constituents which are alleged to be harmful." 202006722-6736 at 6729 (US 87903) (O).

(vi) American Tobacco

3518. Notwithstanding the extensive evidence presented above establishing American Tobacco's knowledge that smokers chose low tar cigarettes primarily because they believed they were less harmful and American's design of its marketing program to appeal to consumers' desire for a less harmful product, Eric Gesell, designated representative of American, when asked in 1997 what the significance was of a cigarette being lower in tar, testified: "It's lighter, lighter taste." When asked: "Isn't there also an implied health claim there?" Gesell testified: "No, there isn't." Gesell also testified that the company "didn't have an understanding that people tended to smoke low-tar cigarettes because they were concerned about their health." Gesell PD, Minnesota, 9/18/97, 5:8-25; 6:10-17; 97:8-13; 130:25-131:4.

3519. With respect to an advertisement that, in Gesell's words, "says that [American's Pall Mall cigarette is] lower in tar than the best filter king," Gesell testified that he did not know if the advertisement "suggests that" smokers "would receive less tar when they smoke the cigarette," stating: "I don't know if it suggests that. I know what it tells you. It tells you that it has less tar than the leading filter king. It's lower in tar." Gesell PD, Minnesota, 9/18/97, 5:8-25, 6:10-17, 97:22-98:9.

(4) Defendants Knew What They Told the Public About Low Tar Cigarettes Was False and Misleading

(a) Defendants Knew – and the Evidence Shows – That Low Tar Cigarettes Are Not Less Harmful than Regular Cigarettes

3520. As demonstrated in Sections III.D(1)-(3), supra, for decades Defendants have intentionally marketed filtered and low tar and nicotine cigarettes to convey health reassurance in an attempt to keep people smoking, while at the same time denying publicly that that was their intention. The evidence, as detailed in this Section, shows that, while Defendants marketed lower tar cigarettes as less harmful, they knew that filtered and lower tar cigarettes, as Defendants designed them, would not provide any significant reduction in harm to smokers switching to them.

3521. An example of Defendants' early appreciation on this is found in the minutes of a May 24, 1968 meeting at a Liggett facility to discuss the FTC Method, attended by the heads of research of Philip Morris (Helmut Wakeham, Vice President of Corporate Research and Development), RJR (Murray Senkus, Director of Research), B&W, and Liggett (William W. Bates, Research Director), as well as Allan Topol of the law firm of Covington & Burling. These minutes demonstrate that these Defendants knew that any claim that lower FTC tar and nicotine yields resulted in lowered exposure to smokers was unsubstantiated: "We expect to be able to show that FTC Tar and Nicotine are of limited or questionable value as a measure of potential exposure to the smoker. . . . [T]he principal determinate of exposure is the individual smoker's smoking behavior pattern." 1003287730-7731 at 7730 (US 20162) (O).

3522. Similarly, testimony of Defendants' senior officials roughly contemporaneous with the pendency of this litigation demonstrates a lack of evidence that lower tar cigarettes are less harmful. As Dr. Dolan testified, the Presidents and CEOs of Philip Morris USA (James

Morgan) and RJR (Andrew Schindler) testified in 1998 that there was no reason to believe low tar cigarettes were any less harmful than full-flavor cigarettes. Dolan WD, 118:15-22; Morgan PD, State of Minnesota v. Philip Morris Inc., 9/4/97, 6:24-7:2; 9/5/97, 271:19-273:13 (testifying that, in his 30 years at Philip Morris USA, the company never advertised any cigarette as safer or less harmful, because "on a smoking and health basis I don't know that there's any documented evidence that any cigarette can make that claim. . . . I just don't think it can be done because I don't think you can document it."); Schindler WD, 63:9-64:1 (acknowledging that he "cannot say with certainty that any RJR cigarette is or was any safer than any other cigarette, and admitting that he has "no new information today that would establish that low tar cigarettes are safer").

3523. Bennett LeBow, Chairman of the Board and CEO of Vector Group, Ltd., and VGR Holding Inc., testified in 2005 that he does not dispute the findings of National Cancer Institute Monograph 13, and of the United States Surgeon General in the 2004 Surgeon General's Report, that there is no evidence that light cigarettes carry any reduced risk compared to cigarettes marketed as full-flavor cigarettes. While Liggett made certain concessions and disclosures in the late 1990s, "Liggett did not identify that its low-tar cigarettes were not less hazardous." LeBow TT 4/4/05, 17596:2-17597:17; Burns TT, 2/16/05, 13647:5-6.

3524. Moreover, the overwhelming evidence adduced at trial confirms what Defendants have long known: that lower tar cigarettes are not less harmful than higher tar cigarettes. Dr. Burns, an expert on "the science of tobacco and health, including disease causation," who has studied the health consequences of smoking for 30 years and been "an author, editor or reviewer for each of the annual Reports of the U.S. Surgeon General on the Health Consequences of Smoking since 1975," testified that low tar cigarettes have not reduced the risks of smoking relative to full-flavor cigarettes. Dr. Jonathan Samet, expert, physician and epidemiologist with

extensive experience treating patients with lung cancer and COPD, who served as author and/or editor of several Surgeon General's Reports over more than 25 years and contributed to several National Cancer Institute Tobacco Control Monographs, including serving as an author of Chapter 4 of Monograph 13, and who was qualified as an expert in the science of tobacco smoking and health, including epidemiology, pulmonary medicine, and internal medicine, testified that the use of lower tar and lower nicotine cigarettes "has had no clear benefit on the health risks of active smoking." Similarly, Dr. William Farone, fact and expert witness and former Director of Applied Research at Philip Morris USA, testified that, based on his training and experience, "'light' cigarettes – because they generally permit easy compensation and employ levels of dilution that increase the mutagenicity of the tar – are not any less hazardous than their full flavor versions." Burns WD, 1:10-15; 12:10-11; 30:5-12 ("I have concluded that the changes in cigarettes that resulted in a lowering of the FTC tar and nicotine yields over the past 50 years have not resulted in a reduction in the disease risks of smoking cigarettes for the smokers who use these cigarettes."); Burns WD, 41:1-2 ("[T]here is not evidence that establishes any benefit to these products."); Burns WD, 61:14-16 (reiterating his "opinion that low tar cigarettes are no better for you"); Burns TT, 2/15/05, 13311:9-15; Samet WD, 1:3-12; 2:20-3:3; 3:7-11; 3:19-23; 10:16-12:16; 14:1-15:13; 18:12-16; 168:17-19; Samet TT, 9/29/04, 10-18; Farone WD, 123:21-124:4.

3525. Recent studies, including the National Cancer Institute's Monograph 13 and the 2004 Surgeon General's Report, have confirmed that low tar and filtered cigarettes are no less harmful than regular delivery and unfiltered cigarettes. DXA0310399-0650 at 0422-0423 (pp. 9-10) (US 58700) (A) ("Monograph 13") (concluding that "[e]pidemiological and other scientific evidence" does not indicate a health benefit to low tar cigarettes).

3526. Dr. Samet testified that he agrees with the conclusions and recommendations in NCI Monograph 13, stating: "**The evidence is clear. We have tracked the risk of lung cancer closely and not seen a fall in relative risks to smokers.**" Samet WD, 169:14-16 (emphasis added).

3527. The NCI's Monograph 13 was based on the **totality of the scientific evidence**; more specifically, the considered evidence was "derived from research on human behavior and exposures, cigarette design and yields, smoke chemistry, epidemiological [and other] population-based data on human disease risk." The 2004 Surgeon General's Report also reached this conclusion, again based on the **totality of the evidence**. DXA0310399-0650 at 0422-0423 (pp. 9-10) (US 58700) (A); TLT0930001-0949 at 0042, 0340, 0911 (pp. 25, 324, 901) (US 88621) (A) (2004 Surgeon General's Report) ("In this report, one major conclusion finds that cigarettes with lower machine-measured yields of tar and nicotine (i.e., low-tar/nicotine cigarettes) have not produced a lower risk of smoking-related diseases." In addition, the Report concludes that "[s]moking cigarettes with lower machine-measured yields of tar and nicotine provides no clear benefit to health" and that, "[a]lthough characteristics of cigarettes have changed during the last 50 years and yields of tar and nicotine have declined substantially, as assessed by the Federal Trade Commission's test protocol, the risk of lung cancer in smokers has not declined."); VXA100001-0604 (US 77217) (A) (NCI Monograph 8); MTP0032477-2481 (US 76212) (A) (11/7/97 CDC MMWR article); VXA1611681-1689 (US 77222) (A) (1996 Samet et al. article); VXA1601456-1742 (US 64059) (A) (1984 Surgeon General's Report).

3528. Dr. Samet explained how the extensive research into the relationship between research of biomarkers of nicotine in humans to FTC tar and nicotine yields leads inexorably to the conclusion that lower tar cigarettes do not provide a reduction in harm:

> Generally speaking, research using these biomarkers has indicated little, if any, correlation between the FTC-yield of tar or nicotine, and the levels of the biomarkers measured in smokers. . . . These results suggest that there is little difference in the levels of biomarkers comparing smokers of higher yield tar/nicotine cigarettes and lower yield tar/nicotine cigarettes, as measured by the FTC method. This implies that doses of carcinogens or other toxic materials that smokers ingest have little relationship, if any, to the FTC tar yield. This, in turn, suggests that the gradual reduction in tar yield over the past several decades has not resulted in a reduction in smokers' exposure to carcinogens, and that the FTC test method is not informative with respect to lung cancer risk or to the risk of smoking-caused diseases generally. . . . In fact, evidence with respect to smoker compensation and biomarkers shows that those smokers who switch to "Low Tar" cigarettes modify their pattern of smoking to obtain the same or similar amounts of tar and nicotine as from the "High Tar" cigarettes they used to smoke. **The bottom line is that a "Low Tar" label-based brand under the FTC protocol does not mean that a smoker is actually ingesting "Lower Tar" than from any other cigarette.**

Samet WD, 147:11-148:21; 149:23-150:4.

3529. Dr. Samet explained that, "when you look at smokers smoking in the real world, as opposed to findings with the FTC machine, you see that there isn't a significant difference in the amount of nicotine smokers are ingesting, regardless of the nicotine yield." Dr. Samet added that this "is important because we know that the tar in smoke is very closely linked with nicotine. The more nicotine a smoker ingests, the more tar he or she ingests. If smoking a 'low tar' yield cigarette does not result in a change in the amount of nicotine obtained by the smoker, then intake of other components is also not reduced." Samet WD, 165:8-11; 166:6-12.

3530. Scientific Consensus. As Dr. Burns testified, the conclusions of Monograph 13 – that lower tar cigarettes do not provide a health benefit – "represent[] the consensus view of the scientific community on this issue." As Dr. Burns further explained, the conclusions reflected in Monograph 13 "absolutely" have "withstood the test of time since its publication;" in fact, "the

same issue has been reviewed by other groups and [those groups] reached the same conclusion." In addition to the National Cancer Institute, the Institute of Medicine, the World Health Organization, and the United States Surgeon General have agreed with the conclusions of NCI Monograph 13. Burns WD, 1:10-15; 31:6-9; 41:12-18; 58:20-61:13 (discussing Monograph 13 (US 58700) (A); IOM Report (US 20919) (A); WHO Sactob Report (US 86658) (A); and 2004 Surgeon General's Report (US 88621) (A)); Burns TT, 2/15/05, 13311:9-15; 13668:1-8; see also Benowitz WD, 72:21-24 ("Most authorities are now convinced that there is little if any benefit with respect to health risk to smoking low yield versus regular cigarettes"); Canadian Expert Panel, Putting an End to Deception: Proceedings of the International Expert Panel on Cigarette Descriptors. A report to the Canadian Minister of Health form the Ministerial Advisory Council on Tobacco Control 9 (2001) (US 86657) (A) ("There is no convincing evidence of a meaningful health benefit to either individuals nor to the whole population resulting from cigarettes marketed as 'light' or mild'").

3531. At trial, Defendants tried to create the impression that the epidemiological evidence indicates that lower tar cigarettes are less harmful, by inappropriately reviewing, in isolation, select observations in Monograph 13. However, as Dr. Samet testified, all the major scientific bodies that have addressed this question in recent years have clearly concluded that lower tar cigarettes provide "no clear benefit" to health:

> I think there's no evidence of clear benefit. . . . I think the state of the evidence has been well summarized in the reports of the Surgeon General, IARC, the Institute of Medicine, **each group that's looked at the question of whether today's lower yield cigarettes are likely to produce** – – are likely to produce **lower risk of lung cancer, has said**, you know, **no clear benefit**.

Samet TT, 11/29/04, 1168:12-16; 1169:2-18 (emphasis added); accord Samet TT, 11/29/04, 1163:1-1165:1 (examining Dr. Samet on isolated observations from Chapter 4 of Monograph 13

and omitting reference to the conclusions).

3532. Dr. Samet explained his agreement with recent reviews by the Institute of Medicine and the International Agency for Research on Cancer of the WHO to the effect that "there is little evidence for an important benefit of lung cancer risk from smoking reduced yield cigarettes," stating: "This means that for smokers who switch to low tar cigarettes – by the FTC definition – there is no meaningful benefit in terms of reducing their risk of lung cancer. **There is no health benefit associated with changing the type of cigarette that you smoke. This is my opinion as well**." Dr. Samet added that "several expert reviews carried out by major health agencies over the past several years have reached the same conclusion," including the 2004 Surgeon General's Report and NCI Monograph 13. Samet WD, 153:3-23 (emphasis added).

3533. When defense counsel asked Dr. Burns if one excerpt of the IOM Report stating that "low-yield products are associated with far less health benefit than predicted" was inconsistent with Monograph 13, he testified:

> The statement that you've just read includes 'no benefit'. The statements in this report, the IOM report, says that no potential reduced exposure product has been established to reduce risk. That includes all of the cigarettes on the market. **That is identical, as far as I can determine scientifically, with the conclusion that we drew**, which is that all of the changes introduced over the last 50 years have not resulted in a proven benefit in terms of reducing risk.

Burns TT, 2/15/05, 13412:11-13413:12 (emphasis added); see also Samet TT, 9/30/04, 1239:6-1240:15 (testifying, when asked if the 2002 report of IARC was inconsistent with NCI Monograph 13, that "the IARC report obviously reviewed the same epidemiological evidence as Monograph 13 and gave a similar description to that evidence").

3534. Echoing the conclusions of Monograph 13 and the 2004 Surgeon General's Report, a January 2004 article in the *British Medical Journal* reported on a study intended "to

assess the risk of lung cancer in smokers of medium tar filter cigarettes compared with smokers of low tar and very low tar cigarettes":

> There was no difference in risk among men who smoked brands rated as very low tar . . . or low tar . . . compared with those who smoked medium tar brands. The same was seen for women . . . . Men and women who smoked very low tar . . . and low tar . . . brands had risks of lung cancer indistinguishable from those who smoked medium tar . . . brands. . . . Our finding that there was no difference in the risk of lung cancer between people who smoked medium tar filter, low tar filter, and very low tar filter cigarettes is consistent with evidence of compensatory smoking.

TLT1020160-0167 at 0160, 0164, 0166 (US 88622) (A) (1/10/04 Harris, Thun et al. article in *British Medical Journal*); see also VXB3290083-0087 at 0083 (US 88623) (A) (1989 Palmer et al. article in *New England Journal of Medicine*) (finding that the risk of nonfatal heart attacks in women, which is higher in smokers than nonsmokers, "did not vary according to the nicotine or carbon monoxide yield of the cigarette").

3535. Dr. Burns also explained that the *British Medical Journal* study did not conclude that the increased lung cancer risk for older, higher-tar cigarette smokers was related to the tar level of the cigarettes they smoked:

> [W]hat [the Harris/Thun article] showed was that there was no difference between what they called low tar and what they called ultralow tar or very low-tar cigarettes. So there was no risk reduction with that group. But that **the other group who smoked older very high-tar cigarettes had a higher risk. They were unable to explain that risk as due to the cigarette because that group also had higher rates of blue collar employment, occupational exposures, exposure to asbestos, and a variety of other characteristics that may have increased their lung cancer risk.**

Burns TT, 2/16/05, 13505:1-13506:10; TLT1020160-0167 (US 88622) (A) (emphasis added); (JD-011998) (A).

3536. Defendants tried to intimate that there was a lack of consensus on this issue

through selective quotation of an IARC Monograph, published in 2004, that represents the views of a panel that met in June 2002. Defendants view the following passage in isolation:

> Nonetheless, after considering the limitations of the evidence, the Working Group concluded that changes in cigarettes since the 1950s have probably tended to reduce the risk for lung cancer associated with **the smoking of particular numbers of cigarettes** at particular ages.

This selective quotation is deceptive for two reasons. First, it ignores the statement later in that paragraph that: "**[T]he Working Group could not estimate the net impact of changed in cigarettes on national mortality rates**." Second, it does not indicate that lower tar smokers have a reduced risk; only that, **if you assume** that smokers who switched to lower tar brands between the 1950s and today continued to smoke the same number of cigarettes as before the switch – an **assumption** that, as explained later in this section, is **contradicted by both expert testimony and voluminous documents of Defendants** – these smokers would have received a reduction in risk. As indicated below, however, numerous documents of Defendants show that smokers who switch down customarily smoke more cigarettes. Thus, when viewed in its proper context, this statement is entirely consistent with the statements of every major public health organization that has examined this issue: that lower tar cigarettes offer no significant health benefit. US FF § III.D(4)(a) (citing, in discussion of Dr. Wecker's opinions, voluminous documents of Defendants over decades showing that smokers who switch down smoke more cigarettes per day); 1000861953-1953 (US 35484) (A) (Wakeham 3/24/61) ("As we know, all too often the smoker who switches to a hi-fi cigarette winds up smoking more units in order to provide himself with the delivery which he had before.").

3537. American Cancer Society's CPS-I and CPS-II. Among the evidence showing that

lower tar cigarettes are not less harmful are two American Cancer Society's Cancer Prevention Studies ("CPS") that were "conducted approximately 20 years apart." As Dr. Burns testified, these studies show that lung cancer death rates have not gone down as a result of the introduction of low-tar cigarettes. CPS-I was conducted in the late 1950s and early 1960s, and CPS-II was conducted in the 1980s. Because of this 20 year gap, the smokers in the CPS-I study were smoking mostly high-tar, unfiltered cigarettes, and the "vast majority" of the smokers in the CPS-II study were smoking filtered cigarettes with much lower machine-measured tar and nicotine yields. CPS-I and CPS-II are "the two largest studies of smoking and disease risks"; they included "over a million men and women each," and "followed those individuals for" 12 to 18 years. The results of these studies showed that, "**[d]espite the substantive reduction in tar yield of the cigarettes smoked in CPS-II, lung cancer disease risks increased rather than decreased in comparison to CPS-I.**" Burns WD, 1:10-15; 12:10-11; 33:18-34:6; 35:14-35:9 (emphasis added); Burns TT, 2/15/05, 13311:9-15; 13313:9-13314:6; 13316:19-13317:15; 13322:9-10.

3538. Dr. Burns testified that, despite the dramatic shift to filtered and "light" cigarettes in the last 50 years, "the effect we were expecting to see from a change in the type of cigarettes smoked in the U.S never arrived." Dr. Burns elaborated, with reference to the CPS-I and CPS-II studies:

> For males, when you look at the risk of smoking, you see that it just about doubled between CPS-I and CPS-II. . . . For females, it went up almost fourfold. . . . [E]ven after adjustment for differences in number of cigarettes smoked and the duration of smoking, the rates increased for males and increased for females between these two studies that were conducted over a period of time when there was approximately a 50 to 60 percent decline in the tar value of the cigarettes being smoked and a dramatic increase in the number of smokers who were smoking filtered cigarettes. So, instead of seeing a reduction in the risk of smoking with the

> introduction of these products, we have seen the risk of smoking actually increase over that interval. . . . we had watched and waited for the decline in lung cancer to occur. It did not.

Burns TT, 2/15/05, 13322:22-13323:22; 13325:6-13326:22; (no bates) U.S. 17802 (A) (depicting the "sales-weighted tar and nicotine values for U.S. cigarettes" over time); (no bates) U.S. 17803 (A) (depicting data from the CPS-I study); (no bates) U.S. 17804 (A) (comparison of lung cancer risk for nonsmokers and smokers based on CPS-I and CPS-II data); (no bates) U.S. 17806 (A) (graph showing that risk of lung cancer from smoking has not declined, notwithstanding the drastic shift to filtered cigarettes and those with lower machine-measured tar and nicotine deliveries).

3539. As Dr. Samet explained, concerning his analysis of CPS-I and CPS-II – which he considered among "the most telling epidemiological evidence" regarding health effects of low tar cigarettes – "[i]f there were substantial benefits of the change in tar yield over the 20 years between [CPS-I in the 1960s and CPS-II in the 1980s], we would expect lower relative risks; instead they increased." Dr. Samet also explained that the British Physician's study, which was conducted over two 20-year periods, also "shows that the relative risk values [for lung cancer] have gone up comparing the first 20 years (1951-1971) to the second 20 years (1972-1991)." Samet WD, 154:21-156:4; 156:5-12; 157:20-158:15; VXA1601833-1843 (US 64058) (A) (published article on British Physician's Study, cited in Samet Written Direct).

3540. Any Incremental Reduction in Tar is Insignificant to Health. Defendants have falsely suggested that low tar cigarettes are better for smokers if they result in any incremental lowering of tar exposure for those who smoke them. This claim is both unproven and not credible. In response to a question from the Court, Dr. Henningfield explained that, even if you postulate that lower tar cigarettes result in some tiny, incremental reduction in tar, they do not

provide any meaningful health benefit relative to higher tar cigarettes "from the perspective of human exposure . . . or meaningful exposure":

> It would be a little bit like low fat cheese has 100 grams, lets say, of X, and then there is another type that gave you 98 grams, and you could say, yes, that's lower, and the next lower one is 97 grams, but **that's a meaningless difference, even though it's accurate and reliable by a machine test and you can say it does go down, it's a meaningless difference**. . . . In this case, what Benowitz['s] study, and then many other studies showed, is that **if you looked at actual intake of people, there was virtually no difference at all in intake**. And it wasn't just that the ranking was off a little bit, it was that, for example, the Marlboro Light, according to the Massachusetts data can get – give you about three times as much nicotine as it was rated, and more than twice as much as the Marlboro regular, so it's off by several orders of magnitude, but most importantly, it is just – **if [a] consumer says, okay, I want to get lower tar and nicotine and they pick a light versus a regular, they're not getting biologically meaningful lower tar and nicotine. . . . There is no meaningful difference in exposure to people**. . . . what U.K. realizes now, what U.S. realizes, the World Health Organization realizes is that it is still a **meaningless difference**. And that's why . . . . the resistance to even using the . . . label "light" cigarettes.

Henningfield TT, 11/30/04, 7295:2-7298:2 (emphasis added); see also Henningfield TT, 12/1/04, 7535:12-7536:23 (explaining that the "light cigarette debacle" centers around "the fact that" the historical reduction in machine-measured tar "was **biologically meaningless**," citing NCI Monograph 13).

3541. Dr. Samet echoed these conclusions, testifying that, "while some earlier studies suggested a modest benefit in terms of lung cancer risk, late, more recent evidence suggests otherwise, namely that there is no benefit," and adding that, even excluding the more recent evidence and postulating some reduction in risk, **the "overall risk [of smoking these cigarettes] is so high that even a small reduction is of no public health or medical significance**." Samet WD, 170:11-23 (emphasis added).

3542. Increased Harmfulness. The evidence shows that, to the extent Defendants conducted research on the comparative harmfulness of lower tar cigarettes, for example by studying low tar "reference cigarettes" (as opposed to cigarettes actually sold to consumers), Defendants' research found that low tar cigarettes, as Defendants designed and marketed them, were unlikely to be any less hazardous than regular cigarettes. Indeed, the research showed that the very cigarette design feature – ventilation – that Defendants promoted as one successful method to reduce FTC tar deliveries not only failed to reduce the carcinogenicity of smoke, but actually increased it. Thus, **even if certain smokers do receive less tar from low tar cigarettes, the tar they receive is likely more mutagenic – potentially offsetting any potential benefit to such smokers from a reduced tar intake**. 2001243600-3673 at 3610-3611 (US 20298) (O); 2022180219-0219 (US 21479) (O); 1000135419-5439 (US 20078) (O); 514903578-3610 at 3579, 3585-87 (US 20863) (A); Lilly PD, United States v. Philip Morris, 5/14/02, 229:17-231:21.

3543. Dr. Farone testified that: "[W]here a 'light' cigarette is largely identical to its full flavor counterpart – as is the case for Marlboro and Marlboro Lights, except that the 'light' has dilution levels in that middle . . . range – **the tar from that light cigarette is likely more mutagenic**." Dr. Farone also testified that, "except for the 1980 Cambridge," which Philip Morris discontinued, "Philip Morris didn't commit to the very high dilution that, in my opinion, can substantially decrease the toxicity of smoke." Dr. Farone also testified, based on his review of documents from Defendants other than Philip Morris, that "at least RJR and Lorillard also recognized" that "'light' versions of full flavor cigarettes have higher mutagenicity on a per milligram of tar basis." Farone WD, 57:23-58:16; (emphasis added) 122:15-21 (citing US 20863 (A) (RJR); US 20863 (A) (RJR); US 56344 (A) (Lorillard)).

3544. Dr. Farone further testified that, to his knowledge, none of Defendants "disclosed to smokers the results of its studies that reveal that its 'Light' cigarettes test more mutagenic than their full flavor counterparts." Farone WD, 123:14-20.

3545. Defendants' Attempted Challenge of Monograph 13. Notwithstanding the widespread acceptance and independent validation in the scientific community of Monograph 13 and its conclusions, Defendants tried to challenge several aspects of Monograph 13, including the selection of its contributors. Defendants' claim is not credible. As Dr. Burns testified, while many of the contributors to Monograph 13 have testified in litigation against Defendants, "they represent some of the more distinguished scientists and experts on this issue in the country" and "[t]hey were all selected for their scientific expertise rather than their litigation experience." While Defendants alleged that this litigation work would create individual or "collective biases," and intimated that there was some impropriety in not listing the contributors' litigation work in Monograph 13, Dr. Burns explained that the extensive review and agency clearance process ensured that neither individual nor collective biases were reflected in the final volume:

> [T]here is no place where [contributors' litigation work] is recorded in the volume, and it is not something that would be appropriate to be included in this volume as it does not represent the individual perspectives of the authors, but rather the consensus statement of the organization, that is the NCI. . . . [I]t prevents individual opinion from being presented as the consensus of scientific thought. . . . The way that you know that [collective biases are not influencing the final document] is by taking it through a series of reviews by the governmental organization. . . . The organization that then produces the volume and puts its seal of consensus approval on it, that is the National Cancer Institute, that undergoes a series of reviews that it takes to ensure that the data contained in the volume are scientifically accurate and represent the consensus of scientific thought.

Burns TT, 2/15/05, 13383:1-13389:4.

3546. Moreover, Dr. Burns testified that there was a "very good reason" Defendants'

scientists were not involved with the production of Monograph 13:

> At the time which this was undertaken, **the tobacco industry's position was still that . . . there were no disease risks that were causally associated with cigarette smoking**. . . . For that reason, the tobacco industry has not been included in the Surgeon General's Report process and various other processes because they weren't part of the consensus of scientific thought at that point in time. **They were perceived as adopting positions that had so little scientific credibility that they could not be meaningfully utilized in the formation of a consensus**.

Burns TT, 2/15/05, 13389:11-13391:21 (explaining also that Monograph 7, in which RJR scientists participated, "was not a consensus document, it was simply the results of the proceedings of a meeting. Those proceedings come out under the author's name, are understood to be the individual opinions of the authors. That was not what was being requested with Monograph 13.").

3547. Monograph 13 Reflects the Conclusions of NCI and of Its Authors. Dr. Burns, co-author of Chapters 1 and 4 and editor of Monograph 13, testified that the conclusions of Chapter 4 of the Monograph "were worked out word by painful word with all of the authors, all the principal authors, myself, Dr. Samet, Dr. Thun, and overseen by the NCI in that process, and it was only once all of us agreed on the specific language, the exact words, that those conclusions were written and went forward in the final version." Burns TT, 2/16/05, 13662:11-21.

3548. Therefore, Defendants' attempt at trial to portray certain portions of the testimony of Dr. Samet as inconsistent with the conclusions of Chapter 4 of Monograph 13 is not credible. Specifically, the testimony Defendants seized upon is a statement by Dr. Samet that, if the machine-measured tar reduction from 40 to 10 milligrams of tar actually corresponded to human smoker intake, then one would expect a reduction in risk:

> So if, in fact, what we observed earlier comparing the unfiltered, filtered reduction risk, remains true for today's product, my – – I

> mean, my opinion would be that **presumably** the direction is a lower risk for today's cigarettes compared to the – – those of the '50s.

Dr. Samet added that, "of course, **we can't make that comparison**." The Court also notes that Dr. Samet was asked about the harm of these cigarettes "on a per cigarette basis," which is a comparison that ignores the effect on harm of the fact that many smokers who switch down smoke more cigarettes per day. Samet TT, 9/30/04, 1231:10-1234:9 (emphasis added); Burns TT, 2/15/05, 13396:13-18 ("**What [Dr. Samet] talked about was [machine-measured] yields and then said if the yield reduction were real, you will expect a reduction in risk**. And yield reduction is not real, and **I know from discussions with Dr. Samet during Monograph 13, and during the preparation of the most recent [2004] Surgeon General's Report, what his opinion on that question is**. . . . If you read the two paragraphs above it, he . . . [makes] a statement about the sales weighted average measurement for the FTC method. Then he says, 'If, in fact, those are true.'") (emphasis added).

3549. Defendants' attempts to portray the testimony and/or publications of Drs. Benowitz, Harris, Farone, and Thun as inconsistent with the conclusions of Monograph 13 or Dr. Burns' opinions also lack credibility. Burns TT, 2/15/05, 13398:6-13399:7 (indicating that Dr. Burns disagrees with an excerpt of Dr. Benowitz' testimony "**in the context in which [defense counsel] just phrased it.**") (emphasis added); 13399:8-13402:5 (indicating that questioning of Dr. Harris on whether specific cigarette design features "appear to" make cigarettes safer is a non-sequitur, because "[i]f you look at what I have said, I have said that all of the changes taken together are what we can evaluate. It is not possible to evaluate the individual changes because there aren't studies on those individual changes that define the risks. So that all that can be evaluated is the sum total of all of the changes taken together [what Monograph 13 examined].");

Burns TT, 2/15/05 13402:6-13405:19 (responding to Dr. Farone examination about whether investigating certain design features was "'a good thing'": "**I don't disagree with Dr. Farone, I disagree with [defense counsel's] inference** from that that Dr. Farone is saying that there is evidence to establish that reconstituted leaf has resulted in a reduction in human disease risk. . . . **I would disagree with [defense counsel's] inference from that** that Dr. Farone is saying that the use of a reconstituted leaf has evidence to support it that establishes that it has reduced human disease. . . . I would disagree with a statement that said that there was adequate evidence to establish that any of those individual changes produced a benefit for human disease. As to whether it was useful for Philip Morris to explore lots of different technologies . . . I think that would be a very legitimate thing for Philip Morris, or other companies to do."); Samet TT, 9/29/04, 1212:12-1213:11 (pointing out that defense counsel's characterization of Dr. Thun's acknowledgment of a "hypothesis" that was "possible" as inconsistent with Monograph 13 was incorrect).

3550. The Court also notes that, given that the final conclusions of Monograph 13 were specifically developed under the supervision of the National Cancer Institute and adopted as its official statement on this issue, Defendants' attempts to portray the comments by NCI scientists, including Drs. Tarone and Lubin, on draft portions of the Monograph as inconsistent with the final conclusions of Monograph 13, are not credible. Samet TT, 9/29/04, 1201:13-12034:17 (explaining that **defense counsel's characterization** of the Monograph's approach as "attributing all of the risk reduction that has been shown in prior EPI studies to an increase in cigarettes per day" was **incorrec**t, and pointing out that the comments of Drs. Tarone and Lubin addressed "the **draft** monograph," as opposed to the final, published version) (emphasis added).

3551. Other Reviewer Comments to the Draft Monograph. Dr. Burns further testified

that the contributors to Monograph 13 "paid very close attention to" all of the reviewer comments for the drafts of Monograph 13. Specifically, Dr. Burns testified that Sir Richard Peto's comments as a reviewer were "absolutely" considered and reflected in the final volume:

> He [Sir Peto] recommended to us that the appropriate way to examine this issue was to look at age specific death rates across time in the population. We then went back and examined the age and cohort specific death rates for the U.S. and for the U.K., we went back and obtained as much information as we could about the smoking behaviors that occurred in those birth cohorts and those ages in the U.K. and the U.S., we wrote an extensive section of the Monograph that presented all of that information and discussed it and drew conclusions from it. So we were – I was very responsive and very interested in the perspective that Richard Peto brought to analysis of this problem, and we worked very hard to fulfill it. [Ultimately, in examining the issues raised by Sir Peto, the Monograph's contributors] reached the conclusion that . . . the U.S. data was adequately explained by changed in smoking prevalence plus changes in ages of initiation in the birth cohorts.

Burns TT, 2/16/05, 13655:21-24; 13656:9-13658:5; 13658:15-22; see also Samet TT, 9/29/04, 1213:12-1214:24 (testifying that Richard Peto's analysis of U.K. lung cancer data relating to the draft monograph was "one of the pieces of information that those of us who have taken on the challenge of trying to understand changing cigarette yields have used," and is only "one line of evidence that I have considered and others have considered").

3552. Dr. Burns further explained that, "at the end of the meeting [of the contributors to Monograph 13 on this topic] in Toronto where this was the core issue that was being discussed, Richard Peto was the only person in the room who felt that the only possible explanation for that decline [in lung cancer rates among young males] in the U.K. was the change in type of cigarette being smoked." Burns TT, 2/15/05, 13454:10-13455:7; 13473:23-13474:17; 13475:9-22.

3553. Defendants' Internal Documents Revealed Flaws in the Previous Interpretation of the Epidemiological Data: the 1981 Surgeon General's Report. Defendants champion prior

erroneous interpretations of the epidemiological evidence as indicating that lower tar cigarettes cause a reduction in lung cancer, and cite prominently to the 1981 Surgeon General's Report as an indication that lower tar cigarettes are less harmful. In addition to the fact that Defendants mischaracterize the statements of the 1981 Surgeon General's Report (as discussed in Section III.D(3)(c), supra) the evidence is clear that the prior interpretation of the epidemiological data, including that in the 1981 Surgeon General's Report, was wrong, and that this erroneous conclusion would never have been made, but for Defendants' concealment of their superior knowledge of nicotine addiction, smoker compensation and cigarette design. TT, 2/24/05, 14332:10-20; 14333:6-21; 14335:7-14 (Defendants' interim summation); Burns WD, 1:10-15; 12:10-11; 36:3-37:12; 55:17-56:13; 56:21-57:17; Burns TT, 2/15/05, 13311:9-15; Burns TT, 2/16/05, 13666:25-13667:24; see also Burns WD, 56:14-20.

3554. Dr. Burns, who was an editor of the 1981 Surgeon General's Report as well as "an author, editor or reviewer for each of the annual Reports of the U.S. Surgeon General on the Health Consequences of Smoking since 1975," testified that, in his expert opinion, "**had the information available to the tobacco industry** [including many of the documents discussed in Monograph 13 and in Dr. Burns's testimony] **been available to the scientists preparing the 1981 Surgeon General's Report, that Report would not have drawn the erroneous conclusion that lower tar cigarettes produced lower risk or have made the recommendation that smokers who could not quit were 'well advised to switch to cigarettes yielding less "tar" and nicotine**.'" Burns WD, 1:10-15; 12:10-11; 36:3-37:12; 55:17-56:13; 56:21-57:17 (emphasis added); Burns TT, 2/15/05, 13311:9-15; Burns TT, 2/16/05, 13666:25-13667:24 ("Had that information [in Defendants' internal documents] been available to us, we would not have then offered the recommendation to the population of the United States that it would be a

good idea to shift to these products."); see also Burns WD, 56:14-20 ("The Surgeon General clearly expressed a concern [in the 1981 Report] about reduced yield smoking leading to compensatory increases in smoking behaviors; but, at that time, the public health community was not aware of the role of nicotine addiction in altering puffing behavior, the elasticity of delivery designed into cigarettes then on the market which facilitated compensation on the part of the smoker, or the observations made by the industry that showed compensation was essentially complete for some 'light' cigarettes. Had we known that, the recommendation would not have been made."); Burns WD, 38:10-13 (indicating that "some of the same concerns [relating to the lack of a health benefit to lower tar cigarettes] were expressed in the 1989 Surgeon General's Report").

3555. Dr. Samet testified, based on his education, training, expertise in smoking and health and review of the literature, that one of the main reasons the 1981 Surgeon General's Report reached erroneous conclusions is that "scientific information was less comprehensive at the time," and the Report "did not fully take into consideration the phenomenon of compensation, and how smokers smoke to get a certain amount of nicotine, and will even adjust their smoking behavior to get the amount of nicotine they seek or are accustomed to. . . . **we didn't know in 1981 the extent to which smokers would compensate after switching to a 'low tar' and low nicotine yield product**." Samet WD, 164:15-165:5 (emphasis added).

3556. Dr. Burns provided the "three principal reasons" that "the traditional epidemiological approaches that were employed at the time of the 1981 Surgeon General's Report" yielded results erroneously suggesting that lower tar cigarettes provided less lung cancer risk:

(1) "[T]hat people who smoked low-tar and nicotine cigarettes" were smoking them largely "based on the understanding that these cigarettes . . . offered

less risk." As a result, the people who choose these cigarettes "have different health behaviors" and often "different smoking characteristics" than smokers of higher tar cigarettes, leading to different expectations of health outcomes.

(2) That "very few people in the epidemiologic studies started out smoking low tar and nicotine or even filtered cigarettes." Most smokers who smoke the high-tar cigarettes very intensely are not able to switch down to lower tar cigarettes, whereas people who do not smoke the higher tar cigarettes very intensely, "when they switched to a low-tar cigarette . . ., may be successful because they didn't have much nicotine intake that they needed to satisfy, and correspondingly they didn't have much tar intake. **So the process of switching to low tar and nicotine starts to separate individuals who have different intensities of smoking, different amounts of tar that they are ingesting and, therefore, will have different risks.**"

(3) That "a substantial fraction of people who switch from high-tar and nicotine cigarettes to low-tar and nicotine cigarettes use increased numbers of cigarettes . . . as a mechanism of compensation. . . . In order to control for intensity of smoking, the epidemiologic studies used the number of cigarettes smoked per day as a measure of intensity with the mistaken assumption that people wouldn't change the number of cigarettes they smoked per day. That leads us to underestimate the actual number of cigarettes smoked per day as a measure of exposure in low-tar and nicotine cigarette smokers," because the epidemiological analysis compares people who smoke a higher number of cigarettes per day after switching to a lower tar cigarette to people who smoked this higher number of cigarettes per day of the higher tar cigarette. "That produces an erroneous, or incorrect, perception that switching to [the lower tar] cigarette lowered your lung cancer risk as an individual."

Burns TT, 2/15/05, 13327:21-13331:3; 13334:6-13337:5; see also (no bates) U.S. 17805 (A) (demonstrative depicting the erroneous effect of controlling for cigarettes per day due to instances when smokers increase the numbers of cigarettes per day when switching down in tar); Burns TT, 2/15/05, 13334:6-13335:20 (explaining that the issue of "increases in number of cigarettes per day smoked by those who switch to lower tar brands of cigarettes" is "not the only [reason and], for that matter, it's not the principle one" for Monograph 13's conclusion that lower tar cigarettes provide no reduction in harm relative to higher tar cigarettes).

3557. Dr. Samet further explained that epidemiological studies may underestimate the risks for lower tar smokers because these smokers may have other characteristics – such as healthier lifestyles – that contribute to a reduction in risk regardless of the type of cigarette smoked:

> Epidemiological studies often assume that smokers who switch to low-yield products are similar to smokers who do not. There is evidence that this may not be true. For example, **switchers** may smoke their cigarettes differently, they may have started smoking later as teenagers, they **may attempt to quit more often**. Switchers may have smoked less intensely before they switched, when compared to their high-yield, non-switching counterparts. Switchers may have smoked less at younger ages. **When these aspects of smoking behavior are not accounted for, study results may be misleading**. In addition, **switchers are [a] generally healthier group in terms of diet, exercise, and lifestyle in comparison to smokers who do not switch to a low yield product**. The cumulative effect of these group differences is that any reduction in the risks among switchers may be the result of these differences, rather than the fact that they switched to a low yield product. This was also an observation in Monograph 13.

Samet WD, 167:13-168:2.

3558. Dr. Samet added that the practice in epidemiological studies of controlling for cigarettes per day tends to erroneously underestimate the risk for smokers of lower yield cigarettes: "Since smokers of lower tar-yield products tend to smoker more cigarettes per day than smokers of higher-yield cigarettes, this analysis approach would tend to reduce the estimated risk for smokers of lower yield cigarettes. This was the conclusion reached by Monograph 13." Samet WD, 167:7-12.

3559. The United States' Witnesses On This Issue Are Highly Credible. The Court finds that the testimony of Dr. Burns is immensely credible on each of the issues as to which he offered testimony, including low tar cigarettes and the relative health effects thereof. Dr. Burns, qualified by the Court without objection as an expert in "[t]he science of tobacco and health,

including disease causation," is a medical doctor and professor of family and preventive medicine with 30 years experience studying the health consequences of smoking. Dr. Burns has extensive experience, including as an instructor, in various medical areas, including smoking and health, and has studied epidemiology, addiction, nicotine, cigarette design and ETS in the context of smoking and health. He has over 200 publications in the area of smoking and health, including chapters in both of the principal medical textbooks. Furthermore, Dr. Burns has studied and taught extensively specifically in the area of lung diseases, including lung cancer, and has personally participated in the treatment of thousands of patients with lung disease. In addition, he has served as "an author, editor or reviewer for each of the annual Reports of the U.S. Surgeon General on the Health Consequences of Smoking since 1975," and has served as contributing author and Senior Scientific Editor for several of the National Cancer Institute Tobacco Control Monographs. Dr. Burns has also received numerous award and honors for his work in the area of smoking and health, including the Surgeon General's Medallion. In addition, Dr. Burns's demeanor during his live examination, which spanned nearly two full days, further revealed the highly credible nature of Dr. Burns's testimony. Burns WD, 1:3-5; 1:10-15; 12:10-11; (no bates) (US 78526) (A) (Dr. Burns' *curriculum vitae*).

3560. As set forth at length in Sections III.C(1) and III.A(1) & (3), the Court also finds that the testimony of Drs. Samet, Henningfield, Benowitz, and Farone is highly credible.

3561. Defendants Failed to Rebut the United States' Evidence. Defendants failed to call a witness at trial with sufficient qualifications to challenge the powerful testimony of Drs. Burns, Samet, Henningfield, Benowitz, and Farone relating to the relative harmfulness of lower tar cigarettes. Instead, Defendants called a statistician, William Wecker, who, by his own admission, has "never been qualified by a Court as an expert in the subject of smoking and

health." Dr. Wecker is not a medical doctor, has "never treated people with smoking related diseases or nicotine addictions," and has "never published any peer-reviewed articles regarding health consequences of smoking." Dr. Wecker has "been involved in consulting and testifying on behalf of the defendants for about a decade now, at least," and has been retained by Defendants in "at least a dozen different" lawsuits. In addition, Dr. Wecker has "**never done any analysis in the smoking and health arena that wasn't at the request of counsel**," and no portion of the analyses that he offered in this case was ever published or submitted to an academic journal. Wecker TT, 3/15/05, 15650:5-7; 15648:10-15649:1; 15665:3-16; 15672:16-19; 15651:21-15652:2 (emphasis added).

3562. Because he is a **statistician**, and neither an epidemiologist nor a medical doctor, Dr. Wecker, per se, is "not able to offer opinions as to **causation**" relating to the relative health effects of lower tar cigarettes. Therefore, Dr. Wecker "cannot confirm for this Court that higher tar yield cigarettes **cause** greater risk of disease," and "cannot confirm for this Court that lower tar yield cigarettes **cause** a reduced risk of disease." Because **Dr. Wecker lacks the requisite qualifications to opine on causation, he is not competent to challenge the opinions of the United States' experts, such as Drs. Burns and Samet, who have been qualified by the Court to make causal determinations**, and who have concluded that lower tar cigarettes, relative to higher tar cigarettes, provide no meaningful reduction in the death and diseases they cause. As such, Dr. Wecker's testimony is entitled to no weight. Wecker TT, 3/15/05, 15666:6-15667:2; 15670:20-15671:8 (emphasis added).

3563. In addition to the fact that Dr. Wecker lacked the education, training, and qualifications to testify credibly regarding the health effects of low tar cigarettes, Dr. Wecker's opinions are entitled to no weight because they are based on analyses that are fatally flawed.

First, Dr. Wecker considered only irrelevant portions of the evidence in his analysis. Dr. Wecker testified that, in forming his opinion on this issue: "I don't reach my opinion by weighing all the evidence, but mainly on my own statistical work replicating and correcting figure 4-5" of NCI Monograph 13. This stands in stark contrast to the exhaustive work of the contributors to Monograph 13 and the 2004 Surgeon General's Report, who reviewed **the totality of available evidence** – including data obtained from various scientific disciplines – to reach the conclusion that lower yield cigarettes provide no meaningful health benefit. Wecker TT, 3/15/05, 15656:22-15657:14; Samet WD, 15:3155:16 (testifying, as Senior Scientific Editor of the 2004 Surgeon General's Report, that "[t]he report looked at [the issue of relative harmfulness of lower tar cigarettes] in-depth, **considering the full range of evidence**.") (emphasis added); i-236 at 10 (US 58700) (A) (explaining that its first Main Conclusion of Monograph 13, on relative health effects of lower tar cigarettes, is based on "[e]pidemiological and other scientific evidence, including patterns of mortality from smoking-caused diseases").

3564. That Dr. Wecker's conclusions on relative health effects are based "mainly on" his reanalysis of Figure 4-5 of Monograph 13 is particularly significant, because Figure 4-5 illustrates one of the new analyses that were performed as part of the production of NCI Monograph 13 relating to change in number of cigarettes smoked per day by smokers switching down in tar yield. However, **the Conclusions of Chapter 4 of Monograph 13 were not based on any new analyses**. Dr. Burns, co-author of Chapter 4 of Monograph 13, testified that the new analyses in Chapter 4 of Monograph 13 "**didn't play any significant role in the conclusions**. The new analyses were simply demonstrations on various issues that we had raised as concerns or as issues in the volume":

> That was the statement that I made to the other authors as we drew up the conclusions and that they agreed with. **We made it clear**

> **that we were not going to base the conclusions that we were drawing on the new analyses**, for very good reasons, and because that had been one of the questions that was raised in the review. So **we made it very clear in the process of the authors and editors writing the conclusions, that they weren't going to be based on the new analyses that were presented**.

Burns WD, 30:13-18, 58:4-19; Burns TT, 2/16/05, 13498:1-9 (emphasis added); DXA0310399-0650 at 0509-0510 (US 58700) (A).

3565. Dr. Burns further explained that the issue of "increases in number of cigarettes per day smoked by those who switch to lower tar brands of cigarettes" is "not the only [reason and], for that matter, it's not the princip[al] one" for Monograph 13's conclusion that lower tar cigarettes provide no reduction in harm relative to higher tar cigarettes. Moreover, "the potential for people to change the number of cigarettes smoked per day" when switching down is not "dealt with" in Monograph 13 by the new analyses; "it is dealt with by the examination of the published literature on this issue." The new analyses – that form the core of Dr. Wecker's reanalyses and resulting conclusions – were merely "part of a demonstration" of the effects of increasing cigarettes per day on the epidemiological results. Burns TT, 2/15/05, 13334:6-13335:20; 13501:1-13502:20.

3566. In fact, the first sentence in the Monograph under the heading for these new analyses of CPS-I data states that new analyses of cigarettes per day were **inconclusive** and, as such, could not have been the basis for Monograph 13's conclusions:

> A **reexamination** of the CPS-I data set **was inconclusive** as to whether compensatory changes in the number of cigarettes smoked per day when smokers switched to a lower nicotine cigarette introduce a bias sufficient to explain the observed increased lung cancer risk among smokers of high yield cigarettes.

DXA0310399-0650 at 0509 (US 58700) (A) (emphasis added); Wecker TT, 3/15/05, 15683:5-15687:14.

3567. Dr. Wecker's reanalysis of another new analysis – Figure 4-7 on page 115 of Monograph 13 (relating to the cigarettes per day issue) – in addition to suffering from numerous methodological problems, is, again, commenting on new analyses that did not form the basis for Monograph 13's conclusions. Burns WD, 58:4-19 (explaining that the Monograph's conclusions were not based on new analyses); Burns TT, 2/15/05, 13334:6-13335:20; 13501:1-13502:20 (same); Burns TT, 2/16/05, 13498:1-9 (same); Burns TT, 2/16/05, 13513:24-13514:8; 13514:20-13516:11 (explaining that Dr. Wecker's reanalysis of Figure 4-7 reflects "one of the many misconceptions in Dr. Wecker's Report"); Burns TT, 2/16/05, 13516:12-18 (testifying, with respect to the reanalysis of Figure 4-7, that "Dr. Wecker reported many flat lines, very few of which I thought were the result of appropriate analyses. . . .").

3568. Therefore, given that the primary basis for Dr. Wecker's opinions about the relative health effects of lower tar cigarettes are charts depicting analyses that "didn't play any significant role in the conclusions" of Monograph 13, those opinions on this issue are not credible. Burns WD, 30:13-18, 58:4-19; DXA0310399-0650 at 0509-0510 (US 58700) (A).

3569. The next fatal flaw in Dr. Wecker's analysis is that he failed to refute, or even consider, the conclusions reached by several other prominent scientific bodies, including: the 2004 Surgeon General's Report; the recent publication of the Scientific Advisory Committee to the World Health Organization; and the 2001 report to the Canadian Minister of Health from the Ministerial Advisory Counsel on Tobacco Control in Canada – which all reached the same conclusion as did the NCI in Monograph 13: that lower tar cigarettes provide no significant reduction in lung cancer or other health benefit – in direct contrast to Dr. Wecker's conclusions. Wecker TT, 3/15/05, 15661:11-15664:23.

3570. Dr. Wecker also failed to even address – or offer any criticism of – several of the

core lines of evidence relied upon by the contributors of Monograph 13 to reach the conclusion that lower tar cigarettes offer no meaningful health benefit. He ignored Monograph 13's analysis of lung cancer death rates from the American Cancer Society's **CPS-I and CPS-II** data, which showed an increase in lung cancer deaths in the United States at a time when machine-measured yields were drastically reduced. He also failed to address the Monograph's analysis of the **British Physician's Study**, which "showed an increase in the lung cancer rate" during a time period when "substantially more individuals" were smoking lower tar cigarettes. Wecker TT, 3/15/05, 15675:10-15679:13.

3571. In addition, Dr. Wecker's core opinion – that smokers who switch to lower delivery cigarettes do not increase the number of cigarettes per day that they smoke – is flatly contradicted by Defendants' voluminous research reports and other documents, spanning decades, which demonstrate that smokers who switch to lower deliveries **do** smoke more cigarettes per day. 1000861953-1953 (US 35484) (A) (1961 PM); 2022244449-4450 at 4449-4450 (U.S. 36855) (A) (1970 PM); 1000350158-0188 at 0161-0162 (U.S. 20176) (A) (1971 PM); 1003285403-5416 at 5403 (U.S. 20159) (A) (1972 PM); 1003285403-5416 at 5403 (U.S. 20159) (A) (same); 1003293476-3493 at 3480 (US 85073)(A) (1974 PM); 2040066740-6766 at 6750-6751, 6754-6755 (US 20435) (O) (1979 PM); 2071376833-6834 at 6833 (US 27273) (O) (1992 PM); 501525355-5366 at 5360-5361 (US 29531) (O) (1974-1976 RJR); 679009843-9867 at 9843 (US 85055) (O) (1977 B&W); 775036039-6067 at 6050 (US 21053) (A) (same); 536000000-0090 at 0050 (US 22338) (A) (1984 B&W); 760008596-8803 at 8760 (US 54588) (Confidential) (A) (1998 BAT); 00044522-4523 at 4522 (US 22012) (A) (1976 Lorillard).

3572. Furthermore, Dr. Wecker made several changes to the analyses in Monograph 13 that reflected his lack of understanding of the relevant subject matter. For instance, Dr. Wecker

included women in his analysis of Figure 4-5, unaware of whether the contributors to Monograph 13 excluded women because the later increase in smoking prevalence of women resulted in the lack of a valid baseline dose-response relationship. Wecker TT, 3/15/05, 15691:18-15695:11; Burns TT, 2/15/05, 13323:23-13325:4 (explaining the temporal differences in the rise of prevalence of male and female smoking, which led to exclusion of women in graph); 13342:8-20 (explaining the gender differences in prevalence in the United States and France).

3573. Also, while Dr. Wecker's analyses of Figure 4-5 are based on the assumption that the last set of bars in the figure were "intended to be people who had flat" cigarettes per day and "flat tar," such was not the case. Dr. Burns explained, after being questioned about these issues in depositions, that Thomas Shanks, a statistician who worked on Monograph 13, and he "re-examined this issue looking at the code and looking at what was intended. . . . the intent was never to exclude those individuals who did not change the tar category." Burns TT, 2/16/05, 13527:7-13528:6; 13529:1-5.

3574. Dr. Burns acknowledged that Dr. Wecker did locate a small calculation error in the analysis "in excluding some individuals," but testified that Shanks "re-did the analysis [correcting the error] and reached a descriptive effect that was essentially the same interpretation" as before the minor error was corrected. Dr. Burns clarified this and the "flat tar" issue in a deposition in February 2003, more than two years ago. Burns TT, 2/16/05, 13529:1-7; 13533:20-13534:20; 13535:2-9.

3575. Dr. Burns testified that, "when you do the analysis [of Figure 4-5] that Dr. Wecker presented, you are left with so few people that you cannot derive a statement about whether there is or is not a dose/response relationship." Indeed, Dr. Wecker acknowledged that, because his analysis excluded so many people, the resulting margins of error were so great that their

depiction as "whisker hairs" on Dr. Wecker's demonstratives – in contrast to those in Monograph 13 – "go right off the page," i.e., they are larger than the entire chart. Moreover, Dr. Wecker acknowledged that many of his reanalyses of Figure 4-5 showed no statistically significant difference in risk for smokers of the various tar levels, which is entirely consistent with the conclusion of the authors of Monograph 13, quoted above, that the results on this issue were "inconclusive." Burns TT, 2/16/05, 13526:4-6; Wecker TT, 3/15/05, 15687:15-15691:17.

3576. Regarding "the flat line Dr. Wecker reports" in his unpublished reanalysis of Monograph 13's Figure 4-7 for change in cigarettes per day by smokers who change the tar levels of their cigarettes, upon which Dr. Wecker relies for his opinion that switchers do not smoke more cigarettes per day, Dr. Burns noted: "**I don't believe that Dr. Wecker's analysis is consistent with any published literature that I have seen because it contains conceptual errors as to how you would address these questions.**" Burns TT, 2/16/05, 13517:5-10.

3577. Indeed, Dr. Burns explained that studies done by Garfinkel et al. reported in the 1980 Banbury report, which Dr. Wecker claimed are "consistent with [his] conclusions," were not "consistent with Dr. Wecker's findings . . . because it's a different analysis." Dr. Burns also noted: "We cited both of the [Garfinkel] studies that examined cigarettes per day in Monograph 13. We looked at them carefully." Burns TT, 2/16/05, 13517:11-13518:23; Wecker WD, 31:10-14.

3578. Dr. Samet explained that comparing Dr. Garfinkel's calculations, published 20 years ago, to those performed for Monograph 13, is a case of comparing apples to oranges, as the analyses sought to answer markedly different questions:

> They're very different. . . . Dr. Garfinkel said: If people changed their brand, did they smoke more, the same or less? Just those three bins, if you will. What [the Monograph 13] analysis sais is: Let's look at whether there's a relationship between the reported

> numbers of cigarettes smoked on the first brand and on the second brand and the difference in nicotine yield on the first brand and the second brand. So [the Monograph 13 analysis] is a more quantitative analysis and Dr. Garfinkel's was more sort of: Did people change from smoking more than they used to [or] to less than they used to?

Samet TT, 9/29/04, 1185:11-1186:19; 1191:12-16; 1193:8-1195:11.

3579. In his analysis, Dr. Wecker maintained that examining lower tar and higher tar smokers' lung cancer rates, without controlling for cigarettes per day, provides "other empirical support" for his claim that epidemiological studies of the relative health effects of low tar cigarettes are not biased by controlling for cigarettes per day. Wecker WD, 49:5-11. However, Dr. Burns explained that neglecting to control for cigarettes per day fails to resolve "the core issue" necessary to have a reliable analysis, because it "introduce[s] other biases that are equally important":

> The core issue is having comparable groups, that is, having groups [where] you can adjust for those characteristics other than the type of cigarettes that they smoke. If you include numbers of cigarettes for controlling, you over control. If you don't, then **you're left with the two populations likely to have differences in intensity of smoking and no method by which you can control for that difference**. **Then you can't tell whether the difference you're seeing is due to a difference in intensity of smoking, i.e. completely independent of the type of cigarette** or is a characteristic of the cigarette that you've chosen to smoke.

Burns TT, 2/16/05, 13661:14-13662:6 (emphasis added); see also Burns TT, 2/16/05, 13484:18-13485:10; 13486:8-21 ("If you don't control for cigarettes per day, you have two different groups of individuals who have different intensities of smoking and, therefore, you can't compare their exposures without looking at intensity."); Burns TT, 2/16/05, 13512:7-10 ("When you eliminate control for cigarettes per day, you eliminate the bias that it creates, but **you introduce other biases that are equally important**."); Burns TT, 2/16/05, 13493:7-10 ("Q. One way to test

whether or not controlling for cigarettes per day introduces a bias into an epidemiologic study is simply to remove that control, isn't it? A. No.").

3580. Similarly, when defense counsel suggested to Dr. Samet the use of the analysis proposed by Dr. Wecker – failing to control for cigarettes per day – Dr. Samet rejected it, stating: "It's not the comparison I would make." Samet TT, 9/29/04, 1197:3-1198:19.

3581. The next fatal flaw is Dr. Wecker's analysis of actual versus predicted death rates, which he testified was prepared "in the manner described on page 140 of Chapter 4" of Monograph 13. Monograph 13 indicated that this chart would have "no discernable slope" between actual and predicted death rates, indicating no reduction in harm from use of lower yield cigarettes. Dr. Wecker claimed that his chart demonstrates that, contrary to the indications of Monograph 13, there was a discernable slope, indicating that actual rates of lung cancer deaths had declined in recent years beyond what was predicted. Dr. Wecker admitted on cross-examination that there were several discrepancies between his analysis and that described in Monograph 13. The discrepancies included the fact that Dr. Wecker used mortality data – taken from the National Health Interview Survey – from after 1992 and continuing on to 2000, that was not contained in the calculations in Monograph 13. Dr. Wecker was unaware that the contributors to Monograph 13 specifically excluded data after 1992 because the National Health Interview Survey "changed the definition of smoker in 1992," making the later data inconsistent. Wecker WD, 51:3-21; Wecker TT, 3/15/05, 15698:14-15701:18.

3582. Dr. Wecker also acknowledged that, while Monograph 13 suggested examining lung cancer death rates at ages under 50, Dr. Wecker's chart included only ages 40-50, excluding death rates for all ages under 40. Dr. Wecker's chart also displayed all death rates in a ratio "relative to" the first group of death rates, despite the fact that there is no statement in

Monograph 13 to do so. Dt. Wecker was confronted with an analysis that corresponded to the instructions in Monograph 13; it showed, contrary to the testimony of Dr. Wecker, that there was, as Monograph 13 predicted, no discernable slope. Attempting to avoid acknowledging this, Dr. Wecker testified: "I can't tell. I would have to explode this bottom part, **it's all crushed together**, I can't see it." Wecker TT, 3/15/05,15702:5-15706:2.

3583. Dr. Burns testified, upon review of a chart based on Dr. Wecker's calculations of actual versus predicted death rates, purportedly based on Monograph 13: "The data presented in this graph have essentially no meaning whatsoever. This is not the analysis that Sir Richard Doll was suggesting be done and it is not an analysis that has any valid, scientific or technical meaning." Burns TT, 2/16/05, 13666:20-23; see also Burns TT, 2/16/05, 13664:10-24 (testifying that, to his knowledge, the chart has never "appeared in published peer reviewed literature").

3584. Dr. Jerry Whidby volunteered his "beliefs" on the relative harmfulness of low tar cigarettes, while admitting that he is not an expert in the area of whether lower tar cigarettes are less harmful. Dr. Whidby's lay "beliefs" on the relative harm of lower tar cigarettes were demonstrated to be contradicted by both NCI Monograph 13 and the 2004 Surgeon General's Report. Dr. Whidby also acknowledged that, while the Philip Morris website tells its viewers to read the press release for Monograph 13 and the full volume, it contains no mention of Dr. Whidby's beliefs on low tar cigarettes. Whidby TT, 2/22/05, 13952:21-22 (volunteering "beliefs" on relative harm); Whidby TT, 2/22/05, 13949:19-13952:8 (beliefs contradicted by Monograph 13); 13954:4-13955:23 (beliefs contradicted by 2004 Surgeon General's Report); Whidby TT, 2/22/05, 13959:12-13960:11 (beliefs "in conflict with" Monograph 13); Whidby TT, 2/22/05, 13960:12-13961:9; (US 90171) (Philip Morris website).

3585. Dr. Whidby's testimony and "beliefs," particulaly to the extent they purported to

contravene Monograph 13 and the United States' expert witnesses on the relative health effects of lower tar cigarettes, are not credible. Called to testify by the United States as an adverse witness, Dr. Whidby admitted that he was a paid consultant **for Philip Morris** when he testified and was to earn $2,800 per day **by Philip Morris** (total amount $14,000 for 5 days) for providing and preparing to provide his fact testimony; that his agreement with Philip Morris obligates him to testify on behalf of Philip Morris in litigation, and does not leave him the option of not testifying if called to testify by Philip Morris; and that, under the consultancy agreement, Dr. Whidby gets paid more by Philip Morris to testify in litigation than he does to work for Philip Morris on scientific matters. In addition, Dr. Whidby was repeatedly impeached with prior inconsistent statements during his live examination. In some instances, portions of Dr. Whidby's Corrected Written Direct Testimony were in conflict with each other. Whidby WD, 2:5-3:15 (addressing consultancy agreement); Whidby TT, 2/22/05, 13942:23-13943:17 (same); Whidby TT, 2/22/05, 13945:23-13947:5 (impeached with prior inconsistent testimony relating to whether increased ventilation has on biological activity); Whidby TT, 2/22/05, 13947:6-13948:10 (impeached with prior inconsistent testimony relating to whether witness had any empirical evidence that Marlboro Reds sold today are any less harmful than those sold in 1960); Whidby TT, 2/22/05, 13948:8-13949:18 (impeached with prior inconsistent testimony on whether witness had any evidence that Philip Morris's general reduction and selective reduction techniques have led to one fewer case of lung cancer in the United States); Whidby TT, 2/22/05, 13952:23-13954:3 (impeached with prior inconsistent testimony on whether witness had any empirical evidence that Philip Morris's general and selective reduction techniques have in fact made its cigarettes less harmful); Whidby TT, 2/22/05, 14007:9-22; 14008:1-3 (in what the Court described as "a compassionate question," Dr. Whidby was asked if he wanted to change his testimony, which

maintained that Philip Morris designed low tar cigarettes to taste like higher tar cigarettes for "maximum consumer acceptability," but disclaimed knowledge of whether Philip Morris designed cigarettes that way "because that's what most smokers prefer.").

3586. Finally, Defendants offered the testimony of Joseph Mulholland, a staff economist with the FTC Bureau of Economics, that, although the FTC, as an agency, has never taken an official position on whether low tar cigarettes have reduced the health risks from smoking, based upon his review of the epidemiological evidence, he **personally** does not agree with the conclusion of Monograph 13 that the introduction of low tar cigarettes has not materially reduced health risks from smoking. Mulholland WD, 12:12-15, 14:3-6, 15:15-23, 16:3-11 (Monograph 13 has not changed the FTC's position, as the FTC has not taken an official position on the issue); Mulholland TT, 4/25/05, 19854:16-19855:3.

3587. The Court, while recognizing that Dr. Mulholland has extensive knowledge in his capacity as an FTC **staff economist** concerning and experience (approximately 17 years) with cigarette-related matters, concludes that little or no weight can be given to his testimony concerning (a) whether the introduction of low tar cigarettes has materially reduced the health risks of smoking and (b) the other matters as to which Defendants presented his testimony. First, as the Court observed at the trial, Dr. Mulholland's "testimony is not that overwhelmingly relevant." As Dr. Mulholland himself made abundantly clear, both at his deposition and at trial, he was "not giving the views of the [FTC] as a formal governmental institution," which presents its policy views and positions only through formal written statements, but rather offered only his own personal opinions. As such, the testimony has little relevance. Mulholland WD, 3:5-9; Mulholland TT, 4/25/05, 19938:16-19939:1; accord, id., 19783:15-19784:1, 19787:12-22, 19789:14-20, 19825:5-12, 19870:13-15 ("Obviously, his answer has to be taken by me with

many grains of salt given his current position. . ."), 19931:1-6. Second, as the Court further observed at trial, it appears that Defendants called Dr. Mulholland as a witness not because of his unique knowledge concerning the FTC and cigarette-related issues ("there are probably many other people at the [FTC] with varying views on this subject . . ."), but rather "[b]ecause his views agreed with theirs." Id., 19934:15-19, 19938:16-19939:1. Finally, although Defendants could have sought to introduce Dr. Mulholland as an expert witness, they chose not to do so, instead calling him only as a fact witness. Id., 19917:21-19918:16, 19931:16-20, 19932:3-4.

3588. Notwithstanding Defendants' failed attempts to discredit Monograph 13 at trial, several of Defendants' websites, including those of Philip Morris USA and B&W, purport to defer to the public health community's conclusions that lower tar cigarettes provide no significant health benefit, and direct readers to NCI Monograph 13. TLT10400560062 at 0062 (US 88628) (A) (B&W website) ("**Based on the available science, Brown & Williamson cannot state at this time that any cigarette, regardless of its delivery, is safer than another.**") (emphasis added); Ivey WD, 63:9-16; Brennan-Lund PD, Price v. Philip Morris, Inc., 9/20/02, 107:22-108:14; 109:16-110:22; 114:9-114:10 ("what we say on our [B&W] web site we believe to be true"); (no bates) (US 90171) (A) (Philip Morris website); Whidby TT, 2/22/05, 13949:19-13952:8; 13954:4-13955:23; 13959:12-13960:11 (acknowledging that beliefs that lower tar cigarettes are less harmful are contradicted by Monograph 13 and 2004 Surgeon General's Report).

3589. Defendants' own documents show that Defendants made health claims regarding low tar cigarettes when they lacked evidence to support those claims or knew those claims were false.

(i) Philip Morris

3590. Dr. Farone revealed that researchers at Philip Morris knew that low tar cigarettes were no less harmful because they offered no significant reduction in tar exposure:

> I think the question is how much do you have to lower it to get what level of benefit. . . . I think it's called a limbo stick hypothesis, **how low [in tar] must you go in order to see a benefit, and we [at Philip Morris] knew that that level was extremely low**. Again, 70 percent reduction isn't enough, 80 percent is not enough. **You've got to get the reductions way down before you start to see a benefit**.

Farone TT, 10/7/04, 1853:16-18; 1854:12-16 (emphasis added).

3591. Dr. Farone testified that Philip Morris's Marlboro full-flavor and Marlboro Lights cigarettes are "essentially identical except for dilution" – i.e. that Marlboro Lights have more dilution, dilution referring to ventilation that dilutes the smoke, particularly when machine-smoked by the FTC method, with ambient air. Dr. Farone further testified that all of the data in his reliance materials "shows that **as you increase dilution, the toxicity in [the Ames] test increases, which is more likely than not associated with a toxicity increase in smokers.**" Farone TT, 10/7/04, 1888:2-1889:5; 1891:17-19; see also Farone WD, 113:21-114:1 ("The principal difference is that Marlboro Lights has extra ventilation holes, raising its dilution levels . . . . All other major design parameters – tobacco blend, nicotine-to-tar ratio, filler material – are essentially the same."); Farone WD, 57:10-14 (testifying that "relatively low levels of ventilation," such as in Marlboro Lights, "actually increase the toxicity of the smoke according to Ames test mutagenicity studies"); see also Whidby WD, 43:13-16 (testifying that, to his knowledge, from 1971 and until 1998, when he retired from Philip Morris, there was no difference in any of the ingredients used in a Marlboro Light and those used in a Marlboro Red).

3592. Dr. Farone testified that the very Ames mutagenicity testing that Philip Morris has

conducted for the past 25 years, and that "Philip Morris has concluded . . . predicts carcinogenicity" have indicated that Philip Morris's Marlboro Lights cigarettes are, as designed, more mutagenic than Marlboro full-flavor cigarettes:

> [I]n the case of Marlboro Lights, the Philip Morris test data that I have reviewed on that level of dilution for equivalent blends indicated that the product design for their Light cigarettes was more mutagenic than the full flavor Marlboro, Marlboro Reds, and therefore predictive of more potential cancer risk. These studies were repeated multiple times over the past 20 years and continue to be repeated to this day. The Philip Morris data, as was used by Philip Morris, was a strong warning that their product design change between a Marlboro Red and a Marlboro Light – increased ventilation – resulted in a potentially more dangerous product.

Farone WD, 119:7-120:15; Farone TT, 10/7/04, 1866:2-17; see also Farone WD, 57:20-22 (testifying that "Marlboro Lights have more mutagenic smoke on a per milligram of tar basis" than Marlboro full-flavor cigarettes); Farone WD, 121:20-23 (testifying that "[v]irtually every Ames assay test ever conducted by Philip Morris resulted in data that showed the mainstream smoke condensate from a low tar cigarette is higher in specific mutagenicity than the mainstream smoke condensate from a regular cigarette of otherwise comparable design").

3593. Dr. Farone testified, based on knowledge he gained as Director of Applied Research at Philip Morris USA and his review of internal documents, that Philip Morris has not "changed the design of 'Light' cigarettes in response to its studies and knowledge concerning mutagenicity." Farone WD, 121:3-9.

3594. Dr. Farone's testimony is corroborated by internal Philip Morris documents from as early as the 1960s. An October 28, 1964 internal presentation to Philip Morris's Board of Directors explained that Philip Morris's primary goal was not to develop less harmful products, but to develop products that would be perceived by consumers as less harmful: "**Please recall that our number one objective is to develop products having maximum consumer appeal in**

the current and future health conscious marketplace." 1000307159-7164 at 7159 (US 20092) (A) (emphasis added).

3595. Dr. Farone's testimony also is corroborated by the testimony of Philip Morris consultant and former employee Dr. Whidby, who acknowledged that "increased filter dilution," one of the techniques Philip Morris uses to lower the FTC tar yield of its cigarettes, "is associated with increased biological activity." Dr. Whidby agreed that biological activity in the context of Philip Morris's biochemical testing reports generally refers to biological reactions such as tumor growth, cell mutations, and toxic reactions, and that it was "a bad thing" that should be reduced. Whidby TT, 2/22/05, 13964:18-25; 13967:22-13968:19.

3596. Dr. Whidby also acknowledged that "the chemical composition of tar bears directly on the harm it causes," and that **two different types of tar in the same amounts can have two different levels of biological activity**. Dr. Whidby acknowledged that the quantity of tar is meaningless regarding health effects unless you also examine its chemical composition and that "how a cigarette is smoked changes not just the amount of smoke delivered to the smoker but it also changes the chemical composition of the smoke." In fact, Helmut Wakeham of Philip Morris so acknowledged in a March 1, 1974 document. Whidby TT, 2/22/05, 13963:17-13964:17; 13965:1-17; 1003293476-3493 at 3492 (US 85073)(A).

3597. Dr. Whidby admitted to being unaware of a 1996 scientific article that found that "Taking puffs of larger volumes and drawing puffs more frequently, practices observed among most smokers of cigarettes with low nicotine yield, results in high TSNA [tobacco-specific nitrosamine] values in the MS [mainstream smoke]." As Dr. Farone explained, TSNAs are "generally very toxic" and among the "major categories of smoke constituents that . . . contribute to smoking causing cancer and other serious diseases." Whidby TT, 2/22/05, 13971:10-13972:8;

13973:15-13974:2; 13974:9-10; 121-137 at 133 (US 90179)(A); Farone WD, 46:21-47:7.

3598. To promote Philip Morris's stated goal of creating the perception of reduced harm, Helmut Wakeham, Philip Morris's Director of Research, in a 1964 memorandum, recommended: "The health value of filters is undersold in the [Surgeon General's] report and is the industry's best extant answer to its problem. The Tobacco Institute obviously should foster the communication of the filter message by all effective means." Wakeham acknowledged in his memorandum that Defendants did not have evidence to support their contemporaneous marketing claims that filtered cigarettes were safer than unfiltered cigarettes, and proposed such research. However, **there is no evidence in the record that, at any time prior to 2001, any Defendant undertook any such study relating to the cigarettes sold by Defendants**. 1000335612-5625 at 5622-5623 (US 22986) (A).

3599. An April 1974 Philip Morris review of smoking and health literature found that no low tar cigarette in existence was less harmful than regular cigarettes, and that the low tar cigarettes it had designed may in fact be **more** harmful:

> **Safer though it may be to take in less nicotine, tar and CO**, to what extend [sic] is this achieved by changing to a low nicotine cigarette? The information available is scanty and conflicting . . . . [A] cigarette with a high nicotine yield would enable heavy smokers to curb their tobacco consumption, and **harmfulness would be further reduced if, at the same time, the tar and CO yields were low**. At present a cigarette combining a high nicotine yield with a low tar and CO yield does not, so far as we know, exist. . . . **If nicotine is the addictive compound in the tobacco smoke, cigarettes with low content of nicotine may even be more dangerous than the usual cigarette, due to their supposed higher degree inhalation** . . . .

2015041685-1739 at 1721 (US 20324) (O) (emphasis in original) (internal footnote omitted).

3600. A March 1, 1977 Philip Morris memorandum by Stanley Schachter to Thomas Osdene, Director of Research, concluded that low tar/low nicotine cigarettes are not less harmful:

"[I]t would certainly seem that **the campaign for low nicotine cigarettes is misguided and rests on a set of fallacious premises. . . . It is . . . clear . . . that the major body of data that has been used to justify the campaign for low nicotine cigarettes does nothing of the sort**." 1000046626-6661 at 6655, 6660 (US 20074) (A) (emphasis added).

3601. A November 1977 Philip Morris memorandum to Dr. Robert Pages from J. Booker and S. Drew about Ames testing stated: "**The take home lesson from this experiment is that dilution of a cigarette appears to increase the activity of the WSC [whole smoke condensate] (more dramatically for some cigarettes than for others).**" Dr. Farone testified: "this document directly supports my statements that dilution – in a certain range – increases the mutagenicity of tar." 1002978361-8363 at 8362 (U.S. 35635) (A); Farone WD, 120:16-121:2.

3602. By 1978, Philip Morris had substantial evidence that "filter dilution [which Philip Morris used to reduce FTC tar and nicotine yields] was somehow acting to increase" the "activity" of the whole smoke condensate ("WSC") collected from its cigarettes. Further experiments confirmed that the tar from ventilated low tar reference cigarettes measured higher on mutagenicity tests than non-ventilated products. Additional research conducted in 1979 yielded the same result. 2001243600-3673 at 3610-11 (US 20298) (O); accord 2022180219 (US 21479) (O).

3603. A May 11, 1982 Philip Morris document from INBIFO (Philip Morris's overseas research facility) revealed that Philip Morris learned from its testing of low tar reference laboratory cigarettes (i.e., cigarettes used for research purposes and not actually sold in stores) in Europe that these cigarettes registered higher in standard biological tests than the regular-delivery reference cigarettes – i.e., were "more active" – and thus were more likely to cause cancer: "Low tar reference cigarette . . . [m]ay be slightly more active than [the regular delivery reference

cigarette] as a complete carcinogen." 1003121638-1643 at 1638 (US 20153) (A).

3604. Philip Morris's 1993-1997 Research and Development Strategic Plan acknowledged that Philip Morris had not reduced the amount of harmful components of cigarette smoke in its conventional cigarettes, including its low tar cigarettes, either by removing specific harmful components or reducing the total quantity of harmful components. Philip Morris's Plan indicated an effort to "[e]volve programs to address known product benefits **which cannot be currently implemented on conventional cigarettes**." The first product benefit was: "**Perceived** health and social – specific or total mainstream and sidestream smoke component reduction." 2021323192-3347 at 3201 (US 85099) (O) (emphasis added).

3605. A January 28, 1994 report from INBIFO to Philip Morris in Richmond, Virginia stated that increased cigarette filtration, porosity, and ventilation (primary methods used by Philip Morris to reduce the FTC Method tar and nicotine yields in its cigarettes) would result in an increase in the degree to which cigarette smoke was toxic to living cells (i.e., cytotoxicity), the irritation it caused to smokers, and the likelihood of the smoke to generate mutations such as tumors and/or cancer (i.e., mutagenicity). The document stated: "Increased filtration will result in a relative enrichment of gas phase constituents, leading to increased cytotoxicity and irritancy . . . . Increased porosity and ventilation will . . . increase the specific mutagenicity." 2024005509-5512 at 5509-5510 (US 20399) (A); Farone WD, 122:1-14 (citing to, and agreeing with, INBIFO conclusions).

3606. Testimony and documents produced in this case confirm that the tar in Philip Morris's cigarettes that are marketed as light or low tar can register higher mutagenicity than the tar in the full flavor version of that brand. For example, A. Clifton Lilly, Senior Vice President of Technology, confirmed that data from tests run at Philip Morris's INBIFO facility showed that

the Ames test for mutagenicity from Marlboro Lights is significantly higher than the tar from Marlboro full flavor products. 2001243600-3673 at 3610-11 (US 20298) (O); 2022180219-0219 (US 21479) (O); 1000135419-5439 (US 20078) (O); Lilly PD, United States v. Philip Morris, 5/14/02, 229:17-231:21.

3607. Similarly, Lilly testified in 1998 that he did not know whether ultra low tar cigarettes are any less hazardous than any other cigarette. Lilly PD, Engle v. RJ Reynolds Tobacco Co., 5/7/98, 25:6-27:4, 522893332-3483 at 3356-3358 (US 80293) (O).

3608. A May 1, 2000 Philip Morris e-mail from David Ring to Vic Han attached a speech to be given by Louis Camilleri, Senior Vice President and Chief Financial Officer of Philip Morris Companies, Inc., on May 10, 2000. This speech reveals Philip Morris's underlying belief that low tar cigarettes are not less harmful than full-flavor cigarettes. After stating that Philip Morris International would "continue to benefit from" its prominent low tar brands such as Marlboro Lights, Philip Morris, Merit and Parliament, the speech revealed that Philip Morris **also** was attempting to develop cigarettes that **may actually be less harmful**: "We are also committed to the development of a commercial cigarette that may reduce the health risk of cigarette smoking." 2071040801-0801 (US 40375) (O); 2071040802-0812 at 0807-0808 (US 40376) (O).

3609. Dr. Farone, explaining a Philip Morris document relating Ames mutagenicity testing results in a 2001 document from Philip Morris's INBIFO laboratory in Germany, explained that, for testing on several different days, "you'll see that in every case, the Lights number [reflecting the mutagenicity of Marlboro Lights] is higher than the regular [reflecting the mutagenicity of Marlboro full-flavor]." 2505913831-3836 (US 46079) (A); Farone TT, 10/12/04, 2115:14-2116:4; 2116:12-21; 2117:13-2118:5; 2118:19-2119:6.

3610. James Morgan, former President and CEO of Philip Morris, testified at a 2002

deposition that, in his opinion, lower tar cigarettes are not any safer than higher tar cigarettes. Morgan PD, Price v. Philip Morris, Inc., 6/5/02, 75:3-15.

3611. Nancy Brennan-Lund, Philip Morris Senior Vice President of Marketing, testified at a 2002 deposition that she agrees with Philip Morris USA's website statement that there is **no such thing as a safer cigarette**. Lund testified that "what we say on our web site we believe to be true." Philip Morris USA's position is that low tar cigarettes are no less harmful than full-flavor cigarettes, "based on what the Monograph 13 came out with." Lund later qualified this statement – – it has "not been proven" that light cigarettes are less harmful, so one cannot assume they are less harmful. Brennan-Lund PD, Price v. Philip Morris, Inc., 9/20/02, 107:22-108:14; 109:16-110:22; 114:9-114:10.

3612. Ellen Merlo, then Philip Morris USA Senior Vice President of Corporate Affairs, testified in 2002 that Philip Morris's policy at the time was that lights or low tar cigarettes are not safe or safer than any other cigarettes, and that she agreed with the statement. Merlo PD, Price v. Philip Morris, Inc., 10/2/02, 80:3-80:15.

3613. Dr. Whidby, Philip Morris scientist from 1972 to 1998 and now a paid consultant for Philip Morris, who held the title of Senior Fellow – the highest non-management scientific position at Philip Morris – and who claimed that he and his co-workers were trying to make cigarettes less harmful, testified that he "doesn't know that Marlboro Lights [low tar cigarettes] are less harmful" than Marlboro Reds, which are higher-tar, full-flavor cigarettes. Whidby WD, 2:3-7; 4:18-5:3; 6:16; 13:14-16.

3614. On its website, Philip Morris, in effect, adopts the findings of the National Cancer Institute's Monograph 13, which found that low tar and filtered cigarettes are no less harmful than regular delivery and unfiltered cigarettes. In May 2004, Philip Morris's website provided a

link to the Monograph 13 Press Release, and stated: "It is important to remember that, as of today, there is no cigarette on the market which the public health community endorses as offering 'reduced risk.'" (US 88624) (O).

(ii) RJ Reynolds

3615. RJR's internal documents show that, like the other Defendants, RJR has long known that low tar cigarettes are no safer than regular cigarettes and, thus, that RJR made health claims regarding low tar cigarettes when it either lacked evidence to support them or knew they were false.

3616. In May 1980, RJR scientist C.T. Mansfield performed the Ames test for mutagenicity "on the tars from twenty-four domestic brands of cigarettes with various [FTC] 'tar' deliveries," and found "a trend for low 'tar' cigarettes to show higher revertent numbers per mg 'tar,'" indicating that the low 'tar' cigarettes caused more mutations. 514903578-3610 at 3579 (US 20863) (A).

3617. A September 29, 1992 RJR internal presentation reported that lower tar cigarettes were more likely to cause mutations such as tumors and cancer than higher tar cigarettes. The presentation stated: "Higher tar cigarettes tend to have lower Ames activity . . . than lower tar cigarettes." 509643825-3832 at 3825 (US 20830) (O).

3618. Gary Burger, then RJR Senior President of Research & Development, testified in a 1997 deposition that he was uncertain whether low tar cigarettes are in fact better for smokers' health, admitting that "we can't prove that it causes less onset of disease" and, as a result, "that's the main reason we shouldn't tout them as lower risk products because we can't prove it." Specifically, Burger conceded that whether low tar cigarettes provide less risk for cancer is "not provable," and that "I don't know if [low tar cigarettes] helped at all with cardiovascular disease."

Burger further testified that RJR had not done any long term studies to determine if smokers of low tar cigarettes truly are inhaling less tar. Burger PD, Arch v. American Tobacco Co., Inc., 8/21/97, 226:9-232:12, 234:15-18, 235:12-243:18.

3619. Schindler, RJR President and CEO, testified that RJR does not "use the terms ‘safe' or ‘safer' to refer to cigarettes," including low tar cigarettes. Schindler further testified that he did not have any new information that would establish that low tar cigarettes are safer. Schindler WD, 63:12-64:1.

3620. Arnold Mosberg, RJR scientist, testified in a 2003 deposition that in 2003 he and other RJR scientists (Doolittle and Morgan) reviewed "data [they] have had for decades" (some for more than two decades) to conduct a comparison of the relative harmfulness of lights and full flavor cigarettes, using various tests, including animal skin painting tumorgenicity, rodent inhalation, and Ames mutagenicity studies. Mosberg testified that the results of these studies indicated that low tar cigarettes do not reduce risk relative to full-flavor cigarettes. Mosberg PD, Turner v. RJ Reynolds, 8/19/03, 2:12-16, 6:7-12:4, 14:21-15:19, 15:24-16:1, 16:13-24, 19:3-5, 21:20-22:10; 22:19-26:8; 55:1-11, 57:15-58:16; 97:15-100:12; 103:23-104:1 (discussing in part Deposition Exhibit 2).

3621. According to RJR's genotoxicity scientist, David Doolittle, when comparing full flavor and low tar cigarettes by the FTC method, Ames and other studies show differences, but these differences disappear when measured in terms of actual yield. Doolittle PD, Turner v. RJ Reynolds, 6/20/03, 36:12-46:7; 63:20-64:17. Accordingly, these tests indicate that lights are no less harmful than full flavor cigarettes. Id. at 66:24-69:7, 71:4-12.

(iii) Brown & Williamson

3622. By 1968, senior scientists at B&W and BATCo already viewed the low tar

cigarette as a sham. Minutes from a BATCo research conference held September 24-30, 1968 in Hilton Head Island, South Carolina and attended by BATCo scientists including Dr. S.J. Green, Scientist, Manager, and Director of R&D from 1961-1979, stated: "Research staff should lay down guide lines against which alternative products can be chosen in everyday operations. Although there may, on occasions, be conflict between saleability and minimal biological activity, two types of product should be clearly distinguished, viz: a) A Health-image (health reassurance) cigarette. b) A Health-oriented (minimal biological activity) cigarette, to be kept on the market for those consumers choosing it." 110075139-5144 at 5140 (US 85044) (A); 109880405-0410 at 0406 (US 20262) (O). As Dr. Burns testified, this exhibit "shows that BAT clearly understood the difference between the changes in cigarette design that would create a false reassurance and those that would actually reduce risk. BAT scientist S.J. Green distinguished between cigarettes that only 'reassured' smokers as to the health benefit form those cigarettes that demonstrated an actual reduction in 'biological activity.'" Burns WD, 50:14-18.

3623. In a December 4, 1968 letter from R.A. Sanford, B&W Director of Research and Development, to Dr. S. J. Green, BATCo scientist, regarding "conclusions from the Hilton Head Meeting," the researchers made a distinction between what they called "health-image" and "health-oriented" cigarettes, with the former providing merely the appearance, and the latter the substance, of reduced health hazard. The letter acknowledged that low tar cigarettes are not less harmful, but merely are perceived by the public as such, stating: "It was also recognized that there are two types of health products possible and that they should be distinguished: (a) Health image (health reassurance cigarette) such as a low tar – low nicotine cigarette which the public accepts as a healthier cigarette and (b) Health-oriented cigarette which has minimal biological activity; for example, one which would yield a near zero reading in a mouse skin painting test."

689033123-3126 at 3124 (US 22186) (O); 689033184-3185 at 3184 (US 21036) (O).

3624. A February 4, 1976 memorandum from Ernest Pepples, B&W Senior Vice President, entitled "Industry Response to Cigarette/Health Controversy" reveals Defendants' knowledge that the low tar and filter cigarettes they were marketing as less harmful were not likely to actually be less harmful:

> The industry has moved strongly toward filtered cigarettes, which have increased from 0.6% in 1950 to 87% in 1975. . . . This became known as the 'tar derby' of the late 1950's. It was characterized by sharply intensified advertising competition. . . . The new filter brands vying for a piece of the growing filter market made extraordinary claims. . . . It was important to have the most filter traps. Some claimed to possess the least tars. **In most cases, however, the smoker of a filter cigarette was getting as much or more nicotine and tar as he would have gotten from a regular cigarette**. **He had abandoned the regular cigarette, however, on the ground of reduced risk to health**. . . . The manufacturers' marketing strategy has been to overcome and even to make marketing use of the smoking/health connection . . . . Thus the 'tar derby' in the United States resulted from industry efforts to cater to the public's concern and to attract consumers to the new filtered brands. . . . The current duel between True and Vantage and between Carlton and Now are other examples of competitive efforts to capitalize on the smoking/health controversy.

170042567-2574 at 2568, 2574 (US 20292) (A) (emphasis added); Smith WD, 79:5-22. Dr. Burns testified that this document demonstrates "[d]efendants' clear understanding that they were deceiving both the smokers and the public health authorities." Burns WD, 54:11-55:4.

3625. An August 5, 1980 B&W document signed by J. Kendrick Wells III, B&W Assistant General Counsel, acknowledged that "[t]here was question about the degree of support . . . at the present time" for the "scientific opinion that certain low levels of 'tar' consumption are relatively safe to the smoker," and that "for the longer term the support may be quickly eroding." 680050983-1001 at 0990 (US 20981) (O).

3626. At trial, Wells, B&W Assistant General Counsel, testified regarding a December 9, 1981 meeting he attended with L.C.F. Blackman (Director of Research for BATCo), Bob Ely (Director of Public Relations at BATCo), Timothy Finnegan (tobacco industry attorney), Donald Hoel (Shook, Hardy & Bacon attorney), and other tobacco industry lawyers regarding "what BAT group companies should or should not say concerning the health effects of low tar products," and "whether statements made by the companies about low tar products could be construed as admissions that other products cause disease." Wells summarized the meeting in a December 28, 1981 memorandum that demonstrates why the tobacco industry wanted to avoid making explicit health claims with respect to low tar cigarettes, as well as why the industry has falsely maintained publicly that it introduced low tar cigarettes only in response to requests from the public health community and in response to consumer demand. At the meeting, Mr. Northrip stated: "Evidence that BAT has modified its products based on medical studies which presume cause would devastate a B&W product liability defense which relied on witnesses who said causation was not proven." Similarly, Mr. Hoel stated that BATCo should "refer to public statements by government and media commentators urging smokers to smoke lower ‘tar' products; the companies reduce the ‘tar' to reach these consumers. **The industry must not say that it led consumers down the ‘tar' scale**." Referring to the question of why B&W makes low tar cigarettes, Mr. Blackman stated: "One answer is by making both types of products (high and low ‘tar'), so that the consumer can take his own informed risk. **We can then override the warning notice on low ‘tar' cigarettes**, but leave the warning notice on high ‘tar' cigarettes." 680584928-4934 at 4929, 4933 (US 21005) (A); Wells WD, 52:20-60:2.

3627. An October 31, 1989 B&W internal memorandum entitled "Objections to Product Innovation Strategy" from Wells to RJ Pritchard, B&W executive and member of the

Tobacco Institute's Executive Committee, conceded that "**it is not established that the reduction or removal of specific smoke constituents or of smoke constituents across the board, such as in low tar cigarettes, is significant for smoking and health**." 680701034-1038 at 1035 (US 21010) (A) (emphasis added); Wells WD, 60:3-61:10.

3628. Sharon Blackie, Director of Scientific Communications and a spokesperson for B&W on scientific issues as late as 1998, testified that, "based on [her] experience as an employee within the cigarette industry, [she has] been aware for some time that some smokers believe that low tar cigarettes are less hazardous to their health [and that] some smokers believe that by switching to low tar cigarettes, they will achieve a health benefit." Blackie further testified that, from at least as early as 1998, B&W's position was that the company "did not know whether low tar cigarettes were, in fact, less hazardous," and "was not confident that the science showed any health benefit from low tar cigarettes." Blackie WD, 184:22-185:5.

3629. Susan Ivey, former B&W President and CEO, testified that B&W's public position on low tar cigarettes, "as stated on its website, is that 'there is no such thing as a "safe" cigarette,' that '[s]moking "low tar" or "light" cigarettes is not an alternative to quitting and does not eliminate the health risks of smoking,' but that 'lower tar cigarettes will generally deliver less tar and nicotine than higher tar cigarettes.'" B&W's website admits that low tar cigarettes are not safer than regular cigarettes. It states that "**despite a dramatic lessening of tar yields, the hoped-for reduction of smoking-related illnesses has not been conclusively demonstrated**." Furthermore, the website directs the reader to the National Cancer Institute's Monograph 13, citing its conclusions that "[e]pidemiological and other scientific evidence, including patterns of mortality from smoking-caused diseases, does not indicate a benefit to public health from changes in cigarette design and manufacturing over the last fifty years," and that "[w]idespread

adoption of lower-yield cigarettes in the United States has not prevented the sustained increase in lung cancer among older smokers." The website further states: "[W]e continue to believe that smokers should rely on the public health authorities' views on low tar cigarettes and other smoking issues." Ivey WD, 63:9-16; (US 86656) (A) (emphasis added).

(iv) BATCo

3630. A circa 1976 BATCo document from S.J. Green to P.L. Short and P. Sheehy revealed both that BATCo planned to market low tar cigarettes as safer and that BATCo did not have a sufficient basis to believe that low tar cigarettes were safer, stating: "Before we do work aimed to sell low delivery cigarettes, unless we are already satisfied, we should do some work to establish that in fact they are safer." 110076428-6432 at 6430 (US 34957) (A).

3631. A June 9, 1982 BATCo document, "Technical Exchange Meeting," noted that Ames testing revealed that "[t]he specific activity [a measure of mutagenicity] of a plain cigarette was found to be lower than that of a ventilated filter cigarette." 109883189-3192 at 3191 (US 20265) (O).

3632. A February 18, 1988 BATCo study of cigarette mutagenicity from the B&W Research & Development Library's E.D. Massey demonstrated BATCo's awareness that the cigarettes Defendants had designed to deliver low levels of FTC tar and nicotine were **more** biologically active than regular cigarettes, according to BATCo's own research. The report found that the "lighter" the purported delivery of the cigarette, the higher the mutagenicity. Using Philip Morris cigarettes as an example, Merit cigarettes had higher mutagenicity than Marlboro Lights, which in turn had more mutagenicity than regular Marlboro cigarettes. 620000021-0032 at 0027, 0030 (US 20944) (A).

(v) American Tobacco

3633. Notwithstanding that the internal American documents, discussed above, evidence American's intent that its marketing communicate to consumers that its low tar brands were less harmful than full flavor cigarettes, Eric Gesell, designated representative of American, testified in a 1997 deposition that American never conducted "any studies to determine whether or not low-tar cigarettes are safer than high-tar cigarettes." Gesell PD, State of Minnesota v. Philip Morris Inc., 9/18/97, 5:8-25; 6:10-17; 127:6-10.

(vi) Lorillard

3634. Asked whether low tar/low nicotine cigarettes are any safer than conventional, full-flavor cigarettes, Christopher Coggins, Senior Vice President of Science and Technology at Lorillard, stated: "[O]ur policy is that cigarettes can cause cancer and that goes for all cigarettes." Coggins D, United States v. Philip Morris, 8/16/01, 115:22-116:4.

(vii) Liggett

3635. Comments by Liggett scientists on a "Memorandum of June 13, 1966; C.F. Woodward and C.L. Ogg to P.A. Wells" acknowledged that there was no basis to conclude that reductions in tar and nicotine and/or the use of filters reduced the harmfulness of cigarettes:

> Although the public does have a right to know what it is buying, extreme care must be exercised to avoid leading a non-technically oriented public to erroneous conclusions regarding the relative merits of one brand versus another based on minimal differences in 'tar' or nicotine – neither of which can be attached any quantitative measure of health hazard . . . . We would question if any differences between any filter brands would show correlation with tumorgenicity. We know of no correlation of tar delivery among filter brands with tumor production in mice–or for that matter, even among non-filter cigarettes. The level of uncertainty in current biological testing is so great that distinction between cigarettes is not possible on this basis.

LWDOJ00068944-8949 at 8944-45 (US 21214) (O) (emphasis in original).

(b) Defendants Had Extensive Knowledge of Smoker Compensation

3636. The evidence shows that Defendants have been aware, since before the adoption of the FTC Method, to test tar and nicotine yields that smokers' nicotine addiction would drive them to compensate for the delivery of lower tar cigarettes by smoking them more intensely and/or increasing their consumption, rendering Defendants' marketing claims that these products delivered lower tar and nicotine misleading. Moreover, Defendants concealed their superior knowledge of nicotine-driven smoker compensation, and, as discussed in Section III.D(4)(c), supra, designed their cigarettes to deliver low tar and nicotine yields when tested by the FTC Method, but deliver much more tar and nicotine to smokers.

3637. As Dr. Neal Benowitz, an expert on smoker compensation who has performed extensive compensation research and published extensive articles on the topic, testified:

> Compensation refers to the behavior of smoking cigarettes of different machine measured yields more or less intensively, and/or smoking more or fewer cigarettes **to achieve a particular level of intake of nicotine**. Compensatory smoking behavior implies that there has been a change in smoking behavior in response to a change in the nominal nicotine delivery of the cigarette that is being smoked.

Benowitz WD, 55:11-22; 56:22-23; Farone WD, 102:15-103:13 (emphasis added).

3638. Dr. Benowitz explained that "[c]ompensatory smoking behavior is a manifestation of nicotine addiction," and "occurs primarily due to nicotine." Dr. Benowitz provided "the consensus in the medical and scientific fields" regarding compensation, testifying: "The concept of smoking to obtain desired levels of nicotine and the concept of nicotine titration with associated compensation is widely accepted by the scientific and public health communities." Methods of smoker compensation include taking "bigger puffs," taking "more frequent puffs," "block[ing] the ventilation holes in the filter," and smoking more cigarettes. Dr. Farone testified

that, even for ultralow tar cigarettes, where a smoker switching down may not be able to compensate fully "on a per cigarette basis[,] [o]f course, that smoker could always smoke more cigarettes." Benowitz WD, 55:11-22; 56:22-23; 57:5-9; 57:23-1; Benowitz TT, 11/2/04, 4762:23-24; 4763:14-16; Farone WD, 103:18-104:1; accord Farone TT, 10/12/04, 2169:18-19 (testifying that "the requirement for nicotine" drives smoker compensation).

3639. Because each smoker smokes to obtain his or her own particular nicotine quota, smokers end up inhaling essentially the same amount of nicotine – and with it tar – from so-called "low tar and nicotine" cigarettes as they would inhale from regular, "full flavor" cigarettes. This is referred to as "complete" compensation. As Dr. Benowitz testified at trial in this case, both he and the National Cancer Institute (in Monograph 13) have concluded that "[f]or spontaneous brand switchers, **there appears to be complete compensation for nicotine delivery**, reflecting more intensive smoking of lower-yield cigarettes." Dr. Benowitz further testified that virtually all smokers, **over 95%, fully compensate for nicotine.** Benowitz WD, 59:6-17; 61:15-62:13 (emphasis added); Benowitz TT, 11/2/04, 4769:25-4770:4; Monograph 13 at 10 (U.S. 58700) (A); accord Burns WD, 1:10-15; 12:10-11; 43:19-45:2; Burns TT, 2/15/05, 13311:9-15; Burns TT, 2/16/05, 13537:6-9 (trial testimony of Dr. Burns that compensation is both "essentially complete" and permanent).

3640. Defendants do not presently dispute that compensation exists. They do, however, claim that, while compensation exists, it is not complete, contending that smokers of low tar cigarettes receive less than precisely 100% of the nicotine that they would receive from a regular, full flavor cigarette. However, the issue of whether compensation is exactly 100% is a red herring. As Drs. Burns, Benowitz and Samet testified, compensation is "essentially complete," and – as every major scientific body that has examined this issue has concluded – low tar

cigarettes have not reduced the risks of smoking relative to full-flavor cigarettes. Therefore, whether compensation is precisely 100% is immaterial; the bottom line is that **low tar cigarettes are no better for smokers' health**. See, e.g., US FF §§ III.D(4)(a)-(b), supra; TT, 9/22/04, 292:8-10 (counsel for Defendants in opening statement stating: "Now, does compensation occur? Absolutely. Absolutely.").

3641. Because the amount of nicotine that smokers need to sustain their nicotine addiction does not change over time, compensation for reduced deliveries is permanent, and occurs for as long as the smoker smokes a low tar product. Benowitz WD, 70:25-71:10; see generally DXA0310399-0650 at 0452-0476 (US 58700) (A) (Monograph 13) (indicating no evidence to warrant conclusion that there is reduction in compensation over time).

3642. Because compensation is essentially complete, low tar cigarette smokers unwittingly inhale essentially the same amount of tar and nicotine as they would from regular, full flavor cigarettes, thereby eliminating any health benefit from purportedly low tar cigarettes. Dr. Benowitz testified that "light and ultra-light cigarettes" do not, in actuality, "reduce the risks of smoking":

> Considering the overall exposure data for individuals selecting their own brand, there is little reason to expect that smokers of cigarettes with low machine measured yields will have a lower risk of disease than those who smoke higher yield cigarettes.

Benowitz WD, 72:9-14; U.S. 58700 at 60; see also Benowitz WD, 61:6-13 (explaining the conclusions of Chapter 3 of NCI Monograph 13).

3643. Dr. Benowitz added:

> Compensation explains why smoking of light cigarettes has not been associated with a reduction of smoking-induced disease risks. One would think, looking at the FTC yield data, that toxic exposures would be substantially reduced if one switches to light cigarettes; however, because of compensation, resulting toxic

exposures are similar for light and regular cigarettes.

Benowitz WD, 60:23-61:14.

3644. Indeed, despite the fact that tar deliveries, as measured by the FTC Method, decreased by more than two-thirds between 1954 and 1994, lung cancer in smokers actually **increased**. (US 58700) (A) (Monograph 13); (US 76212) (A) (1997 CDC MMWR article); see also (US 88626) (A) (1995 Thun et al. article).

3645. Smoker compensation, and Defendants' knowledge thereof, reveals the falsity of the central message communicated by Defendants in their marketing of low tar cigarettes – that they are safer, delivering less tar to smokers – because in the course of compensating to ensure adequate nicotine intake, smokers inhale substantially more tar and nicotine and, in the process, more toxins, than the FTC Method levels used by Defendants to market these cigarettes. As demonstrated in Section III.D(4)(a), supra, there is no meaningful reduction in disease risk in smoking low tar cigarettes as opposed to smoking regular cigarettes. See also US FF §§ III.D(3), supra, for a recitation of Defendants' false marketing and public statements.

3646. "[O]ne of the problems" Dr. Henningfield identified with "the claims of [defendants] that their cigarettes are 'light,' 'reduced,' or 'lower' in tar and nicotine" is that "[t]he various compensation mechanisms used by smokers to ensure they get enough nicotine . . . cause actual tar and nicotine delivery to smokers of most cigarettes advertised as 'light' to be well within the range of the cigarettes advertised as full flavor." He added: "**These conclusions are supported by individual government supported investigators as well as . . . health agencies in Massachusetts, Canada, England, and by the World Health Organization.**" Henningfield WD, 55:13-56:7 (emphasis added).

3647. Indeed, Dr. Whidby – scientist, former employee, and consultant for Philip Morris

USA – testified, consistent with Main Conclusion 5 of NCI Monograph 13, that "**the FTC tar and nicotine yields" do not "actually provide meaningful information to smokers about the amounts of tar and nicotine they will receive from a cigarette brand**." TT 13993:14-19 (emphasis added); DXA0310399-0650 at 0452-0476 at 0423 (US 58700) (A) ("Measurements of tar and nicotine yields using the FTC method do not offer smokers meaningful information on the amount of tar and nicotine they will receive from a cigarette . . . [or about] the relative amounts of tar and nicotine exposure likely to be received from smoking different brands of cigarettes.").

3648. Defendants have known since at least as early as the 1950s that the central component that drives the smoking habit is nicotine, an addictive substance. US FF § III.C(1), supra (Addiction). Accordingly, Defendants also have long been aware that the reason people smoke cigarettes is to attain a sufficient "dose" of nicotine to sustain their addiction. For example, James Morgan, Philip Morris USA President and CEO, testified in 1997 that, based on discussions with Philip Morris Research and Development scientists, he was aware that nicotine is the major component of cigarette satisfaction. 1003287880-7890 at 7884 (US 20163) (O); accord 500380562-0564 (US 20630) (O); 100515899-5910 (US 20230) (A); 1003285403-5416 (US 20159) (A); 500917468-7476 at 7474-76 (US 20660) (A); 105553905-3914 (US 34799) (A); Morgan PD, Minnesota, 9/4/97, 6:24-7:2; Morgan PD, Minnesota, 9/5/97, 286:22-288:9.

3649. The evidence shows that Defendants also have known since the 1960s and 1970s that, because smokers smoke to obtain the desired effects of nicotine, smokers of lower-yield cigarettes tend to adjust their smoking behavior to titrate (i.e., control) their intake of nicotine to achieve desired levels. In fact, the evidence shows that Defendants' internal understanding of it was decades ahead of that of employees and scientists of the Government and the scientific

community. Dr. William Farone, Philip Morris USA employee from 1976 to 1984, including as Director of Applied Research, and expert in "the chemistry and biochemistry of alkaloids and addictive drugs, the chemistry and physics of cigarette smoke, cigarette design and technology, and the chemistry and biochemistry of toxic substances and how they interact with living systems," testified that, during his employment at Philip Morris, Philip Morris had "a greater understanding of compensation than the outside scientific community," and that it is his expert opinion that "the same is true for the other tobacco company Defendants." He added that, in 1966, when the FTC was considering the FTC Method, Defendants knew "that smokers smoked for nicotine" and "that smokers alter their smoking behavior to get nicotine." Farone WD, 2:2-8; 2:15-19; 117:15-118:8; Farone TT, 10/12/04, 2169:18-22; 2170:5-11; 2171:25-2172:8; 2182:11-2190:7; Wigand WD, 8:11-17; 120:5-17.

3650. Dr. Farone testified that, when he was Director of Applied Research at Philip Morris, Philip Morris's own research found that "if we adjusted the design to reduce the nicotine delivery, or if people were given a cigarette of lower nicotine delivery than their usual brand, smokers would 'compensate' – change how they smoked – to get the amount of nicotine they need." Farone WD, 102:2-14; see also Farone WD, 104:7-15 (testifying that he knows Philip Morris was aware of compensation for nicotine "[f]rom conversations that I had with many of my colleagues at Philip Morris while I was working there, including people working under Dr. Dunn in his behavioral research group," and that this knowledge "is evident from the company's own documents").

3651. Dr. Jeffrey Wigand, B&W's Vice President of Research and Development from 1989 to 1993, testified that, during his employment at B&W, "[c]ertainly everyone in my research and development department was well aware of compensation," defined as "smokers

manipulating their smoking behavior to achieve their optimum nicotine reward," and that compensation "was a design consideration that played a central role in all of the cigarettes manufactured at B&W as well as the other BAT Cigarette Affiliated Companies." Wigand WD, 8:11-17; 120:5-17.

3652. Smoker Compensation and the FTC Method. In 1967, the FTC began testing all cigarettes sold in the United States for tar and nicotine yields using a single smoking machine, commonly referred to as the FTC Cigarette Test Method ("FTC Method"). As Dr. Burns testified, "[p]rior to 1967 [when the FTC Method was adopted], the different cigarette manufacturers were making claims about the tar deliveries of their cigarettes which could not be easily reconciled because they were based on numerous different testing methods," which "resulted in consumer confusion." Burns WD, 1:10-15; 12:10-11; 24:18-25:3; Burns TT, 2/15/05, 13311:9-15; Burns TT, 2/15/05, 13356:5-22; 13363:25-13364:6 (discussing the 1960 FTC prohibition of tar and nicotine claims in advertising because of the resulting consumer confusion, which lasted until adoption of the FTC Method).

3653. A consumer research report prepared for B&W explained how Defendants' deceptive marketing practices led the FTC to initially prohibit, and then later permit, the use of tar and nicotine figures in cigarette advertising once a standardized testing method (i.e., the FTC Method) had been implemented:

> In 1955, **the FTC, reacting to conflicting claims as to tar and filtration** . . . imposed 'Cigarette Advertising Guides' banning all mention of tar, nicotine and filtration 'when **not established by competent scientific proof**'. This put a stop to such claims in advertising. In July and August of 1957, the *Reader's Digest* published two articles with figures on tar and nicotine mentioning Kent by name. The August article, written with Kent's assistance was practically an ad for Kent. In 90 days, Kent's sales leaped from 300 million to 3 billion per month. This article broke the dike and set off the famous Tar Derby. Over the next 4 years, tar

> levels were drastically cut. Marlboro dropped from 34 mg. tar in 1957 to 25 mg. in 1958 and 19 mg. in 1961 . . . . In mid 1960, the FTC called off the Tar Derby, rigidly prohibiting tar and nicotine claims. Some of the new low tar brands disappeared. Soon thereafter, **the brands stopped reducing tar levels and, indeed, began to raise them**. Kent, for example, went from 14 mg. in 1961 to 16 mg. in 1963 and 19 mg. in 1966. The FTC prohibition ended March 25, 1966 initiating a new phase in Hi-Fi development.

670917650-7741 at 7664-7665 (US 87913) (A) (emphasis added).

3654. As Dr. Burns' testimony and the B&W report show, the FTC Method was intended to put a stop to Defendants' various conflicting and unsubstantiated claims and provide a standardized and representative approximation of the amount of tar and nicotine generated by Defendants' cigarettes when smoked under identical conditions. Dr. Burns explained that "the purpose of the testing was to allow consumers to select [from among] different brands that would deliver different amounts of tar to them," with the idea that it "would be a valid way for consumers to switch in a way that would reduce their exposure to tar and nicotine." Burns TT, 2/15/05, 13363:25-13364:6.

3655. The FTC Method is conducted by having a machine "smoke" the cigarettes for a designated puff volume at a designated interval. As the smoke is drawn into the machine, it passes over a filter known as a Cambridge pad, on which the particulate tar matter is collected. That accumulated matter is measured to calculate the tar and nicotine yields for the cigarette. The FTC Method was developed to provide consumers with a relative ranking of nicotine, tar, and carbon monoxide yields from various cigarettes. Henningfield WD, 47:11-48:2; Henningfield TT, 11/22/04, 6794:8-6796:6.

3656. Dr. Henningfield testified that, when the FTC first implemented the FTC Method, Defendants were "aware of the role of nicotine in influencing and maintaining smoking

behavior," but that he is "not aware of any evidence that the industry informed the FTC that a major reason that the method could yield misleading data was that nicotine addiction would drive smokers to achieve relatively stable nicotine intakes." Similarly, Dr. Henningfield testified that, to his knowledge, Defendants never informed the public directly that smokers' "physiological need to obtain nicotine substantially lessens the accuracy of the FTC ratings." Henningfield WD, 48:14-49:7.

3657. Dr. Farone testified that, to his knowledge, Defendants did not inform the FTC in 1966 "that smokers alter their smoking behavior to get nicotine." Nor did Defendants "tell consumers directly about the unreliability of the FTC machine as a measure of actual tar and nicotine intake" or "tell [smokers] directly that their smoking behavior was driven by the need to satisfy their nicotine addiction." Farone TT, 10/12/04, 2170:5-23.

3658. Dr. Henningfield elaborated concerning Defendants' response to the adoption of the FTC Method testing:

> Rather than work with the FTC toward procedures that would provide meaningful data, and provide data regarding the actual intake of nicotine from different cigarettes, the tobacco industry began to modify their cigarette designs so as to exploit the particular features of the standardized machine in a way that rendered the tar and nicotine ratings obtained from the machine unrealistically low and thereby defeat the testing method. In their own words, they designed their cigarettes to be more "flexible" dosing systems so that they could advertise that the cigarettes were lower in tar and nicotine delivery, but still deliver tar and nicotine at levels equal to those of "full flavor" products.

Henningfield WD, 54:7-15.

3659. While Defendants maintain that certain statements made by or related to tobacco companies in England indicated that nicotine is addictive and/or smokers compensate for nicotine, Dr. Henningfield explained that "[t]hose conclusions or statements were not being

offered by any major tobacco company in the United States to the public in the '70[s], 80s, [or] forward that I'm aware of, and certainly not in formal hearings." Henningfield TT, 12/1/04, 7540:18-7541:19.

3660. Individual Smoker Variation vs. Smoker Compensation. Defendants "initially resisted imposition of the [FTC] testing method and claimed it would be inaccurate." Defendants claimed that the FTC Method would be inaccurate because different smokers "smoke differently - and even smoke differently at different times." This is known as **smoker variation**, and there is not, and never has been, any real dispute as to this concept. What Defendants withheld from the FTC was their knowledge that smokers' addiction to nicotine would drive them to smoke the lower-delivery cigarettes, which purportedly would cause them to take in less nicotine and tar, more intensely, thereby defeating the stated purpose of the lower-delivery cigarettes. This is known as **smoker compensation**. As is explained more fully below, **smoker compensation**, which is a central element of Defendants' low tar fraud, is entirely separate and distinct from **smoker variation**. Henningfield WD, 48:3-50:12.

3661. Throughout this litigation, Defendants have attempted to conflate smoker compensation with the entirely distinct and separate topic of individual smoker variation. Defendants have claimed that they could not have engaged in fraud with respect to low tar cigarettes because it was known from the time the FTC Test was implemented in 1967 that, because different people smoke cigarettes differently and the FTC Test could not account for these individual variations in smoking behavior, the FTC Test could not indicate with precision the amount of tar and/or nicotine that any individual smoker would receive. For instance, an August 1, 1967 FTC press release described these variations in smoking behavior:

> No two human smokers smoke in the same way. No individual smoker always smokes in the same fashion. The speed at which

> one smokes varies both among smokers, and usually also varies with the same individual under different circumstances even within the same day. Some take long puffs (or draws); some take short puffs. That variation affects the tar and nicotine quantity in the smoke generated.
>
> Even with the same type of cigarette, individual smokers take a different number of puffs per cigarette depending upon the circumstances. When concentrating, or talking, the number of puffs is usually less. When listening, or required to listen to another person talking, the number of puffs per cigarette, as well as duration of each puff, usually increases. Smoking rates while reading a book may differ from smoking rates while viewing a television program. The number of puffs and puff duration (as well as butt length) will vary according to emotional state. Some smokers customarily put their cigarettes down in an ashtray where they burn between puffs; other smokers constantly hold cigarettes in their mouths; others hold them between their fingers.

FTC News Release at 2 (JD-040254) (A); 03573029-3030 at 3029 (US 22244) (A).

3662. While certain documents proffered by Defendants, such as this August 1, 1967 FTC press release, discuss individual smoker variation (i.e., that different people smoke differently from one another), **these documents do not discuss smoker compensation**. As Dr. Benowitz explained**, compensation behavior is entirely distinct and separate from "individual smoker variation"**:

> Individual smoker variation refers to the fact that one smoker may smoke cigarettes – either regular or low tar – differently than another smoker, and that the same person may smoke the same cigarette differently on different occasions. . . . Individual smoker variability relates to the fact that cigarettes are smoked differently by different individuals. **This type of variability is separate and distinct from the issue of compensation, which relates to the phenomenon of smokers smoking purportedly low-delivery cigarettes more intensely in order to achieve their particular desired level of nicotine intake.**

Therefore, Dr. Benowitz explained, a statement "that no two people smoke in the same way" is not a statement about smoker compensation. Benowitz WD, 56:6-23 (emphasis added).

3663. Early FTC documents, such as the FTC's August 1, 1967 press release, do not mention **nicotine** or **addiction**, and do not discuss the fact that nicotine addiction would lead smokers to obtain essentially the same amount of nicotine from so-called low tar cigarettes as they would from regular cigarettes. As such, they **do not discuss smoker compensation, but rather** the distinct and separate notion of **individual smoker variation**. (no bates) (JD-040254) (A); Farone TT, 10/12/04, 2170:5-23.

3664. Public service announcements of the Office on Smoking and Health from the early 1980s relating to the potential for compensation reflected a similarly incomplete and ultimately incorrect view of compensation. As Dr. Burns explained, they "implie[d] that the individual has within [his/her] ability automatically not to compensate; that is, that the compensation is not driven by the addictive process. That was the understanding we had in the early 1980s . . . . It was only after that [] that we understood with precision and specificity how the nicotine drives that smoking change." Burns TT, 2/16/05, 13565:8-13566:4.

3665. The evidence shows that, rather than sharing their knowledge of compensation, Defendants strove to keep it secret. Indeed, Dr. Farone testified that Defendants' superior knowledge of compensation "was closely held within Philip Morris and the tobacco industry." Dr. Farone further testified that there was an "effort on the part of [his] co-workers at Philip Morris, including [his] supervisors, to restrict any public acknowledgment on the part of Philip Morris of the phenomena of compensation." In particular, Dr. Farone testified that a paper on vent hole blocking that one of his colleagues, Max Hausermann, wanted to publish was denied publication several times by Philip Morris until it was changed so that it was "worded in such a way" that it seemed to have less significance. Farone WD, 112:23-113:10; 1005062776-2776 (US 35966) (A); see also US FF § III.D(4)(c)(i), infra. (discussing agreement between BATCo

and Philip Morris not to discuss publicly the issue of compensation with respect to Barclay cigarettes).

3666. Dr. Wigand testified that, during his employment, B&W never shared information on smoker compensation with the public, the FTC or the FDA; in fact, B&W concealed this information: "compensation was one of the controversial topics that we were instructed to treat very carefully when drafting documents." Wigand WD, 8:11-17; 124:14-125:5.

3667. Because smoker compensation is driven by nicotine addiction, the fact that Defendants kept secret their extensive knowledge of smoker compensation is made plainly apparent by the fact that, at present, the Cigarette Company Defendants (except for Liggett) refuse to publicly acknowledge that nicotine is addictive. US FF § III.C(1), supra (addiction).

3668. Defendants suggested an analogy between the FTC tar and nicotine yields and automobile gas mileage estimates, intimating that they are both useful, albeit imperfect. As Dr. Henningfield explained, this comparison is not appropriate:

> [W]e know through that [gas mileage] rating system that if you buy a car with a better gas mileage rating, virtually no matter how you drive it, you're going to get better mileage than a car with a worse rating. But in cigarettes, by just subtle changes in the way you smoke and things that most people don't even know about, the ventilation and the channels and the burn accelerants and all these different tricks, makes those two cigarettes look the same. Thus, for example, when humans smoke Marlboro cigarettes . . . Marlboro Lights can yield approximately twice as much nicotine as the Regulars are claimed to deliver by the standard FTC method. Marlboro Ultra Lights can deliver three times their advertised rating and most of the Carlton brands can deliver seven or more times their advertised rating.

Henningfield WD, 83:14-84:10.

3669. Dr. Henningfield added that "light" cigarette descriptors also "are totally different" than the information on food labels and drug labels, because "if you eat the listed serving size of

[foods], you will receive the amount of [the constituents] listed on the label. . . . By contrast, . . . the advertised FTC tar and nicotine ratings for cigarettes bear very little relation to the actual dose a smoker can and, in most instances, does receive from smoking that cigarette. The inaccuracy in the FTC ratings is especially pronounced for cigarettes sold as 'light' or 'low tar' by the tobacco companies. This discrepancy is especially serious because it is in the direction of more toxins than advertised." Henningfield WD, 84:11-85:3.

3670. Dr. Benowitz testified that the analysis in Monograph 13 studied several categories of evidence to reach its conclusion that compensation is essentially complete:

> [W]hen we did the analysis in Monograph 13 we didn't rely just on this study or this type of study, we tried to look at multiple studies and see, Well, does it look like there's a lot of compensation? And the bottom line was, yes. It's not a hundred percent, but it's substantial.

Benowitz TT, 11/2/04, 4769:25-4770:4.

3671. Dr. Benowitz's chapter of Monograph 13 on smoker compensation included an evaluation of each of the three "different kinds of studies that are generally used to conduct research on compensation": "[1] spontaneous brand switching studies, [2] cross-sectional studies, and [3] forced brand switching studies." Benowitz WD, 62:14-20.

3672. Spontaneous Brand Switching Studies. Dr. Benowitz explained that spontaneous brand switching studies "are more informative of smokers' exposure in the real world when switching from higher to lower yield cigarettes," because "the brand of cigarette has been selected by the smoker and not by the researchers." Dr. Benowitz added that "spontaneous brand switching studies generally show that there is no reduction in smoke intake [including nicotine and tar intake] per cigarette." Referencing his own spontaneous brand switching study, Dr. Benowitz testified:

> For smokers who switched to lower yield cigarettes, the analysis of cotinine concentration or carbon monoxide per cigarette showed no change despite the reduction in nominal machine measured yield. Therefore, these smokers obtained the same dose of nicotine and carbon monoxide from each cigarette even though the machine measured yield was lower.

As stated by Dr. Benowitz, his study demonstrated that: "**For spontaneous brand switchers, there is complete compensation for each cigarette smoked. As a result, for these smokers, switching from higher to lower yield cigarettes is not likely to reduce the risk of smoking.**" The evidence that there is no reduction **per cigarette** by switching to lower tar cigarettes is particularly compelling in light of Dr. Benowitz's testimony that "we do know that **on average people who are smoking lower-yield cigarettes smoke the same or even slightly more than higher-yield cigarettes**." Benowitz WD, 63:22-64:2; 64:14-65:6; 65:14-17; Benowitz TT, 11/2/04, 4762:23-24; 4763:14-16 (emphasis added); see also Benowitz WD, 63:5-10 (explaining that "[c]otinine is a major breakdown product of nicotine" that "is metabolized . . . by the liver" in humans, and therefore "has become the accepted marker for looking at nicotine exposure measurement from tobacco products").

3673. Dr. Benowitz also explained what spontaneous brand switching studies show regarding compensation per cigarette:

> The spontaneous brand switching studies show a high degree of compensation per cigarette. . . . In the studies that I was involved with, smokers took the same amount of nicotine per cigarette from lower yield and higher yield cigarettes. Another study showed that nicotine intake as estimated by measurement of nicotine in metabolites in the urine were no different in individuals who switched from higher to lower machine measured yield cigarettes compared to those who had not switched. . . . The per cigarette figure [is important because it] shows what an individual can take in from a particular cigarette. Thus, it provides information on the delivery characteristics of the product. . . . These studies support the concept of compensation and help explain why low yield cigarettes do not reduce the hazards of smoking.

Benowitz WD, 65:18-66:8.

3674. In the spontaneous brand switching study Dr. Benowitz conducted, "the people who decreased the FTC nicotine yields of their brands basically stayed about the same [as before switching] on a per cigarette basis." He added, "I basically said there was no difference in intake per cigarette" and, on that basis, concluded that compensation is complete. While counsel for Defendants suggested a different approach, Dr. Benowitz, a leading expert on compensation, explained that defense counsel was asking a different question than the Benowitz study was designed to answer:

> What we did in our analysis is say, well, if we look at people who [switched down to] low yield cigarettes . . ., what's the intake per cigarette? That's a different question than what you're asking. . . . [W]e asked the question what happens when you switched to a low yield cigarette, that was what we analyzed. . . . We just made the observation that per cigarette the intake of nicotine stayed the same. That's on the face of it valid. . . . Does a lower yield product deliver the same amount as higher yield product? This study says yes, it can deliver [] exactly the same amount.

Dr. Benowitz added that the approach suggested by defense counsel would have been appropriate for a randomized study, which was not the kind of study conducted by Dr. Benowitz. Benowitz TT, 11/2/04, 4763:19-4764:25; 4766:9-21; 4767:10-23; see also Benowitz TT, 11/2/04, 4768:19-4769:10 (disagreeing with defense counsel's suggested approach, stating "[w]ell, that's addressing a different question," and stating that "[i]f the question is people who switch product, does their exposure per cigarette change? Then you don't need a control group [,which defense counsel suggested including in the analysis]. You can say that it doesn't change. It depends on what question you're asking, and we were asking [that] question").

3675. Forced Brand Switching Studies. Explaining forced brand switching compensation studies, Dr. Benowitz testified that, although they do not customarily show 100%

compensation, this is likely due to the act of forcing participants to switch brands:

> [S]mokers are switched only for the purpose of the research. Motivation and cigarette acceptability differ from the natural situation of brand switching. . . . The forced brand switching studies show on average about eighty percent compensation. . . . **Presumably compensation is not complete because the smokers have been switched to cigarettes that were not of their own choosing**.

Benowitz WD, 68:6-21; 70:19-24 (emphasis added).

3676. Cross-Sectional Studies. Dr. Benowitz noted that cross-sectional studies also lead to the conclusion that compensation is essentially complete:

> Cross-sectional studies involve sampling smokers in the general population who are smoking their own chosen brand of cigarettes . . . . show that there is very little difference in tobacco smoke exposure in people smoking cigarettes with different machine-determined yields. . . . There have been many cross-sectional studies performed, and overall they demonstrate that while there are some differences in nicotine exposure when high- and low-yield cigarette brands are compared, these differences are quite small. . . . Cross-sectional studies show nearly 100 percent compensation.

Benowitz WD, 66:9-68:5.

3677. Both Drs. Burns and Benowitz testified that – in cross-sectional studies where the participants themselves choose the tar level of their cigarettes – there is a "very shallow slope" or "very tiny slope across the range of tar and nicotine" comparing the nicotine intake of smokers of various tar levels, demonstrating that smokers who smoke cigarettes of widely varied FTC tar levels are ingesting similar amounts of nicotine. This is an indicator that compensation is essentially complete. As Dr. Burns explained, the fact that lower tar smokers may show, on the whole, slightly lower levels of nicotine than higher tar smokers does not mean that the lower levels are the result of the type of cigarette, but instead indicates that the nicotine quota of smokers able to smoke lower tar cigarettes is customarily lower:

> The effect is one that one would expect to be present as a small slope, since one would expect that high yield smokers would be likely to have higher nicotine levels and that the very lowest yield cigarette smokers would be there because they don't need much nicotine. **That's independent of the brand of cigarettes they smoke. That's why they chose those brands. It's not an effect of the brand that they smoke**. And so **you would expect to see a small slope. The fact that the slope is as small as it is suggests that . . . there is full compensation on a population level when people in the natural setting move from one brand to another.**

Dr. Benowitz testified that his 1983 study, which showed this "very shallow slope," had been "replicated [in]numerable times by other scientists," and that "those studies show basically the same picture, that there's a very shallow slope between the machine yield and cotinine levels." Burns TT, 2/16/05, 13541:8-13542:14; Benowitz WD, 67:10-18 (discussing his 1983 cross-sectional study); Benowitz TT, 11/1/04, 4564:13-15; Benowitz TT, 11/2/04, 4826:13-4827:5; see also Burns TT, 2/16/05, 13547:7-11 (indicating that the Gori and Lynch compensation study "was presented and examined in [Monograph 13] by Dr. Benowitz and was part of the data that was examined in that chapter that reached the conclusion that compensation was essentially complete").

3678. Defendants failed to call a witness at trial qualified to challenge the testimony of Drs. Benowitz, Burns, Henningfield, and Farone regarding smoker compensation. Instead, Joint Defendants relied upon tobacco industry scientist Michael Dixon, PhD, an employee of BATCo, one of the Defendants in this case, to testify as an expert in "human smoking behavior." Dr. Dixon, however, lacks qualifications to be able to testify credibly about smoker compensation. Dr. Dixon is not a medical doctor or an epidemiologist, but rather holds a PhD in respiratory physiology. Dr. Dixon testified that he is "not an expert on whether or not there is a reduction in health risks by switching down to a lower FTC-rated cigarette." Furthermore, by his own admission, Dr. Dixon is not an expert in addiction, is not qualified to testify regarding the

addictive properties of nicotine, and has never been accepted in a court of law as an expert on addiction. Dr. Dixon further admitted that nowhere in his written direct examination did he even mention the subject of nicotine addiction. He has not published any articles on the subject of nicotine addiction, and there is nothing in the record to suggest that he has published a single peer-reviewed publication on any subject. Without any expertise in nicotine addiction, Dr. Dixon's testimony as to whether nicotine addiction drives smokers to compensate is not entitled to any weight. In fact, Dr. Dixon's opinion that smokers compensate for tar is contradicted by the testimony of Jeffrey Wigand, former B&W Vice President of Research and Development from 1989 to 1993, who testified that the notion that smokers compensate for tar was "not my understanding within the context of my work at Brown & Williamson." The education, training, and professional qualifications of Drs. Benowitz, Henningfield, and Burns are far superior to that of Dr. Dixon. They are more credible witnesses than Dr. Dixon. Dixon WD, 2:1-8; 3:1-9; Dixon TT, 3/9/05, 14917:5-9; 14960:16-14961:7; 14997:6-15001:11; Wigand TT, 1/31/05, 11646:24-116474.

3679. Dr. Dixon also appears to have both professional and financial motives for giving testimony favorable to Defendants. He has worked for various tobacco companies for nearly 25 years, currently is paid approximately $160,000 per year in salary and bonus by one of the Defendants in this case (BATCo), and owns roughly 1,600 shares of BATCo stock. As part of his employment, Dr. Dixon occasionally spends over half his time giving testimony and working with BATCo lawyers. Dr. Dixon further admitted that the fact that he had done "a very good job in testifying" had been mentioned in his performance appraisal. Dixon TT, 3/9/05, 14955:2-11; 14975:14-18; 14982:5-14; 14985:23-14986:18; 14987:22-14988:23; 14991:11-14992:22; 14995:1-17; accord 321155579-5580 at 5579 (US 46683) (A) (Hugh Honeycutt, former B&W

Director of Research Services and Analytical Research, describing Dr. Dixon on March 26, 1999 as a "full-time litigation witness").

3680. Defendants also called a statistician, William Wecker, who has "never been qualified by a Court as an expert on the issues of addiction or compensation," has never published a peer-reviewed article related to addiction or smoker compensation, and is not even aware of why smokers compensate. Dr. Wecker admitted that Dr. Neal Benowitz, on the other hand, "is a seminal researcher on the issue of compensation." Wecker TT, 3/15/05, 15649:22-23; 15651:7-11; Wecker TT, 3/16/05, 15725:9-12; 15725:4-6.

3681. Dr. Wecker offered opinions based on an **unpublished** statistical analysis he performed in which he examined **only select portions** of some of the cross-sectional studies analyzed in Chapter 3 of Monograph 13 on cigarettes in certain tar ranges corresponding to RJR cigarettes. Wecker TT, 3/16/05, 15728:6-15729:19; 15743:9-15746:17 (indicating his calculations included only portions of some of the cross-sectional studies analyzed in Monograph 13, because his analysis was prepared for another case confined to RJR cigarettes within a certain range of tar and nicotine delivery).

3682. Dr. Wecker's testimony on smoker compensation is not credible. As Dr. Benowitz explained, the 47% compensation figure arrived at by Dr. Wecker simply is not consistent with the numerous cross-sectional studies on compensation:

> **If there's [roughly] 50 percent compensation**, it would mean that the person at the low end would be taking more, but only half as much as if it was full compensation. So what we would be seeing instead of a shallow slope that has 15 or maybe – – even if it was 23 percent, as we talked about as a slope, **you would be seeing a slope that is quite substantial. . . . and that's just not been seen in any of the data. Not my data**. And I have to say that besides the Gori study, **there have been six or eight or ten other studies that have looked at the same question and they all show very similar shallow slope** or most of them do.

Benowitz TT, 11/2/04, 4824:13-4826:11; Wecker TT, 3/16/05, 15725:20-22 (discussing 47% figure).

3683. In addition, Dr. Wecker was largely unable to provide a satisfactory explanation for the numerous errors and discrepancies between the demonstrative of calculations Dr. Wecker provided to the Court and his underlying data for those calculations in arriving at the 47% figure. Wecker TT, 3/16/05, 15730:21-15731:12; 15733:13-15735:23; 15741:16-15743:8; (no bates) (US 93178) (A) ("Tab 20" – Dr. Wecker's underlying calculations).

3684. Defendants also sought to support their contention that compensation is not complete through the testimony of Joseph Mulholland, an FTC staff economist. Dr. Mulholland (noting specifically that the FTC, although it has looked at compensation, has not taken a position on the issue) testified that, in his personal view, he did not agree with the conclusions of Monograph 13 in regard to compensation and that compensation is not complete for a majority of smokers. Mulholland WD, 19:3-5, 10-11, 19:18-20:13, 21:5-14; Mulholland TT, 4/25/05, 19886:17-19887:8, 19887:18-19888:4, 19892:3-7, 19943:16-19945:1. While the Court acknowledges Dr. Mulholland's extensive knowledge and experience as a **staff economist** concerning certain smoking-related issues, for the reasons set forth in Section III.D(4)(a), Dr. Mulholland's testimony in this regard is marginally, if at all, relevant, and does not begin to overcome the overwhelming testimony presented by the United States, through its qualified and knowledgeable experts and Defendants' own documents, that smoker compensation has effectively nullified any possible health benefits arising from the sale of low tar cigarettes.

(i) Tobacco Institute

3685. When the FTC Method was adopted, the Tobacco Institute offered several criticisms in an August 1, 1967 press release, but none of the criticisms had to do with smoker

compensation. Instead, the Tobacco Institute criticized the number of cigarettes tested, the length of the cigarette smoked, and the lack of dissemination of tar yields per cigarette puff. The Tobacco Institute stated that "there is no valid scientific evidence to show that . . . ‘tar' and nicotine [] are responsible for any human illness" and then, in what now can be recognized as a classic diversionary move, went on to propose several changes to the FTC Method, most of which were based on claims that FTC tar and nicotine yields were **inaccurately high**. The Tobacco Institute argued that twice as many sample cigarettes should be tested to arrive at FTC yields, that the FTC Method should use a longer butt-length (which would have lowered FTC tar and nicotine yields by smoking less of the cigarette), and that tar and nicotine yields should be disclosed on a per-puff, as well as a per-cigarette, basis. In this context, the Tobacco Institute contended that the FTC Method "may be deceptive because a smoker may assume his cigarette is delivering the amount of ‘tar' and nicotine reported by the FTC **when in fact it will be delivering much less**, the way he smokes." TIMN0120846-0849 at 0847-0848 (US 87967) (O) (emphasis added).

3686. A January 8, 1981 Tobacco Institute document entitled "Health Effects of Smoking Low Tar, Low Nicotine Filter Tipped Cigarettes" summarized several meetings, most notably a June 1980 scientific meeting convened by "the Office of Smoking and Health of the Department of Health and Human Services" that was anticipated to "most likely be the backbone and meat of the Surgeon General's 1981 Report to Congress." Despite the document's indications that the meeting's participants' understanding of the potential for smoker compensation was incomplete and limited compared to that of Defendants (evidenced by Defendants' extensive documentation of compensation predating this meeting, described infra), the report's "Opinion and Recommendations" stated: "From the industry's point of view, there would appear to be no

need for any particular statement to be made, because the evidence is still coming in and it would be premature to make such a statement." Regarding discussion of compensation at the scientific meeting, the report stated merely that "there have been claims that smokers alter their smoking technique depending on the type of cigarette they choose to smoke" and that, "[w]hile much of the information on this issue is anecdotal and limited, questions and claims are likely to continue." TIMN 0133721-3734 at 3723, 3724, 3730, 3732 (US 85125) (A).

(ii) Philip Morris

3687. In a March 24, 1961 Philip Morris memorandum from Wakeham to Hugh Cullman , "Trends of Tar and Nicotine Deliveries over the last 5 Years," Wakeham stated: "As we know, all too often the smoker who switches to a hi-fi cigarette winds up smoking more units in order to provide himself with the delivery which he had before." Dr. Burns explained that this exhibit "indicated that the companies knew that smokers were smoking to derive a fixed amount of nicotine and would change their smoking behaviors (compensate) to preserve that intake of nicotine when cigarettes were modified to deliver a lower dose of nicotine under machine smoking protocols. 1000861953-1953 (US 35484) (A); Burns WD, 465:15-20; see also Farone WD, 104:16-105:9 ("[T]his research into and understanding of compensation influence[d] how Philip Morris designed cigarettes").

3688. As Philip Morris marketing researcher Myron E. Johnston noted in a June 1966 Philip Morris report entitled "Market Potential for a Health Cigarette": "[A]ny health cigarette must compromise between health implications on the one hand and flavor and nicotine on the other. It seems clear from the performance of existing health cigarette entries that flavor and nicotine are both necessary to sell a cigarette. **A cigarette that does not deliver nicotine cannot satisfy the habituated smoker and cannot lead to habituation, and would therefore almost**

certainly fail." 1001913853-3878 at 3860 (U.S. Ex. 20123) (A) (emphasis added).

3689. A July 28, 1967 Philip Morris USA memorandum from W.L. Dunn, Jr., then Associate Principal Scientist, to R.B. Seligman, Director of Development, admitted that cigarette ventilation holes (which are supposed to lower tar yields) were placed where they would be covered up by smokers (thus increasing tar delivery), but not by machine smoking methods such as the FTC Method:

> An earlier study (Memo of June 27, 1967) established that lip contact with the tipping paper extended to 9.96 mm from the outer end of the tipping paper for the average smokers. Since the air dilution holes are located in a band from 8.0 to 9.7 mm from the outer end of the tipping paper, it follows that some of these holes are likely to be occluded under normal smoking conditions, whereas no occlusion is likely to occur when the cigarettes are machine smoked for analysis.

The memorandum also documents Philip Morris USA's awareness of compensation for nicotine delivery, postulating that "[s]mokers adjust puff intake in order to maintain TPM and/or nicotine constancy." 1003295500-5502 at 5500, 5502 (US 88627) (O).

3690. An August 11, 1967 Philip Morris USA document from Helmut Wakeham, Director of Research and Development, to Paul D. Smith, Vice President and General Counsel, stated that human smokers increased their smoke intake when switching from non-filter to filter cigarettes, in the process receiving the same amount of tar and nicotine from filter cigarettes as from non-filter cigarettes and rendering machine-smoking tar and nicotine yields for low tar cigarettes "erroneous and misleading":

> Two tests conducted at Product Opinion Laboratories demonstrate that in smoking a dilution filter cigaret, the smoker adjusts his puff to receive about the same amount of ‘undiluted' smoke in each case. . . . In the smoking machine the puff volume is constant so that with dilution the quantity of ‘equivalent undiluted smoke' delivered to the Cambridge filter is reduced. Not so with the human smoker who appears to adjust to the diluted smoke by

> taking a **larger puff** so that he still gets about the same amount of equivalent undiluted smoke. . . . The smoker is, thus, apparently defeating the purpose of dilution to give him less ‘smoke' per puff. He is certainly not performing like the standard smoking machine; and to this extent the smoking machine data appear to be erroneous and misleading. It has probably always been so for diluted smoke cigarettes, whether dilution is obtained by porous paper or holes in the filter.

1000322554-2555 (US 35224) (A) (emphasis in original); see also Dr. Jerry Whidby WD, 17:16-19:11 (testifying that "Product Opinion Laboratories was a facility established by Philip Morris to evaluate smokers' reaction to the cigarette brands Philip Morris was selling, as well as to Philip Morris's prototype cigarettes," and that he is not "aware of any instance, at any time between when Dr. Wakeham wrote this document in 1967 and when [Dr. Whidby] left the company in 1998, in which Philip Morris informed the American public directly of Wakeham's conclusions that the FTC tar and nicotine yields are apparently 'erroneous and misleading,'" and "dilution filter cigarettes generated lower FTC yields than non-dilution cigarettes, but delivered about the same amount of smoke to smokers").

3691. Dr. Farone provided the following testimony about the significance of Wakeham's statements in this document:

> It shows that Philip Morris understood the puff compensation phenomenon. This document shows that by 1967, Philip Morris recognized that when you have dilution or ventilation, the mechanism for compensation is puff adjustment. . . . this document [also] shows that Philip Morris knew in 1967 that human smokers compensated by increasing their smoke intake when switching from non-filter to filter cigarettes, and in doing so, smokers received the same amount of tar and nicotine from their filter cigarettes as from non-filter cigarettes. **It also shows Wakeham's understanding that the FTC tar and nicotine yields for low tar cigarettes are erroneous and misleading**.

Farone WD, 111:5-112:15 (emphasis added).

3692. Dr. Whidby testified that, since roughly the mid-1970s, the "vast majority of the

low tar and ultra-low tar cigarettes sold by Philip Morris in the United States . . . are dilution cigarettes." Whidby WD, 19:16-18.

3693. In an August 25, 1967 Report on Project 1600, William Dunn, Senior Scientist, outlined an additional study performed by Philip Morris on puffing, with findings that "as dilution air puff volume is decreased by lip coverage, gross puff volume is correspondingly decreased." Dunn stated that the study added "further support to the postulate that **smokers adjust puff intake in order to maintain constant smoke intake**." 1003288337-8338 at 8337 (US 85049) (O) (emphasis added).

3694. A speech in Fall 1969 to the Board of Philip Morris reported: "It would appear that **smokers do modify their smoking habits in order to obtain a preferred [nicotine] intake level**." 1003287880-7890 at 7884 (US 20163) (O) (emphasis added).

3695. A November 26, 1969 internal industry paper by Helmut Wakeham, Philip Morris Vice President of Corporate Research and Development, entitled "Smoker Psychology Research" and presented to the Philip Morris Board of Directors stated: "This great variability among smokers results from the fact that a smoker tends to seek his own level of intake. Even while smoking a single cigaret, he adjusts the volume of his puff as he goes down to the rod, compensating for the change in the density of the available smoke. . . . A smoker's intake level is determined by the smoker himself, not by the manufacturers of the cigarettes." 1000273741-3771 at 3748 (US 26080) (A).

3696. A September 2, 1970 Philip Morris memorandum from Ray Fagan to Wakeham indicated confirmed that Philip Morris's understanding was that smokers compensated for lower deliveries by smoking more cigarettes:

> In the last 15 years particulates in cigarette smoke have declined by 33%; however, the number of cigarettes per smoker has increased.

> Furthermore, experimental studies have shown that a smoker will increase the number of cigarets he smokes if the cigaret he is offered contains less particulates and less nicotine.

This Philip Morris memorandum also stated that, while the FTC Method's implicit "assumption that 'tar' is 'tar' is 'tar'" superficially "seems like a reasonable assumption, there is little reason to validate it. As a matter of fact, much of the evidence available seems to point in the opposite direction." 2022244449-4450 at 4449-4450 (US 36855) (A); Farone WD, 110:6-14; 118:9-23.

3697. A November 1971 Philip Morris Special Research Report written by Tom Schori also addressed compensation by increasing the number of cigarettes smoked. As Dr. Farone explained, "[w]hen the smokers were switched between these various cigarettes, as tar delivery decreased from that to which the smokers were accustomed, cigarette consumption increased. This resulted in a tendency for the smokers' daily intake of tar to remain constant even though the tar deliveries of the cigarettes he smoked differed markedly." The last sentence of the abstract in this report stated: "These findings support the hypothesis that the smoker does have daily intake quotas for tar and/or nicotine and that he titrates his smoke intake to meet these quotas." 1000350158-0188 at 0161-0162 (US 20176) (A); Farone WD, 110:15-111:1.

3698. A January 1972 document from Philip Morris Research Center, written by Tom Schori and William Dunn, recounted Philip Morris's evidence indicating that smokers compensated when smoking brands supplying less nicotine in order to receive their "daily nicotine intake quota," stating:

> Cigarette consumption rate, i.e., number of cigarettes smoked per day, was found to vary as a function of the nicotine delivery of these cigarettes. Specifically, as nicotine increased, cigarette consumption decreased. **These findings support the notion that smokers develop a daily nicotine intake quota and that when smoking cigarettes differing in nicotine delivery from that which they are accustomed they tend to modify their consumption rate in order to maintain their normal quota. No**

> **support was found for the analogous notion of a daily tar intake quota, however.**

1003285403-5416 at 5403 (US 20159) (A) 2062951266-1279 at 1266 (US 39723) (A) (emphasis added); Farone WD, 111:1-4 (referring to US 20159); Henningfield WD, 94:14-21 (referring to US 39723 as a "significant in terms of Defendants' knowledge and understanding of the addictiveness of nicotine from the 1970s").

3699. A May 14, 1975 Philip Morris memorandum from William Dunn to Robert Seligman, Vice President for Tobacco Science and Research, stated:

> Underlying all of our work in this area is the conviction **what the smoker gets in the way of smoke is independent of smoke concentration levels as delivered within the range of commercially available cigarettes. He has a variety of regulatory maneuvers at his disposal for accommodating supply to a fairly constant need [for nicotine]**. To monitor all of these maneuvers simultaneously is a major objective of our behavioral research program.

1000024914-4920 at 4915 (US 26072) (A) (emphasis added).

3700. Human Smoker Simulator. An August 19, 1977 Special Report from the Philip Morris USA Research Center written by Barbro Goodman, a Research Scientist, and entitled "Summary of Human Smoker Simulator Program," described Philip Morris's "Human Smoker Simulator," a mechanism Philip Morris used to replicate human smoking behavior. The Simulator recorded how smokers smoked particular cigarettes by measuring their puffing behavior, then played back the recording into a smoking machine so the machine could replicate – and then measure – the amount of smoke constituents and the chemical composition obtained from a cigarette when smoked like the human had smoked it. The document states: "**The Smoker Simulator program has the instrumentation to measure those smoker variations that constitute a smoker's puffing profile and a programmable smoking machine to**

measure the resulting tar, nicotine, and water deliveries." 1003728025-8039 at 8027 (US 20179) (A) (emphasis added); Whidby WD, 21:19-28:9; Whidby TT, 2/22/05, 13989:19-13991:6; see also 1003293476-3493 at 3484 (US 85073) (A) ("The cassette tape impulses an electronic smoking machine which **duplicates exactly the smoking behavior of a given individual with a given cigarette**. Delivery of tar, nicotine, and other smoke components can then be determined at the same conditions.") (emphasis added).

3701. This report includes a number of statements reflecting Philip Morris's understanding of smoker compensation and how smoker compensation is affected by cigarette design parameters:

> That roughly 20% or less of smokers take puffs equal to or smaller to those taken by the FTC Method machine smoking protocol.
>
> "The varying puff sizes in turn also give increased deliveries above those of" the FTC Method.
>
> "Smoker profile characteristics have been found to be affected by the cigarette design parameters to varying degrees."
>
> "A cigarette **designed such that it causes the smoker to take larger puffs** than the compared model could easily be perceived as having more impact (desirable or undesirable as the case may be)"
>
> lists low resistance to draw and "high filter dilution" as the top two "physical cigarette designs that have the effect of increasing a smoker's puff volumes."
>
> "In conclusion, when a smoker is presented with a cigarette other than his normal brand, it is possible to estimate the maximum flow rate to a certain degree. The puff duration will increase with increasing RTD [resistance to draw] and/or filter dilution. Since the volume is based on both flow and duration, the puff volume will change accordingly."
>
> Test results showing that smokers of full-flavor, light and ultralight cigarettes all took larger puffs than in the FTC Method, and that the smokers' puffs were increasingly large for lower tar cigarettes, so that, **for full-flavor smokers, "average tar deliveries were**

> **45% higher than" the FTC yields, low tar smokers' "showed a higher rate of increase, 81%," and, for ultralight cigarettes, "[t]he average tar delivery" was "more than three times that of" the FTC yield.**

1003728025-8039 at 8027, 8028, 8032, 8034, 8036, 8037 (US 20179) (A) (emphasis added); Whidby WD, 22:18-23:9; 23:17-21; 24:6-13; 25:14-18; 26:21-27:5; 27:15-28:9; see also 2025986350-6401 at 6353, 6384 (US 87080) (A); Whidby WD, 53:10-54:21 ("Preliminary results suggest that **inhalation patterns are modified in response to changes in the available nicotine** in the cigarette smoked. . . . The results from studies which analyze blood plasma and urine nicotine concentrations . . . suggest that **nicotine compensation is fairly complete**.").

3702. A September 17, 1975 Philip Morris document from Goodman to Leo F. Meyer, Philip Morris Director of Research, that reflected results of Philip Morris's studies with its Human Smoker Simulator, reported that, due to compensation, smokers got as much tar and nicotine from Marlboro Lights as from full-flavor Marlboros:

> **Marlboro Lights cigarettes were not smoked like regular Marlboros**. There were differences in the size and frequency of the puffs, with larger volumes taken on Marlboro Lights by both regular Marlboro Smokers and Marlboro Lights smokers. . . . The panelists smoked the cigarettes according to physical properties; i.e., the dilution and the lower RTD of Marlboro Lights caused the smokers to take larger puffs on that cigarette than on Marlboro 85's. The larger puffs, in turn, increased the delivery of Marlboro lights proportionally. **In effect, the Marlboro 85 smokers in this study did not achieve any reduction in smoke intake by smoking a cigarette (Marlboro Lights) normally considered lower in delivery**.

The report's "Conclusions" section noted that "**[t]he smoker data collected in this study are in agreement with results found in other project studies**." 2021544486-4496 at 4486-4488 (US 20348) (A) (emphasis added); see also Farone WD, 113:11-20 (indicating that US 20348 "supports my point – shown in other documents as well – that where a 'light' version of a brand

varies in limited ways from its full flavor counterpart, compensation will cause the smoker to take in basically the same amount of toxins."); see also Whidby WD, 45:11-12 (noting, in the context of this exhibit, that "Marlboro 85's" refers to Marlboro Reds, a full-flavor cigarette brand).

3703. As Dr. Burns explained, "there are three things that are powerfully significant in this document":

> (1) It "very clearly demonstrates that, in contrast to what we believed six years later when we wrote the 1981 Surgeon General's Report, smokers who smoked brands of cigarettes on the market in 1975 were not getting different yields when they smoked those products. We [in the public health community] believed they were."
>
> (2) "[T]his is dated 1975, six years prior to the time the [1981] Surgeon General's Report reached its conclusion. And we did not have access to this information or comparable information."
>
> (3) "[T]his study was done on a machine that mimicked actual smoking behaviors, that actually matched the behavior of the individual when the machine smoked the cigarette. In 1981, one of the recommendations that we made . . . was that this type of machine should be developed so that we could develop a better understanding of the relationship between delivery of tar and nicotine of these cigarettes when they were actually smoked. So . . . six years prior to the time we were reviewing that evidence for the Surgeon General, this information was available to Philip Morris."

Burns WD, 52:15-53:12.

3704. Only two other Philip Morris Human Smoker Simulator reports compared the deliveries of the full flavor and light versions of brands Philip Morris was selling. These other studies compared the smoking behavior of smokers smoking Philip Morris's Marlboro Red (full-flavor) and Marlboro Lights brands. One was conducted on January 3, 1975, and did not measure tar and nicotine delivery through the Human Smoker Simulator. The other, dated

September 23, 1976, measured the smoking behavior – and resulting tar and nicotine deliveries – of 150 regular cigarette smokers for several years. This Human Smoker study's results revealed that, while Marlboro 100s are both full-flavor cigarettes and longer in length than Marlboro Lights, "the tar and nicotine yields for these two brands are basically identical." Whidby TT, 2/22/05, 14099:12-14106:6; 14106:15-14107:1; 1003727277-7298 at 7280, 7281, 7290 (JD-040539) (A).

3705. Seeking to downplay the significance of these reports, Dr. Whidby offered generalized testimony about the results of the September 17, 1975 and September 23, 1976 studies in conjunction with 13 other Philip Morris Human Smoker Simulator studies. From this set of studies, Dr. Whidby offered his lay opinion that cigarettes in general with increased filtration and dilution and increased resistance to draw are "associated with" reduced delivery to human smokers. However, when asked whether the 15 studies "are the[] only reported human smoker simulator studies by Philip Morris," Dr. Whidby replied, "I don't think they are, no." Moreover, Dr. Whidby also acknowledged that "a lot of [the other 13 studies] use[d] experimental cigarettes," as opposed to the cigarettes Philip Morris sells, including experimental cigarettes that "had different circumferences" and cigarettes with "added nicotine." In light of this, the Court finds that the studies measuring the relative deliveries of the full-flavor Marlboro and Marlboro Light cigarettes that Philip Morris sold in the United States are most probative, and these studies reveal that the Marlboro and Marlboro Lights brands had comparable yields as measured by the Human Smoker Simulator. Whidby TT, 2/22/05, 14075:8-14; 14076:16-23;14073:10-16; 14087:20-14088:18; 14089:23-14091:4; 14091:18-14092:2; 14099:1-11.

3706. Dr. Whidby testified that, in 1978, Philip Morris changed the filter on its Marlboro Lights cigarette to a filter with increased resistance to draw. However, while Philip

Morris conducted Human Smoker Simulator studies after this filter change until at least 1980, Philip Morris failed to introduce any Human Smoker Simulator studies or other evidence approximating the relative deliveries to smokers of Marlboro full-flavor and Marlboro Lights after the filter change. Philip Morris also failed to provide evidence of whether Philip Morris made other changes to Marlboro Lights in concurrence with or in addition to the changed filter. As a result, there is no evidence indicating that the delivery to human smokers of the Marlboro Light cigarette with a changed filter relative to the Marlboro full-flavor brands would be substantively different than that represented in the September 17, 1975 and September 23, 1976 studies depicted above. Whidby TT, 2/22/05, 14066:24-14067:19.

3707. A Philip Morris Report dated July 20, 1981 with the heading "Philip Morris USA Research Center," written by Frank Gullotta and J.A. Jones and sent to William Dunn and 40 others, including Dr. Whidby, described Philip Morris's Human Smoker Simulator program as "a system . . . which **permits relatively unobtrusive monitoring of a smoker's inhalation patterns outside the laboratory setting**," and indicated that "the **system's accuracy was highly satisfactory throughout the experiment**" and had "a mean accuracy reading of 96% . . . for 70 experimental sessions." The Report also indicated:

> A major barrier to investigations on smoke-laden inhalation patterns has been the lack of instrumentation which would accurately measure inhalation parameters, and yet be unobtrusive to the smoker. **The system we have acquired breaks this barrier by permitting accurate and relatively unobtrusive monitoring of inhalation patterns under natural smoking conditions.**

Dr. Whidby, a former long-time employee and current paid consultant for Philip Morris, contended that the Human Smoker Simulator was obtrusive and inaccurate or had other limitations, but the Court finds that Dr. Whidby's testimony is contradicted by the statements in this Philip Morris Report, which Dr. Whidby admitted "was written about the time that Philip

Morris shut down the human smoking simulator program." 2025986350-6401 at 6352-6353, 6382 (US 87080)(A) (emphasis added); Whidby TT, 2/22/05, 14001:3-25; 14060:10-14061:14; ;14107:2-21; 14107:25-14108:6.

3708. Dr. Whidby testified that, after 1981, roughly when Philip Morris stopped doing testing with the Human Smoker Simulator, Philip Morris did not use the Human Smoker Simulator or any other method to simulate how human smokers smoke. Since it discontinued the Human Smoker Simulator research, "Philip Morris hasn't developed any other machine testing method that is better than the FTC method at approximating human smoker intake." Whidby TT, 2/22/05,13991:15-13992:13.

3709. A May 1976 study prepared for Philip Morris by The Roper Organization, Inc., stated: "There is some evidence that two criticisms of low tar brands – fast burning and hard to draw on – translate into more smoking once someone has switched to a low tar brand. . . . Low tar smokers were much more inclined than smokers of other types to say they are smoking more." 2024921314-1612 at 1349 (US 20403) (A).

3710. A March 1, 1977 Philip Morris memorandum from Stanley Schachter to Thomas Osdene, Director of Research, shows that Philip Morris had a clear understanding of compensation for nicotine. Among the conclusions were: "Serious smokers smoke to prevent withdrawal. **Smokers regulate nicotine intake** . . . . The smoker who fails to regulate suffers withdrawal." 1000046626-6661 at 6654-6655 (US 35105) (O) (emphasis added).

3711. Philip Morris research in 1977 and 1979, using smoking machines puffing with parameters that simulate how humans puff their cigarettes, showed that the actual yield of tar and other tobacco constituents was substantially higher than that predicted by the FTC standard smoking machine method. The discrepancies were greater for cigarettes with low FTC tar

values, consistent with the concept of compensation. 1003728025-8039 (US 20179) (A).

3712. A January 1979 study prepared for Philip Morris by Goldstein/Krall Marketing Resources, Inc., stated:

> [R]espondents tended to say that they thought they were smoking a greater number of cigarettes. **This might be attributed to the presumed need to compensate for less taste and tar and nicotine** . . . . It should be pointed out that respondents also verbalized that they were ‘smoking less', but from the standpoint of less tar and nicotine, not frequency . . . [F]urthermore, many respondents feel they are smoking less in the sense that they are taking in less tar and nicotine as a result of smoking ultra low tar cigarettes. Also, there seemed to be some feeling that more cigarettes could be smoked with less harm because of significantly lower tar levels . . . the likelihood of ultra low tar smokers taking another step and stopping does not seem great. There appears to be a concept involved that might be called ‘limiting' . . . It could be hypothesized that a potential next step, if taken at all, would be to limit the number of cigarettes they smoke. But since they seem to feel somewhat safer and freer about smoking and in some respects, may be compensating for a lack of taste, they could actually be smoking a larger number of cigarettes per day.

2040066740-6766 at 6750-6751, 6754-6755 (US 20435) (O).

3713. An October 16, 1981 memorandum from Jan Jones to William Dunn entitled "Nicotine Retention Research Proposal" stated:

> Research on smoke-laden inhalation patterns, using the ambulatory monitoring instrumentation, has provided preliminary evidence that **inhalation behavior is modifiable, and is altered as a function of changes in the nicotine delivery of the cigarette**. We are observing changes in inhalation parameters in the direction which **would suggest compensation for increases or decreases in nicotine relative to the subject's usual brand**.

1000136372-6373 at 6372 (US 35162) (O) (emphasis added).

3714. In a March 2, 1992 Philip Morris memorandum, "Menthol Full Flavor Vs. Low Tar Qualitative Study," Shari Teitelbaum reported on the results of a study conducted to "understand the awareness, attitudes and perceptions that African-American full flavor menthol

smokers have toward low tar menthol cigarettes." Teitelbaum reported that "[t]hose who had tried a light menthol cigarette were dissatisfied with the taste. Many felt they would have to smoke more cigarettes to get similar satisfaction. Here, it is possible that economic concerns partially influence their choice of full flavor cigarettes (i.e., 'more bang for the buck')." Teitelbaum further reported that, among these consumers, "low tar menthol cigarettes were considered to be for women and people who want to quit." 2071376833-6834 at 6833 (US 27273) (O).

3715. In a November 29, 1982 report, "The Effect of Cigarette Nicotine Content on Smoker Puff Parameters and Deliveries," Philip Morris scientists reported the results of their study of "puff number, puff volumes, puff durations, flow rates and puff intervals," which showed smokers "generally tended to decrease puff duration, puff number and puff volume and increase puff interval as the nicotine level of the cigarette increased." 1000408760-8809 at 8762, 8764, 8771 (US 35272) (O).

3716. Carolyn Levy, a research scientist for Philip Morris in its Behavioral Research Group from 1975-1980, testified that she "worked on the issue of whether individuals regulated the amount of nicotine they obtained from smoke," and as part of that work she "monitored how smokers inhaled smoke from cigarettes with varying tar and nicotine deliveries." Levy further testified that, as a result of this research, she was able to "gather evidence that some people change their smoking behavior in response to cigarettes with differing tar and nicotine deliveries." Levy testified that, when she requested publication: "I was told not to publish or was not given approval to publish by the manuscript review board." Levy WD, 10:16-11:15.

3717. A July 29, 1987 Philip Morris document with a September 2, 1987 transmittal note from INBIFO, Philip Morris's research facility in Germany, from Wolf Reininghaus,

General Manager of Contract Research at INBIFO, to Walter Fink, Philip Morris researcher, concluded that reduction in tar levels would, at a certain point, deprive smokers of the necessary quantum of nicotine to satisfy an addicted smoker: "Any future reduction of tar levels will come into conflict with a twofold limit, as 1) a minimum amount of nicotine is needed for the smoker's satisfaction (ca. 0,8 mg/cig) and (2) there exists a maximum concentration of nicotine in smoke to let the taste of the latter unaffected [sic] (less than 10%)." 2023186690-6690A (US 20379) (O).

3718. A September 12, 1995 Philip Morris memorandum from Shelby Rafferty and Lauren Steen, "Menthol Launch Meeting Recap," discussed a meeting held regarding the anticipated launch of Parliament Menthol Lights cigarettes. Under the heading "Prototype Development Status," the memorandum stated: "While current analytics may target Newport menthol levels, **it was stressed that as cigarettes can be smoked subjectively higher or lower, consumer perception and subjectivity should drive product formulation, rather than numbers alone**." 2063726692-6694 at 6692 (US 27142) (O) (emphasis added).

3719. Discussion points in a January 13, 1997 document prepared for Denise Keane, Philip Morris General Counsel, to use in describing Philip Morris's opposition to changing the FTC test methodology stated, under the heading "Weakness in PM argument: Original methodology was an attempt to match then-current market – non-filter smokers. **Puff volume has probably increased as [FTC tar and nicotine yields of] products on market decreased**." 2074759497-9499 at 9497 (US 43525) (A) (emphasis added).

3720. A November 1999 presentation entitled "PM USA Discount Brands," given to Geoffrey Bible, Chairman of the Board and CEO of Philip Morris Companies, noted in a Product Comparison chart that Ultra Light products have a higher puff count than Full Flavor products.

2070662118-2389 at 2176 (US 87914*) (O).

(iii) RJ Reynolds

3721. In a March 28, 1972 memorandum marked "RJR SECRET" from Claude Teague to E.A. Vassallo and Murray Senkus, entitled "A Gap in Present Cigarette Product Lines and an Opportunity to Market a New Type of Product," Teague stated: "I believe that for the typical smoker nicotine satisfaction is the dominant desire, as opposed to flavor and other satisfactions." The document went on to state: "**Given a cigarette that delivers less nicotine than he desires, the smoker will subconsciously adjust his puff volume and frequency, and smoking frequency, so as to obtain and maintain his per hour and per day requirement for nicotine (or, more likely, will change to a brand delivering his desired per cigarette level of nicotine)**." Teague further stated:

> **[R]egardless of which cigarette the smoker chooses, in obtaining his daily nicotine requirement he will receive about the same daily amount of tar**. If, as claimed by some anti-tobacco critics, the alleged health hazard of smoking is directly related to the amount of tar to which the smoker is exposed per day, and the smoker bases his consumption on nicotine, then **a present 'low tar, low nicotine' cigarette offers zero advantage to the smoker over a regular filter cigarette**, but simply costs him more money **and exposes him to substantially increased amounts of allegedly harmful gas phase components in obtaining his desired daily amount of nicotine**.

The document ends with the statement that "**[t]he thoughts and philosophies expressed above come from many sources and certainly are not solely those of the writer**." 500790776-0784 at 0778, 0782-0784 (US 29473) (O) (emphasis added).

3722. A document entitled "Smoking Satisfaction" and labeled as a "[t]alk delivered to RJR Tobacco Company management, June 23, 1974 and RJR Tobacco International management, August 4, 1976" by Murray Senkus, Director of Scientific Affairs for RJR until

1979, stated

> [T]he amount of nicotine that one can get in the lungs from low tar cigarettes is much less. So **the smoker then resorts to other means to get the nicotine he needs in the blood** from low tar cigarettes by longer puffs, by bigger puffs, by more frequent puffs, and also by smoking more cigarettes each day. It has been observed that as one switches from a non-filter to a filter, one smokes more cigarettes per day. But eventually **one can change his style of smoking so one can get enough nicotine in the blood during the inhaling step** by changing the smoking style; i.e. longer puffs, bigger puffs, and more frequent puffs. Surveys have shown that in switching to lower tar cigarettes, smokers have not necessarily increased the number of cigarettes per day.

501525355-5366 at 5360-5361 (US 29531) (O) (emphasis added).

3723. Senkus, in a speech he gave at RJR in late 1976 and early 1977, "Some Effects of Smoking," demonstrated RJR's knowledge that smokers compensate for lower delivery cigarettes to obtain their required nicotine level, and confirmed that the other Defendants also knew this:

> **[T]here are ways to increase or decrease the amount of nicotine one can obtain by smoking a single cigarette**: One can take a deeper puff or shallower puff. . . . One can puff more frequently or less frequently. . . . One can take a deeper puff and hold the smoke in the lungs longer before exhaling to assure complete transfer of nicotine into the body fluids. **Without any question, the desire to smoke is based on the effect of nicotine on the body** . . . . [T]he amount of nicotine that one can get in the lungs from low tar cigarettes is much less. So the smoker then resorts to other means to get the nicotine he needs in the blood from low tar cigarettes, by longer puffs, by larger puffs, by more frequent puffs, and also by smoking more cigarettes each day. One can get enough nicotine into the blood during the inhaling step by changing the smoking style; i.e., longer puffs, bigger puffs, and more frequent puffs . . . . **It is worth noting that our competitors are aware of the significance of the quality and quantity attributes of nicotine**. Moreover, they are fully aware of the advisability of maintaining a low tar value and also maintaining the nicotine as high as possible [referring to Philip Morris's Marlboro and Merit, and Lorillard's True brand].

500251711-1722 at 1714,1718, 1720 (US 48076) (A) (emphasis added).

3724. In an April 5, 1982 RJR report from J.H. Robinson and J.H. Reynolds to Dr. D. Werner, the authors admitted that the nicotine delivered under human smoking conditions was "more than 200% higher" than advertised, stating that "**the smoker can adjust his puffing characteristics to obtain the same level of nicotine from different cigarettes. This represents the first concrete evidence that smokers compensate to obtain a consistent amount of nicotine**. Relevant to this, it should be noted that all cigarettes experienced a marked reduction in nicotine filter efficiency under human smoking conditions compared to the nicotine filter efficiencies obtained under standard FTC conditions." 508028982-8984 at 8983 (US 85053) (O) (emphasis added).

3725. A May 11, 1983 RJR R&D Project Outline drafted by J.H. Reynolds and entitled "Smoke Component Dose" stated:

> To properly assess the sensory, physiological or psychological responses of smokers to products it is necessary to accurately determine the doses of smoke/tobacco components to individuals. Since the dose to an individual is dependent on his or her smoking behavior (e.g., puff volume, frequency, duration, etc.), measurement and understanding of the effects of these behaviors on smoke delivery must be accomplished.

In the "Action Plan" section of the outline, Reynolds encouraged the development of an improved human-mimic smoking machine. 519192755-2756 at 2755 (US 80230) (O); 506047899-7900 at 7899 (US 85054) (O).

3726. A July 25, 1983 memorandum entitled "Critique of Smokers of Low-Yield Cigarettes do not Consume Less Nicotine" to Alan Rodgman from John Robinson, RJR's Principal Scientist in psychopharmacology – which critiqued an article written by Dr. Neal Benowitz showing that smokers compensate to obtain a stable nicotine dose in their bloodstream – stated:

> **The paper itself expresses what we, in behavioral, have 'felt' for quite some time. That is, smokers smoke differently than the FTC machine and may very well smoke to obtain a certain level of nicotine in their bloodstream**. If a given level of nicotine in the blood is the final goal of a smoker, one would predict that he would smoke an FFT and ULT cigarette differently. If the smoker could obtain the same nicotine in his bloodstream from an FFT and ULT cigarette by modifying his puffing/inhaling pattern, it would be expected that the blood cotinine level would be the same after smoking either cigarette on a regular basis . . . the data reported in this paper remind us of the HMSM experiment done with the German Camel and Marlboro cigarettes. While there were certain imperfections in this experiment, you may recall that the smokers apparently obtained almost exactly the same amount of nicotine no matter which of the four cigarettes they smoked. This was one of the first indications that smokers may, in fact, smoke to obtain a certain level of nicotine in their bloodstream. **Data like these made me feel that the data reported in this current publication are probably correct**.

502680871-0871 (US 49198) (A) (emphasis added); Henningfield WD, 53:6-54:6 (explaining that this exhibit shows that "[t]he Benowitz study [reviewed in this exhibit] confirmed what the industry already understood"); see also 508978013-8025 at 8014 (US 20819) (O) (acknowledging that smokers who switched to low-tar products typically "compensated," and indicating that a smoker "has his or her own nicotine requirement from each cigarette" and "adjusts [his/her] smoking maneuver" to obtain the desired level of nicotine").

3727. Although RJR's internal documents reveal the company's extensive knowledge of smoker compensation, RJR knew that consumers did not have similar knowledge. A December 16, 1988 RJR marketing presentation noted that inquiry of a focus group of Canadian smokers found that they had "no understanding of compensation." 650900829-0849 at 0840 (US 20951) (O).

(iv) Brown & Williamson

3728. Dr. Jeffrey Wigand, who was B&W's Vice President of Research and

Development from 1989 to 1993, testified that, during his employment at B&W, "[c]ertainly everyone in my research and development department was well aware of compensation. Indeed, it was a design consideration that played a central role in all of the cigarettes manufactured at B&W as well as the other BAT Cigarette Affiliated Companies." He explained that the term "compensation," as it was used at B&W, meant "smokers manipulating their smoking behavior **to achieve their optimum nicotine reward.**" Dr. Wigand added: "B&W was aware that smokers would typically modify their smoking behavior in order to obtain their desired level of nicotine." Wigand WD, 8:11-17; 120:5-17 (emphasis added).

3729. Dr. Wigand added that, while a BATCo document indicated that tar was a secondary factor in smoker compensation, it was "not [his] understanding within the context of [his] work at Brown & Williamson" that smokers compensate for tar, stating "the primary reason for compensation is for nicotine." Dr. Wigand added that "the belief of Brown & Williamson" during his employment was that "the reason people compensate is to meet their nicotine burden. . . . [B&W] believed that the way people compensated was to obtain their dose of nicotine. And that was our [referring to B&W] preoccupation was how to deliver nicotine." Wigand TT, 1/31/05, 11646:24-11647:23; 11651:25-11652:18; 11654:22-11655:17.

3730. Dr. Wigand also explained B&W's understanding that smokers compensate to satisfy a "nicotine burden," as opposed to compensating for tar:

> [Y]ou wouldn't compensate for tar, because tar gives you no benefit. You really, when you want to compensate is you have a **nicotine burden**, whether it's - - think about somebody who goes outside and they haven't had a cigarette for two hours and their nicotine is down and you watch the way they smoke that full flavored cigarette. And so they take a large puff **in order that they can bring their body's level of nicotine back, not their tar level back**. If you switched for health reasons from a high tar cigarette to a so-called light mild cigarette, you want to continue with that **nicotine burden**, not the tar burden. You want to

> continue to get that nicotine and you compensate to bring nicotine, but when you bring the nicotine in, compensation makes you not just breathe down this far in your lungs (indicating) but you breathe way way way down and that's where the risk . . . associated with compensation is.

Wigand TT, 1/31/05, 11651:3-18 (emphasis added).

3731. Dr. Wigand testified that B&W knew – as a result of compensation and cigarette design – both that the FTC method underestimated human smoker intake for all smokers, and that it disproportionally underestimated human intake for lower tar cigarettes:

> It was well known throughout all of the BAT Cigarette Affiliated Companies that the overwhelming number of smokers were obtaining significantly more tar and nicotine from cigarettes than was measured by the FTC [Method]. . . . [I]t was true for Brown & Williamson's cigarettes. Even for full flavored cigarettes the machine testing understated the amount of tar and nicotine obtained by most smokers. But, the degree of understatement substantially increased as you moved from full flavor to light cigarettes and on to ultra lights. . . . [This was] [b]ecause of compensation and cigarette design. Since most smokers have nicotine maintenance levels in a fairly tight band, as you moved to cigarettes of lower yield as tested by the machines, the smokers' compensation increased to obtain the nicotine dose they required.

Wigand WD, 122:18-123:11.

3732. Dr. Wigand also testified that the presence of "free nicotine" was a reason B&W understood that "the machine testing understated the amount of nicotine obtained by smokers":

> [S]ince the testing only picked up particulate nicotine, any increase in free nicotine in the gas phase of smoke would lead to higher nicotine yields to the smoker than what was recorded by the machine smoking.

Wigand WD, 8:11-17; 124:14-125:5.

3733. Dr. Wigand testified that, given B&W's and the other BAT companies' understanding of smoker compensation and design of their cigarettes for elasticity of delivery, B&W and the other affiliated BAT companies did not believe that "light" and "mild" brand

descriptors were accurate:

> First, everyone at Brown & Williamson, indeed throughout all of BAT, understood that the machine method for measuring nicotine and tar yield grossly understated the tar and nicotine actually ingested by the smoker. Second, again through out the BAT organization, we knew that smokers compensated to obtain more nicotine than was reported on the label and that compensation increased as a smoker moved from a full flavor to a light cigarette.

Wigand WD, 124:2-13.

3734. Minutes from a January 12-18, 1974 B&W/BATCo conference stated: "[W]hatever the characteristics of cigarettes as determined by smoking machines, **the smoker adjusts his pattern to deliver his own nicotine requirements**." 109882674-2679 at 2675 (US 21507) (A) (emphasis added); Kessler WD, 61:13-62:5 (testifying that this document "provide[s] evidence of an effort to try and manipulate nicotine deliveries to assure that smokers receive an adequate dose of nicotine").

3735. B&W's scientific research on compensation was confirmed by its consumer research on low tar cigarettes, in which smokers reported compensating for the reduced deliveries. For instance, a February 23, 1977 consumer research report, "Consumer Discussions of Low Delivery Cigarettes," authored by R.F. Brotzge and W.H. Deines, demonstrates B&W's awareness that low tar smokers were compensating by smoking more cigarettes, stating:

> Findings, in order of importance, to participants in the five focus groups were: 1. Health - Participants expressed general fears about cancer, emphysema, other lung diseases, etc. Despite these fears, they stated their determination to continue smoking . . . 5. **Compensation - Participants noted they smoked more low tar cigarettes and received less satisfaction**.

679009843-9867 at 9843 (US 85055) (O) (emphasis added).

3736. Similarly, a July 25, 1977 B&W Internal Marketing Study entitled "Low 'Tar' Satisfaction, Step 1 Identification of Perceived and Underperceived Consumer Needs," in

analyzing smokers' satisfaction with low tar cigarettes with regard to switching behavior, stated: "It was noted earlier that **new arrivals to the Hi-Fi category realize that they are smoking more cigarettes** [quoting a study participant]: 'You can also go down to the lower tar, but increase your smoking. So you're right back where you were.'" The study further noted that "Cigarette **consumption, as reported in a 1976 Consumption Study, increases as nicotine (satisfaction per cigarette) decreases**." 775036039-6067 at 6050 (US 21053) (A) (emphasis added).

3737. A report bearing the stamp "Brown & Williamson June 24, 1980 R&D Library" prepared by BATCo, "Compensation: A Review [of] the Relationship Between Compensation and Changes in Cigarette Design," prepared April 23, 1980, stated that studies indicated that compensation was a permanent phenomenon: "On the basis of the German studies, compensation would therefore be seen as a long-term tendency to permanently adjust towards some preferred (or minimum) level [of nicotine]." 650032329-2385 at 2356 (US 53429) (A); Ivey WD, 68:1-10.

3738. A July 1983 B&W report by W. Wiethaup and W. Schneider, "Filter effects on smoke and smoke effects," stated:

> One factor, which may be responsible for a relatively intensive 'strength' impression within a given tar segment, is the 'smoke elasticity.' **The smoke elasticity describes the potential of a cigarette, to provide the smoker with more smoke, if he draws harder. This becomes relevant at least for the first few puffs of a low tar cigarette, as all recent investigations show**.

512107109-7120 at 7110 (US 85056) (O) (emphasis added).

3739. Certain Senior B&W officials expressly advocated **against** informing consumers about the likelihood that they would inhale tar and nicotine levels much higher than reported FTC deliveries. A June 28, 1985 B&W memorandum from Dr. R. A. Sanford, Director of Research & Development, to Earl Kohnhorst, Vice President for the Research Department,

discussing research programs for the development of new products, stated:

> **Compensation: It exists; most smokers practice it, but we need to understand it better before advantage can be taken in the marketplace**. Here, I believe designing to the subconscious is preferred to requiring the smoker to make a conscious act.

The memorandum also acknowledged that low tar cigarettes were no less harmful, stating that "[b]iological assurance has not been realized despite the years and money spent." 512000002-0005 at 0002-0003 (US 20915) (O) (emphasis added).

3740. A December 7, 1989 report by Rob Ferris, a scientist who worked at the "BAT Fundamental Research Center at Southhampton," which was sent to Dr. Wigand, stated: "Manipulation of both effort and reward variables influenced smoking behavior, subjects compensating for both effort (mechanics) and reward (delivery)." Dr. Wigand testified that, "[t]o those of us receiving the report, it meant that Dr. Ferris had demonstrated that smokers compensate (that is, modify their smoking behavior) to receive the necessary 'delivery' of nicotine to sustain their addiction." The report also stated that "compensation can be conceptualized of as acting within an effort-reward relationship. Subjects compensate to gain the optimal reward by varying the effort they expend in terms of intensiveness of smoking behaviour." Dr. Wigand explained that "[t]his demonstrates the understanding within Brown & Williamson and BATCo that smokers modified their behavior to obtain the necessary maintenance level of nicotine regardless of whether they were smoking a full-flavor or a light cigarette." 600287960-7975 at 7963-7964 (US 30763) (A); Wigand WD, 120:18-121:20; see also Wigand TT, 1/31/05, 11652:11-11655:17 (testifying that, while this document indicates that tar may be a "partial factor" for compensation, Dr. Wigand's and B&W's belief during his employment was that "people compensated . . . to obtain their dose of nicotine," adding that "our preoccupation [at B&W] was how to deliver nicotine").

3741. A March 26, 1999 e-mail from Hugh Honeycutt to Mike Dixon and numerous other BATCo employees referenced B&W's "Atlanta Study," which was conducted by scientist Kelly St. Charles, to examine smoking behavior and puffing profiles for low tar cigarettes. Honeycutt's email expressed concern that "B&W had just made a big splash in the US touting Carlton as the '1' for you," – a marketing slogan indicating that Carlton delivered only one milligram of tar – in light of research finding that "smokers of ultra low tar brands like our Carlton 1 mg appeared to actually get 3 mg." of tar. This email demonstrates that B&W was aware that Carlton smokers were inhaling three times the amount of tar claimed in B&W's marketing, which based its delivery claims on the FTC machine-measured tar yield. 321155579-5580 at 5579 (US 46683) (A); 2073168412-8414 (US 22024) (A). Indeed, B&W now admits that smoker compensation causes Carlton 1 mg smokers, on average, to inhale 5 to 6 times the amount of tar that B&W has advertised. (US 88628) (A) (stating "a Carlton 1 mg. smoker will, on average, get 5 to 6 milligrams of tar").

(v) BATCo

3742. A BATCo document from the late 1970s, "Why do People Smoke?," reflects BATCo's understanding that designing a compensable cigarette to perpetuate smokers' nicotine addiction was a "key determinant of" smokers' choice of cigarette. It states that "[n]icotine sustains smoking behaviour," that "**smoking behaviour is highly responsive to cigarette design**," and that "[a] key determinant of product preference will be the design 'Effort-Reward Gradient,'" i.e., elasticity of delivery. The document added: "Increase in Cigarette Consumption [is] Related to Change in Nicotine Yields," noting that "[m]ost compensation must occur at the individual cigarette level." 403626692-6802 at 6729, 6731, 6734, 6762, 6768 (US 85018*) (A) (emphasis added).

3743. An undated BATCo document by Dr. S.J. Green, a Senior Scientist for BATCo Research and Development, entitled "Ranking Cigarette Brands on Smoke Deliveries," discussed compensation to equalize nicotine intake in several contexts, including smokers "increas[ing] puff volume to receive the same nicotine" when smoking a lower tar cigarette and smokers "adjust[ing] their smoking behaviour on the basis of nicotine intake." 110077247-7268, at 7247-7250 (US 88643) (A).

3744. A March 11, 1971 report authored by D. Creighton, BATCo R&D Research Scientist, and L.M. McGillivray entitled "The Effect of Changed Deliveries at Constant Pressure Drop on Human Smoking Pattern" stated:

> It was found that there is indeed a degree of compensation for the reduced delivery. **The panel as a whole took larger puffs from the lower delivery cigarette, inhaled the smoke more deeply and held the smoke in the lungs for a longer time**. The six individual panel members compensated for changed delivery in different ways, some by increased volumes, and others by increased number of puffs on the lower delivery cigarette.

The report also stated: "An increase in puff volume, but not puff duration, means that subjects must have drawn harder on the lower delivery cigarettes, and that the flow rate was greater during puffing. This implies that smokers are willing to work harder to achieve an optimum delivery from a lower delivery cigarette." The report further stated: "The fact that the panel compensated for the lower delivery by increasing the depth of inhalation, the depth of exhalation and the total time for which the smoke was held within the body is of particular interest in the light of the finding that more is retained from a puff of smoke that is inhaled deeper, and held within the lungs longer." 757001173-1185 at 1174, 1180 (US 85058) (A) (emphasis added).

3745. A November 3, 1971 BATCo research and development report summarized:

> A test has been devised using existing techniques to show whether a panel of smokers would compensate by their puffing and inhaling

> behaviour for reduced deliveries of TPM and nicotine. The test took the form of a comparison between two cigarettes of similar pressure drop but differing deliveries of TPM and nicotine. **It was found that there is indeed a degree of compensation for the reduced delivery**. The panel as a whole took larger puffs from the lower delivery cigarette, inhaled the smoke more deeply and held the smoke in the lungs for a longer time.

102793967-3980 at 3969 (US 34698) (A) (emphasis added).

3746. A June 17, 1975 BATCo document, "Compensation for Changed Delivery," sent to several BATCo employees, including David Geoff Felton, Senior Scientist for BATCo Ltd.'s Research and Development Department, acknowledged that smokers compensate to achieve a stable dose of nicotine:

> A number of experiments . . . have been interpreted as showing that compensation for changed delivery does occur. . . . Our own results showed that **when the [tar] to nicotine ratio was changed more smoke was taken from the lower delivery cigarette. . . . My own view is that compensation for changed delivery of nicotine does occur. . . . The weight of evidence at present available is for nicotine compensation** [referring to several studies].

105658168-8179, 8168, 8178 (US 85418) (A) (emphasis added).

3747. A June 1, 1976 BATCo report, also entitled "Compensation for Changed Delivery," authored by D. Creighton, R&D Research Scientist, concluded that "**the evidence is strongly in support of the hypothesis that many smokers do change the way they smoke in response to cigarette design changes that affect nicotine delivery . . . . The tendency amongst the majority of established smokers is to attempt to equalise nicotine delivery if the cigarette design allows them to do so**." The study further concluded that "[d]ue to the differences in the delivery of individual cigarettes from the same brand . . . and the differences between subjects and within a subject" "[e]qualisation [of nicotine levels] within the range + 20%" was expected. The report stated that "there are eight suggested methods by which a subject

may regulate his nicotine intake; any number of which may be used simultaneously or at different times," namely by varying puff volume, puff number, puff distribution, cigarette butt length, puff interval, puff profile, inhalation pattern, and number of cigarettes smoked. 650008449-8480 at 8470, 8460-8462, 8469, 8464 (US 76192) (O) (emphasis added).

3748. The report included a section entitled "Why Should a Smoker Compensate for Changed Delivery" that stated that "**the majority of smokers who actually buy cigarettes and smoke them regularly are directly or indirectly seeking the effect of the nicotine content of the smoke**." 650008449-8480 at 8470, 8460-8462, 8469, 8464 (US 76192) (O).

3749. A June 27, 1978 BATCo memorandum, also entitled "Compensation for Changed Delivery," authored by Creighton, confirmed BATCo's knowledge that compensation is not temporary, occurred as a result of a need for nicotine, and contradicted "the advice of Health Authorities" that smokers who would not or could not quit should switch to a lower delivery cigarette:

> It is difficult to ignore the advice of Health Authorities who advise smokers to give up smoking or change to a lower delivery brand but there is now sufficient evidence to challenge the advice to change to a lower delivery brand, at least in the short-term. Numerous experiments have been carried out in Hamburg, Montreal, and Southampton within the company as well as many other experiments by research workers in independent organizations, that show that generally smokers do change their smoking patterns in response to changes in the machine smoked deliveries of cigarettes. . . . Further findings from these results were that the modified smoking patterns used to smoke the changed delivery brands were maintained for the month during which they were smoked. This shows that there was no adaptation during that time . . . . **In general, a majority of habitual smokers compensate for changed delivery, if they change to a lower delivery brand than their usual brand . . . . If they choose lower delivery brand which has a higher tar to nicotine ratio than their usual brand (which is often the case with lower delivery products) the smokers will in fact increase the amounts of tar and gas phase that they take in, in order to take**

the same amount of nicotine.

105553905-3914 at 3905, 3907, 3913 (US 34799) (A) (emphasis added); Ivey WD, 69:14-70:1; Henningfield WD, 49:8-50:4 (indicating that exhibit is one of "many documents that show that the companies were aware of compensation, and that smoker compensation is driven by a smoker's need to obtain nicotine," and shows Defendants "understand that smokers' need for nicotine contributes to the inaccuracy of the FTC test ratings").

3750. A June 29, 1979 study authored by Creighton, "A Comparison of Smoking Surveys Separated by Four Years," compared the smoking behavior of a group of smokers in 1974 of a cigarette with 1.7 mg nicotine and 27 mg TPM to their behavior in 1978 when smoking a cigarette with a slight reduction in nicotine (by 17% to 1.4 mg) and virtually identical TPM delivery (26 mg). The study found that the group smoked the reduced nicotine cigarette "more intensely" (i.e., increased their puff volume), which likely "equalised" the nicotine delivery of the two cigarettes. The study concluded that "it is probable that as a result of the changes in smoking behaviour observed in this study, subjects took about the same amount of nicotine from the two different cigarettes but, because of changes in TPM to nicotine ratios, received more TPM from the [reduced nicotine cigarette]." The study further found that "**[t]he fact that smokers have changed their smoking patterns to take more smoke from a cigarette with lower nicotine delivery but similar TPM delivery adds support to the contention that nicotine is a major determinant of smoking behavior**, and that TPM, as long as it is delivered in sufficient quantity, plays a lesser role." 650008946-8960 at 8948, 8953-8955 (US 85059) (A) (emphasis added).

3751. An April 27, 1981 memorandum by Martin Oldman to L.C.F. Blackman, Director of Millbank, stated that "[s]ome people appear to smoke for nicotine, others don't . . . nicotine

dependent smokers. . . are more likely to compensate for nicotine than others." 105399692-9693 at 9693 (US 85060) (O).

3752. A July 9, 1984 document by Imperial Tobacco Limited, sister company to B&W, was distributed to various B&W and BATCo employees, including: Blackman; A.M. Heath, BATCo Executive Director of Marketing; Erhard Koehn, BATCo Manager of Product Development; Rainier Wernitz, BATCo Manager, Market Research; Tilford Riehl, B&W Division Head of Product Development; A. Mellman, B&W Director of Marketing Research; T. Wilson; Brennan; C.I. Ayers; and G.O. Brooks, BATCo scientist. It acknowledged that smokers who switch to low tar brands increase the number and intensity of puffs taken and number of cigarettes smoked to achieve a higher dose of nicotine: "BRANDS SWITCHING DOWN DELIVERY: increase in puffing parameters – increase in numbers of cigs. smoked – more puffs taken means to achieve a higher dose." 536000000-0090 at 0050 (US 22338) (A).

3753. A January 24, 1985 BATCo letter from Charles H. Keith to Lance Reynolds stated:

> [H]uman smokers, even though they ingest much more Nicotine and Tar than is indicated by the FTC values, get about the same amount of Tar and one and a half times the Nicotine from Barclay, Carlton and Cambridge. . . . [I]t is clearly apparent that the **human smokers are ingesting much more nicotine and tar than the nominal values obtained by FTC tests. The human levels are six to eight times higher than the normal values**.

621096298-6300 at 6298, 6300 (US 76191) (O) (emphasis added).

3754. A February 25, 1985 BATCo document, "The Burning Cigarette," authored by G.O. Brooks, Marketing Department, confirmed that "we can be seriously misled by assuming that the machine deliveries are those obtained by the smoker. The human smoker is a very variable, whimsical machine who most probably smokes different cigarettes in different ways,

even varying his puffing process down the cigarette in order to satisfy his/her requirements." 100575013-100575029 at 5021-5022 (US 85061) (A).

3755. A BATCo document dated October 12, 1987 sent by M.L. Reynolds to H.F. Dymond (researcher) and H. Ibig, under the heading "Easily Achieved Tar Deliveries from Low Tar Cigarettes," displays a chart depicting the increased tar deliveries of RJR's Now cigarette, and Philip Morris's Merit and Merit Ultra cigarettes, caused by the compensatory behaviors of vent hole blocking, taking more puffs, and taking bigger puffs. This chart shows that these behaviors in combination caused a thirteen-fold increase of tar inhaled for Now cigarettes, a nearly three-fold increase for Merit, and a four-fold increase for Merit Ultima. 400015695-5696 at 5696 (US 85063) (O).

3756. A December 21, 1987 BATCo document with subject heading "Notes on Meeting With Dr. Eicher" authored by "HFD" (H.F. Dymond, researcher), and sent to Nick Cannar and several B&W and BATCo personnel, stated: "BAT acknowledged the discussion on compensation and described how channel ventilation was an alternative form of ventilation, both systems could be manipulated by a consumer. Other companies were also beginning to acknowledge compensation, but they were reluctant to debate the issue in public." 400015634-5635 at 5634 (US 85064) (O).

3757. A May 6, 1992 BATCo report entitled "Topics In Smoking and Health 'Bible'" stated:

> [T]he expression of product smoke deliveries in the form of a league table, while understandable, can be misleading. **There can be no guarantee that a smoker who switches from one product to another delivering a lower 'tar' value will thereby reduce his intake of 'tar.'** He may well alter the way he smokes the second product in some subtle fashion and so adjust his intake of smoke to fit his needs. In this way, he may inadvertently increase his intake of other substances in the smoke. League tables and delivery data

> on products may, therefore, be misleading to the consumer, who will be unaware of the sub-conscious ways in which he manipulates his own behaviour . . . smokers of higher delivery cigarettes may find that they need to smoke more low delivery cigarettes to achieve the same satisfaction . . . . Increasingly smokers will accept the alleged harmfulness of smoking, and while wishing to continue will look for health reassurance brands . . . Smoking behaviour is also of importance. For example research into the effects of low tar and nicotine cigarettes on ease of quitting smoking will be undertaken.

500887584-7709 at 7606-7607, 7614, 7679, 7704 (US 20656) (A) (emphasis added).

3758. A BATCo document from 1998 or later, entitled "Perception of Lights" and based on BAT research in Hungary, notes that smokers who switch from higher to lower tar cigarettes compensate for the reduced delivery by smoking more: "The biggest disadvantage people saw to 'Lights' was that 'you need to smoke more of it.'" 321541609-1679 at 1645 (US 22052) (A); Ivey WD, 78:14-16.

3759. A March 4, 1998 internal BATCo draft report, "Lights Information Kit," which provided "a summary of British American Tobacco's understanding of Lights cigarettes" to assist BATCo in its attempt to "take an increasing share of this segment," noted that "[c]learly, the tar yield that a consumer actually gets will be highly dependent on the individual's smoking behaviour - how many puffs, how big each puff is, what butt length is left. Moreover, an individual smoker's behaviour will vary significantly from one cigarette to another." 321478980-8985 at 8983 (US 22049) (A).

3760. A May 19, 1998 BATCo draft document regarding talking points in response to "Allegations concerning nicotine control and manipulation," tellingly omitted any reference to BATCo's internal evidence that the smoker's need to get a sufficient delivery of nicotine is the cause for such variation. The document stated, under the heading "Compensation by smokers":

> It is well known that all cigarettes can yield different amounts of

> smoke depending on how people smoke. All cigarettes are inherently compensable relative to machine smoking yields determined according to standardised conditions. More frequent puffs and/or larger (*previously: more intense*) puffs, (*previously: or even more cigarettes)* can obviously increase the amount of smoke constituents that the smoker receives from each cigarette. Research has suggested that some smokers do tend to take larger puffs when they switch from a higher to a lower tar and nicotine yield cigarette during short-term experimental brand switching studies.

321087921-7932 at 7925 (US 22043) (A) (italics in original).

3761. A June 17, 1998 Market Research Summary Report bearing BAT and Oracle legends, contained in BAT Russia's 1999 Brand Plan, found, based on a consumer survey, that smokers of an ultralight Kent brand in Russia compensate for the reduced delivery of tar and nicotine by smoking more cigarettes:

760008596-8803 at 8760 (US 54588) (Confidential) (A).

(vi) American Tobacco

3762. A November 11, 1976 report prepared by Fay Ennis Creative Research Services for F. William Free & Company, an advertising agency used by American, demonstrates American's awareness that smokers of low tar cigarettes employed several different methods of smoker compensation. The report summarized focus group sessions relating to low tar cigarettes. When asked about Now and Carlton cigarettes, the panelists "concluded that **you would smoke twice as much of this type of cigarette in order to get any satisfaction**. One man said that he didn't like the draw on these cigarettes because he had to puff so hard, his throat tickled." When asked to define a low tar cigarette, some panelists stated: "You have to drag on the cigarette ‘real' hard to get any satisfaction out of it." ATC0137310-7324 at 7319-7320 (US 87916) (O)

(emphasis added).

(vii) Lorillard

3763. A July 16, 1976 Lorillard memorandum from M.S. Ireland to H.J. Minnemeyer on the subject of "Research Proposal – Development of Assay for Free Nicotine" revealed Lorillard's awareness of smoker compensation and the fact that it is driven by nicotine addiction:

> Cigarette sales are made for one reason. The customer is satisfied with the product either from the taste or the physiological satisfaction derived from the smoke. **The consensus of opinion derived from a review of the literature on the subject indicates the most probable reason for the addictive properties of the smoke is the nicotine. Indications are that the smoker adjusts his smoking habits to satisfy the desire for nicotine either by frequent or large puffs on the cigarette, or smoking a large number of cigarettes**.

00044522-4523 at 4522 (US 22012) (A); 94937037-7038 at 7037 (US 56775) (A) (emphasis added); see also Farone WD, 132:18-133:12 ("Clearly, these statements indicate an understanding of smoker compensation to achieve the needed nicotine level, and an interest in exploiting this knowledge."); Henningfield WD, 96:17-97:3 (referring to US 56775 as a "significant in terms of Defendants' knowledge and understanding of the addictiveness of nicotine from the 1970s").

3764. A December 10, 1976 document by H.S. Tong of Lorillard that included a review of the scientific literature reached several conclusions confirming Lorillard's awareness that smokers compensate to receive their desired level of nicotine – conclusions that Lorillard publicly denies to this day: "It seems that, within limits, **smokers can and do control their nicotine intake from smoke by varying their smoking techniques**. . . . Smokers were known to smoke more when offered low nicotine cigarettes. . . . It would seem desirable to have a low tar cigarette with a nicotine content between the threshold and optimum doses level." 00045061-

5071 at 5061-5063, 5068 (US 34210) (A) (emphasis added); see also Farone WD, 132:18-133:12 ("Clearly, these statements indicate an understanding of smoker compensation to achieve the needed nicotine level, and an interest in exploiting this knowledge.").

3765. A July 30, 1980 Lorillard memorandum, "A Review of Behavioral and Psychopharmacological Factors in Smoking," from S.T. Jones (Product Design), included conclusions by Lorillard personnel based on review of scientific articles in the literature. A notable conclusion – and one that Lorillard continues to deny more than 24 years later – was that smokers compensate to maintain their required nicotine intake, in the process rendering machine-generated tar and nicotine yields, such as those generated under the FTC Method, inaccurately low: "The evidence to date clearly indicates that smokers titrate or regulate their intake of nicotine, e.g. smokers of cigarettes which deliver large amounts of nicotine will adjust – when given low nicotine cigarettes – their smoking to get a larger nicotine dose than the machine determined values indicate." Lorillard also independently acknowledged that, in the 1980s, it knew that smokers of low tar/low nicotine cigarettes would compensate by altering their smoking habits in order to obtain a higher level of nicotine. 01105000-5021 at 5010 (US 20030) (O); Spears PD, State of Minnesota v. Philip Morris Inc., 9/23/97, 62:29-65:11.

3766. An August 21, 1984 Lorillard memorandum from E-Chung Wu to W.R. Deaton, reporting on a "puff profile study of 15 brand of cigarettes . . . with 5 smoking panel members" acknowledged smoker compensation: "The general trend shows that puff volume increases with the decrease of both CPM or nicotine. . . . Obviously, the higher dilution of smoke needs larger volume to compensate for the decrease of the flavor or nicotine." 89213491-3501 at 3491 (US 56466) (O).

3767. A November 11, 1999 Lorillard e-mail from Jack Reid to Larry Gains (copied to

Chris Coggins) related the following proposal, which acknowledged that smoker compensation rendered FTC Method tar yields unreliable: "Chris has made the following suggestion for a new project and even suggested that Ed Robinson would be the man. It could lead to not only publications, but an establishment of an industry wide standard and/or defense when issues of compensation are raised." Under this proposed new standard for measuring tar and nicotine of cigarettes:

> [O]ne could predict the nicotine delivered no matter how many of the holes were covered, and correct for differing inhalation volumes for each smoker . . . . The need for this is real, particularly in light of the last meeting Chris and I attended in Massachusetts. Texas is getting into the act as well and others are making rumblings about the issue of compensation. Something like this might be just the solution for providing concise, accurate data instead of some of the outrageous speculation that has been floating around.

96997728-7729 (US 74552) (O).

(viii) Liggett

3768. Despite the fact that Robert D. Bereman, Vice President for Chemical Research at Vector Research, Ltd. (a spinoff of Vector Tobacco, 100% owner of Liggett) is aware of the

and despite being aware of the concerns of the public health community regarding the safety of low tar cigarettes, Liggett continues sell cigarettes marketed as "light" and as delivering lowered tar and nicotine. Bereman PD, United States v. Philip Morris, 4/23/02, 52:24-54:12 (Category 1); Bernstein PD, United States v. Philip Morris, 6/25/02, 36:24-37:20 (Confidential).

(c) Defendants Deceptively Designed Their Low Tar Cigarettes to Facilitate Compensation

3769. As discussed in Section III.D(4)(b), supra, the evidence shows that Defendants have been aware for decades that smokers of low tar cigarettes compensate for the reduced deliveries to obtain enough nicotine to sustain their addiction. As Dr. Burns, who conducted a review of internal tobacco industry documents as part of the research underlying NCI Monograph 13, testified:

> The **internal tobacco industry documents demonstrate** the design characteristics, the design intent for developing these products, the testing that was done, the conditions under which they were tested, and the results of that testing demonstrate that what was happening was that **cigarettes were intentionally being designed to vary the yield when smoked differently, and that the reason for that design was to satisfy the nicotine ingestion required by individual smokers. So the product could produce a very low level when smoked by machine; but when smoked by the individual, the individual could derive from that cigarette as much nicotine as they needed to satisfy their addiction**.

Burns WD, 40:7-14; 48:18-20 (emphasis added).

3770. Dr. Burns testified that internal documents of Defendants:

> [D]emonstrate that the companies not only knew that low tar cigarettes did not deliver lower smoke exposure to the smoker, but also that these engineering changes in cigarettes were intended to take advantage of the known compensatory changes among smokers such that the cigarettes yielded very low levels of tar and nicotine when smoked by machine, but much higher levels of tar when smoked by smokers.

Burns WD, 45:19-46:6; see also Burns WD, 55:7-16 (Defendants' documents "confirm the conclusions in" NCI Monograph 13 and "demonstrate that the tobacco companies recognized that the smoking public was being misled by the tar values and by the use of terms such as low tar and light.").

3771. Dr. Henningfield elaborated on the effect of Defendants' superior knowledge of smoker compensation, relative to the scientific community in general, as follows:

> [W]hat is important to me is the internal reports that are being offered as conclusions that are helping guide the industry; whereas, outside of the industry, as the record shows, even in the 1980s we were still trying to figure out the nature and extent of compensation. So, my conclusion was that **the industry had already changed its behavior in cigarette design; whereas, we outside of the industry were still trying to understand the nature and extent of the compensation. And the record shows that**.

Henningfield TT, 11/29/04, 7264:7-15 (emphasis added).

3772. Dr. David Kessler, Commissioner of the Food and Drug Administration from 1990 to 1997, during which time he led an investigation of the tobacco industry, explained the revelation that Defendants' design of their cigarettes to manipulate the delivery of nicotine was based on Defendants' efforts to ensure that their cigarettes provided enough nicotine to sustain smokers' addiction:

> As I would later come to understand, the tobacco industry, for the last several decades, was confronted with a problem. They understood that smokers smoke primarily for nicotine. They also wanted to sell "light" cigarettes. The industry used a number of different techniques to produce "light" cigarettes. Smokers wanted to reduce the amount of chemicals that they inhaled when they smoked. The problem was that, as the industry made cigarettes "lighter," they would also be reducing the amount of nicotine that a smoker received. **The industry understood that, if smokers did not receive an adequate amount of nicotine, they would either switch cigarettes or quit smoking altogether. So what the industry was faced with was the need in "light" cigarettes to provide smokers with [an] adequate level of nicotine**.

Kessler WD, 1:10-17; 2:3-8; 19:19-20:7 (emphasis added).

3773. Dr. Kessler testified that, during the FDA's investigation, its drug laboratory in St. Louis conducted tests "measuring the level of nicotine in specific brands of cigarettes," revealing

that:

> [T]he nicotine concentration in the Merit brand family was 1.46 percent nicotine concentration . . . for Merit regular cigarettes, 1.67 percent nicotine concentration for Merit light cigarettes and 1.99 percent nicotine concentration for the lightest Merit brand, Ultima. Thus, the lightest variety had the highest concentration of nicotine.

As Dr. Kessler noted, "[t]his data shows that nicotine concentrations in this brand variety were highest in the ultra-low-tar–the 'lightest' versions of Merit cigarettes." Dr. Kessler added that this disparity "could not occur by accident," and "suggested that the **manufacturer intended to provide an adequate level of nicotine to** those **people who smoked that [low tar] brand**." Kessler WD, 1:10-17; 2:3-8; 20:16-22:6 (emphasis added); see also Kessler WD, 1:10-17; 2:3-8; 33:14-22 (testifying that "[t]he tobacco companies spent considerable time focusing on increasing the effectiveness of nicotine delivery in light cigarettes," including using additives to increase amount of "free" nicotine).

3774. The FDA Final Proposed Rule relating to regulation of tobacco products reached the following conclusion regarding Defendants' design of low tar cigarettes: "**The evidence in the record shows that the manufacturers have conducted extensive product research and development to find ways to maintain adequate nicotine levels in low tar cigarettes**." VXA124 2326-3211 at 2533 (U.S. 64323) (A) (emphasis added); Kessler WD, 60:15-61:5.

3775. Dr. Henningfield's "overall conclusion" about the effects of Defendants' cigarette design on smoking deliveries is that "conventional cigarettes are designed to dispense nicotine in addicting doses on the premise that cigarette smoke is a palatable and effective vehicle for nicotine delivery, albeit a highly toxic vehicle." Dr. Henningfield based this conclusion on the fact that "[d]ocuments show that nicotine dosing characteristics have been extensively studied and controlled by the tobacco industry" and the fact that "laboratory and real world studies,"

including his own extensive reviews of the published literature, "confirm that wide variations in presumed nicotine dose, as suggested by the FTC rating, produce remarkably small changes in actual nicotine intake." Henningfield WD, 41:18-42:6.

3776. Dr. Henningfield summarized some of the evidence leading to his conclusion that Defendants intentionally designed their cigarettes to machine-measured yields that were deceptively low relating to their actual delivery to smokers:

> Since [Defendants'] internal documents make clear that the companies have the ability to reduce or even eliminate all tar or nicotine from a cigarette, and that the Defendants' research showed that the cigarettes they designed had great elasticity of yield, I conclude that the tar and nicotine yields are the result of choices made by the companies. And what other researchers and I have noted is that a result of the cigarette design choices is that smokers of cigarettes from a wide range of FTC tar and nicotine ratings show very similar blood nicotine levels as a result of smoking their cigarettes.

Based on this evidence of the blood levels of nicotine, Dr. Henningfield concluded that "virtually all cigarettes – and certainly the brands and styles of cigarettes that comprise well over 90% of the market – are capable of delivering levels of nicotine to the smoker that can create and sustain addiction." Henningfield WD, 66:23-67:12.

3777. Deceptive Design Techniques. Dr. Henningfield testified that, "**for any given brand, the tobacco manufacturers have given the cigarette smoker a multitude of ways to obtain addicting doses of nicotine through the design of the cigarette**," adding that some of Defendants' "design choices, like the length of the filter overwrap and ventilation, increase the discrepancy between the FTC machine ratings and yields received by human smokers." Henningfield WD, 42:11-15; 68:1-4 (emphasis added).

3778. Dr. Henningfield explained that the differences between many of today's lower tar cigarettes and their full flavor counterparts are only design features that lower the FTC yields,

while enabling smokers to obtain much higher yields:

> [T]he actual amount of tobacco, the blend of the tobacco materials that make up the filter, the nicotine content, and the smoke-producing potential of a "light" cigarette and its corresponding "regular" or "full flavor" version are not necessarily different across some brands that differ widely in their machine-rated tar and nicotine deliveries. Thus, although tar and nicotine delivery can be controlled by variation of the amount and blend of tobacco, in practice, a major means by which the differences are achieved is through the use of physical design characteristics and ingredients that can be used to manipulate the amount of smoke delivered to a machine, while leaving the human smoker free to easily obtain substantially higher levels of tar and nicotine than advertised.

Henningfield WD, 65:22-66:8.

3779. Dr. Henningfield testified that "design features" that he has "studied for" their "capacity to affect the delivery of nicotine," include:

1) filtration

2) "perforations for increased ventilation";

3) "physical placement of ventilation holes"; and

4) "paper porosity and composition."

Henningfield WD, 45:23-46:3.

3780. Filters. Regarding the "role of cigarette filters, as used by the tobacco company Defendants, in the delivery of nicotine," Dr. Henningfield testified: "[Filters are] used to control tar and nicotine dose as well as the relative delivery of tar and nicotine. It is my opinion that tobacco manufacturers have engineered filters to allow smokers to increase or decrease the amount of nicotine that comes out of the cigarette and into the lung." Dr. Henningfield based his conclusion, in part, on Defendants' documents. Henningfield WD, 43:15-22.

3781. Dr. Henningfield added that "filters perform differently in the FTC test" than "when human smokers smoke a cigarette," because "[t]hey can perform differently as a function

of how hard you are drawing" on them. Henningfield TT, 11/22/04, 6802:24-6803:22.

3782. Dr. Henningfield testified that Defendants could have employed filters that "limit smokers' ability to compensate for nicotine," stating: "It's possible to cap the ceiling by the amount of nicotine that's in the product, and that's been done in research cigarettes that I've used, and even in a commercial line." An example of this type of filter developed by Defendants is provided in a November 17, 1969 RJR memorandum from John D. Woods and cc'd to Claude Teague and Anders Laurene: "**[RJR's] Multijet filter is unique since it delivers approximately the same amount of wet tar to the human smokers as the machine measured wet tar value**." 504210090-0092 at 0091 (US 29749) (A) (emphasis added); Henningfield TT, 12/1/04, 7537:7-7540:16.

3783. Ventilation Holes. Cigarettes with ventilation holes in the filter are extremely common, and their sale by Defendants in the United States is, and has long been, widespread. US FF §§ III.D(4)(c)(ii)-(viii), infra; Whidby TT, 2/22/05, 14041:9-13 (testifying that "Philip Morris USA has used laser perforations for filter ventilation since the 1970s," and that most of the cigarettes Philip Morris sells in the United States contain vent holes created by laser perforation); Henningfield TT, 12/1/04, 7553:17-25 (stipulation by Lorillard counsel that Lorillard sells cigarettes with ventilated filters).

3784. Ventilation holes – "one of the main techniques of the tobacco companies to achieve lower tar and nicotine levels by the FTC standardized smoking method" – "lower the tar and nicotine levels delivered to machines, but not necessarily to people." Henningfield WD, 47:7-10.

3785. As Dr. Henningfield explained, "ventilation holes contribute to the discrepancy between the FTC machine and human smoker intake levels," because:

> The FTC machine smoking test never blocks the vent holes, because the cigarette is not inserted in the machine far enough to be blocked. Human smokers, however, can block the vent holes with their lips or fingers, lowering the ventilation levels. The FTC test registers tar and nicotine yields lower than those that occur if the vent holes are partially or completely blocked. Whatever theoretical reduction in tar and nicotine obtained in machine tests will be negated by the extent to which vent hole blocking occurs during human smoking.

Dr. Henningfield added that "ventilation hole blocking happen[s] with actual smokers," and that, "for some smokers," vent "hole blocking [is] a significant part of compensation." He explained, however, that studies on vent blocking show varied results, stating "most studies appear more likely to under-report blocking than to over-measure it," adding that "vent hole blocking appears to increase with increased ventilation." Finally, Dr. Henningfield explained: "The point is that it happens and can happen without the smoker being aware of doing it or aware of the dire health consequence," namely "[t]he well-documented exposure to substantially higher levels of tar and nicotine than advertised." Henningfield WD, 57:11-58:12; 59:14-15.

3786. "[T]he major difference in design between the Marlboro and Marlboro Light that accounts for the differences in the advertised FTC tar and nicotine yields" is "the ventilation holes system." Dr. Henningfield clarified that "this extra row of vent holes [in Marlboro Lights] almost doubles the amount of fresh air that comes into the smoking machine, and that means if the smoker occludes any of it, [he/she] can get much more tobacco smoke than the machine and the extra holes mean that the smoke is cool, smoother in ways that smokers can actually feel and they tend to take bigger puffs. **So, even if they don't cover the holes, studies show that they take larger puffs from the cigarette**, and the point is there are several different ways that the smoker can get more tar and nicotine that are related to the design of the product." Henningfield TT, 11/22/04, 6801:2-7; 6806:7-6807:9 (emphasis added).

3787. Dr. Burns testified that ventilation holes, which Defendants use to lower the FTC tar delivery, facilitate compensation in two ways:

(1) "they **can be obstructed** by fingers or lips, thereby increasing the delivery of the product"; and

(2) "the size of the hole and the placement are such that," at the low level of puffs taken by machine testing, a lot of air comes through the vent holes, but **when humans smoke them more intensely**, "the pressure drop required to get a certain [air] flow through a [vent] hole is much greater and **much more [] of the flow that the person is getting . . . comes through the tobacco rod[,] increasing the delivery** of tar and nicotine."

Burns WD, 1:10-15; 12:10-11 (emphasis added); Burns TT, 2/15/05, 13366:9-13367:5; see also Samet WD, 148:14-149:11 (explaining that vent holes contribute to the disparity between machine-measured and human yields, because "the ventilation holes in the filter, which are not covered when the end of the cigarette is inserted into the machine, are generally covered by smokers as they hold the cigarette and puff").

3788. Dr. Burns testified that, when smokers smoke cigarettes with vent holes, they unconsciously "block those holes with their lips or they inhale faster and harder and deeper until they work the cigarette so that they can get from it the nicotine they need. When they do that, they . . . get a full dose of tar. They get the same dose of tar that they would get from a full-flavored, regular cigarette." Burns WD, 1:10-15; 42:2-16; Burns TT, 2/15/05, 13311:9-15.

3789. Dr. Henningfield added that – as demonstrated by "[i]nternal company documents" – the Cigarette Company Defendants are aware that "the ventilation holes can accentuate the difference between the FTC and human tar and nicotine deliveries, because the smoker, but not the machine, can block the ventilation holes." Henningfield WD, 61:1-6.

3790. Dr. Farone also testified that "it was acknowledged by [his] colleagues at Philip Morris that compensation was an unconscious act," and that smoker compensation issues "were

discussed among the management of the company . . . . several times a year," including "the senior management of the company." Farone WD, 115:4-18.

3791. For instance, an October 21, 1982 Philip Morris document written by Barbro Goodman, in the "Conclusions" section, states: "The decrease in dilution [i.e., ventilation] from covering a portion of the perforated area can result in an increased delivery to the smoker of highly diluted cigarettes even though the puff parameters decrease." Dr. Burns explained that this observation "demonstrates an understanding that ventilation holes placed in filter locations likely to be occluded [blocked] by the smoker's lips or fingers would lead to an increase in the tar delivery of the cigarette when smoked by smokers." 1003415278-5280 at 5280 (JE-40704) (A); Burns WD, 54:5-8.

3792. Dr. Henningfield testified that the Cigarette Company Defendants generally manufacture their cigarettes so that the ventilation holes are "on the filter beyond the point where they would be covered by the orifice of the smoking machine," thereby permitting unobstructed ventilation when the cigarettes are tested by FTC Method parameters. Dr. Henningfield added that "diluting the smoke with fresh air reduces the tar and nicotine concentration and hence the level that is measured by smoking machines, but can increase the free nicotine in the smoke by a process called 'off-gassing,'" thereby altering "the tar-to-nicotine ratio" of the smoke. Henningfield WD, 46:8-22.

3793. Conclusions of Chapter 2 of Monograph 13 that speak directly to the issue of vent blocking – with which Dr. Henningfield wholly agreed – are:

> 2. Many of the same design changes that have reduced machine-measured tar yields, **particularly placing ventilation holes in the cigarette filters**, also **create an elasticity of delivery** for the cigarette, allowing a wide range of tar and nicotine deliveries from the same cigarette when a smoker alters his or her smoking behavior.

> 3. Increasing puff volume and frequency, **covering the ventilation holes with fingers or lips**, and other changes in smoking behavior known to occur with use of low machine-measured-tar cigarettes **can dramatically increase the tar and nicotine delivery** of low- and ultralow-yield brands.
>
> 4. Variations in the tar and nicotine delivery that result from the known compensatory alterations in smoking behaviors **make the current U.S. cigarette tar and nicotine yields as measured by the FTC method not useful to the smoker either for understanding how much tar and nicotine he or she is likely to inhale from smoking a given cigarette or for comparing the tar and nicotine intake that is likely to result from smoking different brands of cigarettes**.

DXA0310399-0650 at 0447 (p.34) (US 58700) (A) (emphasis added); Henningfield TT, 12/1/04, 7556:2-7557:9.

3794. While Defendants attempted to portray some of the observations of Dr. Lynn Kozlowski, some which appear in Chapter 2 of NCI Monograph 13 in particular, as indicating that vent hole blocking does not increase deliveries to the smoker in any significant way, Dr. Henningfield explained that defense counsel was "cherrypicking" certain studies and ignoring others:

> [Kozlowski] and others have done studies that have shown that yield on a puff by puff basis is related to blockage. He's also looked at conditions under which it makes less of an impact. . . . [Kozlowski has] published studies under other conditions [ignored by defense counsel] in which [vent blocking] makes a considerable difference [in deliveries to smokers].

Dr. Henningfield was adamant that it was "**very misleading**" to look at only a few of Dr. Kozlowski's observations in isolation and ignore the conclusions of Chapter 2 of Monograph 13, provided above, which Dr. Henningfield stated "come back to the bottom line." Defense counsel conducted a similarly flawed examination of Dr. Samet on this issue. Henningfield TT, 11/30/04, 7302:1-7305:23; 7306:13-7307:1; 7554:7-7557:9 (emphasis added); Samet TT,

9/29/04, 1158:8-1159:12 (examining Dr. Samet on a few observations of Chapter 2, while omitting examination on the Chapter's conclusions).

3795. A November 7, 1997 article in the Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report ("MMWR"), entitled "Filter Ventilation Levels in Selected U.S. Cigarettes, 1997," discussed "the potential for smokers to knowingly or inadvertently block filter ventilation holes with their lips or fingers," and stated:

> Blocking even a portion of the filter vents can markedly increase a smoker's exposure to the harmful components of cigarette smoke . . . . [F]ilter vents often are invisible to the unaided eye and the filters do not include a marking . . . to indicate the presence of vents . . . . Many smokers who block filter vents probably are exposed to substantially higher levels of hazardous smoke than the FTC-rated levels for those brands . . . . An estimated two thirds of U.S. smokers either are unaware of the presence of vents on cigarettes or do not know that tar yields increase when vents are blocked.

The report concluded that more than half of persons who smoke cigarettes with an FTC rating of less than 4 mg of tar block vent holes, thereby increasing tar, nicotine, and carbon monoxide yields by well over 50%. Centers for Disease Control and Prevention, Filter Ventilation Levels in Selected U.S. Cigarettes, Morbidity and Mortality Weekly Report, Vol.46, No. 44 (Nov. 7, 1997) (US 76212) (A).

3796. Smokers' Lack of Awareness of Vent Holes. Dr. Benowitz, an expert on smoker compensation who has performed extensive compensation research and published extensive articles on the topic, testified that smokers compensating by blocking vent holes do so unconsciously:

> [M]ost smokers are not aware of the ventilation holes, but come to learn by trial and error that holding the cigarette in a certain way in their hands or in their mouth results in better smoke characteristics. Ventilation holes are not blocked, on the other hand, when a cigarette is smoked by a machine according to the FTC method.

Dr. Benowitz added that "[t]he fact that many smokers block ventilation holes has been demonstrated in published peer-review research," and smokers' unawareness of the existence of vent holes has been similarly documented in publications. Benowitz WD, 55:11-16; 58:1-9; 58:14-59:5 (referencing publications by Kozlowski, et al.).

3797. Dr. Henningfield testified that smokers block vent holes "[f]or various reasons, including nicotine addiction, product design, and **failure of the tobacco companies to provide smokers with information that would at least give them a choice**. . . . Product design makes it easy for the smokers to inadvertently cover some or all of the holes some or all of the time." Henningfield WD, 58:13-18 (emphasis added).

3798. Dr. Henningfield testified that "[s]mokers are not informed by the companies, the holes are generally not marked and in fact are concealed on most brands," and explained that this is significant "from a health standpoint," because "smokers who don't know about or see the vent holes will cover at least some of the holes at least some of the time, and end up getting more tar and nicotine. Failure to inform smokers about the existence, placement, and role of the ventilation holes is also important because smokers may not realize they are there, and [] even if they are aware of the holes they would have no basis for understanding the impact of partial or full coverage of the holes on their tar and nicotine intake." Henningfield WD, 58:19-59:9.

3799. Dr. Henningfield explained that "[t]here are several ways cigarette manufacturers could have designed their products to avoid ventilation problems, thereby preventing excess particles from getting to the smokers' lungs," including the following options, which could be used in concert:

> **[I]f ventilation holes exist for the purpose of reducing the delivery of tar and nicotine into the body, as tobacco manufacturers claim, then the ventilation holes should be visible so smokers can see them.** This could be easily done by

> placing stripes on the tobacco rod to indicate where the ventilation holes are placed. Indeed, many cigarette brands have stripes on the filter already, but those stripes do not highlight the vent holes. . . . **The smokers would probably also need motivation in the form of a clear warning[] that blocking vent holes will lead to higher levels of exposure to tar and nicotine and that this can increase risk**. A third way [to decrease vent blocking] would be for tobacco manufacturers to place the ventilation holes where the lips and hands are less likely to cover them up accidentally.

Henningfield WD, 59:11-60:20 (emphasis added).

3800. In this context, the Court notes that the onsert that Philip Morris sporadically appends to its low tar brands fails to inform consumers where the vent holes on its cigarettes are or how they can be blocked. JD-041096 (A); Keane WD, 61:18-62:6; Keane TT, 1/18/05, 10422:3-10423:3.

3801. As Dr. Henningfield explained, while dissecting a Marlboro Lights cigarette, the presence of "stripes" around the cigarette for decorative purposes demonstrates that Defendants "have the capacity, if they so chose, to illustrate the vent holes, and for that matter could even put signs, symbols, you know, circles with a slash through which you see on even medicines and small pills at times," to indicate the consequences of covering them. Henningfield TT, 11/22/04, 6804:9-6805:19.

3802. Dr. Henningfield testified that ventilation holes are "very difficult" to see with the naked eye. Dr. Whidby, too, acknowledged that vent holes are "basically invisible to the naked eye," and that "some smokers block vent holes with their lips, their fingers or both." Dr. Whidby also testified that, to his knowledge, there is no "technical or scientific reason why the ventilation holes [on Philip Morris's cigarettes] couldn't be clearly identified for smokers so that smokers wouldn't inadvertently block the holes." Henningfield TT, 11/22/04, 6801:2-7; 6806:7-6807:9; Whidby WD, 36:21-37:5-9; 37:14-16; Whidby TT, 2/22/05, 14041:9-13.

3803. Dr. Whidby offered his "belief" that vent-hole blocking does not **completely** "defeat[] the purpose" of filter ventilation. However, given Dr. Whidby's appearance as a lay fact witness, and for the other reasons discussed in the Court's general findings on Dr. Whidby's credibility in Section III.D(4)(a), this "belief" is not entitled to any weight. Whidby TT, 2/22/05, 14048:9-14.

3804. Porosity, Burn Rate, Reconstituted Tobacco and Filter Overwrap. Manipulation of the porosity of cigarette paper "is another means of controlling the composition and amount of smoke that is collected by smoking machines." Henningfield WD, 62:22-63:7; 63:19-64:2.

3805. Dr. Burns testified that Defendants engineer their cigarettes to provide "elasticity of delivery" by "getting the tobacco to burn at certain rates and getting the paper to burn at certain rates. That results in lower [machine-measured] tar yields, but enables the person to have higher deliveries because [he/she doesn't] have to wait the interval between puffs that the machine waits." Burns TT, 2/15/05, 13367:5-11.

3806. Dr. Henningfield also testified that the composition of the cigarette paper – independent of its porosity – also can influence the delivery of the cigarette by affecting its burn rate:

> Cigarette paper used on manufactured cigarettes is treated both with chemicals that can affect nicotine delivery and with burn accelerant chemicals that make the cigarettes burn hotter and faster so as to deliver less tar and nicotine to the FTC smoking machines – which puff much less frequently than most people – than they do to people.

Henningfield WD, 62:22-63:7; 63:19-64:2; accord Henningfield TT, 11/22/04, 6795:20-6796:6 ("[I]f you increase the burn rate of the cigarette, you increase the amount of tobacco that is burned between machine-collected puffs and it's never measured. The smoker[s], of course, could get some of that, depending on how fast they puff. And in the case of the cigarette

smoker[s], typically, they take anywhere from 50 to a hundred percent more puffs [than the smoking machine].").

3807. Dr. Burns testified that Defendants' use of certain characteristics of reconstituted tobacco facilitates elasticity of delivery by affecting the cigarette's burn rate: "Reconstituted tobacco allows you to burn the tobacco at certain pre described rates because you can chop it up to very specific specifications, to certain sizes of the reconstituted tobacco. That influences the burn rate of the tobacco rod." Burns TT, 2/15/05, 13367:12-13368:3.

3808. Dr. Kessler recounted Defendants' internal documentary evidence reciting "two ways to manipulate the nicotine content in what the industry called 'reconstituted tobacco'": adding nicotine to reconstituted tobacco and changing "to blend formulas that utilized higher nicotine tobaccos in the reconstituted sheet." Kessler WD, 62:12-63:1; MNAT00533225-3228 (US 85492) (A).

3809. Dr. Henningfield also testified that, due to the FTC Method convention of stopping machine smoking "3 mm beyond the [filter] overwrap," a longer filter overwrap can contribute to a bigger disparity between FTC yields and human smoke intake, as "the smoking machine does not burn all of the tobacco in the cigarette even though cigarette smokers can smoke all of the tobacco." As Dr. Henningfield explained, these last few puffs can significantly increase deliveries to smokers:

> First, these last puffs provide the smoker with more tar and nicotine laden puffs because with each successive puff on a cigarette, the remaining tobacco and the filter collect tar and nicotine which can, in turn, be released by continued puffing. Second, because the smoke becomes more concentrated in tar and nicotine with each successive puff, just a few extra puffs can mean a disproportionately large increase in tar and nicotine exposure.

He added that "**in the ten years after the FTC test started**, it was reported in the literature that

the overall length of the overwraps increased over ten years. . . . this is the amount of material that is not smoked by the machine; it's the amount of material that can be smoked by human cigarette smokers. . . . even one extra puff dramatically boosts the tar and nicotine that the smoker takes in." Henningfield WD, 64:19-65:21; Henningfield TT, 11/22/04, 6795:4-7; 6797:2-22 (emphasis added).

(i) Defendants' Deception Regarding Barclay

3810. The episode involving BATCo's Barclay cigarette illustrates Defendants' conspiracy to deceptively design low tar cigarettes and to keep their activities secret from the public. In September 1983, Philip Morris Holland ran an advertisement pointing out that BATCo's Barclay brand cigarettes generated FTC tar and nicotine yields that were drastically lower than the actual tar and nicotine delivered to smokers of Barclay cigarettes. The Philip Morris advertisement actually mirrored the statements of an anti-smoking group on the issue. BATCo Chairman Patrick Sheehy responded by sending a telex to George Wiseman of Philip Morris, stating: "I find it incomprehensible that Philip Morris would weigh so heavily the short-term commercial advantage from deprecating a competitor's brand while weighing so lightly the long-term adverse impact from an ongoing anti-smoking programme. . . . **In doing so, Philip Morris . . . makes a mockery of Industry co-operation on smoking and health issues**." 201080394-0395 at 0394 (US 78984) (A) (emphasis added); 104576621-6624 at 6624 (US 20236) (A); 104576617-6620 at 6618 (US 20235) (A).

3811. In an October 26, 1983 telephone conversation between Hugh Cullman, head of Philip Morris International operations, and E.A.A. Bruell, BATCo Chairman, Cullman agreed not to do anything further to inform the public that the Barclay cigarette produced FTC Method tar and nicotine measurements that were deceptively low when compared to what smokers

actually inhale from Barclay cigarettes. The notes of the telephone conversation stated, "**Essential Industry hang together**. Holland activity was not PM company policy. They must try to prevent this happening in the future." Cullman agreed, stating "PM to instruct its No 1's they must not use anti-smoking activities, statements or programmes for competitive gain." 301030943-0944 (US 46577) (A) (emphasis added).

3812. On September 1, 1986, Harry F. Dymond, BATCo researcher, sent a letter on BAT (U.K. and Export) Limited letterhead to D. Allman of Filtrona Instruments and Automation Limited, setting out Dymond's "opinions" regarding the potential changes to the ISO machine smoking method – a machine smoking test system nearly identical to the FTC Method – relating to Barclay cigarettes. Dymond defended the ISO method, and recommended that it be used to test B&W's Barclay cigarettes, notwithstanding that Barclay's channeled filter produced yields that could not possibly be achieved by human smoking: "Given the present 'state of the art' in the cigarette industry and our present knowledge I believe the Draft International Standards . . . represent the best possible methods available for the testing of all cigarettes. . . . Channel ventilated cigarettes [such as Barclay] should not be treated differently from other ventilated products." 400015923-5925 at 5923 (US 85079*) (O).

3813. Philip Morris's internal research also proved that Barclay cigarettes deliver to smokers significantly larger amounts of tar and nicotine than its advertised FTC tar and nicotine yields indicate. An October 1986 Philip Morris report by H.W. Gaisch of the Science & Technology Department in Neuchatel, Switzerland summarized product characteristics:

> **Due to the vulnerability of the periferic ventilation channels of the ACRON filter, the product performs differently in the field than when being tested under laboratory conditions** . . . . The results obtained by Fresenius, the US Testing Company, the University of Neuchatel, Dr. Neurath and Dr. Aubort complement each other, and as they are based on different principles of

> measurement, validate each other. All these studies together prove that BARCLAY yields more tar and nicotine when smoked by the smoker than can be expected from standard machine measurements . . . . For example, Barclay, as marketed in Switzerland, has a tar rating of 1 mg on the smoking machine when the channels are operational and 11 mg when the channels are closed.

506811986-2001 at 1988, 1990, 1992 (US 20766) (O) (emphasis in original).

3814. A BATCo Ltd. facsimile sent June 23, 1987 by Nick Cannar of BATCo to Harry Dymond, a BATCo researcher, stated:

> Essentially, Philip Morris's attack on BARCLAY involves the allegation that BARCLAY delivers more in human smoking than it does in machine smoking. **In our defense, we say that, in this respect, BARCLAY is no different from other low delivery ventilated cigarettes and that because of 'human compensation' all smokers tend to take in more tar and nicotine from low delivery products. It is this argument which concerns the rest of the Industry which is anxious to preserve the status quo of machine testing**.

400015840-5843 at 5841 (US 85080) (O) (emphasis added).

3815. Under the heading "Conciliation," the document described an attempt "to see whether the rest of the Industry would support some change to the method of reporting tar and nicotine deliveries which would have the effect of resolving the dispute over BARCLAY deliveries," stating: **"The basis of the approach could be that we are very concerned about the continuing dispute over BARCLAY which we believe will inevitably lead to a public debate about compensation and the misleading nature of machine figures for all ventilated cigarettes to the detriment of the Tobacco Industry as a whole**." Under the heading "Widening the Debate about Compensation," the document stated: "[A] 'fall-back' position . . . would be for us to bring the whole issue of compensation into the public arena . . . . As a first step, **we could highlight with national regulators our concern that consumers are being misled by literal reporting of machine figures**. Subsequently, we could seek to interest the

popular scientific and consumer press in the whole issue of human and machine smoking." 400015840-5843 at 5842 (US 85080) (O) (emphasis added).

3816. A June 26, 1987 document on BAT (U.K. and Export) Limited letterhead from Michael Leach (BAT (U.K. and Export) Public Affairs Manager) to Nick Cannar (BATCo attorney), H.F. Dymond (BATCo researcher), A.L. Heard, and M.L. Reynolds (B&W Director of Research/Product Development) described "a suggested approach for the Armageddon option" for responding to Philip Morris's attacks on the Barclay cigarette. The plan involved revealing to the public that ventilated cigarettes generated misleading tar and nicotine yield information under the ISO machine smoking method. The document stated:

> Promoting a new standard involves drawing international scientific scientific [sic] and public attention to the facts of smoker compensation . . . . The initiative is based on good science. It moves in the new direction of scientific opinion which recognises the gap between smoking machine data and true human uptake . . . . **Faced by [Philip Morris's public complaints regarding the inaccurately low machine yields generated by Barclay cigarettes], BAT is considering an option designed to: a) Bring about the adoption by ISO of cigarette test criteria which more honestly reflect human smoke uptake . . . . Rationale . . . . It appears inevitable that existing test methodology will be questioned because it is unrealistic**. More accurate methods will be demanded of ISO ["ISO" changed to "the industry" by marginalia on document] . . . . It is in BAT's interest to accelerate the trend towards new test methodologies based upon the realities of human uptake. A BAT initiative would be moving with the flow of scientific opinion. Testing based on realities is likely to be more acceptable to the consumer than current methods . . . . **The initiative foresees BAT going over the head of the rest of the industry and recommending directly to the community [modified to "regulators" by marginalia] that cigarette testing be seen in a completely new way and that outdated tests be replaced. The industry status quo would be broken . . . . 1. BAT seen as a rogue elephant by the industry. Isolation**. 2. BAT seen by the community ["community" changed to "regulators" by marginalia] as realistic and working to present the consumer with honest information . . . . 4. **The public perception of low, medium, high tar cigarettes is turned on its head . . . .**

> **5. Smoking and health issues are seen in a changed light as it becomes clear that smokers have greater control over tar/nic uptake than previously recognised** . . . . Launch First half 1988 . . . . **If ISO . . . is not prepared to accept [BATCo's proposed] labelling [sic] solution, BAT may be obliged to draw public attention to the unrealistic nature of league table figures provided for smokers** . . . . The debate should be concerned with the importance of consumers having accurate scientific dat[a] . . . . CONCLUSION 1. Channel ventilated cigarettes are important for the future of BAT's international business. 2. The company cannot sit on its hands if the rest of the industry, through ISO, insists on maintaining outmoded test criteria in order to shut out channel ventilated products. 3. . . . [T]he proposed programme would aim to bring about the adoption by ISO of more realistic, and non-discriminatory test standards. 4. BAT's views on compensation reflect a growing body of scientific opinion. There is an opportunity for the company to accelerate this movement. . . . 7. In pursuing this alternative, the company moves with the tide of scientific thinking.

400015831-5839 at 5831-5835, 5837-5839 (US 85081) (O) (emphasis added).

3817. Similarly, a BAT facsimile dated July 31, 1987 from Nick Cannar to several BAT employees discussed several options for combating Philip Morris's attempts to have B&W's Barclay cigarette excluded from the ISO measuring protocol. One such option was "to include a paragraph in the ISO standards saying that, at very low delivery levels, the figures may not be particularly relevant or meaningful to consumers." BATCo also described:

> [A] much more aggressive approach which would involve publically challenging the machine figures for our competitors' ventilated products. **As we know, human compensation occurs with all ventilated cigarettes, particularly low delivery ones**. One way of preventing ‘Barclay' from being dealt with in isolation is to generate a wide public discussion and interest in the higher deliveries obtained by humans from all ventilated cigarettes during human smoking. **This would be a very proactive approach which would involve, for example, drawing to the attention of national regulatory authorities and to other interested organisations and publications the discrepancies between actual human uptake and machine figures for a wide range of our competitors' products**.

400015806-5808 at 5807 (US 85082) (A) (emphasis added).

3818. An August 19, 1987 BATCo document authored by H.F. Dymond, BATCo researcher, and "CLA" on BAT (UK and Export) Limited letterhead stated: "ALL laboratory based data shows that BARCLAY delivers a comparatively higher quantity of smoke to the consumer than other 1mg cigarettes." The document went on to state that "the other members of the Industry claim that there is no evidence to show that conventional products distort the ranking derived from machine data when smoked by humans." Under the heading "Industry Reaction," the document stated: "PM do not openly concede that compensation occurs . . . . On balance the other Companies dislike the present situation intensely . . . . They are angry with BAT for raising an issue which they believe will bring the entire industry into disrepute. **They acknowledge the compensation argument, recognise the forces presently trying to debate it, believe that the industry should oppose any attempt by those outside the industry to raise the issue**." 400015791-5797 at 5793, 5796 (US 85083) (O) (emphasis added).

3819. A BATCo document entitled "Summary of a meeting on Barclay held in New York on 24th August 1987" (attended by E.A.A. Bruell, W.J. Dickson, R. Pritchard, Tom Sandefur, A.L. Heard, M.L. Reynolds, Nick B. Cannar, Ernest Pepples and H. Dymond (listed as "Testing Manager R&DC/BATCo representative on ISO/Coresta Committees)) dealt with the issue of Barclay and the deceptiveness of machine smoking yields for all ventilated cigarettes. The document revealed that BATCo and the other Defendants were aware that all ventilated low delivery cigarettes generated misleadingly low tar and nicotine yields by machine testing, and that BATCo's only consideration of informing consumers of "the true scientific position" that ventilated cigarettes generated misleadingly low machine-measured tar and nicotine yields was to use the "threat[]" of informing consumers of the truth to prevent the other cigarette companies

from exposing the misleadingly low nature of Barclay's tar and nicotine deliveries in relation to human smoking:

> Our scientific evidence is that smokers ‘compensate' with all low delivery products and obtain from these products significantly higher deliveries of tar and nicotine than is suggested by the machine figures. This phenomenum [sic] of ‘compensation' for low delivery cigarettes is becoming increasingly recognised by reputable independent scientists. . . . **We should say that unless attacks on Barclay cease or the Industry is prepared to support a modification of the ISO standard to show the average figure for all ventilated products, including Barclay, then we will take whatever action is appropriate to make known to consumers the fact that machine figures do not provide an accurate guide to human uptake from all ventilated products**. . . . **If the Industry permits the attack upon Barclay to continue or is not prepared to accept a revision of the ISO standard for all ventilated products, then we would propose to put these threats into operation and to publicise to consumers, consumer organisations and national regulators the true scientific position concerning the measurement of tar and nicotine deliveries of all ventilated products**.

Under the heading "Scientific Evidence" and the subheading "On the Negative Side," the document stated: "It is easy to demonstrate compensation with BARCLAY. Lay people find these demonstrations convincing." 400015688-5690 at 5688-5690 (US 85062) (A) (emphasis added).

3820. A December 1, 1987 document written by Thomas Sandefur, B&W President and CEO, to a scientist in Kuwait regarding tar and nicotine testing of B&W's Barclay cigarette via the ISO method (a machine test virtually identical to the FTC Method) stated: "We have also carefully considered your question about providing better consumer information concerning the deliveries from low tar cigarettes. In keeping with your interest [in] this matter, Brown & Williamson suggests placing an insert in Arabic and English with each packet of cigarettes stating that ‘Blocking ventilation may result in higher deliveries of tar and nicotine.'" The letter

also stated: "**[W]hen they block the ventilation holes the smokers of all low tar cigarette brands can get many times the amount of tar and nicotine predicted by the ISO method. We do not accept that the BARCLAY ventilation system is any more abused than any other air-dilution type filter**." 2500046199-6199 (US 27899) (O) (emphasis added); 506811986-2001 at 1988, 1990, 1992 (US 20766) (O); Bible PD, United States v. Philip Morris, 8/22/02, 123:12-126:6-9 (testifying that "the ISO method is another way of referring to the FTC method of measuring cigarettes").

3821. Philip Morris received a copy of the December 1, 1987 Sandefur letter and, aware of its possible implications for itself and other Defendants, responded aggressively, eventually getting BATCo to agree not to refer publicly to human smoking behavior or compensation. A September 8, 1988 memorandum to Geoffrey Bible, CEO of Philip Morris International, urged that, as part of any resolution of the dispute over the Barclay cigarette, "**BAT will cease all references and discussions relative to human smoking habits (compensation) regarding ventilated products**. In other words, **discussing who 'cheats' is a non-productive exercise for our business**." 2500046198-6198 (US 45836) (O); 2500046174-6175 at 6175 (US 20547) (O) (emphasis added); Bible PD, United States v. Philip Morris, 8/22/02, 131:3-135:9.

3822. On January 12, 1989, Steve Darrah, head of Philip Morris International Operations, wrote to Philip Morris International attorney Lee Pollak and Philip Morris International CEO Geoffrey Bible regarding an upcoming meeting with BATCo/B&W to resolve the dispute over the tar and nicotine rating of Barclay. The meeting included Martin Lance Reynolds from BATCo (a fact witness and formerly an expert for Defendants in this case). The memorandum stated: "Philip Morris' position will be the following . . . **BAT will not raise the issue of compensation and human smoking behavior in the future** . . . . As we have made a

major ‘concession' regarding retroactive litigation, **we will ask that BAT stop immediately all current efforts on their part to raise the issue of human smoking behavior** . . . ." 2500046145-6146 at 6146 (US 20544) (O) (emphasis added); Bible PD, United States v. Philip Morris, 8/22/02, 135:11-143:13.

3823. On January 19 and 20, 1989, Philip Morris and BAT representatives met to resolve their disagreement. The memorandum describing the meeting reported that "BAT had planned to help SASO to make a human smoking behavior study in Saudi Arabia to show the difference in tar delivery between human and machine smoking for low tar products. **These kinds of tests are extremely dangerous for the entire industry and BAT accept to cancel it**." 2500046147-6150 at 6149 (US 20545) (O) (emphasis added - bold type); 2023266337-6337 (US 85052) (O) (telex cover note with Bible's handwriting); 2023266338-6340 (US 26783) (A) (copy of 2500046147-6150); Bible PD, United States v. Philip Morris, 8/22/02, 138:16-144:3.

3824. Dr. Harris, economist and expert witness in this case, reached the following conclusions from the quoted portion of the document above and other evidence he reviewed on the Barclay issue:

> **For many years, Defendant cigarette manufacturers had an explicit agreement, going back to late 1953, not to make adverse health claims about each others' products.** As I testified earlier, the business environment was significantly altered with the widespread publication of tar and nicotine ratings in the late 1950's by such independent entities as Reader's Digest and Consumer Reports. **To preserve their cooperative arrangement in the face of a new business environment, manufacturers began to compete on "the numbers," but still sought jointly to avoid any explicit claims about the health significance of such ratings or any claims that competitors' brands were unhealthy**. When BAT and Brown & Williamson introduced Barclay as a 1mg cigarette, such an act, while apparently competing "on the numbers," nonetheless raised issues that threatened to destabilize the collusive arrangement. As we know from the Holland incident, Philip Morris first retaliated by making direct health-related attacks

> on Barclay, and BAT responded by withdrawing from INFOTAB. With Philip Morris continuing to press its case in Switzerland, **BAT threatened to publicize the unreliability of "the numbers" themselves, thus threatening the common interests of all the firms in the entire industry. The threat was apparently sufficient to induce Philip Morris ultimately to withdraw its complaints, and manufacturers continued to compete "on the numbers" while the collusive arrangement was maintained.** The episode attests to the enduring strength of the collusive arrangement in the face of serious destabilizing threats by participating firms.

Harris WD, 201:11-202:6 (emphasis added).

3825. On January 23, 1989, a Philip Morris memorandum with agreed-upon "official minutes" from the meeting with BATCo and B&W regarding the Barclay filter cigarette was sent to and reviewed by Geoffrey Bible and other Philip Morris executives. Despite the fact that correspondence between Philip Morris employees and B&W/BATCo employees, which detailed Philip Morris's actions to prevent B&W/BATCo from engaging in any further public discussion of compensation, **was received by Bible himself**, Mr. Bible denied under oath at his 2002 deposition in this case that Philip Morris took steps in 1988 to prevent B&W from discussing the phenomenon of compensation publicly in connection with Barclay cigarette. Compare Bible D, United States v. Philip Morris, 8/22/02, 130:19-130:24; with 250046174-6175 (US 20547) (O); 2500046145-6146 (US 20544) (O); 2500046147-6150 (US 20545) (O).

3826. As detailed below, the evidence shows that the Barclay saga was not an isolated event. Dr. William Farone, Philip Morris USA employee from 1976 to 1984 and former Director of Applied Research at Philip Morris USA, and expert in "the chemistry and biochemistry of alkaloids and addictive drugs, the chemistry and physics of cigarette smoke, cigarette design and technology, and the chemistry and biochemistry of toxic substances and how they interact with living systems," testified that "[t]he argument against Barclay also applies to Marlboro Lights and

other similar products – simply a different mechanism. Artificially low FTC ratings is an inherent characteristic that occurs in the design of cigarettes with low resistance to draw as manufactured by all the companies." Farone WD, 2:2-8; 2:15-19; 114:8-22; Farone TT, 10/12/04, 2171:25-2172:8; 2182:11-2190:7.

3827. Several of Defendants' documents reference a 1969 "Smoker Intake Study" that was jointly "performed by Philip Morris for Brown & Williamson, Reynolds, Philip Morris and Lorillard." The results of this study of "smoke intake patterns among filter smokers" were presented by W.L. Dunn, Senior Scientist at Philip Morris, to the lawyers and scientists from the Tobacco Institute, including employees and representatives from Philip Morris, RJR, B&W, Lorillard and Covington & Burling on February 5, 1969. One of the study's objectives was to determine "the validity of FTC tar values as an index to smoke exposure." The study noted that "[h]ow much smoke a smoker gets is a crucial variable in studying the relationship of smoking to health." The report stated: "There is some relationship between the amount of smoke taken into the mouth daily and the FTC tar value for the brand smoked; **the relationship [is] of such low order [or] magnitude among filter smokers, that, taken alone, ha[s] no practical value for predicting smoke intake**." The report also discussed the "independence of daily intake relative to FTC tar values for brands smoked," and observed that "about 20% of those smokers of the high delivery cigarettes had a lower daily intake than the average smoker of the lowest delivery cigarettes." 504208317-8360 at 8319, 8323, 8327, 8328 (US 85068) (A) (Philip Morris Smoking Behavior Study) (emphasis added); 1001818034-8034 (US 85069) (O) (February 7, 1969 letter from Helmut Wakeham, Philip Morris Vice President of Corporate Research and Development, to P.A. Eichorn, Manager in Philip Morris's Technology Planning and Information Development Department, & W.L. Dunn); 04227839-7844 at 7843 (US 20066) (O) (February 24, 1969 letter

from P.R. Grant, Lorillard attorney, to Lester Pollack, Lorillard attorney and executive, noting the study was "supported by all but American Tobacco" and illustrative of when "the Industry from time to time has joined together to support studies"); 00498812-8814 (US 29414) (A) (June 6, 1969 letter from Arthur Stevens, Lorillard attorney, to H. Thomas Austern, Tobacco Institute attorney (with law firm Covington & Burling) referencing "the smoker intake study performed by Philip Morris for Brown & Williamson, Reynolds, Philip Morris and Lorillard"); 1000869989-9989 (US 85071) (O) (September 5, 1968 letter from P.A. Eichorn to R.B. Seligman, Philip Morris executive); 1001880771-0772 (US 85072) (O) (September 10, 1968 letter from P.A. Eichorn to Helmut Wakeham).

(ii) Philip Morris

3828. The evidence shows that Philip Morris was more far more interested in developing cigarettes that would sell than they were with designing safer cigarettes. James Morgan, former Philip Morris CEO, testified that the marketing department often drove new product development at Philip Morris:

> I believe that I characterized the marketing R&D relationship as 70 to 80 percent marketing, saying to R&D here are the marketplace conditions, here are the issues from a cigarette standpoint that we see; what can you do. And then the balance 20 percent or 25 or 30 percent R&D saying, hey, here are some things we developed, what do you think you can do with these in the marketplace.

Morgan PD, Price, 6/5/02, 95:13-99:5.

3829. Dr. Farone testified:

> **Philip Morris, including during my time there, exploited its knowledge of [the] compensation phenomenon in its design and manufacture of cigarettes**. . . . Philip Morris exploited knowledge of [the] compensation phenomenon by designing low tar cigarettes to register low tar and nicotine yield values under the FTC method testing protocol, while at the same time enabling smokers to compensate. **When I was there, it was a key**

consideration in every product development.

Farone WD, 2:2-8; 2:15-19; 114:2-7 (emphasis added); Farone TT, 10/12/04, 2171:25-2172:8; 2182:11-2190:7 (emphasis added).

3830. Dr. Farone testified that: "In the case of Marlboro Lights, that cigarette was designed – before I got to Philip Morris – **such that it could score one level on the FTC machine while simultaneously delivering the needed dose of nicotine for the smoker**." Farone WD, 126:9-16 (emphasis added).

3831. Dr. Farone further testified:

> We [at Philip Morris] knew how to make cigarettes with filters that essentially prevented compensation or made it very obvious to the smoker that they were compensating . . . . However, **Philip Morris intentionally avoided including those features in some of their major lights and lower tar cigarettes, to ensure that smokers could compensate**.

Farone WD, 124:4-20 (emphasis added).

3832. Dr. Farone added that cigarette design to facilitate compensation "continues today," and that "Marlboro Lights, Virginia Slims Lights, and Winston Lights, just to name a few, are all cigarettes that are designed to facilitate compensation." Farone WD, 115:19-116:2; accord Farone TT, 10/7/04, 1852:9-16 (testifying that "if you compare a full delivery cigarette to" a light (as opposed to ultralight) cigarette, "the amount of nicotine [smokers] derive will be essentially the same" from either).

3833. A February 18, 1964 Philip Morris Research Center report to Philip Morris management prepared by Helmut Wakeham, then Director of Research, proposed that Philip Morris influence the testing procedure to be used by the government and the FTC, specifically to measure the harmfulness of cigarettes, and exploit the governmental testing methodology as a vehicle for marketing:

> [T]he following recommendations are offered to Philip Morris management: . . . . Move promptly and effectively toward establishment of suitable biological approval specifications for all new smoking products. It may be expected that in time the Government will force the adoption of such specifications, in which case Philip Morris would be able to influence the setting of the ‘uniform and reliable testing procedure' (proposed FTC Rule 3) consistent with our own methodology. Apart from possible legal requirements, **such a policy would enhance advertising opportunities**.

1003884292-4302 at 4298-99 (US 20180) (O) (emphasis added).

3834. A June 1966 Philip Morris report prepared by Philip Morris marketing researcher Myron E. Johnston, Jr. – whom Dr. Farone testified "was generally acknowledged to be the guru on market analysis within the R&D Department" at Philip Morris and whose "research and recommendations shaped [the] views and decisions" of Philip Morris executives – for Helmut Wakeham and others illustrates that, as of 1966, Philip Morris was continuing with this plan by developing cigarettes that would generate low tar and nicotine numbers on the FTC machines, but deliver much higher levels when smoked by humans:

> In the event of . . . the passage of legislation requiring a statement of ‘tar' and nicotine content on the pack, the delayed dilution cigarette could be a formidable entry as a full tobacco flavored cigarette. It could compare favorably with any health cigarette currently on the market yet deliver full flavor throughout the crucial first 40mm of the rod. I am of the opinion that we should press development of this concept.

Dr. Farone, who reviewed this document as part of his duties while a Philip Morris employee, testified that Mr. "Johnson wrote this memo in anticipation of the introduction of the FTC testing method," and that the "paragraph shows that Philip Morris was planning to develop cigarettes that would generate low tar and nicotine numbers on the FTC machines, but the cigarettes would actually deliver much higher levels when smoked by humans." The document further stated: "**The illusion of filtration is as important as the fact of filtration**. Therefore any entry should

be by a radically different method of filtration but need not be any more effective . . . . Several studies have shown that a large proportion of smokers believe that any filter reduces the health hazard . . . ." Dr. Farone testified that this statement "shows that Philip Morris's product development was not genuinely aimed at making products that meaningful testing showed likely to be less hazardous, but rather products that would imply safety but didn't actually offer any advantage." 1001913853-3878 at 3857-3858, 3862, 3870 (US 20123) (A); 1000338644-8671 at 8649, 8654, 8662 (US 21487) (A) (emphasis added); Farone WD, 108:8-110:5.

3835. Dr. Farone added that this document is one of many on the topic, and that the views expressed in it were known and of interested to the highest level executives at Philip Morris:

> Some of the most senior executives would always come to the monthly Richmond meetings when any presentation was given by Mr Johnson or Mr. Dunn relative to this topic because there was a general recognition within Philip Morris that what we were doing was selling a nicotine delivery device. People smoke for the nicotine. So topics like how much nicotine smokers need, how much they want, how much they can tolerate, how little they can accept, were all topics that were discussed frequently. This is one of probably several dozen documents on this same subject that I have seen.

Farone WD, 107:4-19.

3836. A 1969 Philip Morris report of the findings of a Philip Morris study of filter smokers' intake patterns stated that the FTC Method has "**no practical value for predicting smoke intake**." 1003287490-7557 at 7494 (US 20161) (O) (emphasis added).

3837. A March 1, 1974 Philip Morris document by Wakeham stated under the heading "SUMMARY": "People do not smoke like the machine [referring to the FTC Method] . . . **Generally people smoke in such a way that they get much more than predicted by machine. This is especially true for dilution cigarettes**." After acknowledging that people get much

more tar than indicated by the FTC testing methodology, the document stated in the "CONCLUSION" section: "**The FTC standardized test should be retained: 1) It gives low numbers**." 1003293476-3493 at 3476, 3492-3493 (US 85073) (A) (emphasis added); see also Whidby TT, 2/22/05, 13983:2-22 (acknowledging that first reason Wakeham lists for retaining FTC Method is: "it gives low numbers").

3838. This document also displays a chart and states: "A study of 1,235 smokers in 1968 and again in 1972 showed them to have increased the daily number of cigarettes they smoke . . . ." The chart shows that, for 70% of the brands depicted, when the tar level went down, the number of cigarettes smoked per day went up. 1003293476-3493 at 3480 (US 85073)(A); Whidby TT, 2/22/05, 13978:4-14; 13979:4-13980:17; 13980:22-13981:19; 13978:23.

3839. Dr. Farone testified that this document, which he "was aware of at the time" he was a Philip Morris employee, has to do with . . . designing the cigarette so that the FTC tar number is lower, but the amount of nicotine that can be extracted by the smoker relatively easily by changing their habits would be equal to the one of higher tar delivery." Farone WD, 116:15-117:8.

3840. A March 7, 1974 Philip Morris interoffice memorandum from Raymond Fagan to Wakeham, entitled "Moral issue on FTC Tar," stated:

> Some concern has been expressed concerning the moral obligation of Philip Morris (and perhaps the tobacco industry) to **reveal to the FTC the fact that some cigarette smokers may be getting more tar than the FTC rating of that cigarette**. You mentioned in your presentation at the Center on Tuesday, March 5, that such concern was voiced in N.Y. at your talk there. And it was expressed again by some individuals who heard you in Richmond. **I believe that there need be no such concern, at least from a position of morality**.

1000211075-1076 at 1075 (US 35179) (A) (internal numbering omitted).

3841. "[F]rom the 1970s until today, Philip Morris has [] used computer models to predict the FTC tar and nicotine delivery based on" a given cigarette's design, but Philip Morris has never used or input data into these computer models to predict the tar and nicotine delivered to human smokers based on a given cigarette's design. In fact Dr. Whidby testified that "[t]he computer does not deal at all with what people who smoke Philip Morris cigarettes actually get." Whidby WD, 16:13-17:6.

3842. Dr. Whidby also testified that Philip Morris research found "that many smokers take bigger puff volumes than the machine does in the FTC method." Whidby WD, 17:10-15.

3843. An Annual Report of the Philip Morris U.S.A. Research Center dated June 17, 1981, written by Barbro Goodman and entitled "Development Smoke Studies," which lists Dr. Whidby as a recipient, stated that the average panelist in the subject smoke studies took bigger and longer puffs than the FTC Method. The Report continued: "The cigarettes with the lowest RTD [resistance to draw] and dilution levels were smoked with the largest puff volumes, which means that lower delivery cigarettes generally are smoked with larger puffs than higher delivery controls. This was true in all sets of cigarettes that were tested." As Dr. Whidby acknowledged, the Report went on to describe Philip Morris's "capability to lower the number of puffs of a cigarette taken under the FTC Method – thereby decreasing its reported FTC tar yield – by making the cigarette burn faster." Dr. Whidby also acknowledged that, unlike the machine, a human smoker "can just take puffs of [the] cigarette more often and ingest just as much tar and nicotine from the cigarette as [the smoker] could before the cigarette was designed to burn faster." This Philip Morris Report also recounted several lines of "evidence that physical parameters, particularly RTD [resistance to draw] and dilution, are the primary determinants of average smoker parameters." 1000392398-2423 at 2403, 2407, 2411 (US 34636) (A); Whidby

WD, 48:19-49:11.

3844. Dr. Whidby testified that, "from 1971, when Marlboro Lights was introduced, until 1978 or 1979, the resistance to draw ("RTD") of Marlboro Lights was lower than the RTD of Marlboro Red, which made it easier for a smoker to take bigger puffs on a Marlboro Light than on a Marlboro Red." Whidby WD, 43:1-12.

3845. A Philip Morris document with the heading "Tentative Agenda Richmond Meeting – August 2, 1983 Product With Most Desirable Smoke Characteristics Future Product Trends," which lists Dr. Whidby as a scheduled presenter, set out – under the heading "Low tar high (or med) nicotine" – a plan to develop a cigarette that reduced delivery "under actual smoking cond[itions]" by increasing nicotine delivery relative to tar. This demonstrates that Philip Morris's other "low tar" cigarettes at the time were **not** designed to actually deliver lower tar to smokers: "[C]an show using PREP technique how to balance nicotine level **to achieve a real low delivery cigt. under actual smoking cond.** Use smoking simulator in conj. – w/PREP if nec. Make a series of cigts. w/low tar & varying nic." 1003177954-7957 at 7957 (US 35661)(A) (emphasis added); Whidby WD, 64:1-18.

3846. Victor DeNoble, a former Philip Morris research scientist, stated on the January 3, 1995 PBS television program "Frontline" that Philip Morris was aware that smokers were blocking cigarette ventilation holes and that "[i]n fact, there was a project in which a psychology group at Philip Morris actually filmed people smoking to determine where filter[] and dilution holes should be placed, so that the fingers would cover them up." 2046562514-2533 at 2531 (US 85085) (O).

3847. A facsimile sent from Philip Morris's Richmond legal office on January 21, 2000, to familiarize new employees with Philip Morris's cigarettes confirmed that the ventilation holes

in cigarettes are not readily apparent; it instructed new employees to "[o]bserve the ventilation holes in the tipping paper by holding up to the light or by using the magnifying glass." 2074112963-2968 at 2965 (US 85086) (A); see also Whidby WD, 38:1-22; 39:12-17 (testifying that "this Philip Morris document instructs the person giving the presentation that, even after the tipping paper is removed from around the filter, in order to see the ventilation holes, he or she needs to hold the tipping paper 'up to the light' or use 'the magnifying glass," and acknowledging that "Philip Morris could just put a visible line around the part of the filter that contains the vent holes" to alert consumers to their presence, "[b]ut Philip Morris has never done that.").

(iii) RJ Reynolds

3848. In February 1965, when the testing procedures to be used by the FTC were under development, Alan Rodgman, a RJR senior scientist, told senior management: "The conclusion is . . . inescapable that **labeling the amount of 'tar and nicotine' on a cigarette package cannot give to the smoker meaningful information as to the amount or composition of the total solids and nicotine he receives from the cigarettes he smokes. He is more likely to be misled than informed**." 521184948-4965 at 4950 (US 22134*) (A) (emphasis added); 501013225-3239 at 3227 (US 22227) (O); 2025002829-2846 at 2831 (US 22166) (O).

3849. A document circa 1971, apparently written by Anders H. Laurene, then Manager of the Chemical Division of RJR (and Director for RJR from 1977 to 1980) shows that, as early as 1971, RJR had internal data in a "Puff Profile Paper" that was "well-organized, professionally written, and describe[d] highly competent work" concluding that FTC tar and nicotine yields for low tar cigarettes were inaccurately low due to smoker compensation:

> It is indicated by these data that smokers compensate for low "tar" deliveries by taking larger puffs. This could be interpreted by adversary forces to mean that the industry is failing in actuality in its present approach toward reduced 'tar' delivery to smokers. Our

> own approach – higher filtration and/or air dilution – is made to seem self-defeating by these data. . . . Puffs taken by humans smokers are depicted as being much larger in volume than the generally recognized "FTC puff volume." . . . [T]he results of this study may be interpreted by adversary forces to mean that smokers receive much more "tar" than FTC numbers indicate. Such interpretation would be damaging to our already besieged industry . . . . As it now stands, we do not have any means of disproving or challenging such interpretation.

The document added: "**There is nothing wrong with this paper** as concerns work quality, scientific merit, or written preparation." This same document evidences RJR's commitment, on behalf of the entire industry, to prevent publication in 1971 of accurate scientific data showing compensation for low delivery cigarettes. **RJR deferred publication** of the paper **solely because its "contents can be interpreted to be contrary to Corporation interests**" and "**might raise further controversy on the issue of 'tar' delivery to smokers."** 500286135-6136 (US 85074) (O) (emphasis added).

3850. A September 18, 1975 handwritten report by John H. Reynolds, an RJR scientist, revealed that RJR was designing cigarettes to test low by FTC puff volumes (35 ml), but achieve much higher tar/nicotine deliveries when bigger puffs were taken by actual human smokers:

> Several LTC cigarette prototypes were tested in an **attempt to improve the tar delivery capability at high puff volumes, while retaining a nominal 2mg tar delivery at the 35ml puff volume**. The effects of the location and number of tipping perforations, tow item, cigarette wrapper and mouthend configuration ("TC" or plain) were examined to a limited extent. The results of these tests were passed on to TPD [tobacco product development] for their use. An interesting finding was that when other factors were equal, the plain tip versions always gave a greater increase in tar delivery on increasing from 35cc to 64cc puffs than did the "TC" tip versions.

502833940-3940 (US 85075) (O) (emphasis added).

(iv) Brown & Williamson

3851. Dr. Wigand, who was B&W's Vice President of Research and Development from 1989 to 1993, explained how compensation was "a design consideration" at B&W:

> Brown & Williamson designed their cigarettes purposefully to deliver varying amounts of nicotine, dependent upon the different ways in which individuals smoked cigarettes. This design feature allowed each individual smoker to satisfy their maintenance level of nicotine despite variations in the amount of nicotine each smoker required to maintain addiction. In short, Brown & Williamson consciously designed its cigarettes with elasticity of nicotine delivery in mind.

Wigand WD, 8:11-17; 121:21-122:2.

3852. Dr. Wigand also explained the significance of B&W's design of its cigarettes for "elasticity of nicotine delivery":

> [W]e knew at Brown & Williamson that smokers had varied nicotine burdens, which means the amount of nicotine required to sustain addiction varied from smoker to smoker. Thus, we knew that if light cigarettes were capable of only delivering the machine measured amount of nicotine that most smokers of light cigarettes would not get the required amount of nicotine necessary to maintain addiction. Thus, it was necessary to design the cigarette to be elastic in terms of the amount of nicotine delivered. Essentially allowing each smoker to obtain from the cigarette – regardless of whether it was a light or a full-flavor cigarette – the dose of nicotine that was necessary to meet their individual nicotine burden.

Dr. Wigand testified that, when he was the head of B&W's research and development, "all brand styles of cigarettes – full-flavor, lights and ultralights" manufactured by B&W were "designed to be elastic." Wigand WD, 122:3-14; 123:21-124:1; see also Wigand WD, 123:16-20 ("Elasticity is the cigarette design feature that allows the human to be successful in getting the amount of nicotine they need out of a cigarette, even though that amount will differ from one smoker to another.").

3853. A March 4, 1982 interoffice memorandum discussing the highly deceptive nature

of the design of B&W's Barclay cigarette and others like it, sent from J.H. Reynolds, A.B. Norman, and J.H. Robinson to R.E. Morse (all RJR employees) stated:

> The next generation of "Barclay competitors" will be spawned (indeed has already been spawned) in the minds of R & D and marketing people throughout the industry and its suppliers. **This generation of products, or the next, could easily be products which will deliver NO "tar" or nicotine when smoked by the FTC method, and yet when smoked by humans essentially be unfiltered cigarettes**. Such products could (and would) be advertized as 'tar-free,' 'zero milligrams FTC tar', or 'the ultimate low-tar cigarette', while actually delivering 20-, 30-, 40-mg or more "tar" when used by a human smoker! **They will be extremely easy to design and produce**. If there is any doubt that such products could be made, we will be happy to provide design sketches or prototypes of new or existing designs which will substantially accomplish the feat. **Such cigarettes, while deceptive in the extreme, would be very difficult for the consumer to resist, since they would provide everything that we presently believe makes for desirable products; taste, "punch", ease of draw and "low FTC tar."**

503670658-0659 at 0658 (US 20721) (A) (emphasis added).

3854. A June 9, 1982 B&W memorandum by Ernest Pepples, Vice President and General Counsel, entitled "Low-'Tar' Cigarette Advertising and the FTC Cigarette Testing Program: A Time for Re-Examination," stated:

> It has been theorized by some that smokers of low-'tar' cigarettes may automatically compensate for the reduced delivery of 'tar' and nicotine by oversmoking, e.g., by puffing more often or more deeply, by smoking each cigarette closer to the filter, or by smoking more cigarettes . . . . **FTC's present system further contributes to consumer deception because it allows some cigarette companies to promote heavily a "box" brand, without adequately distinguishing it from the soft pack of the same brand name, which delivers considerably more "tar". In fact, however, the companies produce such a small volume of the box brand as to make it a phantom brand that is rarely found in the marketplace**. On the other hand, the soft-pack version bearing the identical brand name and package design but testing at a considerably higher "tar" level, is the version readily available to the consumer . . . an EPA-type disclaimer might be

> adopted to warn that the FTC figures are standardized measurements derived by laboratory tests; any smoker may get more or less depending on the way he or she smokes the brand in question.

Despite this knowledge, B&W took no step toward informing consumers of the true meaning of the FTC yield numbers. 690025487-5491 at 5488-5491 (US 21042) (A) (emphasis added).

3855. In a March 19, 1984 letter, Pepples told Howard Liebengood of the Tobacco Institute that "the industry opposes and will resist any 'compromise' [with FTC] that includes requirement relating to 'tar' and nicotine ratings" because such ratings "may be misleading to consumers" and FTC tests bear no relation to actual consumer intake. 521060910-0912 at 0912, 0910 (US 20892) (O) (emphasis in original).

3856. A February 14, 2002 B&W document entitled "Low Delivery Products and 'Lights' Descriptors" acknowledged:

324534461-4481 at 4463 (US 20594) (Confidential) (O).

3857. At his deposition in this case, Hugh Honeycutt, Director of Research Services and Analytical Research for B&W and former Director of Product Development and Leaf, testified that ultra-low tar smokers actually inhale more tar than is shown by the FTC Method. Honeycutt PD, United States v. Philip Morris, 4/23/02, 130:23-131:10.

(v) BATCo

3858. In an internal document, BATCo acknowledged that, unless lower tar cigarettes were specifically designed to allow compensation, thus offering deceptively low machine measured tar and nicotine yields and much higher actual yields to human smokers, they often were not popular with smokers: "Nearly every BAT company has products in the low tar segment of its markets, but they do not generally command a major position in sales . . . . In the extremely low delivery range, **unless they are specifically designed, they offer poor 'reward**

for effort' . . ." 100515899-5910 at 5909 (US 20230) (A) (emphasis added). Explaining the significance of Grieg's statements, Dr. Burns testified: "Clearly a tobacco industry goal was to develop products that could be promoted as delivering lower yields, but when smoked would deliver a full dose of nicotine in order to satisfy the smoker." Burns WD, 51:16-19.

3859. A 1980s memorandum from BATCo's research and development group recommended that BATCo design cigarettes that would make it easier for smokers to compensate: "**Irrespective of the ethics involved, we should develop alternative designs (that do not invite obvious criticism) which allow the smoker to obtain significant enhanced deliveries should he so wish**." 109869437-9440 at 9437 (US 21707) (A) (emphasis added); Henningfield WD, 54:16-55:2 ("This course was followed despite the fact that an alternative course was possible – namely, to design cigarettes that would make it more difficult to obtain tar and nicotine levels above the FTC test levels").

3860. A January 10, 1977 BATCo report by D.E. Creighton reported nearly-identical conclusions to those of a January 17, 1977 memorandum. The report added:

> There were some observed abuses of the cigarette design . . . . It was observed that at least one subject learned that by placing the cigarette further into the mouth, the ventilation holes could be covered up and smoke deliveries increased. It was also noted that the fingers used to hold the cigarette could be conveniently placed to cover up some of the ventilation holes. One subject was seen to cover the ventilation holes with clear adhesive tape . . . . The puff durations were longer from both the low delivery cigarettes and the volumes of the individual puffs were, on average, higher when compared with the usual brand or with machine smoking . . . . The pressures used to draw the puffs were, however, less than those recorded when usual brands were smoked. This reduction in the draw resistance is due to the ventilation and higher paper porosity of the low delivery brands. In general it may be summarised that the subjects smoked the low delivery brands more intensely than the usual brands, presumably in an attempt to draw more smoke and nicotine . . . . Since the data from the two tests are comparable it may be interpreted that cigarettes with nicotine deliveries of less

> than 1.0 mg and highly ventilated filters were smoked at maximum intensity by these smokers . . . . these findings may be relevant to the design of low delivery cigarettes.

105456335-6363, at 6335, 6337-6339, 6341, 6343-6347, 6357, 6359, 6363 (US 85087*) (A).

3861. A January 19, 1977 internal BATCo memorandum sent to C. Ian Ayres, BATCo Research Manager, D.J. Wood, BATCo Researcher, and others explained how compensation makes published smoke deliveries misleading:

> Two cigarette brands, 'Now' (U.S.A.) and "Reemtsma No. 1', with very low deliveries of TPM and nicotine, have been smoked by subjects whose manner of smoking was monitored. The subjects smoked these two brands with greater intensity than they smoked cigarettes of more normal delivery, taking larger puffs at more frequent intervals. From each brand, the subjects on average took more than twice the volume of smoke that was taken by a standard smoking machine. **This emphasises the misleading nature of published smoke deliveries when dealing with cigarettes of this type**.

109869437-9440 at 9437 (US 21707) (A) (emphasis added).

3862. A June 28, 1977 memorandum from D.J. Wood, a researcher for BATCo, entitled "The Design of Low Delivery Cigarettes (With Regard to Smoker Compensation)," recommended producing a cigarette that would deliver up to twice the machine-measured amount of nicotine. The paper warned that "[a]lthough marketing considerations will influence the lower limits towards which deliveries will be reduced," a "minimum nicotine intake must be achieved" before "some of the effects of smoking . . . [which] appear to be due to nicotine itself" occur. The paper noted that, although the "**minimum effective nicotine level**" would vary from individual to individual, **BATCo "should aim at a cigarette delivering at least 0.5 mg of nicotine. With appropriate design, including moderately low drag resistance, smokers will be able to obtain up to 1 mg nicotine from such a cigarette**." 110074887-4890 at 4890 (US 21829) (A) (emphasis added).

3863. Minutes from a July 1, 1977 meeting of BATCo employees, under the heading "Compensation," state: "Mr. Wood's note on low delivery cigarettes was considered by the meeting. Mr. Sheehy, BATCo's Chairman, asked whether, from our knowledge of the compensatory responses of smokers, cigarette designs could be postulated which took advantage of this information. For example, could a 9 mg. cigarette be designed which would make the desired adjustment of smoking pattern easy to the smoker." 110074875-4883 at 4881 (US 85094) (A).

3864. In a memorandum dated August 26, 1977, S. J. Green, Scientist, Manager, and Director of BATCo Research & Development from 1961-1979, posed the following questions to be discussed at a Chairman's Advisory Conference with Mr. Sheehy, then Chairman of BATCo:

> Should we market cigarettes intended to reassure the smoker that they are safer without assuring ourselves that indeed they are so, or are not less safe? For example should we 'cheat' smokers by 'cheating' League Tables? If we are prepared to accept that government has created league tables to encourage lower delivery cigarette smoking and further if we make league table claims as implied health claims – or allow health claims to be so implied – **should we use our superior knowledge of our products to design them so that they give low league table positions but higher deliveries on human smoking? Are smokers entitled to expect that cigarettes shown as lower delivery in league tables will in fact deliver less to their lungs than cigarettes shown higher**?

110069804-9804 (JE 26360) (A) (emphasis added).

3865. A September 21, 1977 letter from F. Haslam to P.L. Short, Manager of BATCo's Marketing Department, stated:

> I have been concerned that the discussions on compensation and cigarette design should be taken a step further . . . . **[i]t should now be possible to design a number of cigarettes which would have the same smoking machine delivery but different deliveries to the compensating smoker**. Broadly speaking, this could be achieved by developing cigarettes with a knowledge of the

> smoker's response to such factors as pressure drop, ventilation, irritation, impact, nicotine delivery, etc.

100236543-6543 (US 21412) (A) (emphasis added).

3866. A May 19, 1981 BATCo document entitled "Products/Consumer Interaction," by M. Oldman, referencing a discussion about "machine v/s human smoking," stated: "It was agreed that **effort should not be spent on designing a cigarette which, through its construction, denied the smoker the opportunity to compensate or oversmoke to any significant degree**." 109883262-3265 at 3263 (US 21579) (A) (emphasis added); Henningfield WD, 54:16-55:5 (testifying that this document illustrates that "an alternative course" to Defendants' design of their cigarettes to facilitate compensation, i.e., designs with less elasticity of delivery, "was possible").

3867. A December 1981 BATCo memorandum to BATCo counsel providing a critical analysis of legal and scientific problems raised by a presentation of L.C.F. Blackman, BATCo Research Director, on the safety of low yield cigarettes warned against misrepresenting the opinions of the Surgeon General in statements to the public:

> B. Assurances of Safety. If Dr. Blackman quotes or refers to the Surgeon General in support of an argument that low tar cigarettes are safer, he must be very careful to include the **Surgeon General's provision that this may be true only if smoking patterns do not change. Otherwise, the industry might be accused of misleading the consumer regarding the Surgeon General's opinions**. In effect, Dr. Blackman might be creating a duty to instruct the consumer regarding use of the product. Negligent failure to instruct is a basis for liability, as is negligent failure to warn . . . . 3. Compensation. Dr. Blackman mentions that consumers should be made aware of the scientific opinion supportive of a less hazardous cigarette. If the industry points this out, it follows logically that it must also point out the great concern that switchers to lower yield cigarettes compensate by inhaling more or smoking more cigarettes. The question arises of whether this concern should be brought to the attention of the consumer by the industry in the form of a warning.

2501022952-2969 (US 27925) (A) (emphasis added).

3868. A report from a BATCo research conference held August 22-26, 1983 in Rio de Janeiro, Brazil, and attended by top BATCo scientists, discussed BATCo's planned response to any proposed changes to the FTC Method. The document stated that "[c]ompensation is now attracting the interest of Government and medical authorities in many parts of the world" and that "[a] direct consequence of this growing interest in compensation is the possibility that the FTC, and other authorities, may call for a change in the standard smoking machine test procedure" by either "a modification to the existing standard procedure (increased puff volume, duration or interval)" or "a more extreme possibility. . . an entirely new test. . . e.g. a biological index or a Herzfeld-type multiple delivery index." The report then stated:

> Either move would weaken the concept of low tar and would both confuse and concern the smoker. **Operating companies around the Group should, therefore, do everything possible to defend and maintain the present standard test procedure. If, however, the FTC or any other authority takes action to change the procedure the strategy should then be to stretch out any discussions** (both with the authorities and later with the ISO) until exhaustive studies have established that an alternative procedure is in fact more relevant.

110074746-4769 at 4754 (US 85076) (A) (emphasis added).

3869. A BATCo document entitled "Proceedings of the Smoking Behaviour-Marketing Conference July 9th-12th, 1984" revealed not only that BATCo designed its cigarettes with planned FTC tar and nicotine yields and separate, higher yields intended to be achieved by human smokers through compensation, but also that BATCo concealed its design of cigarettes to facilitate compensation by utilizing degrees of "elasticity" that were "less obvious":

> From a research and product development viewpoint the proposition of designing a cigarette, of high taste to tar ratio, which responds positively to human smoking behaviour [referring to compensation] has been agreed to be acceptable. . . . The marketing policy concerning this type of product . . . will depend largely on the degree of elasticity in the design and how overtly

> this elasticity is achieved. The **consensus is that small improvements in elasticity which are less obvious, visually or otherwise is likely to be an acceptable route**. . . . Large changes in delivery are not credible (i.e. 1 mg machine delivery giving 10 mg through the consumer compensation). Better to have a 9 mg product giving 15 mg.

B12910303-0501, 0305-0307 (US 85449) (A) (emphasis added); Kessler WD, 61:13-62:5 (testifying that document "provide[s] evidence of an effort to try and manipulate nicotine deliveries to assure that smokers receive an adequate dose of nicotine"). In stark contrast to BATCo's internal plans, a January 21, 1983 document entitled "Notes for BAT Co Conference," appended to "Minutes of the BATCo Chairman's Advisory Conference" (held in March 1983), explains that BATCo's plan was to counter arguments that smoker compensation reduced or eliminated any health benefit to low tar cigarettes by claiming that BATCo designed cigarettes to **prevent** compensation:

> One line of attack [on the claimed health benefits low tar cigarettes] will be that smokers compensate for the reduced delivery by alternating their smoking habits. We should admit that this can occur but **emphasise that our superior knowledge of smoker behaviour has permitted the development of products giving smoking experiences . . . mitigating against compensation.**

109877063-7124, 7118 (US 87917*) (A) (emphasis added).

3870. An April 8, 1987 B&W memorandum from M.L. Reynolds, Director of Research, to Claude Joigny of SEITA in France demonstrates Mr. Reynolds' awareness that FTC tar numbers were misleading and that a banding system, in which low tar cigarettes are identified as delivering a range of mg of tar, as opposed to a single tar number, would be more accurate, stating: "I myself explained that Brown & Williamson would support a tar banding system of the type used in the U.K. as a more relevant consumer message." 400015868-5868 (US 85078) (O).

3871. BATCo also understood "elasticity," i.e., making cigarettes (such as "Barclay")

that would deliver low yields of tar and nicotine when smoked by the FTC Method machine, but would easily allow smokers to compensate and greatly increase their actual intake of tar and nicotine. Two documents from Colin C. Greig, BATCo Research & Development, identified means to design cigarettes with "elasticity": "'Structured creativity group' – Thoughts by C.C. Greig – R&D, Southhampton – Marketing Scenario" and "Specific Proposal." "Specific Proposal," stated: "**What would seem very much more sensible[] is to produce a cigarette which can be machine smoked at a certain tar band, but which, in human hands, can exceed this tar banding. Such is the case with Barclay. . . . Barclay is an extreme example of this 'elasticity' of delivery . . . . There are . . . ways to obtain moderate 'elasticity through non-obvious cigarette design features. One particular way is to use a recent R&D development . . . rather obvious to the expert but <u>not</u>, necessarily, the customer**." The document proposed several cigarette designs that enable compensation, including "a nicely 'elastic' product which has good smoking mechanics" and "'[a] medium delivery compensable product.'" 100515899-5910 (US 20230) (A) (emphasis added – bold type).

3872. The document entitled "'Structured creativity group'" stated:

> If one looks, cursorily, at the human behaviour records in GR&DC over the last fifteen years, the immediate conclusion is that puff volumes have risen as inexorably as machine deliveries have declined. Given **the design parameters of the cigarettes, it is possible to speculate that human compensation has, for a significant part of the smoking population, negated attempts to reduce tar deliveries**.

In that document, Greig dismissed as "rubbish" the argument that low tar smokers do not compensate. He further wrote, under the heading "What satisfies his requirement," that smokers:

> may smoke a low delivery cigarette - but in times of tension or altered mood we want a stronger one. What happens? Either we smoke one more intensely (remember there is no single dose for a cigarette) - or we smoke two in rapid succession. A dilemma

> appears - do we design a compensatable cigarette and sell one - or the non (or minimally) compensatable cigarette - to sell two? Given the unit cost, it is very probable that the second option is not viable - so we have, perhaps, to do the first.

Grieg concluded the memorandum with: "**Let us provide the exquisiteness, and hope that they, our customers, continue to remain unsatisfied**. **All we would want then is a larger bag to carry the money to the bank**." 100515899-5910 at 5902, 5907-5908 (US 20230) (A) (emphasis added).

3873. A 1999 BATCo document, "Lightning – Extreme Smoking Regimes Testing Results and Implications for IT and The Light-Mild Issue," shows that, using smoking machine parameters different than the FTC that more closely approximate human smoking (parameters that block ventilation holes, for example) with BATCo's du Maurier brand of light cigarettes, "[d]eliveries (tar and nicotine) [were] considerably higher than competitor brands under high smoking regime. . . . Deliveries for our major trademarks (Player's and du Maurier) appear higher than the competitor brands[.] Could this become a consumer issue? How can we best adjust the lineups of families (if required) while minimizing perception of change by current smokers." 321989110-9124 at 9116 (US 85077) (A).

(vi) American Tobacco

3874. A circa 1994 American Tobacco document admitted American's use of vent hole position to "regulate 'tar' delivery":

> The American Tobacco Company utilizes ventilation holes in the filter tip of cigarettes to provide a means for ingress of air to dilute the smoke and regulate ‘tar' delivery. The size and/or number of ventilation holes are factors in the design of air-diluted filter cigarettes. Generally, lower ‘tar' deliveries are achieved by increasing the size and/or number of ventilation holes. The American Tobacco Company positions the ventilation holes in a relatively narrow band about mid-way of the filter tip length for all air-diluted brands, i.e., full flavor, low ‘tar,' and ultra low ‘tar.'

However, the document inexplicably denied that American utilized the position of vent holes to obtain low FTC tar deliveries: "Hole position is therefore not utilized as a criteria in obtaining low FTC smoke deliveries in cigarettes. Ventilation holes for all brands are positioned a minimum of 12 mm from the mouth end of the cigarette." 980215835-5838 at 5835 (US 85096) (O).

(vii) Lorillard

3875. A memorandum recounting Lorillard scientist Vello Norman's visit to the American Health Foundation on November 18, 1980 demonstrates that Lorillard was aware that its cigarette designs brought about deceptive tar and nicotine yields when tested by the FTC Method. In a parenthetical note in the memo, Norman wrote:

> Note: actually what he needs is a pressure drop sensitive smoking machine which could take large puffs from cigarettes that are easy to draw through and would have a hard time puffing on very tight cigarettes. **This would simulate human behaviour but, I did not dare to mention anything like that because it would be detrimental to our types of brands**.

00265808-5810 at 5809 (US 20023) (A) (emphasis added).

3876. A February 6, 1985 memorandum from M.A. Sudholt to M.S. Ireland (Lorillard scientists) confirmed Lorillard's desire to design low tar cigarettes that actually delivered enough nicotine (referred to as "impact") to sustain smokers' addiction. The document stated: "The major impact of the nicotine project has been to **increase the physiological impact** . . . in ultra low tar cigarettes. Ultra low tar cigarettes generally have little taste or **impact** and high pressure drop." The memorandum proposed "Future Work" intended to "**produce an increased impact in ultra low tar cigarettes**." 80642659-2661 at 2659-2660 (US 21996) (O) (emphasis added).

3877. Stephen Jones, a Lorillard chemist who had participated in the design of nearly all Lorillard cigarette brands, including Newport, Kent Golden Lights, Kent III, Triumph, Maverick,

Style, Old Gold, and Max, testified that the Lorillard marketing department, and not the product development department, determined tar and nicotine parameters for new cigarette brands. Jones PD, Reed v. Philip Morris, 4/22/97, 7:18-7:21, 43:14-44:12, 45:3-45:9.

(viii) Liggett

3878. Minutes of an October 22, 1975 Liggett meeting on tar and nicotine reduction, attended by more than a dozen Liggett scientists, evidenced Liggett's aim to produce filter cigarettes that would achieve low FTC tar yields with ventilation holes positioned so that a smoker would cover them up when smoking. Under the heading "Long-Range Planning to Reduce Tar of All Brands to 15mg," the minutes stated: "With respect to filter perforations, **it was suggested that they could be positioned farther than normal from the smoker's mouth, thereby causing him to partially cover the holes while smoked**." LWDOJ9165648-5650 at 5649-5650 (US 21216) (O) (emphasis added).

(d) Defendants Continue to Make Misleading Statements Regarding Compensation and the FTC Method

3879. Despite the evidence spanning multiple decades showing Defendants' extensive knowledge of compensation, Defendants concealed their knowledge of compensation and disseminated false and misleading statements to downplay its existence and prevalence. As part of their fraudulent scheme to portray low tar cigarettes as less harmful, Defendants publicly championed the validity of the FTC Method and its usefulness to consumers well into the 1990s. US FF §§ III.D(1), (3)(c) and (4)(b)-(d), supra; Henningfield WD, 48:14-49:7; 54:7-15; 55:6-12; 2041186475-6517 at 6475, 6486-95, 6498-04 (US 22181*) (A) (1994 – B&W, American Tobacco, Lorillard and Liggett defending the validity and usefulness of the FTC Method to consumers); 2048381972-2310 at 1975 (US 22190) (O); 521321297-1301 at 1297 (US 22137) (O); 520011445-1480 at 1445, 1457-58 (US 22101) (O) (1994 – various public statements by

RJR employees defending the validity of the FTC Method); 2505597781-7998B at 7968-87 (US 23028*) (A) (1996 – Defendants' statements defending the utility to consumers of the FTC Method).

3880. As Defendants knew, the smoking regimen used in the FTC Method was designed to approximate smoking behavior in the 1930s, when cigarettes were relatively simple devices: few had filters, and perforated filter ventilation cigarettes were not in production. Henningfield WD, 47:11-21.

3881. It was understood, when the FTC Method was adopted, that, while it was intended to provide a useful measure of the amount of tar and nicotine that particular brands generate when smoked in a uniform fashion, the standardized FTC Method – or any standardized testing procedure for that matter – would not **exactly** represent the amount of tar and nicotine that **any particular smoker** would ingest. 03531981-1986 (US 22243) (A); JD-040254 (A); JD-048746 (A).

3882. Thus, as noted in Section III.D(4)(b), supra, while the FTC contemplated that numerous potential variations among individuals in everyday smoking behavior could have some effect on tar and nicotine yields, **the FTC did not have an understanding of smoker compensation – that smokers' addiction to nicotine would cause them to smoke low tar cigarettes more aggressively to satisfy their nicotine addiction, and thereby inhale amounts of tar and nicotine comparable to those inhaled by smokers of full flavor cigarettes**. Defendants withheld their knowledge that the reason that the FTC Method could yield misleading data was that nicotine addiction would drive smokers to obtain relatively stable nicotine intakes through smoker compensation. Henningfield WD, 48:3-49:7.

3883. While it was understood that the FTC Method (and any standardized method)

would be an imperfect measure of the amount of tar and nicotine that a particular smoker would inhale from any particular cigarette, the FTC Method nonetheless was intended to reflect a representative approximation of the amount of tar and nicotine generated by cigarettes when smoked under identical conditions, thereby providing a useful comparison of the tar and nicotine smokers would receive. For example, the FTC in stated in 1983: "I**f consumers avoid blocking ventilation holes, cigarettes smoked in the same fashion will yield 'tar', nicotine, and carbon monoxide in general accordance with their relative FTC rankings**." 03573029-3030 at 3029 (US 22244) (A); 48 F.R. 15,953 at 15,954 (Commission Determination Re Barclay Cigarettes; Amendment of Report of "Tar," Nicotine, and Carbon Monoxide Content of 208 Varieties of Cigarettes; Request for Comment on Possible Testing Modifications) (emphasis added).

3884. In a November 29, **1994** written statement submitted for the December 5-6, 1994 NCI Conference on the FTC Cigarette Test Method, B&W, American Tobacco, Lorillard, and Liggett defended the FTC Method, stating that the FTC Method "Provides Useful and Reliable Information About the Relative 'Tar' and Nicotine Yields of Cigarettes," and contending that FTC yields are a **"useful predictor" of the amount of tar and nicotine smokers will inhale**. 2041186475-6517 at 6475, 6486-95, 6498-6504 (US 22181*) (A) (emphasis added).

3885. Similarly, at the NCI Conference on the FTC Cigarette Test Method on December 5, 1994, David Townsend and Donald de Bethizy, RJR employees, maintained in both their written and oral statements that the FTC Method was a valid and accurate test method that approximates human smoking. 2048381972-2310 at 1975 (US 22190) (O).

3886. In his written statement, Townsend asserted that the FTC Method "provides accurate and reliable information" that "is a key factor for consumers to make objective choices

in the marketplace" and stated that "implementation of the FTC testing for ‘tar' and nicotine . . . was an important step in providing data for the consumer to use to make an informed decision in the marketplace." 521321297-1301 at 1297 (US 22137) (O). Townsend further stated that "it is clear from the information, I believe, that the FTC test method does provide accurate and reliable information for the consumer to use in the marketplace; that is, to compare yields of various brands and make objective choices. The consumer makes choices based on the FTC information, or the rankings derived from that information . . . . The FTC method was established to provide accurate and reliable comparative smoke yield information, and has been very successful in doing that." 2048381972-2310 at 2252, 2256 (US 22190) (O).

3887. De Bethizy maintained: "The FTC method provides an accurate and meaningful ranking of cigarettes. . . . **On average, smokers absorb approximately the yield of nicotine predicted by the FTC method**, and smokers of lower yielding products absorb less nicotine . . . ." 520011445-1480 at 1445, 1457-58 (US 22101) (O) (emphasis added). He also stated: "The FTC method provides an accurate and meaningful ranking of cigarettes. . . . [T]he compensation phenomenon does not undermine the FTC method." 2048381972-2310 at 2264, 2267 (US 22190) (O).

3888. In their 1996 comments on the FDA's proposed tobacco rule, Defendants continued to maintain that there is a meaningful relationship between the FTC ratings and smoker tar and nicotine exposure. 2505597781-7998B at 7968-87 (US 23028*) (A).

3889. While defending the FTC Method and resisting proposed changes to it, Defendants have made repeated public assertions that they have substantially reduced the tar and nicotine deliveries of cigarettes, citing the FTC ratings as their primary support for this assertion. 2505597781-7998B at 7987-88 (US 23028*) (A) (1996 Comments of B&W, Liggett, Lorillard,

Philip Morris, Inc., RJR & Tobacco Institute before the U.S. FDA, Vol. III) (claiming that "over the years, the average yield of cigarettes generally has declined markedly . . . . The fact is that from 1950 to the present, U.S. cigarette manufacturers have reduced ‘tar' and nicotine yields by more than 60 percent"); 2046932308-2363 at 2314-2315 (US 85067) (O) (Philip Morris 1994 submission to NCI regarding the FTC Method, asserting "an overall decrease in the ‘tar' and nicotine intake of smokers" as a result of reduced FTC yields); 521321297-1301 at 1299 (US 22137) (O) (1994 RJR employee's statement that "all cigarettes are substantially lower in 'tar' yields than they were in past years" and his claim that "[c]igarette design changes have resulted in an overall major reduction in smoke yields.").

3890. A February 7, 1996 Covington & Burling memorandum from Tobacco Institute attorney David H. Remes to Defendants' attorneys and senior employees, including Denise Keane, Philip Morris General Counsel, Ernest Pepples, B&W Senior Vice President and General Counsel, Kendrick Wells, B&W Assistant General Counsel, and attorneys from the law firms of Arnold & Porter and Collier Shannon, recounted a meeting earlier that day between Remes and C. Lee Peeler of the FTC. In keeping with Defendants' scheme to promote low tar cigarettes as safer while also keeping secret their knowledge of smoker compensation and that low tar cigarettes are no safer than regular cigarettes, Remes relayed to Peeler at this meeting the industry's claim that low tar cigarettes actually do deliver less tar and nicotine to smokers, and that consumers need not be informed about changes in smoking behavior related to smoker compensation. Remes communicated his "observation that in many cases low-yield brands contain so much less tobacco than higher-yield brands that **any compensation could not begin to erase the difference**." Remes also said that he had made a "suggestion that smokers do not need to have it explained to them that smoking a lot of low-yield cigarettes will result in greater

T&N deliveries, just as people do not need to be told that eating a lot of low-fat cookies can make them fat," and noted that Mr. Peeler "responded that the analogy does not hold because we know how much fat is ‘delivered' in each cookie but not how much T&N is delivered by each cigarette." 92613896-3899 (US 87919) (A) (emphasis added); Wells WD, 63:1-64:16.

3891. There have been discussions in the scientific community about revising the FTC Method to make it a more accurate measure of the tar and nicotine that human smokers actually ingest. Defendants have opposed changing the FTC Method, arguing that it provides a way for consumers to choose cigarettes and order them from light to strong that is meaningful in terms of the tar and nicotine exposure from smoking. Although Defendants were aware that puff frequency, puff volume, and puff duration for smokers of filtered cigarettes varies greatly, they opposed any change to the regimen that would yield higher tar and nicotine results for their "light" cigarettes. Henningfield WD, 55:6-12.

3892. For instance, in September 1997, the FTC solicited public comment on a proposal to replace the existing FTC test method with a methodology that would "provide information on the tar, nicotine, and carbon monoxide yields obtained under two different smoking conditions" to provide "a range of yields for individual cigarettes smoked under less intensive and more intensive smoking conditions" and convey to smokers that "a cigarette's yield depends on how it is smoked." FTC Cigarette Testing; Request for Public Comment, 62 Fed. Reg. 48,158, 48,159 (Sept. 12, 1997) (US 88618) (A). In response, Philip Morris, RJR, B&W, and Lorillard submitted joint comments to the FTC defending the current FTC Method and opposing the proposed change, stating: "The manufacturers believe that the current test method should continue to be used. They are not convinced that it should be supplemented with a second test method." Comments of Philip Morris Inc., RJ Reynolds Tobacco Co., Brown & Williamson

Tobacco Corp., and Lorillard Tobacco Co. on the Proposal Entitled FTC Cigarette Testing Methodology Request for Public Comment (62 Fed. Reg. 48,158) at 2-3 ("Joint Comments") (US 88618) (A).

3893. The comments further stated: "**Smokers are familiar with the ratings produced by the current test method**, and continued use of the current test method assures historical continuity of the data. For these reasons, testing under the current FTC test method should continue." Joint Comments at 4 (US 88618) (A) (emphasis added). The comments referred to compensation as a "hypothesized" and "weakly documented phenomenon" and stated: "The testing protocol should not be modified to reflect 'compensatory' smoking, in part because "current knowledge about these behaviors is too sparse to be usable for modeling purposes." Joint Comments at 43 (US 88618) (A).

3894. Defendants' comments argued that "[t]he protocol should not be modified to incorporate a vent-blocking condition." In response to the FTC's question: "What kinds of consumer education messages should be created to inform smokers of the presence of filter vents and the importance of not blocking them with their fingers or lips?" **Defendants' 1998 comments stated: "The manufacturers are not convinced that vent-blocking is a sufficiently common or documented phenomenon that smokers should be alerted to the presence of filter vents and instructed not to block the vents**." Joint Comments at 60, 82 (US 88618) (A) (emphasis added).

3895. In response to the FTC's question: "If the effect of compensatory smoking behavior is not incorporated in the tar and nicotine ratings, should a disclosure warning smokers about compensatory smoking behavior be required in all advertisements?" **Defendants' 1998 comments stated: "The manufacturers are not convinced that compensatory smoking**

behavior is a sufficiently common or documented phenomenon that consumers should be alerted to its existence. . . ." Joint Comments at 89 (US 88618) (A) (emphasis added).

3896. As illustrated below, internal company documents and statements further confirm Defendants' concerted campaign to provide health reassurance in the form of reduced tar and nicotine claims based on the FTC Method, while deceiving the public regarding smoker compensation, which allows smokers to ingest much higher levels of tar than registered on the FTC Method.

(i) Tobacco Institute

3897. In anticipation of the 1981 Surgeon General's Report, the Scientific Affairs Division of the Tobacco Institute drafted a December 15, 1980 memorandum to Horace Kornegay, President of the Tobacco Institute, warning that, among other issues, the Report was expected to include a discussion of smoker compensation. Rather than recommending provision of full and complete information on the subject to the public, the "Response" section of the memorandum stated:

> [I]t is suggested that the TI take the following position on the report and that on receipt of any queries from the press, staff be instructed to respond as follows: "The results of research in the past are so mixed that it is impossible to reach and support a firm conclusion at the present time. All one has to do is be aware of and appreciate the call for more research to realize that the Surgeon General's Office cannot objectively have a strong position supported by research. The office is looking for more money in order to support the current campaign against the tobacco industry."

TIMN0073798-3799 at 3799 (US 85127) (O).

(ii) Philip Morris

3898. In a June 29, 1988 "Statement of Philip Morris, U.S.A." to Congress, Philip Morris made statements equating machine measured tar and nicotine deliveries with actual

smoker intake, without disclosing its knowledge that nicotine-driven smoker compensation substantially increases the amount of tar and nicotine inhaled by smokers above those recorded by the FTC Method:

> From the 1940s to today, Philip Morris has similarly spent millions on its own research program to modify its cigarettes. As a result, the 'tar' and nicotine yields of today's cigarettes – the principal concern of the scientists who believe cigarettes pose health risks – have been reduced as much as 95% from the 1957 averages. . . . [I]t was Philip Morris scientists who perfected the instrument that was used for many years by the Federal Trade Commission and other groups around the world for the measurement of 'tar' and nicotine yielded by cigarettes. . . . [filter] ventilation techniques also contributed to an overall reduction in 'tar' and nicotine levels. . . . As a result of these advances in filtration and ventilation, Philip Morris and the other cigarette companies were able to reduce 'tar' and nicotine levels substantially in the late 1950s. . . . As a result of these dramatic reductions in the 'tar' and nicotine levels of the leading brands, as well as the introduction of entirely new low-delivery cigarettes, the overall intake of 'tar' and nicotine by American smokers decreased dramatically even before the Surgeon General's Report against smoking in 1964. . . . As a result of all this research, **Philip Morris succeeded in reducing 'tar' and nicotine levels even more in the years following the 1964 Surgeon General's Report**.

TI0170431-0458 at 0433, 0439, 0441-0443, 0451 (US 85065) (A) (emphasis added).

3899. In his April 14, 1994 written Statement before the U.S. Congress' Subcommittee on Health and the Environment, William Campbell, President and CEO of Philip Morris USA, stated, contrary to extensive information developed by and known to Philip Morris USA, that "consumers are not misled by the published nicotine deliveries as measured by the FTC method." Campbell also claimed, without qualification or reference to the FTC Method, that "tar **and nicotine** levels have decreased dramatically over the past 40 years. Today, the market is populated with a number of 'ultra low' brands which deliver less than 5% of the tar **and nicotine** of popular brands 20 years ago." In a statement carefully worded to refer only to the number of

cigarettes smoked, ignoring all other methods of smoker compensation, Campbell both misrepresented the evidence about whether downswitchers smoke more cigarettes per day and denied that smoker compensation rendered the FTC tar and nicotine yields misleading:

> Commissioner [David] Kessler suggested that the FTC figures were misleading because smokers might "compensate" for lower tar and lower nicotine brands by smoking those cigarettes differently. In fact, the data indicates that, despite the dramatic reductions in tar and nicotine levels over the past decades, the **number of cigarettes smoked** by an individual has remained constant, and even declined slightly. More importantly, the data shows no difference in the **number of cigarettes smoked** by those who favor higher and lower yield brands.

ATC2746877-6887 at 6877, 6878, 6887 (US 59009) (A) (emphasis added); compare with 1000861953-1953 (US 35484) (A) (Wakeham 3/24/61) ("**As we know, all too often the smoker who switches to a hi-fi cigarette winds up smoking more units in order to provide himself with the delivery which he had before**.") (emphasis added).

3900. A circa October 1994 document that Philip Morris submitted to the United States National Cancer Institute entitled "Submission of Philip Morris Incorporated to the National Cancer Institute Consensus Conference on the FTC Cigarette Testing Methodology and Rating System" continued to deny and/or minimize the effects of smoker compensation and advocate for the continued use of the FTC Method, which Defendants know gives deceptively low tar numbers:

> A number of the FTC's questions . . . relate to ‘compensation,' a term used to suggest that some smokers of lower yield cigarettes may sometimes alter their smoking behavior in ways that may tend to reduce the differences in yields among brands and styles implied by their relative FTC method ratings. While there is a fair amount of recent literature on compensation, few studies have been performed that provide reliable data to establish the occurrence of this suggested phenomenon. We appreciate the interest people have in possible compensation. But there can be no real dispute that, to date, the scientific literature on compensation is limited and

> inconclusive. . . . [W]hatever conclusions may be reached about compensation, **the FTC method remains an appropriate standard for measuring cigarette properties. The reporting of FTC method yields . . . remains a useful source of information to consumers choosing among cigarette brands and styles**.

2046932308-2363 at 2312, 2362-2363 (US 85067) (O) (emphasis added).

3901. A document entitled "Philip Morris Management Corp., Worldwide Regulatory Affairs Department, 1996 Core Issues Plan," under what was categorized as "Core Issue #2 Federal Trade Commission," revealed Philip Morris's objectives in response to a NCI Conference recommendation to change the FTC Method and to provide more information to consumers: "**Preserv[ing] our ability to . . . advertise low tar/light and ultra low tar/ultra light cigarettes as such; avoid changes in the FTC method for as long as possible; [and] minimize changes in the FTC method to the extent possible**. . . ." 2046266224-6268 at 6234 (US 23936) (A) (emphasis added).

(iii) RJ Reynolds

3902. In a July 2, 1984 letter to the FTC from Samuel B. Witt III, RJR Vice President, General Counsel, and Secretary, Witt stated:

> [T]he Commission has also asked for comment on broad questions concerning 'smoker compensation.' . . . In their submissions [in response,] health organizations take the position (which is not correct) that the average smoker will get the same amount of 'tar' and nicotine from higher and lower 'tar' cigarettes, therefore making the Commission's numbers irrelevant to the consumer. **RJRT, on the other hand, maintains that the average smoker will get less 'tar' from smoking a low 'tar' cigarette than he or she will receive from smoking a higher 'tar' product, and that the average smoker of low 'tar' cigarettes does not smoke more cigarettes than the average smoker of higher 'tar' cigarettes.**

2025045756-5761 at 5760 (US 22247) (A) (emphasis added).

3903. In an April 14, 1994 statement to the House of Representatives Subcommittee on

Health and the Environment of the House Energy and Commerce Committee regarding the potential regulation of cigarettes by the FDA, RJR stated:

> Since the 1950s, Reynolds tobacco has pursued . . . development of new technologies to reduce yields of 'tar' and nicotine generally . . . [this] line of research has been remarkably successful. . . . The important point is that in spite of broad variations in how individual smokers may smoke any given cigarette, the fact remains that the lower the yield by FTC numbers, the lower the yield will be to any given smoker. The yield for any given smoker will probably be different from the FTC yield; for some smokers it will be higher, for some it will be lower, but **overall, the FTC yields are generally predictive of the yield to smokers as a group. The statement, however, that "in reality" low yield cigarettes do not yield low 'tar' and nicotine, is not true**.

516962199-2227 at 2203-2204 (US 85128) (O) (emphasis added).

3904. Despite substantial evidence showing RJR's extensive knowledge of smoker compensation – and consistent with Defendants' conspiracy to keep their knowledge of compensation secret – F. Ross Johnson, CEO and President of RJR Nabisco from 1985 to 1989, claimed in a 1997 deposition to have never heard of smoker compensation. Johnson PD, State of Minnesota v. Philip Morris Inc., 9/11/97, 77:21-79:20.

(iv) Brown & Williamson

3905. In the mid-1990s, Tommy Sandefur, B&W CEO, submitted a written statement to Congress defending the FTC Method: "We also vigorously dispute the suggestion of [David] Kessler and [John] Slade that the 'tar' and nicotine ratings produced using the FTC test method are meaningless or misleading." Yet, more than ten years earlier, on March 19, 1984, Ernest Pepples, B&W Senior Vice President and General Counsel, wrote a letter to Howard Liebengood of the Tobacco Institute acknowledging that FTC tar and nicotine ratings "may be misleading to consumers" and bear no relation to actual consumer intake. Compare 682637627-7629 at 7629 (US 22946) (O); with 521060910-0912 (US 20892) (O).

3906. B&W's conduct regarding its Advance cigarette demonstrates the lengths to which it has gone to prevent smokers from discovering that the FTC tar and nicotine yields for low tar cigarettes are very likely unrealistically low. In 1996, B&W entered into an agreement with a small, independent tobacco company, Star Tobacco, Inc. ("Star"), to develop Advance. Star began test-marketing Advance in October 2000 in Lexington, Kentucky, and Richmond, Virginia. In addition to the federally mandated warnings, Star added additional information about compensation and nicotine addiction on the package and in an "onsert" attached to the package. Ivey WD, 55:4-7.

3907. In contrast to Star, when B&W began to test market Advance in Indianapolis, Indiana in November 2001, B&W used its own, redesigned packaging and onsert which deliberately avoided making the clear disclosures Star Tobacco had made:

- B&W omitted Star's onsert statement that "ALL SMOKED TOBACCO PRODUCTS ARE ADDICTIVE AND POSE SERIOUS HEALTH HAZARDS";
- B&W omitted Star's statement: "Because many smokers smoke to get nicotine, they tend to smoke more intensely when smoking "lights" or "ultra lights," and that because of such nicotine-driven compensation "lights" and "ultra-lights" are NOT NOW viewed by health scientists as reliably less hazardous." Instead, B&W stated in small type that smokers "can increase or decrease the amount of smoke that they take in depending on how they smoke their cigarettes" and thus actual delivery may differ from the FTC test measurements; and
- B&W omitted statements on the package that "Smoking related diseases can KILL you," "Smoking can take YEARS off your life," and "It is much safer for you to QUIT than to switch or smoke."

Compare Star Packaging, 524942388-2389 (US 52963) (A) & 524942390-2391 (US 88038*) (O) to Onsert to B&W's Advance Packaging (US 87216) (A); Blackie WD, 181:18-182:3; 182:9-20; 183:20-184:13; Wessel PD (30(b)(6), United States v. Philip Morris, 3/19/03, 19:3-23:9.

3908. A circa 2000 or later draft Q&A on Brown &Williamson's Advance cigarettes confirmed B&W's plan to continue disseminating information contending that low tar cigarettes

are less hazardous. The proposed response to this hypothetical question: "Couldn't these [Advance] cigarettes have the same effect on consumers as the 'light' cigarettes, leading them to a false sense of safety?" suggested that low tar cigarettes are or may be less harmful: "[*S*]*cientific evidence* suggests that smokers of 'lights' products on average take in less tar than smokers of full flavor products . . . . [W]e believe that the move to low tar represented a valid step in the attempt to reduce the health risks associated with smoking. Further reducing specific toxins, as we have done with Advance, represents a further step in the right direction." On the next line is the statement, "What evidence? Can you tell me the names [sic] these studies?" No such evidence is ever identified. 271099136-9142 at 9139 (US 22114) (O) (emphasis in original).

3909. Although Susan Ivey admitted at trial that B&W "has been aware for many years" that some smokers compensate when smoking low tar cigarettes, on its website, B&W misrepresents that there is an open controversy regarding smoker compensation, stating that "[t]he question of why compensation occurs is still the subject of scientific research, and the relative importance of tar versus nicotine in determining compensation is unclear" and that "how much smokers alter their behavior when they switch to lower tar products, and for how long, is still unclear." The website further states that "our studies show that, **as actually smoked by consumers, lower tar cigarettes will generally deliver less tar and nicotine than higher tar cigarettes**, and cigarette deliveries generally align with the ranges associated with the descriptors: ultra lights, lights, and full flavor." Ivey WD, 67:19-21; TLT1040050-0055 at 0052-0054 (US 88620) (A) (emphasis added); Ivey WD, 64:1-67:11.

(v) BATCo

3910. Despite substantial evidence showing BATCo's extensive knowledge of smoker compensation – demonstrated in Section III.D(4)(b)(v), supra – and consistent with Defendants'

conspiracy to keep their knowledge of smoker compensation secret – in an October 1999 Memorandum by British American Tobacco to the U.K. House of Commons Health Committee, entitled "The Tobacco Industry and the Health Risks of Smoking," BATCo attempted to downplay compensation's significance:

> It is clear that compensation does occur, but that . . . **despite compensation, smokers receive less tar on average when switching to a lower tar cigarette**. . . . The evidence suggests that increasing the number of cigarettes consumed, blocking of ventilation holes and increasing inhalation depth, **are not common compensation mechanisms** . . . . The limited evidence of which we are aware, suggests that switched smokers either revert gradually to their former, non-compensatory behaviour (which results in lower overall intake of smoke), or change again to a brand which they prefer and which does not require the extra 'effort' of taking larger puffs (which may or may not result in lower intake).

322017057-7142 at 7108-09 (US 22068) (A) (emphasis added); Ivey WD, 69:4-13.

(vi) American Tobacco

3911. Eric Gesell, designated representative of American, testified at a 1997 deposition that, throughout the entire time he worked for American, he did not know about smoker compensation. Gesell also testified that the company did not believe that smokers smoke for a certain level of nicotine and adjust their level of smoking when switching between different types of cigarettes to ensure that they get the same amount of nicotine. Gesell PD, Minnesota, 9/18/97, 5:8-25; 6:10-17; 98:21-100:6.

3912. Gesell also testified on behalf of American that the FTC Method tar and nicotine yield data "is meaningful, and it was meaningful, and probably still is today." Gesell PD, Minnesota, 9/18/97, 5:8-25; 6:10-17; 107:7-108:6.

(vii) Lorillard

3913. Consistent with Defendants' conspiracy to keep their knowledge of smoker

compensation secret, Alexander Spears, CEO of Lorillard, testified in 1997 that he believed that the FTC tar and nicotine numbers did not need to be explained to smokers because it was "very obvious" that they were meaningless due to smoker compensation. Spears PD, Minnesota, 9/23/97, 70:2-72:2.

E. Defendants Intentionally Market to Youth

(1) Introduction

3914. While Defendants undertook coordinated, fraudulent activity to deny and distort the health consequences of smoking in order to maximize their profits, they simultaneously engaged in coordinated, fraudulent activity in order to protect their ability to recruit new, youth smokers through cigarette marketing, often utilizing the same joint organizations that were initially created to carry out deceptive public relations campaigns related to disease risks. In order to protect each company's ability to continue to market to the youth market that was of such vital importance to their continued survival, Defendants continually promised the public, both through the Tobacco Institute and individually, that they did not market to youth, that their marketing was only aimed at adult smokers, and that their marketing had no impact on youth smoking. These public statements were false and misleading.

3915. From 1954 to the present day, Defendants have intentionally marketed cigarettes to youth, including to children, to teenagers, and to young people under age twenty-one, while publicly denying they do so. Dolan WD, 24:3-16; Krugman WD, 17:2-19:1; Chaloupka WD, 30:8-32:20; Biglan WD, 100-379.

3916. Defendants falsely claim that all of their cigarette marketing serves the primary purpose of retaining loyal customers ("brand loyalty"), and the secondary purpose of encouraging smokers to switch brands. They deny that any of their marketing efforts are aimed at encouraging young people to initiate smoking or to continue smoking. Defendants further claim that cigarettes are a "mature product category" for which advertising and marketing expenditures "cannot and do not affect primary demand." Dolan WD, 61:6-16.

3917. In fact, overwhelming evidence introduced at trial – both Defendants' internal

documents and testimony from experts called by the United States – prove that, historically and currently, Cigarette Company Defendants market to young people, including those under twenty-one and those under 18. Cigarette Company Defendants' marketing activities are intended to bring new smokers into the market. Cigarette Company Defendants conducted research into young people's vulnerabilities to cigarette marketing, as set forth below, and knew that youth were highly susceptible to marketing, would underestimate the health risks of smoking, and were price sensitive. Cigarette Company Defendants used their knowledge of young people's vulnerabilities gained in their research in order to create marketing campaigns that would and did appeal to youth, in order to induce youth smoking initiation and ensure that young smokers would choose their brands. Dolan WD, 24:3-16; Krugman WD, 84:1-99:23. Chaloupka WD, 30:8-32:20; Biglan WD, 100-379.

3918. On this issue, the United States called a number of leading experts from diverse fields, who not only applied their technical expertise but also reviewed thousands of Defendants' internal marketing documents. Each of the United States' experts concluded that Defendants market to youth. These experts were:

- Dr. Robert Dolan, the Dean of the University of Michigan School of Business, former Harvard Business School Professor, and renowned expert in marketing
- Dr. Frank Chaloupka, the world's leading expert on the effect of price on smoking behavior, author of literally hundreds of peer reviewed articles on the topics of price, tobacco control, and economics, and contributor to several Reports of the Surgeon General on the topic
- Dr. Dean Krugman, expert in marketing communication and mass communication, respected expert on advertising and frequently published in the field
- Dr. Anthony Biglan, expert in psychology with particular expertise in adolescence, often-published expert in youth smoking prevention

(US 18218) (referenced only).

3919. In contrast, Defendants called a **single** expert on the topic of marketing, Dr. Richard Semenik. Dr. Semenik offered the incredible opinion that cigarette advertising is a weak force, and that the cigarette market is a mature market, comparing cigarettes to laundry detergent and gum. Dr. Semenik admitted on cross-examination that he did not review any internal company documents for this case. Moreover, he cited only one **single** tobacco company marketing document in his direct testimony, and that was a document cited by Dr. Dolan. Dr. Semenik "didn't review the deposition testimony of any tobacco company employees at all in this case" and he "did not review the written direct testimony filed in this case or any trial testimony of any of the tobacco companies' witnesses." He also did not review any tobacco company point-of-sale marketing pieces; any direct mail pieces; or any of the tobacco companies' direct mail marketing databases. He provided no testimony about the reach of any of Defendants' marketing efforts, whether through television, on billboards, in magazines or at retail. Dr. Semenik testified that he failed to review any of these materials because he is of the view that Defendants' internal marketing documents are "irrelevant" to his expert opinions. Semenik TT, 4/4/05, 17644:9-12; 17738:7-25; 17669:4-6; 17667:9-14; 17666: 20-23; 17666:24-17667:2; 17674:11-25; 17680:15-25.

3920. Dr. Semenik failed to cite a single article to support his mature market theory. Semenik TT, 4/4/05, 17690:21-24. In contrast, Dr. Krugman cited to two peer reviewed articles that support his opinion that the market is not "mature," meaning that new smokers are entering the market every day as a result of Defendants' marketing practices. Krugman WD, 154:32-155:12, 156:16-158:5.

3921. Additionally, Dr. Semenik admitted that he had "never published a scholarly article in a peer reviewed journal on the subject of cigarette marketing or adolescent tobacco

use"; had no expertise in adolescent development; had "never performed an econometric analysis nor" was he "qualified to do so"; had never testified to Congress on tobacco-related issues; and had never contributed to a Report of the Surgeon General. Semenik TT, 4/4/05, 17648:10-12, 17652:18-20, 17652:21-24, 17653:6-10.

3922. Defendants continue to publicly deny that their cigarette brand marketing has any effect on youth smoking behavior. The United States called Dr. Eriksen, the former Director of the Office on Smoking and Health, and foremost expert in public health, particularly tobacco use, on the topic of the effect of Defendants' marketing on youth cigarette smoking behavior. In his testimony before the Court, Dr. Eriksen testified that he had relied upon "the weight of the evidence," including numerous scientific studies, Reports of the Surgeon General and other reliable publications and reports, to conclude that Defendants' cigarette marketing is a substantial contributing factor to youth smoking initiation and continuation. Eriksen WD, 1/17/05, 55:4-8.

3923. Dr. Eriksen further testified that, as he had explained in his first deposition in this case on August 22, 2002, he had used the term "substantial contributing factor" to mean "one cause among many." Eriksen TT, 2/02/05, 11892:7-15, 11893:18-25, 11894:3-19. Dr. Eriksen provided extensive and clear testimony on this point:

Q. And was that exact question posed to you on page 92 of that [2002] deposition? . .
A. Yes, it was.
Q. And the question there is, "Is there any difference in your mind between saying that advertising is a substantial contributing factor to the decision to smoke and saying that advertising is the cause of the decision to smoke?" . . .
A. Yes.
[Objection made and overruled]
Q. Dr. Eriksen, your testimony at lines 20 of page 92 through line 5 of 93, was "That the language that I've used in my depositions and testimony and statement that **there will be consistency between using the term contributing factor and a cause implying -- as long as it's understood it's not being said to be the only cause, but it's one factor among many or one cause among many. I would generally be comfortable with that being used interchangeably**." And is that consistent with the testimony that you were providing today?

A. It certainly was my intent to be consistent with that. . . . I'm comfortable with using cause if it's one cause of many. It's in my written testimony to that effect, and that's how I believed I was answering the question in the context of cause. If it's meant the only cause, I don't agree that's the only cause. But if it's one cause of many I'm comfortable with using the term cause.

Q. **So by choosing the term "substantial contributing factor," you meant to indicate that marketing was one cause among many**?
[Objection made and overruled]

A. **Yes, I meant it to mean a cause, but not the cause.**

Eriksen TT, 2/02/05, 11892:7-15, 11893:18-25, 11894:3-19 (emphasis added). Since Dr. Eriksen's first deposition in this case in 2002, his opinion has been clear and consistent: the term "contributing factor" is interchangeable with "one cause among many."

3924. Dr. Biglan's testimony was consistent with that provided by Dr. Eriksen. When asked if marketing was the "cause" of smoking initiation, Dr. Biglan testified regarding the word "cause": "That word is not used much in the behavioral sciences any more. The term 'influences' come to be used largely because it better connotes the fact that **behavior is multiply determined** and so no single variable cause is -- of behavior. Behavior is influenced by a set of variables." Biglan TT, 1/11/05, 9681:3-8 (emphasis added).

3925. To counter the testimony of Drs. Eriksen and Biglan, Defendants called Dr. Heckman, an economist affiliated with Lexecon, to testify about the issue of causation. Dr. Heckman testified that the appropriate scientific criteria that should be applied to assess causality were as the Surgeon General said, consistency, specificity, temporality and other criteria. It is undisputed that these are exactly the criteria that Dr. Eriksen applied. Eriksen WD, 5/05, 11:1-12.

3926. Moreover, Dr. Heckman's testimony is subject to serious limitations. First, although there is no doubt as to his recognized credentials in the field of economics, Dr. Heckman does not have the same expertise as Dr. Eriksen who is the longest serving prior

Director of the Office on Smoking and Health, and one of this country's foremost experts in public health and tobacco specifically. Second, Dr. Heckman focused on only four of the studies that Dr. Eriksen discussed in his testimony and provided some technical critiques of the methods of those four studies. And, without his handwritten notes that he had to carry to the witness stand, Dr. Heckman was not familiar with even just these four studies which Dr. Eriksen was questioned about extensively and discussed in great detail, from recollection. In addition, in his testimony, Dr. Eriksen analyzed many more than four studies. Heckman TT, 4/13/05 at 18921:13-25. Third, Dr. Heckman was critical of the four studies he did discuss because they used "proxies" like "receptivity" to marketing, rather than measuring the direct exposure of children to marketing. However, as Dr. Eriksen explained, it is both infeasible and unethical to perform an experimental study that would directly measure children's exposure to cigarette marketing and see if they started smoking or smoked more. As a result of the serious harm of cigarette smoking, proxies are necessary to use in lieu of experimental studies on human subjects. Heckman TT, 4/13/05, 18798:19-24, 18808:15-17; Heckman TT, 4/14/05, 18936:11-18937:13; Eriksen WD, 56:26-57:4. Defendants' own expert, Dr. Wittes, admitted that she would not be involved in a controlled randomized study to see if exposure to cigarette advertising causes youth to smoke. Wittes TT, 6/1/05, 22537:16-22538:10.

3927. Additionally, Dr. Heckman testified about the possibility of conducting an econometric study which uses direct measures of expenditure data. But Dr. Heckman admitted that, in order for such an econometric study to be performed, one would need disaggregated marketing data, which, as he admitted, is not available to researchers because Defendants hold it confidential. In fact, Dr. Heckman testified that Defendants refused to provide such data even to him, their own expert in this case. Heckman TT, 4/14/05, 18942:5-15. The Court can draw an

inference that the evidence Defendants refused to provide even their own expert would further support the conclusion that cigarette marketing is a causal factor in youth smoking.

3928. The Court observed the demeanor of these witnesses live at trial. Drs. Dolan, Biglan, Krugman, and Chaloupka's opinions are entitled to greater weight than those of Dr. Semenik, and Dr. Eriksen's opinions are entitled to greater weight than those of Dr. Heckman.

3929. Cigarette Company Defendants spent billions of dollars every year on their marketing activities which have both the intent and the effect of encouraging trial and continuing purchase of their cigarette products by young people. Over the decades, Defendants have used the full range of marketing tools available to them, including: advertising on television, radio, and billboards, and in magazines and newspapers; sponsoring events, such as sporting events, bar promotions, festivals, concerts, and contests; coupons, price reductions, and free packs with purchase; gifts with purchase (known as "continuity items") such as t-shirts, mugs, and sporting goods; direct-mail marketing through which they send magazines, birthday cards, and other materials directly to individuals' homes; distribution of free cigarette samples at retail stores, public events, bars, or other locations; and retail store (known as "point of sale") advertising and promotions. Krugman WD, 43:14-2; Dolan WD, 48:6-3.

3930. Cigarette Company Defendants' expenditures on cigarette advertising and promotion have increased dramatically over the past decades, and remain high both on an absolute basis and relative to other industries. In the nine-year period from 1991-1999, domestic cigarette advertising and promotional expenditures totaled $51.4 billion dollars (unadjusted for inflation). In 1999 alone, domestic cigarette advertising and promotion totaled $8.2 billion, an increase of 22% over 1998, and a six-fold increase over 1963, after adjusting for inflation. For example, Philip Morris spent in

Krugman WD, 23:10-24:4; LeVan PD, United States v. Philip Morris, 6/25/02, 47:23-78:19 (Confidential); 2085298135-8136 (US 25253) (O).

3931. It is immaterial to Defendants' liability whether they actually succeeded in their efforts to market to youth. Nevertheless, the evidence shows that Defendants' marketing efforts have been a success: 88% of youth smokers buy the three most heavily advertised brands – Marlboro, Camel, and Newport. Fewer than half of smokers over the age of 25 purchase these brands. Marlboro, the most heavily marketed brand, currently holds 55% of the 12 to 17 year old market but only 36% of smokers over age 25. Defendants are well aware of this phenomenon; in many internal documents cited below, Philip Morris refers to Marlboro, Camel, and Newport as the "herd brands" because teenagers flock to these brands in "herds." Eriksen WD, 52:17-54:10; (US 17684A) (A).

3932. Independent scientific studies performed by reputable independent scientists, and published in reputable scientific journals and in official government reports, have confirmed Defendants' knowledge, as set out in their internal documents, that their marketing contributes to the primary demand for and continuing use of cigarettes. Over the past ten years, there have been a number of comprehensive reviews of the scientific evidence concerning the effects of cigarette marketing, including advertising and promotion, on smoking decisions by young people. From these reviews it is clear that the weight of all available evidence, including survey data, scientific studies and experiments, behavioral studies, and econometric studies, supports the conclusion that cigarette marketing is a substantial contributing factor in the smoking behavior of young people, including smoking initiation and continuation. Eriksen 1/17/05 WD, 55:4-20.

3933. Most children and adolescents select a regular brand of cigarettes to smoke before

the age of 18. As Michael Eriksen, a public health expert who formerly headed the CDC's Office on Smoking and Health, testified: "When adolescents begin to smoke, they generally smoke one of three brands, Marlboro, Newport, and Camel, and they remain loyal to those brands. Adolescents, like cigarette smokers, generally, are extremely brand loyal. Once a brand of cigarettes is selected, smokers continue to smoke this brand. Cigarette companies are aware of smoker's brand loyalty and also that most smokers start to smoke and choose a brand as adolescents." Id., 49:7-13.

3934. Defendants' internal documents, detailed below, show that they have long understood that they could not survive absent acquiring youth smokers to replace smokers who have quit or died. In these documents, Cigarette Company Defendants expressed the view that stimulating youth smoking initiation and retaining and increasing their share of the youth market is crucial to the success of their businesses. These documents show that, for many years, Cigarette Company Defendants conducted market research on youth smokers under age twenty-one and knew that the majority of smokers began smoking as youth, developed brand loyalty as youth, and that persons who began smoking when they were teenagers were very likely to remain lifetime smokers. Recent internal documents show that youth smoking initiation continues to be vitally important to Cigarette Company Defendants. 2041518797-8956 at 8819-8820 (US 23907) (O).

3935. Contrary to Defendants' assertions that cigarettes are a "mature product," cigarette marketing both creates and grows demand. Defendants' claims that they market only to loyal customers or to attract brand switchers are false. As Defendants are well aware, and as their internal documents plainly show, smokers are highly loyal, and the number of smokers who switch brands is very small. As Dr. Krugman, an expert in advertising and marketing

communication called by the United States, testified after reviewing Defendants' internal documents, only about 9% of adult smokers switch among Cigarette Company Defendants' brands, and therefore brand switching alone could not possibly justify $12 billion in annual advertising and promotion expenditures. Krugman WD, 154:31-158:5.

3936. This independent expenditure analysis is confirmed by Cigarette Company Defendants' internal documents. A November 28, 1994 email from Josh Slavitt, Senior Issues Manager, Corporate Affairs Department, recognized that Philip Morris's frequently repeated public argument that its marketing was directed purely at attracting brand switchers and not new smokers was based upon faulty research. Slavitt wrote: "Our counter argument was – until this morning – that we advertise to maintain brand loyalty and promote brand switching because each market share point of the tobacco industry is worth $400 million. We defended this position by showing that a specific number – 15-20% – of smokers 'switch' brands every year." However, according to the email written by Ed Gee, Philip Morris Consumer Research Director, to which Slavitt was responding, "the industry switching rate is more like 10%." 2045165002-5014 (US 38402) (A).

3937. As Defendants know, the decision to begin smoking or continue smoking is motivated by what preeminent expert Dr. Paul Slovic described in his testimony as "affect" (a conglomeration of positive and negative emotions) rather than the analysis of quantitative statistical logic (fact/rationality). Individuals respond to ubiquitous and appealing cigarette advertising imagery and seek quick satisfaction, bypassing logical analysis. The prospective consumer of cigarettes does not go through several hierarchical stages of information processing (awareness, knowledge, liking, conviction and purchase) that are associated with the purchase of some other products. Cigarette marketing, including advertising and promotion, is designed to

play a key role in this impulsive process by exposing young people to massive amounts of imagery associating positive qualities with cigarette smoking. Research in psychology and cognitive neuroscience demonstrates how powerful such imagery can be in suppressing perception of risk and manipulating behavior. Cigarette Company Defendants' internal marketing research and public marketing practices reveal that they were well aware of this power and exploited it in their marketing campaigns. Slovic WD, 53:22-63:11.

3938. Young people are particularly vulnerable to the types of affective advertising and promotion that associate positive imagery with smoking. Young people overestimate smoking prevalence and underestimate smoking risk, in part as a result of these types of marketing campaigns. Id., 38:14-39:7, 53:4-21.

3939. Many people, and particularly young people, do not adequately understand and appreciate the cumulative risk that smoking entails. Most smokers only begin to think of risk after they have started to smoke regularly and become addicted. At that point, more than 80% of smokers wish they had never begun to smoke. Id., 29:4-30:2.

3940. Many young smokers tend to believe that smoking the "very next cigarette" poses little or no risk to their health. Because the most serious harmful consequences of smoking are cumulative, occurring in the distant future, and because teenagers lack an understanding of the addictive properties of cigarettes, it is unlikely that concerns about harmful consequences influence the decisions by teenagers to initiate smoking. Id., 11:18-12:3.

3941. Initiation of smoking as a youth is particularly harmful because, the earlier one begins smoking, the more likely one will develop a smoking-related disease. VXA0130158-0484 at 0203-0207 (US 64693) (A) (Preventing Tobacco Use Among Young People: A Report of the Surgeon General, 1994) ("1994 Surgeon General Report")).

3942. Cigarette smoking, particularly that begun by young people, continues to be the leading cause of preventable disease and premature mortality in the United States. Of children and adolescents who are regular smokers, one out of three will die of smoking-related disease. Eriksen WD, 3:10-19

3943. In fact, the proportionate impeding effects of childhood smoking on lung growth exceeds the loss of lung function associated with smoking during adulthood. Lung cancer risk rises exponentially as a function of the duration of smoking, so that the risk at age 50 for a person who began smoking regularly at age 13 is 35% greater than that for a 50-year-old who started smoking at age 23. VXA0130158-0484 at 0203-0204 (US 64693) (A) (1994 Surgeon General Report).

3944. Initiation of smoking as a youth is also harmful because, the earlier one begins smoking, the more likely one will become addicted. VXA0130158-0484 at 0203-0207 (US 64693) (A) (1994 Surgeon General Report).

3945. Recent studies indicate that the earlier onset of cigarette smoking is associated with heavier smoking. Heavier smokers are not only more likely to experience tobacco-related health problems, but they also are the least likely to quit smoking. The level of dependence on nicotine in adults has been found to be inversely related to the age of initiation of smoking. As Dr. Neal Benowitz, a physician and leading expert on nicotine addiction, testified, "The earlier a person starts smoking cigarettes, the more highly dependent they will be as an adult, and the more difficult it will be for them to quit. In addition, the earlier someone starts smoking, the higher that person's smoking rate is later on in life." Benowitz WD, 40:8-11; VXA0130158-0484 at 0256-0260 (US 64693) (A) (1994 Surgeon General Report, Tables 20 and 22).

3946. The smoking of as few as one to five cigarettes a day is also a predictor of

continued smoking and dependence. The risk of dependence (addiction) increases sharply and significantly when the quantity of cigarettes smoked increases from less than one cigarette per day to one to five cigarettes per day, or from one to five cigarettes to half a pack (10 cigarettes) per day. Adolescents, who smoke significantly fewer cigarettes per day than adults, experience significantly higher rates of dependence than adults at the same level of use. Benowitz WD, 51:19-54:16; VXA0130158-0484 at 0259-0260 (US 64693) (A) (1994 Surgeon General Report, Tables 20 and 22).

(2) Defendants Have Made False and Misleading Public Statements Denying That They Market To Youth and Asserting That Their Marketing Has No Effect On Youth Smoking Behavior

3947. As set forth below, Defendants falsely denied that Cigarette Company Defendants intentionally designed their marketing efforts to entice young people to begin smoking and to continue smoking. Defendants falsely claim that all of their marketing is aimed only at encouraging the brand loyalty of adult smokers. Defendants also falsely state that marketing has no effect on youth initiation and smoking behavior. The following are representative examples of such false and misleading public statements introduced into the record during trial.

(a) False and Misleading Statements of The Tobacco Institute

3948. The Tobacco Institute was created in 1958 by American, Liggett, Lorillard, Philip Morris, RJR, The American Snuff Company, Larus & Brother Co. and Stephano Brothers. Although membership fluctuated during the existence of the Tobacco Institute, all Defendants (except BATCo and the Council for Tobacco Research) created, agreed to fund, and/or over the years did jointly fund and direct the activities of the Tobacco Institute (discussed at US FF § I, supra). The Tobacco Institute, since its founding, made numerous fraudulent public statements about youth marketing. These statements included that Defendants believed that smoking is a

custom or choice for informed adults, and not youth; and that cigarette marketing is only aimed at – and only affects – adult brand switchers, not youth, as shown below.

3949. On November 20, 1962, Hill & Knowlton, on behalf of Philip Morris, RJR, B&W, Liggett, Lorillard, and American, through the Tobacco Institute, in response to a comment made by LeRoy Collins, President of the National Association of Broadcasters, that "cigarette advertising is designed primarily to influence high school children," issued a press release entitled "Tobacco Institute Head Calls N.A.B. President's Charges Incorrect." In the press release, George V. Allen, President of the Tobacco Institute, stated "the president of the National Association of Broadcasters, in a statement focused on high school age children, is incorrect when he suggests that cigarette advertising is designed primarily to influence them." The press release also stated that "[t]he tobacco industry regards smoking as an adult custom, and the decision to smoke or not to smoke should be made at the age of mature judgment." MNAT00280070-0070 (US 21724) (O).

3950. On or about July 9, 1963, the Tobacco Institute, through its agent Hill & Knowlton, issued a press release stating that it was: "the tobacco industry's position that smoking is a custom for adults and that it is not the intent of the industry to promote or encourage smoking among youth." It further stated: "[t]he industry wants to make it demonstrably clear that it does not wish to promote or encourage smoking among youth." TIMN0098597-8598 at 8597 (US 21270) (A); TIFL0522044-2045 at 2045 (US 21313) (A).

3951. On July 22, 1969, Joseph F. Cullman III, Chairman of the Executive Committee of the Tobacco Institute and Chairman of the Board of Philip Morris, testified to the Consumer Subcommittee of the Senate Committee on Commerce that "it is the intention of the cigarette manufacturers to continue to avoid advertising directed at young persons." Cullman further

testified that the cigarette industry would submit to a broadcast ban that banned all cigarette advertising from television and radio because:

> [y]oung people are exposed to broadcast advertising differently than they are to print advertising. It is well-known that young people spend a great deal of time viewing television and listening to radio; it takes an affirmative act on the part of the viewer or listener to avoid broadcast advertising. By contrast, much less time is spent by young people in reading newspapers and magazines and an affirmative act is required by the reader to see and comprehend such advertising. Objections to cigarette advertising on the broadcast media based on appeal to youth do not apply to cigarette advertising in newspapers and magazines.

680263421-3422 (US 22345) (A).

3952. In or about September 1975, the Tobacco Institute, through its agent Hill & Knowlton, issued a press release entitled "Cigarette Industry Advertising Standards," communicating that the Tobacco Institute had issued statements as early as 1963 denying that the cigarette industry marketed to youth smokers. The press release also repeated Cullman's July 22, 1969 testimony that "it is the intention of the cigarette manufacturers to continue to avoid advertising directed at young persons." 680263421-3422 (US 22345) (A).

3953. On February 15, 1978, Horace Kornegay, President of the Tobacco Institute, testified before the House of Representatives Subcommittee on Health and the Environment of the House Energy and Commerce Committee: "I do not believe, as some have suggested, that cigarette advertising induces young people to smoke, and I am supported on that statement by several studies that have been done. I do believe that it is peer influence." (JD-011816) (A). In a letter dated March 6, 1978, in response to a congressional request during his testimony to provide documentation of any recent studies targeting young women by the Tobacco Institute's constituent companies, Kornegay stated the following: "I am writing to confirm that I am unaware of any consumer study conducted by any of our member companies with regard to

children nor any cigarette advertising campaigns directed at children, whether male or female. I have communicated with each of our cigarette manufacturing members and advised them of the Subcommittee's request for such material, should any exist." (no bates) (JD-011816) (A).

3954. A 1979 Tobacco Institute brochure entitled "Fact or Fancy?" declared that cigarette advertisements create new smokers "[n]o more than advertising a specific brand of toothpaste causes more people to use toothpaste. Cigarette advertising is brand advertising, aimed at interesting smokers in switching brands and in creating brand loyalty. . . . The tobacco industry does not try to persuade anyone to smoke. Nor does it discourage anyone who makes up his or her mind to quit." TIMN0133740-3798 at 3760, 3786 (US 21280) (A).

3955. A May 24, 1979 letter from Kornegay to Joseph A. Califano, Jr., Secretary of the Department of Health, Education and Welfare, was written in response to Califano's statements to the Interagency Council on Smoking and Health on April 26, 1979. Kornegay's letter stated that Califano's "statements . . . reflect the erroneous view that brand advertising has an effect on the decision to begin smoking." TI05031337-1339 (US 21245) (A), (US 78792) (A).

3956. An August 1, 1979 document created by the Tobacco Institute stated that smoking is an "adult custom, one to be decided on by mature, informed persons" and that laws prohibiting sale of cigarettes to "youngsters. . . . should be vigorously enforced." The document further stated that "the great majority of youngsters have not rushed to judgment about smoking. The majority is the best example for the minority – a lesson the latter need from people who make and sell cigarettes." TIMN0032423-2424 (US 65594) (O).

3957. On August 31, 1979, the Tobacco Institute issued a press release articulating Defendants' "policy" on youth smoking: "Kids shouldn't smoke! Smoking is an adult custom. Until a person is mature enough to make the decision in light of all the available information and

on the basis of individual freedom of choice, that decision should be deferred." TIMN0157538-7538 (US 85136) (O).

3958. On or about May 13, 1981, the Tobacco Institute issued a press release announcing the adoption of a "Code of Cigarette Sampling Practices" that promised to cease their prior distribution of cigarette samples to persons under 21, and limiting the distribution of cigarette samples to "persons 21 years of age of older." The press release included a statement that members of the Tobacco Institute had a "long-standing policy of discouraging smoking by children," and that "the thrust of the new code is further to discourage smoking by children." The code supposedly established that sample distribution would not occur within two blocks of any "center of youth activities, such as playgrounds, schools, college campuses, or fraternity or sorority houses." TIOK0000817-0818 (US 22346) (O); TIMN0123794-3795 at 3794 (US 85138) (O); TIMN0123589-3590 at 3589 (US 21279) (O); TIMN0102493-2494 at 2493 (US 21271) (O).

3959. In a 1983 document entitled "Voluntary Initiatives of a Responsible Industry In Advertising," the Tobacco Institute stated that "smoking is an adult custom to be considered only by those mature enough to make an informed decision." ATX040294056-4056 (US 58599) (A); TIMN333363-3363 (US 62907) (O).

3960. A 1983 Tobacco Institute advertisement stated in bold letters: "We don't think our kids should smoke, either." The advertisement further stated that: "As with many of life's pleasures, smoking, drinking, and driving a car require a knowledge of oneself and a sense of moderation that come only with age. When our children acquire this sense of moderation and this knowledge of themselves – and are, therefore, no longer children – they can make their own decisions. Until then, we'll try to help them learn what every human being . . . has always had to

learn. When we confuse the pleasures of growing up with the satisfactions of being grown up, we miss a great deal of both." TIOK0001287-1288 (US 78789) (O).

3961. In September 1983, the Tobacco Institute circulated a card entitled "Cigarette Industry Advertising Standards." The card emphasized the "industry's longstanding policy against youth smoking," that "[t]he industry's position has always been that smoking is an adult custom." TIMN292908-2908 (US 62894) (O).

3962. On the nationally televised ABC program *20/20*, broadcast on October 20, 1983, Ann Browder, a Tobacco Institute spokesperson, speaking on behalf of Philip Morris, RJR, B&W, Liggett, and Lorillard, stated: "We feel very strongly that cigarette smoking is an adult custom that one should not even consider until they've reached the age of maturity" and that the "age of maturity is 21." Browder also stated that "Cigarette manufacturers are not interested in obtaining new business from teenagers. . . . We've been in business very well, thank you, for sometime now without attempting to hook kids. We do everything possible to discourage teenage smoking." 680286673-6686 at 6675-6676 (US 20999) (A); 690149518-9531 at 9520-9521 (US 21046) (A).

3963. On April 1, 1984, the Tobacco Institute initiated a project with the National Association of State Boards of Education ("NASBE") to publish a pamphlet entitled "Helping Youth Decide" which advised parents on how to communicate with their children and how to assist them in making decisions on issues such as tobacco and alcohol use, drug use, and sexual activity. In an April 12, 1984 memorandum from Tom Humber, Chairman, Tobacco Institute Communications Committee, to the members of the Tobacco Institute's Executive Committee, Humber explained one of the advantages of working with NASBE: "NASBE will provide us with an established, clear link to all levels of government: federal, state and local." 04210444-0455 at

0445 (US 74879) (A). On September 25, 1984, the Tobacco Institute's Vice President Walker Merryman stated in a speech pertaining to the "Helping Youth Decide" pamphlet: "[w]e do not want youngsters smoking cigarettes. That has been our policy for many years and it is a policy which has guided and will continue to guide our industry's marketing, promotion and advertising practices." TIMN0053189-3191 at 3189 (US 77043) (A).

3964. On September 21, 1984, Curtis Judge, Lorillard President and Chairman of the Tobacco Institute's Executive Committee, stated in a press release that cigarette manufacturers feel "that smoking is among many behaviors that should be left to adults, like driving, voting, raising a family, and knowing enough to make an informed decision about all sorts of adult activities." He also stated: "The cigarette manufacturers of America do not want youngsters to smoke." TIMN0013806-3806 (US 85140) (O).

3965. In a booklet entitled "In the Public Interest: Three Decades of Initiatives by a Responsible Cigarette Industry," published in 1991, the Tobacco Institute stated: "For the past thirty years – and for the future – this industry has maintained responsible positions in five policy areas of concern to all Americans . . . : youth smoking, scientific research, fire safety, truthful advertising, and workplace smoking." This booklet further stated that "Cigarette manufacturers have always believed that the decision to smoke or not is a choice to be made by informed adults" and discussed the adoption of the Code of Cigarette Sampling and the provision of a "free parental guidebook, 'Helping Youth Decide'" as examples of the Defendants' commitment to reduce youth smoking. The booklet also stated: "It has always been the policy of cigarette manufacturers that smoking or not smoking is a choice to be made by informed adults. In keeping with that policy, the industry has recently launched five new initiatives designed to support and strengthen its commitment that youth should not smoke." TI10200492-0501 (US

62273) (O).

3966. In 1989, the Tobacco Institute issued a brochure entitled "Smoking and Young People – Where the Tobacco Industry Stands" which stated that the "tobacco industry has long taken the position that smoking is an adult practice to be considered solely by mature, informed persons." The Tobacco Institute further stated that "no other industry in America has taken such direct – and voluntary – action to steer its product away from young people." The Tobacco Institute denied that advertising encourages people to begin smoking, stating that "[m]any [studies] have concluded that peer pressure and parental influence are the chief factors in an adolescent's decision" to smoke and that "[a]ccording to many behavioral experts, the answer is an unequivocal no – there is no significant connection between advertising and the decision to start smoking." 2025861325-1334 at 1327, 1330, 1332 (US 23049) (A).

3967. In a January 11, 1989 interview on *CBS This Morning*, the host asked Brennan Dawson, Vice President of the Tobacco Institute, whether cigarette brand advertisements, such as ones featuring "Joe Camel," were directed toward teenagers. Dawson responded: "No. In fact, like all tobacco advertisements, they're directed at smokers, people who are already smokers, to give them education about how much and how many different brands there are, and things like that." TIMN389505-9507 at 9505 (US 85141) (A).

3968. In 1990, the Tobacco Institute revised and republished "In the Public Interest: Three Decades of Initiatives by a Responsible Cigarette Industry," originally published in 1986. It stated, under the heading "Our Commitments": "for the past thirty years – and for the future – this industry has maintained responsible positions in four policy areas of concern to all Americans, smokers and nonsmokers alike: Youth Smoking, Scientific Research, Truthful Advertising, and Workplace Smoking." The discussion on youth smoking alleged that "Cigarette

manufacturers have always believed that the decision to smoke or not is a choice to be made by informed adults," and outlined various industry initiatives. TIMN0194781-4787 at 4782, 4783 (US 21397) (A).

3969. In 1990, the Tobacco Institute issued a multi-page advertisement captioned "Cigarette Industry Initiatives Against Youth Smoking" which provided supposed examples of Cigarette Company Defendants' efforts to keep youth from smoking, including the Code of Cigarette Sampling and the ceasing of product placement in movies. TI1630033-0034 (JE-062448) (A).

3970. Also in 1990, the Tobacco Institute issued a series of press releases entitled ". . . On Youth Smoking." The releases pronounced Defendants' public position on various youth smoking issues. A release entitled ". . . On Youth Smoking Tobacco Advertising . . . And Why Kids Smoke" stated: "cigarette advertising has no significant effect on the prevalence of smoking by young people." TIFL0303295-3368 at 3305 (JD-080072) (O). Another release, entitled ". . . On Youth Smoking Reducing Access" stated: "[i]n the past – and for the future – the tobacco industry has maintained responsible positions on the issue of smoking by young people. The longstanding policy of cigarette manufacturers is that the choice to smoke or not to smoke is to be made by informed adults." TIFL0303295-3368 at 3308 (JD-080072) (O). A release entitled ". . . On Youth Smoking Tobacco Industry Initiatives" stated: "[t]he tobacco industry has long taken the position that smoking is an adult practice to be considered solely by mature, informed persons." TIMN0015624–5625 at 5624 (US 65589) (A). A release entitled ". . . On Youth Smoking Tobacco Industry Guidelines" stated: "Long holding the view that smoking is for adults who choose to smoke – and an activity that should not be engaged in by youth – the tobacco industry has taken measures to address public concerns about youth smoking." TIMN0057161-

7161 (US 62818) (A).

3971. On February 20, 1990, the Tobacco Institute issued a press release stating that Charles Whitley, Tobacco Institute Legislative Consultant, had appeared before the Senate Committee on Labor and Human Resources on behalf of the Tobacco Institute and had testified that "the cigarette industry does not want young people to smoke." TIMN341503-1504 (US 85377) (O).

3972. In a February 22, 1990 interview on *Larry King Live*, Brennan Dawson, Vice President of the Tobacco Institute, stated: "the industry does not target kids. In fact, you'll only find tobacco ads in publications that are primarily geared towards older people; adults, in fact." TIMN341405-1422 (US 21363) (A).

3973. On *CBS News Nightwatch*, broadcast on February 27, 1990, Brennan Dawson stated: "advertising doesn't cause smokers . . . . And advertising in that mature market doesn't create the urge to run out and buy a pack of cigarettes." Dawson further stated: "The industry does not target children. We don't want kids smoking. We have taken a number of very proactive steps over a long period of time to make that demonstration very clear." CORTI1731-1738 at 1734, 1737 (US 87735) (A).

3974. In March 1990, the Tobacco Institute issued a supposed report on youth smoking stating, "Tobacco manufacturers have always believed that the decision to smoke or not is a choice to be made by informed adults." TIMN215242-2425 (US 85149) (A).

3975. On the CNN program *Crossfire* broadcast on April 11, 1990, Brennan Dawson, stated: "There is no one in the tobacco industry that wants children and underaged youth to smoke. That has been a longstanding policy of the tobacco industry." CORTI1828 -1841 at 1837 (US 85150) (A).

3976. On May 24, 1990, the Tobacco Institute issued a press release entitled "Discouraging Youth Smoking, Tax Burden On Smokers And Other Issues Discussed in Testimony" concerning the testimony offered by the Tobacco Institute's Charles O. Whitley before the Senate Committee on Finance. The press release quoted Whitley as testifying: "I know of no other industry in America that has taken such direct, voluntary action to steer its products away from young people." The press release also stated that Whitley "outlined many of the steps that the tobacco industry has taken to help discourage youth smoking." The press release further stated that "Whitley also disputed claims that raising cigarette taxes would discourage youth smoking." MNAT00600156-0157 (US 22349) (A).

3977. In a July 1990 Tobacco Institute document entitled "Youth Guidelines," the Tobacco Institute issued new industry guidelines regarding sampling and product placement, supposedly updating its advertising code. The document stated:

> The cigarette industry has long held the view that smoking is for adults who choose to smoke – an activity that should not be engaged in by youth. In fact, the industry already has taken measures to address public concerns about youth smoking. To date cigarette manufacturers: do not advertise in publications directed primarily to persons under 21; do not use models in ads who are or appear to be under 25; do not distribute cigarette samples to persons under age 21; do not distribute cigarette samples within two blocks of any centers of youth activities, such as playgrounds and schools.

The report also announced new additional industry guidelines regarding sampling and product placement. TIMN0038804-8804 (US 85151) (A).

3978. On October 11, 1990, the Tobacco Institute issued a press release entitled "Major New Initiatives to Discourage Youth Smoking Announced" which stated that Defendants had a "longstanding commitment" of discouraging and preventing smoking by youth and announced "five new initiatives that expand and reaffirm the industry's longstanding commitment and

positive actions against youth smoking." The press release included a quote from Brennan Dawson, Vice President of the Tobacco Institute, stating that "[w]e also were determined to address substantively concerns about cigarette marketing. And so we reviewed our practices to find what more we could do." The press release further quoted Dawson as saying: "since it is widely recognized that young people smoke primarily because of peer pressure, we are addressing this directly with a major program to assist parents in reducing that peer pressure." TIOK0000978-0980 (US 21714) (A).

3979. On December 12, 1990, Dawson told news reporters: "If a child never picks up another cigarette it would be fine with the tobacco industry." TIMN0131524-1525 (US 85153) (A).

3980. On the nationally televised ABC program *Good Morning America*, broadcast on December 12, 1990, Dawson, speaking on behalf of Philip Morris, RJR, B&W, Liggett, and Lorillard, stated that the tobacco "industry has a long-standing history going back for decades of positive actions to discourage youth smoking." TIMN0041988-1911 at 1989 (US 62806) (A).

3981. In 1991, the Tobacco Institute distributed to the public a booklet entitled "Smoking and Young People – Where the Tobacco Industry Stands," which stated that, in 1990, the industry "launched a set of bold, new initiatives designed to ensure that smoking remains an adult custom." In the booklet, the Tobacco Institute also stated that "[a]ccording to many behavioral experts, the answer is an unequivocal no – there is no significant connection between advertising and the decision to start smoking." TIMN0133916-3922 at 3917, 3919 (US 22206) (A).

3982. In a 1991 statement to the New York State Association of Tobacco and Candy Distributors, Samuel Chilcote Jr., President of the Tobacco Institute, said: "the tobacco industry

has long believed that smoking is an adult choice. Over the years we have taken many voluntary steps to make that clear." TIMN0031560-1560 (US 85161) (A).

3983. On December 11, 1991, the Tobacco Institute issued a press release criticizing a study published in the *Journal of the American Medical Association* ("*JAMA*") on youth smoking and accusing the authors of "glaring omissions and distortions." The press release stated: "Youth smoking is not on the rise in the U.S., contrary to the impression given in a study in today's Journal of the American Medical Association. . . . Contrary to the assertion of [the study's] authors, studies suggest that the majority of U.S. smokers are of legal age when they begin to smoke." The press release further stated: "cigarette ads have no significant effect on the prevalence of smoking by young people." The press release also contained the statement that "The tobacco industry has long taken steps to discourage youth smoking and to address concerns about tobacco marketing." In addition, the press release contained statements falsely suggesting that the majority of smokers in the United States are of legal age when they begin smoking and that Defendants had discouraged youth smoking. TIMN0024039-4040 (US 21266) (A) (emphasis in original).

3984. In an effort to head off expected criticisms triggered by the 1994 Surgeon General's Report on smoking and youth, the Tobacco Institute circulated background fact sheets to the media. A cover letter attached to the four fact sheets summarized them as follows:

> **Cigarette Advertising and Youth Smoking**, citing numerous studies and country experiences demonstrating that cigarette advertising does not influence young people to smoke;
>
> **Why Young People Begin Smoking**, outlining several U.S. and international studies reporting that family and peers are the primary influences of youth smoking;
>
> **Incidence of Youth Smoking**, highlights information on youth smoking data from federal studies; and

> **Tobacco Industry Initiatives Against Youth Smoking**, providing a look at some of the steps the industry has taken to address these issues.

TI16300337-0345 at 0337 (US 62447) (emphasis in original) (A).

(b) False and Misleading Statements of Philip Morris

(i) False and Misleading Public Statements

3985. As the following examples demonstrate, Philip Morris has also made numerous false and misleading statements about youth smoking and marketing. Philip Morris prepared a brochure intended to publicly promote its "thirty years of responsible marketing practices" dating from 1963 to 1993. The brochure stated: "Philip Morris Cigarette Ads are Directed to Adults Only . . . Philip Morris advertises to promote brand loyalty among adults who already smoke." 2078842782-2814 at 2809 (US 25040) (A).

3986. In 1989, Philip Morris initiated a program called "It's The Law" as part of its publicly-declared intention to reduce underage smoking. In a document regarding this program, Philip Morris denied that advertising leads children to smoke, stating: "All that cigarette advertising does is help smokers select a brand; it does not encourage nonsmokers or kids to smoke." 2046573757-3759 at 3757 (US 20472) (A).

3987. Doreen Baker, Manager of Marlboro Accounts at Philip Morris, sent a letter dated November 22, 1989 to Don Miller, Vice President and General Manager, Motorsports International, which stated that Philip Morris's "policy [is] to market to the 21 and above aged consumer." 2048513994-3994 (US 20483) (A).

3988. In 1991, Philip Morris placed advertisements which stated that "Philip Morris U.S.A. does not market cigarettes to children because smoking is an adult choice," and that "smoking is an adult decision." 2022881505-1505 (US 20366) (A); 2022881503-1503 (US

20365) (A).

3989. A June 27, 1995, Philip Morris press release announced a program – Action Against Access – which was described as a "new initiative to attack the problem of youth smoking." It further stated that "Philip Morris U.S.A. will fund a major retail compliance training program called 'Ask First/It's the Law' on how to ask for and verify proof of age for the purchase of cigarettes." The press release hailed these initiatives as "the best way to keep kids away from cigarettes." 2500050140-0141 (US 21804) (A); 511407678-7680 at 7678 (US 22928) (A).

3990. Responding to a letter from school children at Fairmont Public School in Fairmont, North Dakota, in a February 24, 1995 letter to the Principal, Ellen Merlo, Senior Vice President at Philip Morris, wrote: "Let me start by assuring you that Philip Morris agrees with your students, in that we do not want minors to smoke. We believe that while smoking is a legitimate life-style choice for adults, it is completely inappropriate for children. For more than three decades we have taken great care to ensure that our cigarette products are marketed to adults only. We never advertise in publications geared toward youth and have not done so since the early 1960s." 2070038936-8938 at 8936 (US 24506) (A); see also 2077070349-0354 (US 22091) (O); 2048370622-0641 (US 22094) (A).

3991. At a 1997 Philip Morris shareholders meeting, in response to a shareholder inquiry regarding youth smoking, the Altria Board of Directors stated that "[t]he Company has a long-standing policy against the sale of cigarettes to minors and in favor of responsible marketing. Consistent with this policy, which is applicable worldwide, the Company is committed to leading and supporting initiatives to address the problem of youth smoking." Philip Morris 1997 Proxy Statement, Proposal 1 (US 87736) (A).

3992. At a 1998 Philip Morris shareholders meeting, in response to a shareholder inquiry regarding youth smoking, the Altria Board of Directors stated that "the Company shares the proponents' desire to prevent youth smoking and is committed to taking action to prevent the sale of cigarettes to minors." Philip Morris 1998 Proxy Statement, Proposal 1 (US 87737) (O).

3993. At a 1999 Philip Morris shareholders meeting, in response to a shareholder inquiry regarding youth smoking, the Altria Board of Directors stated that "[b]oth Philip Morris U.S.A. . . . and Philip Morris International . . . have programs in place, and are subject to legal restrictions, that require that marketing and advertising activities be directed only to adults who choose to smoke." Claiming that Philip Morris goes "above and beyond" legal requirements, the Board further stated that "Philip Morris U.S.A. has a long-standing commitment to direct its advertising only to adults who choose to smoke. . . ." Philip Morris 1999 Proxy Statement, Proposal 1 (US 87738) (A).

3994. Philip Morris's internet website www.philipmorrisusa.com, launched on October 13, 1999, stated in part as follows: "Our goal is to be the most responsible, effective, and respected developer, manufacturer and marketer of consumer products made for adults." The website further stated that "Philip Morris is committed to acting responsibly in marketing its tobacco products to adults who choose to smoke. We demonstrate this commitment by implementing all of our marketing programs in compliance with both the letter and the spirit of the laws, rules, policies and restrictions that govern our business practices." TLT0450351-0360 (US 65080) (O) (www.philipmorrisusa.com).

3995. At a 2000 Philip Morris shareholders meeting, in response to a shareholder inquiry regarding youth smoking, the Altria Board of Directors stated, "[b]oth Philip Morris U.S.A. . . . and Philip Morris International . . . have programs and policies in place, and are

subject to legal restrictions, that help ensure that marketing and advertising activities be directed only to adults that choose to smoke. . . . Philip Morris U.S.A. has a long-standing commitment to direct its advertising only at adults who choose to smoke [and] complies with an industry code and company policy that help ensure that its marketing efforts are directed only to adults who choose to smoke." Philip Morris 2000 Proxy Statement, Proposal 4 (US 87739) (O).

3996. At a 2001 shareholders meeting, in response to a shareholder inquiry regarding youth smoking, the Philip Morris Board of Directors asserted that "Philip Morris U.S.A. has a long-standing commitment to help ensure that its marketing efforts are directed only at adults who choose to smoke . . . ." Philip Morris Companies Inc., 2001 Proxy Statement Pursuant to Section 14(a) of the Securities Act of 1935, Proposal 2 - A Proposal to Ensure that Tobacco Ads Are Not Youth-Friendly (US 87740) (A).

3997. On or about June 2001, Philip Morris posted on its Internet website a document entitled "U.S.A. Marketing Policies," which represented that "All of our brand advertising and promotions are intended for adults who choose to smoke. They serve to enhance brand awareness, recognition and loyalty among adult smokers." 2078296160-6161 (US 20534) (O).

3998. As of January 13, 2002, a section of Philip Morris's Internet website www.philipmorrisusa.com entitled "Responsible Marketing" stated in part that "we demonstrate our commitment to responsibly marketing our products to adult smokers by developing and implementing programs that comply with both the letter and the spirit of the laws, rules, policies and agreements that govern our business practices. . . . [including] PM USA's Marketing Practices. . . . Our marketing programs are designed to enhance brand awareness, recognition and loyalty among adult smokers, while honoring the Company's commitment to responsible marketing." ARU6432619-2620 (US 78280) (O) ("Responsible Marketing" on

www.philipmorrisusa.com).

3999. Philip Morris continues to disseminate false and misleading statements regarding its marketing to youth on its own website at the present time. Under a section entitled, "Responsible Marketing," Philip Morris states, "At Philip Morris USA, we demonstrate our commitment to responsibly marketing our products to adult smokers by developing and implementing programs that comply with both the letter and the spirit of the laws, rules, policies and agreements that govern our business practices." In describing its "marketing practices," Philip Morris states, "Philip Morris USA does not direct its advertising to underage smokers or to non-smokers." With regard to its obligations under the MSA, Philip Morris states, "Although the agreement restricts participation in promotional programs to "Adults" (defined as 18 years of age and older), PM USA voluntarily restricts such programs to adult smokers age 21 or older." ARU6432619-2620 (US 78280) (O) (http://www.pmusa.com/ responsible_marketing/ default.asp); ARU6432621-2624 (US 78281) (O).

4000. Philip Morris has, on numerous occasions, prepared internal memoranda or "talking points" intended for Philip Morris spokespersons to use when speaking to the public. These memoranda repeat the very same false and misleading public statements cited directly above. For example, talking points produced from the files of Joshua Slavitt, Director of Policy & Programs for Tobacco, Philip Morris Management Corporation, dating to or after 1990, stated: "Philip Morris directs its marketing efforts to existing adult smokers 21 years of age and older." 2078842251-2253 at 2251 (US 25034) (A).

4001. According to "Message Points" intended for public dissemination dating to or after 1992, produced from the files of Norma Suter, currently the Vice President of Marketing, Discount Brands: "Philip Morris does not market its products to minors and we do not want

minors to smoke because smoking in [sic] an adult custom. . . . Minors do not start smoking because of cigarette advertising, promotions or sponsorship. 2048826863-6864 at 6863 (US 23992) (A).

4002. In 1994, Philip Morris created message points intended to publicly respond to the 1994 Surgeon General Report's conclusion that cigarette advertisements contributed to youth smoking. The Philip Morris message points stated: "No study has ever been able to draw the conclusion that advertising can cause anyone – particularly kids – to smoke. All that cigarette advertising does is help smokers select a brand; it does not encourage nonsmokers or kids to smoke. Brand recognition does not equate to smoking." 2062341135-1136 (US 20511) (O).

4003. Similarly, a draft article intended to appear in an issue of *PMGLOBE* published close in time to the publication of the 1994 Surgeon General's Report stated that: "Philip Morris U.S.A. does not market its cigarette products to children and underage teenagers." 2078842765-2766 at 2766 (US 25039) (O); 2078842371-2376 at 2371 (US 25037) (O).

4004. In another example, a June 6, 1995 draft of Questions and Answers regarding sporting events signage, produced from the files of Joshua Slavitt, stated, "Any television pick-up that our advertisements may have received was and is purely incidental." 2078842259-2277 at 2274 (US 25035) (O); see also 2048216551-1559 (US 26990) (O); 2500121308-1353 at 1318-1320 (US 20553) (O).

(ii) False and Misleading Testimony

4005. On March 4, 1998, Geoffrey Bible, then Chairman and CEO of Philip Morris Companies, testified in Minnesota that "We do not market cigarettes to teen-agers." Bible TT, Minnesota v. Philip Morris, 3/4/98, 6167: 9-10.

4006. Suzanne LeVan, Vice President of Marlboro and former Vice President of Philip

Morris Premium Brands, has been a Philip Morris employee since December 1991. At her June 25, 2002 deposition in this case, LeVan testified that "Philip Morris markets its brand to adults who choose to smoke" and that "Philip Morris doesn't direct any of its marketing efforts to non-smokers." In response to the question: "Does Philip Morris do anything to recruit non-smokers to begin smoking?" LeVan testified, "No, sir, they do not." And in response to the question "What percentage of Philip Morris' marketing efforts are spent trying to convince minors to smoke Philip Morris brands?" LeVan testified, "None. Philip Morris doesn't market to minors" and testified that that was "a true statement for all of [her] years at Philip Morris." LeVan PD, United States v. Philip Morris, 6/25/02, 268-270; 2063683072-3077 (US 21870) (O).

(c) False and Misleading Statements of Liggett

4007. As the following examples demonstrate, Liggett has also made numerous false and misleading statements about youth smoking and marketing. On May 18, 1979, Raymond J. Mulligan, then President of Liggett, sent a letter to Joseph A. Califano, Jr., Secretary of the Department of Health, Education and Welfare, in response to a April 26, 1979 letter sent by Califano, which stated that millions of children are regular cigarette smokers and urged Liggett to dedicate a percentage of its advertising budget to youth smoking prevention programs. Mulligan stated that:

> [T]his Company does not promote or advertise its cigarette products to children or young people under twenty-one years of age, nor are our promotional activities and advertising aimed at encouraging such children and young people to begin smoking or even continue smoking. Cigarette smoking is an adult pleasure and custom, and our promotional activities and advertising are directed at attaining loyalty to our cigarette brands among adult smokers only.

TI03972545-2546 (US 22358) (A). Mulligan's letter also cited self-imposed restrictions against sampling and advertising on college campuses, using models under 25 years of age, television

and broadcast advertising, and "many other programs and policies not herein specified which by the industry's free will are directed at limiting the pleasure of smoking to adults." In response to Califano's suggestion of an anti-youth smoking campaign, Mulligan stated, "I believe there is sufficient evidence to show that government intrusion only encourages and fosters an attitude among many of our young people to oppose such intrusion by doing the very opposite of that which the government advocates." Id.

4008. On July 13, 1999, Ronald S. Fulford, Chief Executive Officer of Liggett, sent an internal memorandum to all employees which stated that "[i]t is Liggett's policy to scrupulously avoid any and all advertising or marketing which would appeal to children or adolescents." LDOJ2233261-3261 (US 21184) (O).

(d) False and Misleading Statements of Lorillard

(i) False and Misleading Public Statements

4009. As the following examples demonstrate, Lorillard has also made numerous false and misleading statements about youth smoking and marketing. In a January 6, 1970 letter to Michael Pertschuk, General Counsel for the United States Senate Commerce Committee, Arthur Stevens, Lorillard General Counsel, responded to a *Consumer Reports* story which discussed a 1969 or 1970 letter written by Philip Gaberman, creative director for Robert Brian Associates, regarding a new package design for Lorillard Kicks cigarettes. Stevens' letter stated: "[i]t is Lorillard's policy and practice to avoid directing its advertising or promotions toward young people. Therefore, we sincerely regret any misunderstanding which may have arisen in this regard as a result of the actions referred to in the 'Consumer Reports' story, and trust that the information we have supplied will demonstrate that we are continuing to avoid any such appeals and will continue to avoid them in the future." 00486108-6109 (US 20026) (A).

4010. On March 25, 1992, Stevens sent a memorandum to Gary W. Garson, Loews Vice President, Deputy General Counsel and Assistant Secretary, entitled "Loews 1992 Annual Meeting Shareholder Proposals 5 and 6." Loews is the parent company of Lorillard. In the memorandum, Stevens stated that "[t]he WSJ article of 3/13/92 reported the RJR response to this survey, viz, that teenagers are influenced in both their decision to smoke, and their brand selection, by the practices of their peers and families, rather than by advertising. Our MRD [Marketing Research Department] people agree with that conclusion." 91763206-3206 (US 21112) (O).

4011. In response to a shareholder inquiry regarding youth smoking at a shareholder meeting in 1996, the Lorillard Board of Directors stated that "[f]or over 30 years, Lorillard and other cigarette manufacturers have opposed smoking by minors. The voluntary code of the cigarette industry, to which Lorillard fully subscribes, contains a variety of provisions designed to discourage youth smoking . . . and a variety of restrictions strictly limiting the distribution of product samples. These efforts have been supplemented and enhanced over the years." 91762567-2592 at 2585-2586 (US 22080) (A) (Loews Corporation, 1996 Proxy Statement Pursuant to Section 14(a) of the Securities Act of 1935, Proposal No. 8 - Shareholder Proposal Relating to Smoking by Youth).

4012. In response to a shareholder proposal regarding youth smoking at a shareholder meeting in 1997, the Lorillard Board of Directors stated that: "Lorillard and other cigarette manufacturers have opposed smoking by children and underage adults for over thirty years. In an effort to deal with this and other matters, the cigarette industry has adopted a voluntary code, to which Lorillard has always fully subscribed, containing a variety of provisions designed to discourage youth smoking." TLT1022214-2235 at 2231 (US 87742) (A) (Loews Corporation,

1997 Proxy Statement Pursuant to Section 14(a) of the Securities Act of 1935, Proposal No. 5 - Shareholder Proposal Relating to Smoking by Youth).

4013. At trial, Lorillard CEO Martin Orlowsky admitted that he authored a statement in a document dated June 30, 1999 entitled "Corporate Principles of Marketing, Promotion and Youth Smoking" that: "[f]or many years, Lorillard, as a matter of corporate policy, has voluntarily and scrupulously followed the tobacco industry Cigarette Advertising and Promotion Code. . . . This Code was and is consistent with Lorillard's long-standing policy and practice that smoking is an adult custom and that children should not smoke." Orlowsky further stated:

> Lorillard does not and will not design or implement any marketing or promotional program intended to encourage youth to smoke cigarettes, and will continue to utilize only those advertising, promotional and marketing materials that do not, directly or indirectly, target youth. . . . Lorillard does not and will not advertise its products in publications directed primarily to persons under 21 years of age, including school, college or university media (such as athletic, theatrical or other programs), comic books or comic supplements. . . . Lorillard's advertising does not and will not depict as a smoker anyone who is or has been well known as an athlete, nor does it or will it show any smoker participating in, or obviously just having participated in, a physical activity requiring stamina or athletic conditioning beyond that of normal recreation. .. . and Lorillard does not and will not take any action the primary purpose of which is to initiate, maintain, or increase the incidence of youth smoking.

Orlowsky WD, 8:23-9:11; 82225801-5805 at 5803-5805 (US 55455) (A). Orlowsky also confirmed that he made this statement after the effective date of the MSA. Id., 9:12-14.

4014. At trial, Orlowsky testified that Lorillard's website indicates, as part of its corporate principles on marketing and promotion, that Lorillard:

> does not and will not target its marketing or promotions directly or indirectly to persons under 21 years of age....does not and will not conduct market research for its products involving persons under 21 years of age....does not and will not use any model in the advertising of its products who is, or appears to be, under 25 years

> of age....[will not] show any smoker participating in, or obviously just having participated in, a physical activity requiring stamina or athletic conditioning beyond that of normal recreation. . . . Lorillard advertising does not and will not suggest that smoking is essential to social prominence, distinction, success or sexual attraction[.]

Orlowsky WD, 16:20-18:8. Orlowsky also admitted that these are the same representations made in the Advertising Code and reiterated by Lorillard over the past 40 years. Id.; TLT0370590-0592 (US 76628) (O) (http://www.lorillard.com/index.php?id=29); MNAT00608606-8614 (US 21228) (A).

4015. In response to a shareholder proposal regarding youth smoking at a shareholder meeting in 1999, the Lorillard Board of Directors stated that:

> the MSA . . . is designed to provide a comprehensive framework to resolve many of the issues affecting the United States tobacco industry. This framework prohibits Lorillard . . . from targeting youth in its advertising and marketing. It also provides for the establishment of a foundation designed to . . . research, identify and implement effective means of reducing underage smoking, to be funded by approximately $1.45 billion supplied by the participating companies, including Lorillard. . . . The MSA requires corporate culture commitments in relation to full compliance with the MSA, including furthering its goal of preventing underage tobacco use. . . . As a consequence, Lorillard has advised the Company that all current and future promotional, marketing and/or advertising campaigns will be closely reviewed by Lorillard with the aim of complying with both the MSA, and Lorillard's commitment to reduce youth smoking.

TLT1022236-2258 (US 87743) (A) (Loews Corporation, 1999 Proxy Statement Pursuant to Section 14(a) of the Securities Act of 1935, Proposal No. 5 - Shareholder Proposal Relating to Executive Compensation and Teen Smoking).

4016. In a May 6, 1999 speech at the Tobacco Merchants Association 84th Annual Meeting and Dinner in New York City, Alexander Spears, then CEO of Lorillard, stated: "We are committed to reducing underage access and consumption of cigarettes. . . ." 98427298-7301 at

7301 (US 25830) (O).

4017. In June 2001, Lorillard posted on its Internet website a statement entitled "Marketing and Promotion" which promised that "Lorillard does not and will not design or implement any marketing or promotional program intended to encourage youth to smoke cigarettes, and will continue to utilize only those advertising, promotional and marketing materials that do not, directly or indirectly, target youth." VXA0104165-4166 (US 72746) (O) (www.lorillard. net/corp.html).

4018. Lorillard states on its current website:

> As clearly set forth in the Tobacco industry's Cigarette Advertising and Promotion Code (the 'Code'), to which Lorillard has adhered for many years, Lorillard believes that cigarette smoking is an adult custom and that children should not smoke. Accordingly, Lorillard advertises and promotes its cigarettes only to adult smokers . . . . Lorillard does not and will not take any action the primary purpose of which is to initiate, maintain, or increase the incidence of youth smoking.

TLT0370590-0592 (US 76628) (O) (http://www.lorillard. com/index.php?id=29); ARU6432609-2612 (US 78277) (O).

(ii) False and Misleading Testimony

4019. In his April 2, 2002 deposition in this case, Steven C. Watson, Lorillard Vice President, External Affairs, testified that he caused to be issued a press release in 2001 stating that "Lorillard Tobacco Company has never marketed or sold its products to youth" which was transmitted electronically by e-mail from North Carolina to P.R. Newswire in New York, and distributed from there by wire to various news agencies, to be published in newspapers, magazines or similar publications. Watson PD, United States v. Philip Morris, 4/2/02, 190:5-191:6.

4020. George Telford, Vice President of Brand Marketing for Lorillard since 1990 with

responsibility for developing Lorillard's annual strategic marketing plans, testified at his June 26, 2002 deposition in this case that the purpose of Lorillard's marketing and promotion efforts was to retain current smokers of Lorillard products and to convince competitive smokers to switch to Lorillard products. Telford also testified that Lorillard has set the target market for Newport as 21 to 34 year-olds since 1994. Telford PD, United States v. Philip Morris, 6/26/02, 39:17-42:10, 61:9-62:2, 62:9-17, 62:22-63:14, 63:20-64:3.

(e) False and Misleading Statements of American Tobacco, BATCo and B&W

(i) False and Misleading Public Statements

4021. As the following examples demonstrate, American Tobacco, BATCo, and B&W has also made numerous false and misleading statements about youth smoking and marketing. On September 19, 1962, Paul Hahn, President of American Tobacco, sent a telegram to Frank Stanton, President of Columbia Broadcasting System in response the CBS television program "The Teen-Age Smoker." Hahn stated that "it has always been the position of the American Tobacco Company that smoking is a form of pleasure for adults." ATC2622571-2571 (US 64815) (O).

4022. In response to a suggestion at a 1961 stockholder meeting that American Tobacco consider a campaign against children smoking to "build good will," a 1965 statement by American Tobacco Company on public relations advertising asserted that: "We will continue to make clear our position that smoking is a form of pleasure for adults." ATC2662876-2877 (US 64817) (O).

4023. On May 4, 1979, B&W Chairman and Chief Executive Officer Charles I. McCarty sent a letter to Joseph A. Califano, Jr., Secretary of the Department of Health, Education and Welfare, McCarty stated that B&W had a "policy against advertising or in any way promoting the

sale of cigarettes to persons under 21," and stated that B&W "does not have at hand the research data and other information necessary to a responsible analysis of the suggestion made in [Califano's April 26 letter]." 521038912-8912 (US 20890) (A).

4024. On June 1, 1979, McCarty sent a second letter to Califano further responding to Califano's April 26, 1979 letter. In this letter, McCarty stated: "We maintain a strict policy against promoting cigarettes to persons under 21 years of age." McCarty further stated: "We do not want children to smoke not because we agree with your oft-repeated slogan that smoking is 'slow-motion suicide' but because the decision whether to smoke, we think, is a decision which should be made by adults, not children. . . . I have serious doubts about the effectiveness of any campaign directed toward children advising them to postpone making the decision to smoke until they are adults. Such a campaign could backfire. Children might elect to smoke as a rebellion against authority or in an attempt to show adult behavior." 660008960-8961 (US 21524) (A).

4025. In a document entitled "Statement of Business Conduct" dated December 21, 1993, BATCo stated that "[t]obacco advertising and marketing programmes are used to cause existing adult consumers to switch from one brand to another and are not used to encourage young people to start smoking." This "Statement" indicated that it applied to "all directors, officers, and employees" at BATCo and at "every company within the B.A.T. Industries Group of companies." 503074962-4985 at 4965, 4978 (US 21869) (A). This "Statement," while internal, reaffirms BATCo's similar public statements.

4026. On August 25, 1997, the B&W Board of Directors (N.G. Brookes, R.L. Bexon, J.N. Jewell, M.J. McGraw, and C.L. Schoenbachler, Jr.) adopted a resolution that stated that B&W does not market to youth and that advertising and promotion were not major determinants of tobacco use by youths:

> B&W does not agree that its actions encourage young people to use tobacco products. B&W believes that minors should not use or have access to tobacco products, and **B&W does not market or advertise its products to minors**. B&W does not believe that tobacco advertising or promotion are major determinants of tobacco use by minors. B&W therefore does not agree that "sweeping new restrictions" on the marketing and sale of tobacco products are necessary. Enforcement of existing laws prohibiting youth access to tobacco would be the single most effective means of reducing youth tobacco use.

321963884-3886 at 3884 (US 85173) (A) (emphasis added).

4027. On February 24, 1998, Nicholas G. Brookes testified to the United States Senate Commerce Committee that B&W had "a policy that we do not promote our products to kids or underage smokers, and that would be a terminable offense. We would terminate somebody who clearly evaded that policy and, indeed, I think we have historically terminated contractors who have done so." 178200001-0132 at 0095 (US 35023) (A).

4028. In 1998, B&W's Internet website included a statement entitled "Marketing & Consumer Principles and Practices" which promised that: "we conduct our business in a principled manner to assure that our cigarettes are marketed responsibly, and that our advertising, promotion and sponsorship programs are not directed toward youth. Although state law permits individuals under the age of twenty-one to purchase tobacco products, the intended audience for all B&W marketing programs is adults twenty-one and over. Hence, the purpose of B&W's marketing programs is to encourage smokers twenty-one and over to select B&W brands rather than competitive brands." TLT0160001-0007 (US 65077) (A) (http://www.brownandwilliamson .com).

4029. During 1999 and through June 2001, B&W's website included a document entitled "Hot Topics: Corporate Responsibility." The section of the document entitled "Marketing Principles and Practices: Advertising" stated: "All elements of marketing programs,

including content, theme, imagery and choice of medium are to be directed at adults 21 years of age or older, not at youth." "Hot Topics: Corporate Responsibility," "Marketing Principles and Practices: Advertising." 106004419-4422 (US 76629) (A) (http://www.brownandwilliamson.com).

4030. In a July 7, 2000 interview with Charles Gibson of ABC News, Claudia Newton, B&W Vice President of Corporate Responsibility and Youth Smoking Prevention until 2001, stated that B&W was "making very sure that our marketing programs are aimed at the audience that we want to smoke our products, and that's people who are 21 years of age and up." 520526702-6705 at 6703 (US 22111) (O); 106004533-4534 at 4533 (US 87751) (O).

4031. In a press release issued on August 15, 2001, B&W stated that it had asked "the New York Times to issue an official apology and correction for its page one story today incorrectly stating that the company is advertising its products in magazines with significant numbers of young readers. [B&W] provided . . . information that shows the company does not advertise in youth-oriented publications." The release further stated: "Beginning shortly, B&W ads will be carried only in those publications that are mailed to adults 21 years of age and older. The magazines match names on their subscriber lists against databases that confirm the recipient is at least 21 years old. B&W ads will not appear in newsstand editions of those publications." 525022464-2464 (US 20918) (A).

4032. The "British American Tobacco Social Report 2001/2002," available on the British American Tobacco website, in response to the question of whether BATCo used advertising to encourage people to begin smoking, stated: "Our companies take care to ensure that their advertising does not encourage people to start smoking, to smoke more or not to quit. Our companies' advertising aims to inform adult smokers about British American Tobacco

brands so that they will switch from competitor brands to ours, or if they are already a smoker of our brands will remain so." TLT0231830-1910 at 1859 (US 76316) (O) (www.bat.com).

4033. B&W's most recent website contained a section entitled "Marketing & Consumer Communication Principles and Practices." There, B&W asserts, "B&W has long taken the position that mass media advertising should be directed to *adults* 21 and over, despite the fact that 18 is the age at which most states permit the purchase of tobacco products. . . . Although we carefully screen our publications to ensure they are directed toward *adults*, we recognize that some readers may not be *adults*. Thus, when we do not know the age of a publication recipient, we restrict the content of our advertising as well as the publications in which we place advertising, using the age of 21 as our threshold rather than legal age." B&W further stated, "[t]oday, our primary focus is on consumer relationship marketing, that is, marketing to specific individuals who have confirmed that they are both *adults* and smokers." VXB3840037-0041 (US 78678) (A) (emphasis in original) (http://www.brownandwilliamson.com/ BWT/ Index.cfm?ID=269& Sect=3).

4034. In discussing its "Corporate Responsibility" on its most recent website, B&W asserts: "Brown &Williamson invests in advertising to generate interest in our brands among competitive brand smokers and to discourage smokers of our brands from switching to other cigarette brands. . . . In addition, we do not target children or teenagers in our advertising or other marketing programs." TLT0770001-0065 at 0024 (US 72407) (A) (http://www.brownand williamson.com/BWT/ Index_.cfm?ID=30&Sect=4).

4035. A March 18, 2004 B&W press release appearing on the company's website included the following statement by Ludo Cremers, Divisional Vice President, Brand Marketing: "B&W is a responsible company that only markets its products to adults who chose to smoke and

strongly believes that anyone underage should not smoke cigarettes under any circumstances." TLT0962005-2006 (US 87745) (A) (http://www.bw.com/Index_sub2.cfm?ID=11).

(ii) False and Misleading Testimony

4036. In her April 17, 2002 deposition in this case, Claudia Newton, B&W Vice President of Corporate Responsibility and Youth Smoking Prevention until 2001, testified that advertising and marketing influences brand choice, not smoking initiation. Newton testified that she had reached that conclusion based on the results of surveys in which smokers were asked the open-ended question, "Why did you start smoking?" Newton PD, United States v. Philip Morris, 4/17/02, 150:15-20, 157:7-22, 158:17-159:4, 160:11-16.

4037. At trial, Susan Ivey, former President and Chief Executive Officer of B&W and now head of Reynolds American, testified that "B&W's policy . . . with respect to mass media advertising and market research" has been and remains "against advertising or in any way promoting the sale of cigarettes to persons under 21." Ivey WD, 4:7-16.

4038. Nicholas Brookes, Chairman and Chief Executive Officer of B&W from 1995 until 2000, testified at his March 31, 2003 deposition that B&W "researched attitudes of people over the age of 21 who were smokers and principally those who were smokers of our competitive brands to seek to encourage those current smokers to try our products." Brookes PD, United States v. Philip Morris, 3/31/03, 51:1-52:4.

4039. Paul Wessel, B&W Divisional Vice President, testified that it is the policy of B&W not to market to youth. Wessel also testified that B&W limited its sampling activities to adult only establishments. Wessel PD, United States v. Philip Morris, 3/19/03, 57:20-58:18.

(f) False and Misleading Statements of RJR

(i) False and Misleading Public Statements

4040. As the following statements demonstrate, RJR has also made numerous false and misleading statements. An April 7, 1972 letter written by T. K. Cahill, an employee in RJR's Public Relations Department, responded to a letter from Santa Monica, California fifth-grade teacher Kenneth Bersinger's class regarding a Winston ad in the *Los Angeles Times*. Cahill's response stated that "[n]one of our cigarette advertising, either in its content or in the media used, is directed to youth." 500671015-1015 (US 66308) (O).

4041. In a May 29, 1979 letter from William D. Hobbs, then Chairman and Chief Executive Officer of RJR, to Joseph A. Califano, Jr., Secretary of the Department of Health, Education and Welfare, Hobbs stated on behalf of RJR that, "we sincerely believe cigarette advertising plays no part in the process which causes teenagers to take up smoking and feel your suggestion that our Company participate in a massive campaign aimed at teenagers is misplaced." TI03972552-2554 at 2554 (US 21242) (O).

4042. In a press release drafted on January 13, 1984, intended for release on January 30, 1984, David B. Fishel, Vice President of Public Relations for RJR, stated that "our long-standing position has been that smoking is an adult custom, and we do not believe young people should smoke." 504638054-8056 at 8055 (US 20733) (O).

4043. A January 17, 1984 RJR document entitled "Questions and Answers" stated, "We do not target our advertising to minors . . . . We do not develop marketing plans against young people, we do not advertise to young people, we do not conduct consumer surveys among young people, and we have no intention of ever making any efforts to bring them into our market." 502276627-6637 at 6633 (US 20698) (A).

4044. In or about April 1984, RJR placed in numerous publications nationwide, including the weekly magazine *U.S. News and World Report* on April 19, 1984, an advertisement entitled "We don't advertise to children." This advertisement stated that "we're running ads aimed specifically at young people advising them that we think smoking is strictly for adults." It further stated that "research shows that among all the factors that can influence a young person to start smoking, advertising is insignificant. Kids just don't pay attention to cigarette ads . . . . [A]ll of our cigarette ads are what we call 'brand advertising.' Its purpose is to get smokers of competitive products to switch to one of our brands, and to build the loyalty of those who already smoke one of our brands. . . . Getting smokers to switch is virtually the only way a cigarette brand can meaningfully increase its business." 500638176-8176 (US 20644) (O).

4045. A draft Marketing Assistant Training Manual dated May 14, 1986, created by the RJR Law Department, stated: "The company does not market its products to youth. We believe that smoking is an adult custom; therefore, we do not market our products to persons under 18 years of age, nor do we research persons under that age. The Code of Cigarette Sampling . . . to which we subscribe, states that sample cigarettes shall not be distributed in public places to persons under 21 years of age -- we abide by this code." The manual further stated that "The Company has no interest in getting non-smokers to smoke. For this reason, neither our research nor our advertising concerns itself with non-smokers." Additionally, the manual instructed that "We use [the term 'young adult smokers'] to refer to smokers who are at the lower end of the adult spectrum, i.e. 18 and above. To avoid any misconception about our intention to reach only adult smokers, we use the phrase 'younger adult smoker', and never 'youth', 'kids', 'young people', etc." 515787126-7129 at 7126-7128 (US 20868) (A).

4046. RJR talking points were apparently prepared for public dissemination in 1989 to

respond to a statement made by Congressman T. Lukens regarding RJR's Supercross (stadium motorcycle racing event) contract. The talking points stated that RJR's signs placed at sports events were intended only to impact attendees and not television viewers, and denied that RJR's cigarette advertising signs were placed for maximum television exposure. 507416662-6669 (US 20776) (O).

4047. James W. Johnston, then Chairman and Chief Executive Officer of RJR, sent a letter dated March 5, 1990, to Mark Green, New York City Commissioner of Consumer Affairs, in response to a letter sent by Green to Louis V. Gerstner, President of RJR. In his letter, Green had raised questions concerning the "Joe Camel" advertising campaign. Johnston stated that it "has long been an RJR policy not to induce youth to smoke . . . we have published full-page statements in national publications urging youths not to smoke." Johnston further stated that, as CEO of RJR, "I have reinforced this policy," and "I see no basis to conclude that R.J. Reynolds has conducted itself in an unethical, illegal or misleading manner." 507603767-3767 (US 20780) (O); 507721148-1153 (US 20783) (O). In a May 3, 1990 letter addressed to "All Sales Reps.," J.P. McMahon, RJR Division Manager, stated: "It has always been . . . [RJR's] policy that we do not promote or sell our cigarette products to anyone under the age of 21." 682817262-7262 (US 21031) (A).

4048. On September 18, 1990, Joan F. Cockerham of RJR's Public Relations Department, sent a letter to private citizen Joanna Brown in response to a letter from Brown expressing concern that the Joe Camel "Camel Smooth Character" appealed to youth. Cockerham stated: "Our intention with this campaign, as with all of our advertising, is to appeal only to adult smokers. We would not have launched the current Camel campaign if we thought its appeal was to anyone other than this group . . . [O]ur advertising is directed to adult smokers

and not younger people." Cockerham also stated that "research shows that among all the factors that might influence a young person to start smoking, advertising is insignificant." 507706384-6384 (US 20782) (O).

4049. On January 28, 1992, Yancey W. Ford, Jr., Executive Vice President for Sales of RJR, sent a letter to James Harrison, President of the Vermont Retail Grocers Association, regarding the request by certain public health groups that the Association's members remove Camel advertising from their stores. Ford stated that "R.J. Reynolds Tobacco Co. does not want youth to smoke. We do not believe that smoking should be a part of growing up." Ford further stated that "R.J. Reynolds Tobacco Co. and the tobacco industry have long been on record against youth smoking" and that the Joe Camel advertising campaign was directed at adult smokers. Ford also discredited a study on youth smoking that had recently been published in the *JAMA*, that found that Camel had 33 percent of smokers 12-18 year olds, and cited Joe Camel as being widely recognized by this group. TIMN0165921-5923 (US 22354) (O).

4050. RJR sent an August 28, 1992 letter addressed to Dr. Francis A. Neelon, Editor of the *North Carolina Medical Journal*, purporting to be from Dr. Robert G. Fletcher, Medical Director of RJR. The letter bore a handwritten notation on the copy retained by RJR stating that it was "written by SWM for Dr. Fletcher." SWM are the initials for Seth W. Moskowitz, an RJR employee responsible for media relations. The letter criticized Dr. Adam Goldstein's "Health Watch" article entitled "Youth and Tobacco: Addiction and Death" that appeared in the August 1992 volume of the *North Carolina Medical Journal*. The letter stated: "[Dr. Goldstein] claims the tobacco industry spends huge sums of money promoting its products to youth. This is blatantly false. None of Reynolds Tobacco's product advertising or promotions are directed toward anyone under the legal age to smoke" and "I strongly share Dr. Goldstein's belief that

children should not smoke, as does my company." The letter further stated that "peer pressure is the main influence prompting children to start smoking." 512024008-4011 at 4008-4009 (US 22994) (O), (US 76095) (O).

4051. An August 1994 RJR draft statement, intended for delivery to the United States House of Representatives Committee on Energy and Commerce, Subcommittee on Health and Environment stated: "radio and television exposure is not a motivating consideration for Reynolds in deciding whether to sponsor an event or a vehicle participating in an event." 509321275-1290 at 1276 (US 21993) (O).

4052. At a 1995 RJR shareholder meeting, in response to a shareholder inquiry regarding youth smoking, the RJR Board of Directors stated that "RJRT does not direct its cigarette advertising and/or promotions towards minors." 520807416-7418 at 7417 (US 22239) (O).

4053. At a 1996 RJR shareholder meeting, in response to a shareholder inquiry regarding youth smoking, the RJR Board of Directors stated that RJR holds a "firm and longstanding belief that 'Kids should not smoke' . . . [and] has effective programs offered throughout the United States to combat youth smoking." RJR 1996 Proxy Statement, Item 4 (US 88005*) (2048767992-8039 at 8023-8024) (O).

4054. In a press release issued on April 21, 1998, RJR claimed, "We do not want children to smoke, nor do we market this adult product to minors." ARU6432634-2635 (US 78284) (O) (http://www.rjrt.com/ NR/NRreleases_rjrtview.asp?DocId=127).

4055. An RJR Media Contact Record indicated that on May 6, 1998, Cliff Pennell, head of RJR Sports Marketing Enterprises, was interviewed by Liz Clark, a sportswriter for the *Washington Post*. The Contact Record revealed that Pennell stated in his introductory comments,

"We don't want youth to smoke. . . . RJR brands are only interested in communicating with adult smokers 21 and over." 700033868-3869 at 3868 (US 54421) (A).

4056. At a 1999 RJR shareholder meeting, in response to a shareholder inquiry regarding youth smoking, the RJR Board of Directors claimed that "Reynolds has policies and practices in place to assure that its advertising is responsible, and directed to adult and not underage smokers. Reynolds's policy prohibits any advertising research involving subjects under the age of 21. In their research about proposed new advertising, consistent with good qualitative research practices, Reynolds's researchers ask study participants whether the proposed ads are perceived as being for persons younger or older than or about the same age as the study participants. If an ad is thought to have particular interest to persons younger than 21, it is not used." 519439239-9268 at 9262 (US 87748) (O) (RJR 1999 Proxy Statement, Item 3).

4057. As of June 2001, the RJR internet website contained a document entitled "Marketing Philosophy," that stated that "Reynolds Tobacco is not interested in, and does nothing aimed at, trying to persuade any nonsmokers to begin smoking." LIGS-C2507550-7554 at 7550 (US 65063) (O) (www.rjrt.com).

4058. As of March 18, 2005, the RJR website stated regarding the company's position on youth smoking that: "We don't want children to smoke. . . . As a responsible manufacturer and marketer of adult products, we make every effort to ensure that all of our actions are guided by this basic belief." (no bates) (JD-068012) (A) (http://www.rmrt.com/home.asp).

4059. RJR also asserts on its website that RJR, "[does] not encourage nonsmokers to start smoking." ARU6432639-2640 (US 78286) (O) (http://www.rjrt.com/TI/tobacco_cover.asp).

(ii) False and Misleading Testimony

4060. At trial, RJR President and Chief Executive Officer Andrew Schindler testified that RJR adopted a policy in 1992 regarding "marketing plans or campaigns," that RJR does not "interact with" or "talk to" 18, 19, and 20 year olds, but rather "conducts its interactive marketing practices only with those 21 and older." Schindler testified that when he assumed in 1994 his position as RJR President and CEO, he continued RJR' policy to "limit [RJR'] advertising and marketing efforts to smokers 21 years of age and older" in part "to create a buffer between adult smokers and minor smokers" as a defense against charges that RJR "market[s] to teenagers." Further, Schindler testified that RJR "absolutely does not want to develop a cigarette that appeals to children." Finally, Schindler testified that "Reynolds Tobacco is not interested in trying to persuade any nonsmokers to begin smoking or in persuading any smokers not to quit." Schindler WD, 76:17-77:1; 170:16-171:18; 208:16-18.

4061. At trial, Lynn Beasley, President and Chief Operating Officer at RJR, testified that, prior to merging with B&W, "Reynolds only permitted those 21 and older to participate in many of our marketing programs." She further testified that, after the merger with B&W, "now we allow legal age adult smokers to participate in our direct mail, sampling and promotional program." Beasley WD, 118:7-17. At trial, Beasley confirmed that Reynolds has publicly stated that the company does not market to youth for her entire tenure there. Beasley TT, 17351:19-23.

(3) Defendants Have Never Followed Their Advertising Code That They Claim Prevents Them From Marketing To Youth

(a) Defendants' Adoption of An Advertising Code

4062. In 1964, Cigarette Company Defendants, through the Tobacco Institute, under public pressure and threat of federal regulation, adopted a voluntary industry-wide Advertising and Promotion Code ("Advertising Code" or "Code") which the industry claimed would

thereinafter prevent them from marketing to underage smokers. 2025345360-5362 (US 20414) (A).

4063. Defendants' adoption of the Code and subsequent public statements regarding the Code were in fact a public relations gambit designed to assuage the public's concerns about Defendants' cigarette marketing to youth. Although Defendants made numerous public statements that the Code prevented them from marketing to youth, Defendants knew that these statements were in fact false and misleading. Defendants wrote the Code with loopholes that would permit them to continue to market to youth. Moreover, after adopting the Code, Defendants did not follow many of the Code's provisions and continue not to follow them. By stating publicly that the Code prevented them from marketing to youth, Defendants used the Code to mislead the American public.

4064. On January 25, 1964, the Federal Trade Commission ("FTC") published a proposed Trade Regulation Rule for the prevention of unfair or deceptive advertising and labeling of cigarettes in relation to the health hazards of smoking and gave notice of a proceeding for the promulgation of the Rule. 03573546-3751 (US 75032) (A) (29 CFR § 530-32).

4065. Under public pressure regarding their marketing practices, and to avoid regulation by the FTC, Cigarette Company Defendants adopted the Cigarette Advertising and Promotion Code in April 1964. From 1964 to the present, Cigarette Company Defendants claim that they have obeyed and continue to obey the 1964 Code, which was last revised in December 1990. Key aspects of the Code include provisions prohibiting: (1) advertising that appears in magazines "primarily directed to" persons under 21 years of age; (2) advertising that represents cigarette smoking as essential to social prominence, distinction, success, or sexual attraction; (3) advertising using models or other characterizations who appear to be under 25 years of age; (4)

advertising suggesting that healthy looking models derive their attractiveness from smoking or that good health is due to smoking; (5) advertising depicting a smoker as any person participating in, or obviously having just participated in, a physical activity requiring stamina or athletic conditioning beyond normal recreation; (6) advertising making health claims; (7) using sports celebrities that have special appeal to persons under 21 years of age; and (8) sampling to persons under 21. Krugman WD, 163:1-182:23; 2025345360-5362 (US 20414) (A); 2070557699-7702 (US 20519) (A); MNAT00608606-8614 (US 21228) (A); TIMN0102493-2494 (US 21271) (O); TIMN0015615-5617 (US 21265) (A); 2022976326-6335 (US 20370) (O); ATX040294056-4056 (US 58599) (A).

4066. Defendants made public their adoption of the Code in an attempt to gain positive publicity and to persuade the public that they did not market to youth. 2025345360-5362 (US 20519) (A); 2070557699-7702 (US 21228) (A); MNAT00608606-8614 (US 78779) (A); TIMN0102493-2494 (US 21271) (O); TIMN0015615-5617 (US 21265) (A); 2022976326-6335 (US 20370) (O); ATX040294056-4056 (US 58599) (A).

4067. For example, on April 27, 1964, Philip Morris, B&W, Lorillard, Liggett, RJR, and American Tobacco, through the Tobacco Institute, issued a press release entitled "Cigarette Manufacturers Announce Advertising Code" to announce their adoption of the Cigarette Advertising Code supposedly establishing "uniform standards for cigarette advertising." 2065081133-1135 at 1133 (US 20517) (O).

4068. Authority to enforce the Code was vested in a Code Administrator. The Code stated that the Administrator was to be an independent person who would, among other duties, evaluate Cigarette Company Defendants' marketing efforts to ensure that they did not target young people. The Code vested in the Administrator the power to reject marketing that

inappropriately appealed to youth and to assess damages of up to $100,000 for violations. The first and only Administrator serving from 1964 to 1970 was former Governor Robert B. Meyner of New Jersey. MNAT00608606-8614 (US 21228) (A).

4069. On March 25, 1966, Manuel Yellen, Lorillard's Chief Executive Officer, wrote to Governor Meyner withdrawing his company's participation for his supervision. Yellen stated: "The Code was essentially the cigarette industry's response to a recognized need for industry self-regulation during a time of uncertainty over the course of future legislative and regulatory action. It is our belief that the circumstances which led to the establishment of the Code administration have now significantly changed. . . . Accordingly, we now wish to advise you of our resignation. . . . We shall also continue to adhere to those principles underlying the provisions of Article IV, Section 1, of the Cigarette Advertising Code dealing with limitations on advertising to youth." 03595414-5415 (US 21385) (O).

4070. By 1970, all of the companies had abandoned the office of the Code Administrator. As a result, the Advertising Code provisions that required approval of the Code Administrator lost all force, and the Advertising Code has had no enforcement mechanism since 1970. Langenfeld TT, 3/10/05, 15192:12-15193:17.

4071. Defendants promulgated a separate Code of Cigarette Sampling Practices in 1981 that prohibited the distribution of free cigarette samples to non-smokers or those under 21, or near schools or any other center of youth activity. Like the Advertising Code, however, the Sampling Code lacked any meaningful enforcement mechanism. Defendants are left to police their own sampling personnel, a requirement in direct conflict with the companies' goal of increasing the smoking market. TW0040-0401 (US 21271) (O).

4072. Despite the withdrawal of all Cigarette Company Defendants from the supervision

of the Code Administrator twenty years earlier, the Tobacco Institute, on behalf of Cigarette Company Defendants, issued a multi-page advertisement in 1990 captioned "Cigarette Industry Initiatives Against Youth Smoking" emphasizing the cigarette manufacturers' opposition to youth smoking and stating that Cigarette Company Defendants continued to obey the marketing provisions in the Code. 6300337-0345 (JE-62448) (A).

4073. Defendants have cited the Code as preventing them from marketing to young people. For example, the Tobacco Institute, on behalf of the Cigarette Company Defendants, publicly stated that the 1964 Code prohibited "advertising, marketing and sampling directed at young people." ATX040294056-4056 (US 58599) (A).

4074. Similarly, a December 1990 pamphlet published by the Tobacco Institute, entitled "Cigarette Advertising and Promotion Code," stated: "The cigarette manufacturers advertise and promote their products only to adult smokers . . . [and] have adopted the following Code to emphasize their policy that smoking is solely for adults." Camisa PD, United States v. Philip Morris, 6/28/02, 24-26; 2021183859-3862 at 3859 (US 36717) (A).

4075. Defendants' internal documents show that they intended to use the Code to communicate to the public that they would not market to anyone under the age of 21. A November 20, 1990 memorandum from Ronald S. Goldbrenner to James R. Cherry, both Lorillard in-house counsel, regarding the "Youth Action Plan & the 1990 Marketing Mangers Meeting" stated: "[T]he industry has adopted a new Youth Action Plan designed . . . to demonstrate its commitment to avoid advertising or promoting to children. In this context 'children' means anyone under twenty-one. For those of you who have or have had teen-agers at home, you know this is an imperfect definition, but it is the one we are using. This Plan will go into effect on Dec. 11, 1990 and will be announced with much fanfare and P.R. In fact, we are

advised that some of the companies are already implementing the Plan." 91384746-4749 at 4747 (US 57030) (A).

4076. Defendants promised that the Code would stop them from advertising to youth. A draft article intended to appear in an issue of the internal Philip Morris newsletter, *PMGLOBE*, published close in time to the publication of the 1994 Surgeon General's Report stated that the Advertising Code: "proscribes youth ads. . . . Inside the company, rigorous standards are observed in the marketing of cigarette products to ensure that cigarette advertisements are directed only at adults who have already made the informed decision to smoke." 2078842765-2766 at 2765 (US 25039) (O).

4077. Similarly, in a May 18, 2000 letter to the Honorable Christine O. Gregoire, then Attorney General of Washington, Michael Szymanczyk, Philip Morris President and CEO, stated, "As we have explained to you, the Tobacco Enforcement Committee and other Attorneys General and AG staffs on several occasions, Philip Morris uses a rigorous process to satisfy ourselves that we place our print advertising only in publications that are directed primarily toward adults, the standard of our Advertising Code." 2085589698-9702 at 9698 (JD-048190) (O).

4078. Philip Morris, B&W, Lorillard, and RJR continue to state to the public on their websites and in other public fora that they have adopted the industry's voluntary Code, and that they follow this Code in planning and executing cigarette marketing. These statements are knowingly false, deceptive, and misleading. 2021183859-3862 (US 36717) (A); TLT0450351-0360 (US 65080) (O) (www.philipmorrisusa.com); TLT0370590-0592 (US 76628) (O) (http://www.lorillard. com/index.php?id=29); TLT0770001-0065 (US 72407) (A) (http://www.bw.com/ Index_sub2.cfm?ID=12); LIGSC2507550-LIGSC2507554 (US 65063) (O)

(www.rjrt.com).

(b) Defendants Do Not Follow Their Advertising Code

4079. As early as 1967, the FTC Report to Congress criticized loopholes in the Advertising Code, specifically the provision which stated that "Cigarette advertising shall not appear – (a) in publications directed primarily to persons under 21 years of age . . . . Cigarette advertising shall not depict as a smoker any persons participating in, or obviously just having participated in, physical activity requiring stamina or athletic conditioning beyond that of normal recreation." 2070557699-7702 (US 20519) (A). The FTC Report criticized cigarette advertising for exploiting these loopholes by appearing during television shows with an audience of at least 45% of its viewers under 21; for portraying physical activity as long as the smoker is not a participant; and for implying that smoking contributes to success, even if it is not essential to it. 85872480-2503 (US 22148) (A) (1967 FTC Report, at 24-27).

4080. Cigarette Company Defendants did not, and have not to this day, changed the language of their Advertising Code to remove these voluntary loopholes. Their updated versions of the Code contain the identical language criticized by the FTC Report thirty-eight years ago. 2022976326-6335 (US 20370) (O).

4081. Despite provisions in the Code forbidding marketing directed at young people, and their public statements that the Code itself prohibited such marketing, Cigarette Company Defendants continued to market to young people through advertising in television and radio broadcasts, movie placements, sampling, and by using sports heroes and other celebrities to sell their products. Many more examples of Cigarette Company Defendants' marketing to youth follow infra, US FF § III.E(4), organized by Defendant. Krugman WD, 100:1-139:23.

4082. In addition to routinely violating the Code by marketing to persons under 21, the

Cigarette Company Defendants also violated the Code provision that specifically prohibits advertising depicting a smoker as any person participating in, or obviously having just participated in, a physical activity requiring stamina or athletic conditioning beyond normal recreation. United States Expert Dr. Dean Krugman testified that Defendants had violated the Advertising Code provision prohibiting showing "any smoker participating in or obviously just having participated in a physical activity requiring stamina or athletic conditioning that go beyond normal recreation." Specifically, Dr. Krugman testified that:

> One of the more blatant examples is RJR's use of downhill ski racers, kayakers, windsurfers and other individuals participating in scenes of athletic achievement in its Vantage cigarette advertisements. Also, Philip Morris's advertisements depict the Marlboro Man demonstrating athletic prowess through fast horseback riding and cattle roping. Philip Morris documents confirm that Philip Morris's approach is to show the Marlboro Man in physical action beyond normal recreation. These internal documents describe the Marlboro Man as extraordinary, the Marlboro Man is "hard-working, fearless, and skillful." For example, a document entitled "1999 Marlboro Mainline Print Pool Research" states: "The Marlboro Man demonstrate[es] his expertise and skill, as no one else could." The document also indicates, "Shoot a Variety of Action Shots: The Marlboro Man demonstrating his expertise and skill, as no one else could." The page also illustrates the kind of pictures that can demonstrate the special skills and expertise.

In cigarette advertising and promotions related to sports sponsorships, cigarette smoking was also associated with physical power and endurance, violating the prohibitions of the Code. Krugman WD, 182:8-23; LB20300182-0210 at 0205-0206 (US 33744*) (A).

4083. Victor Lindsley, Lorillard's Senior Brand Manager, admitted at trial that many Newport advertisements depict individuals engaged in athletic activities, including ice hockey, rock climbing, skiing, snow boarding, football, kayaking, and wind surfing. However, Lindsley testified that none of these advertisements violate the voluntary Advertising Code prohibition

against showing people "participating in or obviously having just participated in physical activity requiring stamina or athletic conditioning beyond that of normal recreation." Lindsley TT, 3/30/05, 17226:24-17230:7. When the Court asked Lindsley if he had ever been rock climbing, he testified that he had never been rock climbing and had no idea how much physical strength and stamina was required. Lindsley TT, 3/30/05, 17257:15-19.

4084. Cigarette Company Defendants also violated the Code provision that specifically prohibits advertising that depicts cigarettes as essential to social prominence, distinction or success. Such violations include Vantage advertisements using the slogan "Taste of Success" and similar advertising. These advertisements, and many others discussed below, exploited the loophole which Defendants intentionally created in the Code allowing an inference that smoking contributes to success, as long as the advertisement does not explicitly state that smoking is "essential" to success. Krugman WD, 163:1-182:23.

4085. Cigarette Company Defendants also violated the Code provision that specifically prohibits advertising that depicts cigarettes as essential to sexual attraction. Such violations include Newport's "Alive with Pleasure" campaign showing young people in sexually suggestive situations. These advertisements, and many others, exploited the loophole which Defendants intentionally created in the Code allowing an inference that smoking contributes to sexual attraction, as long as the advertisement does not explicitly state that smoking is "essential" to sexual attraction. Id.

4086. Cigarette Company Defendants also violated the Code provision that states "[n]o one depicted in cigarette advertising shall be or appear to be under 25 years of age." For example, B&W's "B Kool" advertising campaign uses a model whose age cannot be determined because only his torso, arm, leg, and hand holding a pack of Kools are visible. Biglan WD, 260-

270.

4087. Philip Morris continues to state, as shown through the testimony in this case of Richard Camisa, Philip Morris Director of Media since 1998, that it has adhered to the 1990 revised Advertising Code in determining the placement of cigarette media, including the Code provision that reads: "Advertising: Cigarette advertising shall not appear in publications directed primarily to those under 21 years of age, including school, college or university media, such as athletic, theatrical, other programs, comic books or comic supplements." Philip Morris has violated this section of the Code. See US FF § III.E(7)(d)(i), infra. Camisa PD, United States v. Philip Morris, 6/28/02, 24-26.

4088. As recently as March 10, 2002, Altria's Board of Directors cited the Advertising Code as a reason for recommending a vote against a shareholder proposal that would have provided for independent review of all marketing activities to eliminate activities that appealed to young people between the ages of 12 to 17 years old. Altria stated that adoption of this shareholder proposal was unnecessary because "Philip Morris U.S.A. has a long-standing commitment to direct its advertising only to adults who choose to smoke; complies with an industry code and company policy that help ensure that its marketing efforts are directed only at adults who choose to smoke; is subject to comprehensive advertising restrictions and monitoring provisions of the master settlement agreement that prohibit the targeting of youth in the advertising, promotion or marketing of tobacco products; and has launched its own comprehensive youth smoking prevention effort, including advertising specifically designed to help prevent youth smoking." 2078016400-6453 at 6435-6436 (US 20531*) (A).

4089. Despite its claims to have adhered to the Code, Philip Morris's senior marketing executives are unfamiliar with the Code's provisions. For example, Robert L. Mikulay, a Senior

Vice President for Marketing at Philip Morris, testified in this case that Philip Morris did not, from at least 1985, follow the provision of the Advertising Code requiring an impartial administrator to review advertising as there was no Administrator. Mikulay PD, United States v. Philip Morris, 7/1/02, 55:16-56:11.

4090. Richard Camisa, who has been the Director of Media at Philip Morris since April 1998, a former Marlboro brand manager, and a Philip Morris employee since 1979, testified when shown a copy of the Advertising Code then still in place: (1) that he did not recognize the Advertising Code of 1964; (2) did not recognize the term "Code Administrator"; (3) did not know how Philip Morris interpreted the term "Code Administrator"; and (4) did not know whether the company had a Code Administrator as the term is used in the Code. Camisa PD, United States v. Philip Morris, 6/28/02, 24-26, 35-39.

4091. With respect to the provision of the Code that states, "Cigarette advertising shall not suggest that smoking is essential to social prominence, distinction, success or sexual attraction, nor shall it picture a person smoking in an exaggerated manner," Camisa testified that: (1) he could not explain its meaning and stated that it "could mean different things to different people" within Philip Morris; (2) he could not provide a single example of an advertisement that might improperly suggest that smoking is essential to sexual attraction; (3) no one at Philip Morris ever provided him with a list of objective standards or characteristics to determine whether an advertisement violated this provision; and (4) he was not "trained" to determine whether an advertisement suggests that a person's attractiveness and good health is due to cigarette smoking. Id., 41-49.

4092. With respect to the same provision of the Advertising Code, Nancy Brennan Lund, the Senior Vice President for Marketing at Philip Morris, testified that the Code prohibits

only advertisements that literally and explicitly attribute sexual attractiveness or social success to smoking: "it means that we are not able to say that, because you smoke a cigarette, you will more likely be socially prominent or successful or attractive sexually." Lund PD, United States v. Philip Morris, 6/27/02, 171:22-172:8. When asked whether the Advertising Code's prohibition on advertising in school, college or university media also prohibited research into the smoking habits and brand preferences of college students, Lund was unable to answer, and testified that, while Philip Morris has a nominal policy to research "only adult smokers," she was not sure whether Philip Morris made a provision beyond that. Id., 171:12-21.

4093. Robert L. Mikulay, a former Senior Vice President for Marketing at Philip Morris, testified in this case that although he was the head of Philip Morris's marketing department and ultimately responsible for ensuring compliance with the Advertising Code: (1) he could not recall the existence of a formal policy with respect to training new employees about the provisions of the Code; (2) he could neither confirm nor deny that new employees received a copy of the Advertising Code; (3) he was not aware of an independent entity that had the responsibility of ensuring that Philip Morris and Leo Burnett, Philip Morris's primary advertising agency, complied with the provisions of the Code; (4) he was not aware of the provision of the Code that states that advertising shall not represent that cigarette smoking is essential to social prominence, distinction, success or sexual attraction; (5) he had "never thought about . . . or had occasion to think about" how a cigarette advertisement could violate this provision; and (6) the only example he offered of how Philip Morris would violate the provision would be to run "a print ad that would say just that: 'Reach social prominence by smoking a cigarette.'" Mikulay PD, United States v. Philip Morris, 7/1/02, 86:6-91:10, 99:5-103:18, 74:11-78:16.

4094. At his deposition in this case, Victor D. Lindsley of Lorillard testified that

Lorillard has no specific guidelines for determining, as required by the Advertising Code: (1) whether a model in an advertisement appears to be under 25; (2) whether an advertisement depicts smoking in an "exaggerated manner"; and (3) whether an advertisement depicts an individual participating or just having participated in "a physical activity requiring stamina or athletic conditioning beyond that of normal recreation." Lindsley testified that these decisions are "judgment calls" made by attorneys. Lindsley PD, United States v. Philip Morris, 5/16/02, 34:19-38:7.

4095. Despite the proscription in the Advertising Code that prevents Cigarette Company Defendants from employing advertising themes associating above normal athletic ability with smoking, RJR until very recently continued to sponsor and advertise the Winston Cup Series. RJR admitted that the Winston Cup drivers have "above average athletic ability," but takes the position that the advertisements featuring the drivers do not violate the Code because they do not show race car drivers actually engaged in the act of smoking. Leary PD, United States v. Philip Morris, 5/2/02, 64:18-65:21.

4096. Claudia Newton, Vice President, Corporate Responsibility and Youth Smoking Prevention at B&W, testified in this case that there is no mechanism at B&W for punishing any employees for violations of the marketing code. Newton PD, United States v. Philip Morris, 4/17/02, 11:10-20, 12:1-3, 61:5-12, 62:20-64:7; Newton PD, United States v. Philip Morris, 5/15/02, 42:16-22, 43:11-13, 73:6-11; 106004533-4534 (US 87751) (O).

4097. The fact that Cigarette Company Defendants' senior marketing executives are unaware of the Code's provisions, knew of no procedures in place to train their employees about the Code, or have contradictory interpretations of how the Code should be interpreted and applied, and that none could provide a single example of implementation of the Code leading to

rejection of advertisements or other marketing, shows the falsity of Defendants' statements that they continue to obey the Code and that the Code prevents them from marketing to youth.

4098. Finally, Defendants' internal candidly documents admit that they do not comply with the Code and make clear that the Code was adopted so as to minimize external pressure and to maximize profits. An April 1991 RJR's executive summary entitled "Operating in a Restricted Environment" stated plainly that RJR was not following the Code at that time, but would consider actually implementing compliance if Defendants were threatened by external restrictions on marketing. "At some future point, RJR and the industry may be forced to consider extreme and radical forms of self-regulation if deemed necessary and effective to avoid extraordinary restrictions or an outright advertising ban. [I]n the most extreme instance, re-institution of the Code with a Code Administrator. It is acknowledged that in [this] instance, RJR will be forced to change some marketing practices for such self-regulation to be viewed as a credible step." 507755082-5094 at 5093 (US 20787) (O).

4099. Similarly, a Philip Morris memorandum dated July 9, 1994 from Colin L. Goddard, Philip Morris Regional Manager, reveals that Philip Morris's motive for falsely stating that it adheres to an industry-wide Advertising Code is to avoid external, real regulation of marketing, that would decrease smoking incidence and thus decrease profits, in that it recommends that Philip Morris apply the same approach internationally: "An industry code will be written [for Pakistan]. . . so that it can be used as both a lobbying lever and an argument against not introducing formal legislation." 2504024765-4767 (US 21992) (O). The memorandum stated: "The immediate implication [of advertising restrictions] for our business is clear: If our consumers have fewer opportunities to enjoy our products, they will use them less frequently and the result will be an adverse impact on our bottom line." 2041183751-3790, 3752

(US 37924) (A).

(4) Defendants Intentionally Marketed To Youth Contrary To Their Public Statements

(a) Introduction

4100. The Cigarette Company Defendants' representations that their marketing efforts were and are only directed toward shifting current smokers from one brand to another, not toward attracting new smokers or youth, and not toward keeping smokers from quitting, are untrue and fraudulent. Defendants' marketing activities brought new smokers into the market and retained existing smokers in the market. Dolan WD, 24:3-16

4101. Defendants' claims that they market only to adult brand switchers are false. Since at the most 9% of smokers switch between cigarette brands, brand switching does not justify Defendants' $12 billion in annual advertising and promotion expenditures. Krugman WD, 154:31-158:5.

4102. This is confirmed by Cigarette Company Defendants' internal documents. A November 28, 1994 email from Josh Slavitt, Senior Issues Manager, Corporate Affairs Department, recognized that Philip Morris's frequently repeated public argument that its marketing was directed purely at attracting brand switchers and not new smokers was based upon faulty research. Slavitt wrote: "Our counter argument was – until this morning – that we advertise to maintain brand loyalty and promote brand switching because each market share point of the tobacco industry is worth $400 million. We defended this position by showing that a specific number – 15-20% – of smokers 'switch' brands every year." However, according to the email written by Ed Gee, Philip Morris Consumer Research Director, to which Slavitt was responding, "the industry switching rate is more like 10%." 2045165002-5014 (US 38402) (A).

4103. Defendants' own employees admit that brand switching rates are low and falling.

David Beran, Executive Vice President of Strategy, Communications and Consumer Contact for Philip Morris, testified that Beran TT, 4/18/05, 19395:15-17 (Confidential) (closed court); (JD-053375) (O) (Confidential). Beran testified that the brand switching rate for 2002 was 6.3 percent. Beran TT, 4/18/05, 19322:16-25; (JDEM 040331) (O).

(JD-053375) (A) (Confidential); Beran TT, 4/18/05, 19394:25-19395:3.

4104. Defendants know that their cigarette businesses could not survive absent acquiring youth smokers to replace those smokers who had quit or died. In internal documents, Cigarette Company Defendants express the view that stimulating youth smoking initiation and retaining and increasing their share of the youth market is crucial to the success of their businesses. Defendants know that marketing their cigarettes to teenagers was essential to each company's success and longevity and Defendants create marketing campaigns designed to increase youth consumption. As United States expert Dr. Robert Dolan testified:

> The trend in tobacco companies' spending on marketing has continued to increase dramatically. Tobacco industry spending of $2 billion on advertising and promotion in 1980 reached $4 billion in 1988 and then $6 billion in 1994. After four years around the $6 billion mark, spending shot up $11.2 billion by 2001. In 2002, the last year for which data is available, the tobacco companies spent $12.47 billion, an increase of 11.61% over 2001. The fundamental dynamic of the industry has not changed though. The tobacco companies knew that brand loyalty is a key phenomenon and if someone doesn't start smoking as a teenager, he or she is unlikely to start. . . . Defendants still represent that the only objective of marketing is impacting brand choice while they implement marketing programs which increase the value potential customers see in smoking – attracting people including teenagers to the market and deterring others from quitting.

Dolan WD, 147:10-148:18; 2070802707-2770 at 2728 (US 89172) (A).

4105. As cited by United States Expert Dr. Dean Krugman, advertising executive

Emerson Foote, the former CEO of McCann-Erickson, which has handled millions of dollars in tobacco industry accounts, stated on April 24, 1986: "[T]he cigarette industry has been artfully maintaining that cigarette advertising has nothing to do with total sales. . . . [T]his is complete and utter nonsense. The industry knows it is nonsense. . . . I am always amused by the suggestion that advertising, a function that has been shown to increase consumption of virtually every other product, somehow miraculously fails to work for tobacco products." Krugman WD, 52:3-18; TIMN277252-7253 at 7253 (US 77086) (A).

4106. Notwithstanding Defendants' repeated denials of marketing cigarettes to young people, Cigarette Company Defendants allocated substantial resources to research the habits and preferences of the youth market. From their extensive market research on youth smokers, on people under twenty-one, and on people under eighteen, Cigarette Company Defendants knew that the majority of smokers begin smoking as youth, develop brand loyalty as youth, and that persons who begin smoking when they were teenagers were very likely to remain lifetime smokers. From Cigarette Company Defendants' research into young people's vulnerabilities to cigarette marketing, Defendants knew that youth were highly susceptible to the appealing imagery Defendants chose to use in their marketing, that youth would underestimate the health risks of smoking, and that youth were price sensitive. Chaloupka WD, 30:8-32:20; Biglan WD, 100-379; Krugman WD, 50:1-83:23.

4107. Knowing that advertising and promotion stimulated the demand for cigarettes, the Cigarette Company Defendants used their knowledge of young people's vulnerabilities gained in this research in order to create marketing campaigns (including advertising, promotion, and couponing) that would and did appeal to youth, in order to foster youth smoking initiation and ensure that young smokers would choose their brands. Dolan WD, 24:3-16, 65:7-74:23;

Chaloupka WD, 30:8-32:20; Biglan WD, 100-379; Krugman WD, 50:1-149:23.

(i) Defendants' Marketing Is A Substantial Contributing Factor To Youth Smoking Initiation and Continued Consumption

4108. Independent scientific studies performed by reputable independent scientists, and published in reputable scientific journals and in official government reports, have confirmed Defendants' knowledge, as set out in their internal documents, that their marketing contributes to the primary demand for and continuing use of cigarettes. Over the past ten years, there have been a number of comprehensive reviews of the scientific evidence concerning the effects of cigarette marketing, including advertising and promotion, on smoking decisions by young people. From these reviews it is clear that the weight of all available evidence, including survey data, scientific studies and experiments, behavioral studies and econometric studies, supports the conclusion that cigarette marketing is a substantial contributing factor in the smoking behavior of young people, including the decision to begin smoking and the decision to continue smoking. Eriksen WD, 1:20-3:19.

4109. Despite Defendants' frequent public assertions that cigarette marketing only affects brand switching and brand loyalty, marketing has been and continues to be quite effective in influencing young people to smoke. This is shown by the fact that: (a) young people who are more familiar with the advertising are more likely to begin smoking; (b) increased expenditures on cigarette marketing campaigns have been associated with increases in the incidence of smoking among adolescents; (c) adolescents who are exposed to more cigarette advertising are more likely to begin smoking; and (d) the brands that are most popular with young people are the ones where advertisements are designed to appeal to their needs and the most money has been spent on advertising and promotional activities. Biglan WD, 36-95; Dolan WD, 147:10-148:18; Krugman WD, 84-149.

4110. Recent studies, performed by reputable scientists and published in reputable journals and other fora, confirm that smoking initiation is caused by Cigarette Company Defendants' marketing activities. One such study measured progression to smoking in 1996 among young persons who reported being confirmed "never smokers" in 1993 (ages 12-17), but who had a favorite cigarette advertisement, or who owned or were willing to own a cigarette brand promotion item, and concluded that 34% of all experimentation with cigarettes in California between 1993 and 1996 (ages 15-20) was attributable to tobacco marketing activities. Similar research using Massachusetts surveys, conducted in 1997-98 and published in 2000, replicated this result, finding that, among persons who reported smoking less than one cigarette in their lifetime in 1993 (ages 12-15), but who had a favorite cigarette advertisement or who owned a cigarette brand promotion item, 46% progressed to established smoking (ages 16-19). Eriksen WD, 76:16-77:13 (citing Pierce JP, Choi WS, Gilpin EA, Farkas AJ & Berry CC., "Tobacco industry promotion of cigarettes and adolescent smoking," *JAMA* 279 (7): 511-515 (1998) and Biener AL & Siegel M., "Tobacco marketing and adolescent smoking: more support for a causal inference," *American Journal of Public Health* 90(3):407-411 (2000)).

4111. Cigarette Company Defendants intentionally exploit adolescents' vulnerability to imagery by creating advertising that utilizes the themes of independence, liberation, attractiveness, adventurousness, sophistication, glamour, athleticism, social inclusion, sexual attractiveness, thinness, popularity, rebelliousness, and being "cool." Cigarette Company Defendants place this advertising in magazines, on billboards, at point of sale (or "POS," meaning marketing materials placed in retail locations such as convenience stores), and in other venues that historically and currently reach millions of teens. Krugman WD, 100-139.

4112. Independent academic studies have concluded that, historically and currently,

cigarette advertising has appealed to children and adolescents. The messages, images, and merchandise used in cigarette advertising have corresponded precisely to adolescent aspirations. Teens smoke the most heavily advertised brands: Marlboro, Camel, and Newport. Biglan WD, 36-95.

(ii) Defendants Place Their Marketing To Reach the Maximum Number of Young People

4113. Not only do Cigarette Company Defendants choose marketing techniques that are particularly effective with children and adolescents, but currently and historically they place their marketing where it is most likely to be viewed by young people. Over the decades, they have consistently chosen to place their advertisements in media that reach millions of young people: on radio and television, on billboards, and currently in magazines and at retail. The ubiquity of Defendants' marketing increases young peoples' perceptions of the prevalence of smoking, normalizes smoking, and connects positive imagery with smoking, all of which encourage youth smoking initiation and continued consumption. Krugman WD, 100:1-139:23.

4114. Defendants have consistently spent vast sums of money on advertising and promotion, ensuring that their brand imagery would be repeated frequently and in as many different media as possible to ensure that its message is received by the maximum number of customers. Krugman WD, 21:1-31:23.

4115. Between 1952 and 1962, the leading six cigarette manufacturers spent approximately $1.2 billion for television, newspaper, and general magazine advertising. Their total expenditures for all media in this time period may have been as high as $2 billion. Between 1963 and 1970, they spent over $1.5 billion on television advertising, and over $180 million on radio. With television alone, during a single evening in this time period, it was estimated that cigarette advertising reached 46% of 13 to 17 year olds, 38% of the United States population 18

years old and over, and 26% of the population ages 2 to 12. 03573546-3751 (US 75032) (A) (FTC, Trade Regulation Rule, at 44, Table 10, Sept. 1964); FTCDOCS00491753-1821 (JD-003567) (O) (FTC, Report to Congress, at Table 7).

4116. The broadcast ban ended cigarette broadcasting of advertisements on television at midnight on January 1, 1971. On January 1, 1971 alone, Cigarette Company Defendants spent over $2 million on television advertising, three times as much as spent on an average day in 1970. Id., Table 7.

4117. Following the broadcast ban that removed their advertisements from television, Cigarette Company Defendants turned to billboard advertising, newspapers, and magazines as a means to reach massive numbers of young people. Defendants' spending on newspapers and magazines increased almost threefold after the ban, from over $64 million in 1970 to nearly $160 million in 1971, and spending on outdoor advertising (mostly billboards) increased five-fold from under $12 million in 1970 to over $60 million in 1971. Id., Table 7 & Table 8. Billboard advertising also had an advantage for Defendants over television and radio: it did not result in the invocation of the Federal Communication Commission's Fairness Doctrine which had required that broadcasters provide time for public health, anti-smoking messages.

4118. Despite Joseph F. Cullman III's testimony (cited in US FF § III.E(2)(a), supra) in the hearings leading up to the 1971 broadcast ban that the industry would submit to the ban in order to rectify the over-exposure of children to cigarette advertising on television and radio, and his promise that advertising would be placed in "newspapers and magazines" because "an affirmative act is required by the reader to see and comprehend such advertising," Cigarette Company Defendants instead undertook a massive billboard campaign which indiscriminately exposed children to cigarette advertising. As a May 1981 FTC Staff Report stated, by 1979,

"[almost half of all billboards in the United States advertise cigarettes." The report stated: "In 1979, cigarettes also continued to be the product most heavily advertised in newspapers. . . . The tobacco industry dominated outdoor advertising even more than it does magazines and newspapers. The top five outdoor advertisers in 1979 were the five largest cigarette companies." (no bates) (JD-004744) (A) (FTC, Staff Report, ch. 2 at 2-5).

4119. As James J. Morgan, a Marlboro Brand Manager in the 1960s and 1970s and later the President of Philip Morris, testified on April 22, 1998 about Defendants' use of billboards as a mass reach marketing tool:

> Television had huge reach. Television reached 10, 12, 14 million people at a time, and we were losing that. And so I and a couple of associates came up with the idea that outdoor [billboards] could replace television as a reach medium, and that you could in fact reach large numbers of people with outdoor. But we had not done a lot of outdoor. . . . We found in Louisiana, Opalesce, a printer who could print on paper big enough that you could get what looked like a printed ad in a magazine on huge paper . . . . [W]ell before the rest of the industry caught up and [the rest of the industry] was still putting up stuff that was hand painted . . . [in] the early 70s, Marlboro outdoor started looking like Marlboro magazines, had the same quality, and it gave you the flexibility to basically run the same things on outdoor that you ran in magazines. That, then, not only built brand equity, but it added to the consistency, because people would see on the highways . . . what they saw in magazines. So the whole story of the broadcast ban is not the story of the broadcast ban, it is the story of the creation of the Marlboro outdoor effort, which has been recognized up and down the line as one of the best outdoor programs in the history of the outdoor industry in the United States.

Morgan PT, Minnesota v. Philip Morris, 4/22/98, 13455-56.

4120. Cigarette Company Defendants were also able to circumvent the broadcast ban and continue to promote their cigarette brands on television by sponsoring public entertainment events that enjoyed prominent television and/or radio coverage during which cigarette brand names and images were featured, including "cigarette brand-sponsored events such as the

Virginia Slims professional women's tennis tournament, Virginia Slims 'Fashion Spree,' Benson & Hedges Blues Festival, Marlboro Music Tour, Marlboro 'Mini Grand Prix,' and Marlboro professional racing events were covered on television." Krugman WD, 103:9-19.

(iii) Numerous Public Health Bodies and Consensus Scientific Reports Concluded That Cigarette Marketing Encourages Youth Smoking

4121. In the 1994 Surgeon General's Report, *Youth and Tobacco: Preventing Tobacco Use Among Young People*, the Surgeon General stated that: "A substantial and growing body of scientific literature has reported on young people's awareness of, and attitudes about, cigarette advertising and promotional activities. Research has also focused on the effects of these activities on the psychosocial risk factors for beginning to smoke. Considered together, these studies offer a compelling argument for the mediated relationship of cigarette advertising and adolescent smoking." UXA013058-0484 at 0362 (US 64693) (A).

4122. In the same report, the Surgeon General explicitly addressed and rejected Defendants' claims that their marketing activities are directed only toward adult brand-shifters: "Even though the tobacco industry asserts that the sole purpose of advertising and promotional activities is to maintain and potentially increase market shares of adult consumers, it appears that some young people are recruited to smoking by brand advertising. Two sources of epidemiologic data support his assertion. Adolescents consistently smoke the most advertised brands of cigarettes. . . . Moreover, following the introduction of advertisements that appeal to young people, the prevalence of the use of those brands – or even the prevalence of smoking altogether – increases." UXA013058-0484 at 0368 (US 64693) (A).

4123. The Surgeon General further stated in the 1994 Report that: "Current research suggests that pervasive tobacco promotion has two major effects: it creates the perception that

more people smoke than actually do, and it provides a conduit between actual self-image and ideal self-image – in other words, smoking is made to look cool. Whether causal or not, these effects foster the uptake of smoking, initiating for many a dismal and relentless chain of events." UXA013058-0484 at 0167 (US 64693) (A).

4124. In the 1998 Surgeon General's Report, *Tobacco Use Among U.S. Racial/Ethnic Minority Groups*, the Surgeon General stated that: "Advertising is an important influence on tobacco use initiation and maintenance. . . . Cigarette advertising and promotion may stimulate cigarette consumption by. . .encouraging children and adolescents to experiment with and initiate regular use of cigarettes. . . . In addition, cigarette advertising appears to influence the perceptions of youths and adults about the pervasiveness of cigarette smoking and the images they hold of smokers." This 1998 Report also affirmed that: "Available data indicate that young people smoke the brands that are most heavily advertised. In 1993, the three most heavily advertised brands of cigarettes, Marlboro, Camel, and Newport, were the most commonly purchased brands among adolescent smokers." HHA0430685-1029 at 0914 (US 64831) (A).

4125. In the 2000 Surgeon General's Report*, Reducing Tobacco Use*, the Surgeon General stated that "[i]ntensive review of the available data . . . suggests a positive correlation between level of advertising and overall tobacco consumption – that is, as advertising funds increase, the amount of tobacco products purchased by consumers also increases." Moreover, "[I]ndirect evidence of the importance of advertising and promotion to the tobacco industry is provided by surveys that suggest that most adolescents can recall certain tobacco advertisements, logos, or brand insignia; these surveys correlate such recall with smoking intent, initiation, or level of consumption." VXA1240104-0567 at 0272 (US 64316) (A).

4126. Contrary to Defendants' assertions that their main purpose in advertising is to

maintain brand loyalty and increase market share among current smokers, in the 2000 report the Surgeon General found that "[c]onsiderable evidence" supported the hypothesis that "advertising and promotion recruit new smokers." The Surgeon General stated: "Attempts to regulate advertising and promotion of tobacco products were initiated in the United States almost immediately after the appearance of the 1964 report to the Surgeon General on the health consequences of smoking. Underlying these attempts is the hypothesis that advertising and promotion recruit new smokers and retain current ones, thereby perpetuating a great risk to public health. The tobacco industry asserts that the purpose of marketing is to maintain brand loyalty. Considerable evidence has accumulated showing that advertising and promotion are perhaps the main motivators for adopting and maintaining tobacco use." Id., 0129.

4127. Regarding the Joe Camel campaign, the Surgeon General found in the 2000 Report: "The role of advertising is perhaps best epitomized by R.J. Reynolds Tobacco Company's Camel brand campaign (initiated in 1988) using the cartoon character 'Joe Camel.' Considerable research has demonstrated the appeal of this character to young people and the influence that the advertising campaign had on minors' understanding of tobacco use and on their decision to smoke." Moreover, "an increase in smoking initiation among adolescents during 1985-1989 has been ecologically associated with considerable increases in promotion expenditures [by the tobacco industry], as exemplified by the Joe Camel campaign." Id., 0130, 0272.

4128. Other reputable experts have concurred with the conclusions drawn by the Surgeon General. *Monograph 14: Changing Adolescent Smoking Prevalence*, a 2001 National Cancer Institute publication, found: "Tobacco advertising and promotional activities are an important catalyst in the smoking initiation process. A review of the existing evidence on the relationship between exposure to advertising or having a tobacco promotional item and smoking

behavior . . . suggests that there is a causal relationship between tobacco marketing and smoking initiation." CXA0240054-0325 at 0079 (US 72977) (A).

4129. Regarding the numerous studies which examine the role of tobacco advertising and promotion in smoking initiation, *Monograph 14* found that these studies:

> comprise an impressive body of evidence that tobacco advertising and promotional activities are important catalysts in the smoking initiation process. . . . When [these studies are] viewed as a group, . . . the conclusion that there is a causal relationship between tobacco marketing and smoking initiation seems unassailable. . . . [T]obacco advertisements are particularly attractive to adolescents who, for one reason or another, are looking for an identity that the images are carefully designed to offer.

CXA0240054-0325 at 0277 (US 72977) (A).

4130. The Institute of Medicine, which was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of the appropriate professions in the examination of policy matters pertaining to the health of the public, earlier reached a similar conclusion. The 1994 Institute of Medicine publication "Growing Up Tobacco Free, Preventing Nicotine Addiction in Children and Youths" concluded: "The images typically associated with advertising and promotion convey the message that tobacco use is a desirable, socially approved, safe and healthful, and widely practiced behavior among adults, whom children and young people want to emulate. As a result, tobacco advertising and promotion undoubtedly contribute to multiple and convergent psychological influences that lead children and youths to begin using these products and to become addicted to them." HHA2242048-2211 at 2122 (US 33038) (A).

4131. The 1992 United Kingdom Department of Health, Economics and Operational Research Division publication "The Effect of Tobacco Advertising on Tobacco Consumption: A Discussion Document Reviewing the Evidence" concluded that:

> the great majority of the results [of aggregate statistical studies]

> point in the same direction - towards positive impact [on tobacco consumption]. **The balance of evidence thus supports the conclusion that advertising does have a positive impact on consumption.**

0212977-3036 at 0243 (US 34282) (A) (emphasis added). The Department of Health further concluded, regarding studies of advertising bans in other countries, that "[i]n each case the banning of advertising was followed by a fall in smoking on a scale which cannot reasonably be attributed to other factors [other than the advertising ban]." Id.

(b) Defendants Use Euphemisms To Refer To The Youth Market

4132. As the documents that follow show, open discussion of the youth market and use of words such as "starters," "beginners," "teenagers," and explicit references to smokers even as young as 8, were frequent in Cigarette Company Defendants' early research and marketing documents. In the 1970s and 1980s, however, due to external social pressure and litigation concerns, Cigarette Company Defendants became more cautious about using such terms in their internal documents. As a result, Defendants' marketing documents were, and continue to be today, systematically expunged of terminology that explicitly referred to young smokers. Indeed, the Cigarette Company Defendants have been advised by their legal counsel to stop making explicit references to young people in such documents, as can be seen in the documents below, dating to the 1980s and later.

4133. Instead, Cigarette Company Defendants have sterilized their documents by using euphemisms such as FUBYA (First Usual Brand Young Adult), YAS (Young Adult Smoker), YAUS (Young Adult Urban Smoker), YAMS (Young Adult Male Smoker), and YAFS (Young Adult Female Smoker); ASU 30 (adult smoker under 30); ASU 25 (adult smoker under 25); MASU 30 or MASU 25 (male adult smoker under 30/under 25); and FASU 30 or FASU 25 (female adult smoker under 30/under 25). This shift in terminology was undertaken to ensure

that, should any marketing documents become public, the public would interpret Cigarette Company Defendants' marketing to be directed only at adults, when, in fact, their marketing practices were still aimed at youth. The following documents demonstrate Defendants' conscious change in terminology from explicit to euphemistic.

4134. A Philip Morris document entitled "Writing Tips" listed prohibited words and suggested substitutions. The word "target" is listed as prohibited because it connotes "Youth/Female/Minority" and either "specific" or "select" are suggested substitutions. Additionally, the word "targeted" is listed as prohibited for the same reason and either "intended" or "designed" are suggested substitutions. 2072944560-4560 (US 42095) (A).

4135. On January 24, 1975, Robert A. Pittman, Senior Vice President of Marketing at B&W, wrote to Martin Broughton, Chairman of BATCo; John Anders of American Tobacco; J.W. Groome, Director of Advertising & Brand Management at B&W; G.H. Lee; Donald S. Johnston, President and Chief Executive Officer of American Tobacco; J.K. Madsen, Director of Transportation; and Corny S. Muije, Manager of Market Research, requesting that they cease using terms such as "young smokers," "young market," and "youth market." Pittman wrote: "In the future when describing the low-age end of the cigarette business please use the term 'young adult smoker' or 'young adult smoking market.' Please advise all members of your department that these terms should be used in all written materials in the future." 670192436-2436 (US 20966) (A).

4136. A handwritten memorandum dated June 7, 1979 stated that "a brand geared to a **younger age bracket** may be beneficial in bringing **new, young smokers** into the Lorillard market." Handwritten edits changed the sentence to read "a brand geared to a **young adult age bracket** may be beneficial in bringing **new smokers** into the Lorillard market." The

memorandum was produced from the files of Lorillard. 00046175-6182 at 6175, 6182 (US 20021) (A) (emphasis added).

4137. On September 11, 1980, Lawrence W. Hall, Jr., Director of Marketing Development at RJR, wrote a memorandum stamped CONFIDENTIAL to numerous RJR employee, including Ernest J. Fakelman, Vice President for Business Information and Analysis; Ellen N. Monahan, Marketing Development Department; Jerry R. Moore, Marketing Development Department; and Herbert E. Osmon, Staff Vice President for External Affairs, copied to Gerald H. Long, Executive Vice President, and blind copied to Nicholas W. Glover, Vice President of Brand Marketing. The memorandum stated:

> Young Adult Smokers – Terminology[:] As you all know, the objectives of RJR's marketing activities are to convince existing smokers to select our brands rather than competition's [sic]. More to the point, it is <u>not</u> our business to motivate people to start smoking, particularly minors. . . . Given this policy, it is important that we do not do anything that would leave the false impression that our real intentions are otherwise. The risk area here is in the references we make in our written communications regarding younger adult smoker market. [PRIVILEGED MATERIAL REDACTED] As an additional thought, I would suggest that we all begin using this terminology in our oral communication, both formal and informal. By doing so, we'll develop a good habit that will reflect itself in our written communications. Please discuss this with your people and assure that they understand this new terminology, the rationale behind it, and that they put it into practice immediately.

504075896-5896 (US 20006) (A) (emphasis in original).

4138. On September 12, 1980, Ellen N. Monahan, RJR Marketing Development Department, wrote to other RJR employees, attaching Hall's memorandum, and stated:

> Larry has asked that we adopt a strict terminology of referring to 18-34 year olds as younger adult smokers. This terminology is to ensure that our marketing efforts are strictly interpreted to be aimed at the appropriate target group. Would you please take steps to carry out this direction. For example, in proofing work, please

> be cognizant of Larry's request and make any appropriate changes. In drafting reports, please avoid short-cuts which may be misinterpreted by your secretary such that the inappropriate term is typed. Once we get into the habit, I'm sure it will become natural; but until then, let's be sensitive to the issue and give it our full attention.

503536932-6932 (US 20005) (A).

4139. In January 1980, RJR's Legal Orientation Manual, signed by Tom Rucker, Associate Counsel, stated, "All written material, whether internal or external, confidential or nonconfidential, should be drafted as if it might be printed the next day on the front page of a nationally known newspaper. We would also suggest that much of your business can be communicated orally." 513389267-9274 at 9273 (US 20853) (A).

4140. On September 12, 1980, RJR Executive Vice President Gerald H. Long wrote to RJR marketing employees that "I believe that we should state the age of smokers as beginning at 18 years of age for legal purposes and certainly not go below the 18 age bracket. This should be self-explanatory." 503747121-7122 at 7122 (US 20723) (A).

4141. In a document dated September 27, 1981, RJR in-house counsel provided written comments in response to a *Washington Post* September 18, 1981 newspaper column discussing an internal B&W marketing plan that included explicit comments about smokers' perception of cigarette smoking as dangerous to their health. The RJR counsel's comments indicate that "this article is a good example of why Law [RJR legal department] does, and should continue to, review our annual brand marketing plans. The 1975 Winston (I believe) plan, contains statements almost as incriminating against our smokers. **Fortunately, later plans have been 'sterilized' through our review**." The comments point to specific "stmts [sic] like this I try to expunge" from marketing plans. 504100354-0354(US 20727) (A) (emphasis added).

4142. An RJR Law Department Draft Marketing Assistant Training Manual dated May

14, 1986 stated: "We use [the term 'young adult smokers'] to refer to smokers who are at the lower end of the adult spectrum, i.e. 18 and above. To avoid any misconception about our intention to reach only adult smokers, we use the phrase 'younger adult smoker,' and never 'youth', 'kids', 'young people', etc." 515787126-7129 at 7128 (US 20868) (A).

4143. An internal 1990 B&W document entitled "Resolve Brand Marketing Strategies" used the terms "starters," "switchers-in," and "young smokers" interchangeably. 528000268-0279 at 0269 (US 20924) (A).

4144. In a March 30, 1990 letter, L.L. Bender, an employee of RJR stated: "we must operate with the knowledge that anything we write, say, or do can become 'public knowledge' overnight." He also wrote that "'Target' definitions should be broad and refer only to competitive brands. Proposals/recommendations that are not accepted should be discarded immediately." 507511965-1967 (US 20777) (O) (emphasis in original).

4145. Shari Teitelbaum, Director of Marketing and Sales Decision Support for Philip Morris, testified in this case that she did not include explicit references to respondents who were under 21 and non-smokers in an October 18, 1993 marketing survey report, choosing instead to call these respondents "others," due to concerns of the Philip Morris legal department. Teitelbaum PD, United States v. Philip Morris, 4/16/02, 57:16-60:24, 61:4-13; 2048972933-2993A (US 20518) (O).

4146. A Philip Morris document entitled "Document Creation Outline" dated March 11, 1996, stated: "Purpose: To Make all Employees Aware of the Need for Clarity in their Documents." The document cautioned, "These days, little need to remind that documents end up on the front page of papers, on the internet, on television, as well as in lawsuits, congressional hearings, government investigations." It provided examples of how to compose notes, letters, or

emails so as to avoid having to "explain later (to your supervisor, the legal dep't, or a lawyer on the other side)" and suggested that employees "give thought to whether communication is necessary." This document was produced in this case from the files of Paula Desel, Philip Morris in-house counsel. 2069615662-5668 at 5662, 5663, 5667 (US 21929) (O).

4147. A June 27, 1997 email sent by Terry Malkin, a BATCo employee, on behalf of Paul Bingham, Manager of Marketing, Planning and Intelligence for BATCo, to various B&W employees in Louisville informed them that the Tobacco Management Board at BATCo had "decided that all future references to young adult smokers will be changed to ASU 30-Adult Smokers Under 30 Years." According to Paul Wessel, Head of United States Managed Brands at B&W,

Wessel PD, United States v. Philip Morris , 3/19/03, 84:12-84:16 (Confidential); Smith WD, 9:9-23; 800146660-6660 (US 85181) (A).

4148. As of December 2003, Philip Morris continuously tracked the smoking habits of young people of beginning at 18 years of age in most states (and 19 years of age in Utah, Alabama and Massachusetts). In a report entitled

Philip Morris refers to this 18 to 24 year old age group as PM3002956620-6692 at 6624-6628, 6635 (US 88650) (O) (Confidential).

4149. At trial, RJR CEO Andrew Schindler, who spent years at the company, admitted that RJR has referred to smokers between the age of 14-17 as "young adult smokers." Schindler TT, 1/25/05, 10911:8-13.

(c) Philip Morris Intentionally Marketed To Youth Contrary To Its Public Statements

4150. In August 1953, "A Study of People's Cigarette Smoking Habits and Attitudes,"

conducted by Elmo Roper for Philip Morris studied the smoking habits of a "cross section of men and women 15 years of age and over." Questions included: "How old were you when you started smoking?" and "What was your first regular brand?" The document indicated that Philip Morris had "very great strength among young people -- particularly under 20." 2022239148-9333 at 9149-9153, 9155, 9163 (US 20358) (O).

4151. An October 7, 1953 letter from George Weissman, Vice President of Philip Morris, discussed the August 1953 Roper report, and stated that "industry figures indicate that 47% of the population, 15 years and older, smokes cigarettes" and that "we have our greatest strength in the 15-24 age group." Weissman stated: "An interesting aspect of the market is that in the age grouping, Lucky Strike is twice as popular among the 15-17 year olds as the next leading brand, and therefore, has the potential basis to reverse its present trend in a few years. Encouragingly enough, we have our greatest strength in the 15-24 age group, as against Camel and Chesterfield, which are proportionally stronger among older age groups." 2022239142-9147 at 9142, 9144 (US 22931) (A).

4152. In 1961, Philip Morris began running a nationwide advertising campaign, "Marlboro Country," on radio and television broadcasts, and in newspapers. This campaign featured Western scenery and cowboys; Philip Morris has continued to run this campaign to the present day, using over the years billboards, magazines, retail displays and direct mail. ADV0121731-1731 (US 3567) (A).

4153. A document entitled "Teen-Age Cigarette Purchasing and Smoking Habits in the U.S.A. 1963," produced from Philip Morris's files, discussed a nationwide study of teenagers aged 13 to 18 years old which examined the extent of teenage smoking, the volume of cigarettes smoked by teenagers, where teenagers obtained cigarettes, the extent to which minors purchased

cigarettes from vending machines, and possible factors motivating teenagers to smoke. Although this was purportedly an independent study, it was conducted at the request of Lewis J. Risman of the National Automatic Merchandising Association ("NAMA"), who corresponded around the same time with Philip Morris executives regarding youth research. 1005040495-0515 (US 20193) (O). On September 4, 1997, James J. Morgan, President and Chief Executive Officer of Philip Morris USA, testified that in 1963, "Philip Morris would have participated in . . . NAMA conventions, and would have tried to cultivate relationships with the association and its membership as important customers." Morgan PD, Minnesota v. Philip Morris, 9/4/97, 133:10-14.

4154. James J. Morgan, former President and Chief Executive Officer of Philip Morris USA, during his April 24, 1998 testimony agreed that, since 1968, Marlboro's share of the youngest demographic group has always been substantially higher than Marlboro's overall market share. Morgan PT, Minnesota v. Philip Morris, 4/24/98, 13907:12-19.

4155. In 1968, Philip Morris began a nationwide Virginia Slims newspaper and magazine advertising campaign. The advertisements often depicted slim, independent, well-dressed attractive women smoking cigarettes. ADV0281229-1231 (US 10511) (A).

4156. The "1969 Survey of Cigarette Smoking Behavior and Attitudes" performed by Eastman Chemical Products for Philip Morris contained detailed analysis of beginning smokers, including interviews with 12-14 year olds. This report stated that 16-20 is a critical age group for smoking initiation and explained that "at age 14, 60% of the boys who were to become smokers had smoked their first cigarette." The report included information on why these teenagers smoked their first cigarette and whether they liked their first cigarette. 81560431-0496 at 0454 (US 85200) (A).

4157. In a May 23, 1969 internal memorandum, Myron E. Johnston, Senior Economist for Research and Development at Philip Morris, wrote to Robert S. Seligman, Vice President for Tobacco Science and Research, regarding "Marlboro Market Penetration by Age and Sex." Attached to the memorandum was a chart showing, "by sex and individual years of age, the percent of . . . smokers . . . who smoke Marlboro," which included data on 15 year olds. 1000306237-6239 at 6237, 6238 (US 20091) (A).

4158. Helmut Wakeham, Vice President for Corporate Research and Development at Philip Morris, made a November 26, 1969 presentation to the Philip Morris Board of Directors entitled "Smoker Psychology Research." His report stated that, although "the primary motivation for smoking is to obtain the pharmacological affects of nicotine," it is psycho-social motivations and not nicotine that are responsible for smoking initiation: "We are not suggesting that the effect of nicotine is responsible for the initiation of the habit. To the contrary, the first cigarette is noxious experience to the novitiate. To account for the fact that the beginning smoker will tolerate the unpleasantness we must invoke a psycho-social motive. Smoking a cigarette for the beginner is a symbolic act . . . a symbolic declaration of personal identity." The report further stated: "The 16 to 20 year-old begins smoking for psychosocial reasons. The act of smoking is symbolic; it signifies adulthood, he smokes to enhance his image in the eyes of his peers." The document concluded: "As the force from the psycho-social symbolism subsides, the pharmacological effect takes over to sustain the habit, augmented by the secondary gratifications." 1000273741-3771 at 3749 (US 26080) (A); 1003287880-7890 (US 20163) (O); 1003287836-7848 at 7836, 7838-39 (US 22848) (A).

4159. In a June 12, 1970 memorandum, "Suggestions for Research to Answer Questions Raised on Philip Morris Benchmark Study," Steve Fountaine, a Philip Morris

employee, discussed the discrepancy between the reported results on a market share survey and Marlboro's actual sales share. Fountaine stated that this discrepancy was "due to the fact that Marlboro has such a high percentage of its smokers among the types of young people our survey misses of necessity (on campus college students, those in the military and those under 18 years of age.)" This memorandum set forth a detailed proposal for research into the smoking habits of young people aged 14 to 17: "To get a reading on the smoker percentage and Marlboro share among teenagers not covered in the Benchmark study we recommend interviewing young people at summer recreation centers (at beaches public pools, lakes, etc.). . . . In our opinion, this suggested approach will provide a good reading on the Marlboro share among very young smokers, as well as adding information on college student smoking habits." 2026234664-4669 at 4664, 4665-4667 (US 20424) (O).

4160. In the July 15, 1970 Philip Morris "R&D Strategic Plan: 1971-1975," Helmut Wakeham, Vice President for Corporate Research and Development, stated: "Without an effective counter-effort by cigaret [sic] makers, there is likely to be an erosion of the social acceptability of smoking. Whereas **smoking has traditionally been viewed by adolescents and young adults as sophisticated adult behavior to be emulated**, it is in danger of being regarded generally as undesirable behavior to be avoided." 1000837808-7813 at 7809 (US 20110) (A) (emphasis added).

4161. In an August 17, 1970 internal memorandum to Wakeham from William L. Dunn, Senior Scientist at Philip Morris, entitled "Considerations Pertinent to the Proposed FTC Requirement of Published Numbers," Dunn argued that Philip Morris did not need to attempt to block FTC regulations requiring disclosure of tar and nicotine levels in all cigarette advertising, because a survey of 12-18 year olds indicated that youth smoking initiation would not be

influenced by such FTC action. Dunn stated: "We have . . . evidence that the will to smoke is remarkably impervious to concerted, dissuasive pressures: a) Horn's recent survey data of teenagers revealing a higher percentage of smokers among 12-18 year olds in the USA than ever before recorded." 1002375102-5107 at 5102 (US 20135) (O).

4162. The September 24, 1971 "R&D Strategic Plan: 1972-1976" prepared by Harry G. Daniel, Planning Coordinator at Philip Morris, stated that "whereas smoking has traditionally been viewed by adolescents and young adults as sophisticated adult behavior to be emulated, the growing youth market may be in danger due to changing value systems and attitudes." 2022163543-3555 at 3544 (US 20353) (A).

4163. A "Marketing Planning Guide" written in approximately 1972 to provide a template to Philip Morris employees for creating yearly marketing plans, included a section entitled "Industry Trends," which stated: "Although the total population will increase by 3.4% during the 1973-1978 period, the 15-19 year old age group from which many new smokers are gained, will only increase by 1.9%, while undergoing actual decreases in 1977 and 1978." The document included smoking incidence figures for 12 to 17 year olds, as well as population numbers for smokers "under 15 years"of age. 2041400206-0236 at 0223 (US 20439) (A).

4164. Numerous documents in the record show that Philip Morris closely monitored the smoking behavior of teenagers. For example, a June 27, 1972 inter-office memorandum written by R.M. Jones of Philip Morris to Raymond Fagan, Principal Scientist at Philip Morris, entitled "Fifteen Year Cigarette Smoking Trends: 1955-1970" analyzed percentages of smokers and non-smokers by sex beginning at age 17, and concluded that there was a decrease in the number of current smokers and an increase in the number of former smokers. 1002647352-7365 at 7352-7353 (US 20141) (O).

4165. A May 18, 1973 memorandum entitled "Incidence of Smoking Cigarettes," sent by Neil Holbert, Philip Morris Marketing Research Department, to numerous Philip Morris employees, discussed findings from a survey conducted by the Opinion Research Corporation of smoking incidence among 452 12 to 17 year olds and those aged 18 and over. Holbert stated that the survey found that 13% of the 12 to 17 year olds polled smoked at least a pack a week. 2041761791-1801 at 1791, 1795 (US 21493) (A). According to James J. Morgan, former President and Chief Executive Officer of Philip Morris, copies of this memorandum summarizing the results of this proprietary study of teen smoking were received by, among others: Ross Millhiser, President of Philip Morris; James Morgan, then-Director of Brand Management; Bob Fritzmaurice, Marlboro Brand Manager; Bob Cremin, head of sales; Max Berkowitz, assistant head of marketing and sales; Claude Beck, advertising buyer; Ellen Merlo, brand group manager; and brand managers Dick Gumz, John Granville, Allen Levine, and Tom Keim. Morgan PD, Minnesota v. Philip Morris, 9/4/97, 145:9-146:18.

4166. Philip Morris's "U.S.A. Tobacco Marketing Five Year Plan" dated June 1973 discussed the concern that a decline in "the 15-19 year old age group from which many new smokers are gained" would cause a loss of cigarette volume:

> the new-smoker age group (15-19) will increase only 1.9% over the total period and will actually decline in 1977 and 1978. A decline of 7.8% for this period in the under 15 age group indicates that this trend will continue in the following years. . . . However, more than offsetting the loss of cigarette volume from the declining trend in the 'new-smoker' age group (15-19), are substantial increases in those two population segments which have the highest smoking incidences, the 20-29 year olds (+14.8%) and the 30-39 year olds (+19.1%). . . . In summary, then, the total industry volume will increase at an average annual rate of about 1.9% through 1976 on the strength of increases in the three key population segments - the 15-19 group which represents the primary source of new smokers, and the 20-29 and 30-39 groups which are characterized by high smoking incidences.

1005159031-9168 at 9034, 9043-9044 (US 26207) (A).

4167. A July 1974 Philip Morris Marketing Research memorandum entitled "The New Competition for Marlboro's Franchise Smokers" stated, "for the past year, Marlboro's growth in share of market has slowed down considerably. . . . [T]his problem is especially clear among the most important segment of the Marlboro franchise, smokers aged 18 to 24." In response to this trend, the memorandum reported that the "Roper Organization was commissioned to undertake [a] study. . . . with the intention of probing the dynamics of the market among smokers below the age of 24. (This was not the 'usual' sample of age 18-24; **in this study, no lower age limit was set.**)" Roper conducted 1050 interviews for this study. Comparing Roper's results and Philip Morris's own National Tracking Study, the document reported that the results were not significantly different, but "[t]he somewhat larger share for Marlboro smokers found in the Roper Study (33% Vs. 27% found in Tracking) may be accounted for by the **popularity of this brand among those under age 18** who are not interviewed in Tracking," but who were interviewed by Roper. The Roper study determined that "Marlboro is still the most frequent '**first regular brand**'" and stated, "The ideal situation would be to have lots of people choosing our brand as their first (which we do)." According to the Roper study, "The most important reason these young smokers give for settling on their first regular brand is what we might call peer pressure. . . . This tendency to 'go with the leader' feeds on itself. As a brand increases in popularity, it is more likely to be adopted as 'the' brand to smoke." 2022245802-5823 at 5803, 5804, 5807, 5808, 5809 (US 26748) (A) (emphasis added).

4168. The study referenced above prepared by the Roper Organization in July 1974 for Philip Morris was entitled "A Study of Smoking Habits Among Young Smokers," and found that "Marlboro is the starting brand for young whites, and Kool is the starting brand for young

blacks." The study questionnaire asked respondents when they started smoking and included a category for 14 and under. The study's findings included: "Marlboro N/M [non-menthol] appears to be attracting fewer new smokers than some of the other brands . . . [and] appears to have become static" and "Marlboro is the starting brand for young whites." The study report also stated: "**We are not sure that anything can be done to halt a major exodus if one gets going among the young. This group follows the crowd, and we don't pretend to know what gets them going for one thing or another. Certainly [Philip] Morris should continue efforts for Marlboro in the youth market**." 1002646151-6185 at 6152, 6154-6157 (US 20140) (A) (emphasis added). This document, like many others discussed supra, supports Dr. Krugman's testimony that Defendants harnessed peer appeals in marketing to teenagers. Krugman WD, 85:1-93:23.

4169. A July 25, 1974 Philip Morris Marketing Research Department memorandum entitled "Highlights of Special Roper Study on Young Smokers" discussed the implications of "new trends in the marketplace, particularly among young smokers." This Roper study, commissioned by Philip Morris, detailed Marlboro's slowing growth in share of market. The memorandum stated: "[T]his problem is especially clear among the most important segment of the Marlboro franchise, smokers aged 18 to 24 and that, while this softness was notable for Marlboro, menthols, and especially Kool, were showing growth among these young smokers." 1000730691-0713 at 0691, 0693 (US 20104) (A).

4170. A Philip Morris March 3, 1975 internal document entitled "Economic Forecast 1975-1980" written by Myron E. Johnston, Senior Economist for Research and Development, stated, "The most recent surveys have shown an increase in the proportion of teenagers (particularly girls) who are beginning to smoke cigarettes. Thus, even though there will be a

decline in the absolute number of teenagers from 1975 to 1980, the number of teenage smokers will remain constant. From 1969 to 1974, by contrast, the number of teenage smokers increased at an average rate of 2.2%. . . . During the last ten years Marlboro has benefitted from the rapid increase in the number of people 15 to 19 years old, the ages at which most smokers begin smoking." Johnston also predicted that, because of the declining number of 15-19 year olds, "Marlboro will be deprived of one source of its growth and, increasingly, will have to rely for growth more on switchers from other brands and on maintaining the brand loyalty of Marlboro smokers. Because of this decline in the number of 15-19 year olds, Marlboro sales will increase at a decreasing rate." 1000739883-9907 at 9903, 9905, 9907 (US 21601) (A).

4171. Johnston sent an inter-office memorandum dated May 21, 1975 to Robert B. Seligman, Director of Commercial Development, Tobacco Products, with the subject "The Decline in the Rate of Growth of Marlboro Red." Johnston discussed four factors contributing to the Marlboro Red growth slowdown: slower growth in the number of 15 to 19 year olds, the recession, increasing cigarette prices, and the "changing brand preferences of younger smokers." Johnston stated: "It has been well established . . . [by studies] that Marlboro has for many years had its highest market penetration among younger smokers. Most of these studies have been restricted to 18 and over, but my own data, which includes younger teenagers, shows even higher Marlboro market penetration among 15-17 year olds." 1003285497-5502 at 5497 (US 20160) (A).

4172. An April 8, 1976 Philip Morris inter-office memorandum from Myron Johnston and Frank Ryan, Senior Associate Scientist for Philip Morris, to William Dunn, Senior Scientist, entitled "Teenage Smoking," reported on the "upsurge" of smoking among young teenage girls, and hypothesized that the increase in teenage girls' smoking may be connected to the teenage

boys' smoking habits and the fact that "teenage boys typically date girls who are their own age or a year or two younger." This document included information on males age 12 to 17 and females age 10 to 15, and observed that the 13 year old age group "shows the most dramatic increase proportion of smokers." 1000743958-3959 at 3958 (US 20105) (O).

4173. A May 1976 study prepared for Philip Morris by the Roper Organization entitled "A Study of Smokers' Habits and Attitudes With Special Emphasis on Low Tar Cigarettes" stated that "[a]s usual, in the studies we conduct for Philip Morris, we undermeasure Marlboro's share since we do not interview people under the age of 18, and Marlboro is strong with teen-age smokers. Marlboro continues to be a young smoker's brand, with one-quarter of those 18 to twenty-one reporting they smoke Marlboro Red most often." 2024921314-1612 at 1374 (US 20403) (A).

4174. A June 2, 1976 Philip Morris memorandum from Alfred Udow of the Philip Morris Consumer Research Department to James Morgan entitled "Why People Start To Smoke" stated: "most smokers appear to have begun smoking between the ages of 10 and 18." The memorandum identified the "factors involved in the initiation of smoking," explaining: "In general, the studies suggest that youngsters' beginning to smoke is related to: a) curiosity about smoking; b) conformity pressures among adolescents; c) need for status among peers, including self-perceived failure to achieve peer-group status of satisfaction; d) the need for self-assurance; and e) striving for adult status." With respect to high school students, the memorandum stated: "The smoking pattern is established relatively early. Before 12 years of age, less than 5% of boys and 1% of girls smoke, but soon thereafter a steady increase begins. In the 12th grade, from 40-to-55% of children are smokers, and by the age of 25 years about 60% of men and 36% of women have acquired the habit." Udow indicated that he consulted both external, independent

research and internal Philip Morris research on youth smoking: "Information on the motivation that leads to a continuation of smoking comes from a special study done for Philip Morris (Brand, 1971)." 1000744089-4096 at 4089, 4092, 4095-4096 (US 20106) (A).

4175. Neil Holbert, Philip Morris Marketing Research Department employee, sent an inter-office memorandum dated October 13, 1976 about "Teen-Age Smoking" to Jon N. Zoler, Director of Marketing Research for Philip Morris. Holbert stated that "[w]e have an operational decision to make on what age to use as a low-end in working out incidence, consumption, and brand usage." Holbert also wrote that the "data suggest that we use Age 15 as a base." 1005085359-5359 (US 20207) (O).

4176. A November 10, 1977 memorandum from Neil Holbert to Jon N. Zoler entitled "Incidence of Smoking" stated: "We are often asked about incidence of smoking." The memorandum described an updating of a "compilation" of "studies and releases" discussing "Teen-age incidence data." A table attached to the memorandum included data obtained from sources, such as Opinion Research Corporation on the incidence of smoking in the United States from 1968-1977 among 12 to 18 year olds. 2041761868-1868 (US 20440) (O); 2041761869-1871 at 1871 (US 88801) (O). Opinion Research Corporation performed proprietary research for Philip Morris. Morgan PD, Minnesota v. Philip Morris, 9/4/97, 193:16-194:4.

4177. In a 1978 document entitled "The Assets," Philip Morris reported that "the percentage of smokers in the 17-24 year old age group is up, and the amount smoked per day per young smoker is also up." 1003058994-9017 at 8999 (US 20151) (O).

4178. In a July 1978 document entitled "Estimated Number of US Smokers," Philip Morris tracked smoking incidence among the population starting at age 12. 2042521997-2001 at 1997, 2001 (US 20445) (O).

4179. A March 1979 study prepared by the Roper Organization for Philip Morris entitled "A Study of Smokers' Habits and Attitudes With Special Emphasis on Low Tar and Menthol Cigarettes" stated: "While we do not interview below age 18, we would guess the trend towards doing almost everything at a younger age applies to cigarette smoking as well, and is a further factor in enlarging the market." 2049455309-5318 at 5313 (US 22218) (A).

4180. A March 29, 1979 memorandum on Philip Morris USA letterhead entitled "Marlboro" stated: "Marlboro dominates in the 17 and younger age category, capturing over 50% of this market" and itemized various special promotions, including "summer sampling" and the Marlboro Cup. 20483828174-8176 at 8174-8175 (US 21517) (A).

4181. An October 18, 1979 unsigned confirmation letter memorialized the agreement between Philip Morris Europe S.A. and Pinewood Studios, England to feature the Marlboro brand name in the film "Superman II" in return for £20,000 (approximately $42,500). 2046788819-8821 (US 20478) (O).

4182. An October 24, 1980 internal Philip Morris memorandum from Neil Holbert to Jerry Choyke, an employee of Philip Morris, regarding "Number of Smokers" discussed smoking incidence for the 1960s, 1970s, and projected for 1981, and included information from a Roper study conducted by the Tobacco Institute which surveyed 17 year olds. 2042329572-9572 (US 20444) (O).

4183. A March 31, 1981 report conducted by the Philip Morris Research Center entitled "Young Smokers Prevalence, Trends, Implications, and Related Demographic Trends" stated that "**Today's teenager is tomorrow's potential regular customer**, **and the overwhelming majority of smokers first begin to smoke while still in their teens**. . . . The smoking patterns of teenagers are particularly important to Philip Morris: Of the eleven packing of which the

median age of smokers is under age 30, seven are Philip Morris packings. . . . [I]t is during the teenage years that the initial brand choice is made." The report indicated Philip Morris's concern over demographic and social trends that were creating a downturn in teenage smoking rate: "Because of our high share of the market among the youngest smokers, Philip Morris will suffer more than other companies from the decline in the number of teenage smokers." 1000390803-0855 at 0808-0809 (US 22334) (A) (emphasis added).

4184. In a document dated May 7, 1981, Myron Johnston, Senior Economist for Research and Development at Philip Morris, stated that 33.2%, 32.6% and 32.2% of people 17 and over were current regular smokers for the years 1978, 1979, and 1980, respectively. 1000792013-2013 (US 20108) (O).

4185. In inter-office correspondence regarding "Smoking Prevalence by Age, Race, and Sex" dated July 29, 1982, from Johnston to Ralph Brown, another Philip Morris employee, Johnston discussed interview samples from age groups ranging from 17 and older. 1003285379-5384 at 5379, 5381-5384 (US 20158) (O).

4186. In a January 19, 1983 inter-office memorandum to Jon Zoler entitled "The Ages at Which People Start Smoking," Myron Johnston set out the smoking initiation ages for demographic groups, finding that the largest percentage (20 to 35%) began smoking before age 18, some (18 to 20%) began between the ages of 18 and 21, and a few (5 to 10%) began between the ages of 21 and 25. He asserted: "Conventional Wisdom has long held that anyone who has not started smoking by age 18 is unlikely to become a smoker. . . . Clearly, Conventional Wisdom has to be rephrased to read: 'Anyone who has not become a smoker by age 25 is unlikely to become a smoker.' It is interesting to note that the younger cohorts of white females, but not males, are beginning to smoke at progressively younger ages." 1003478157-8159 at 8157 (US

35772) (O) (emphasis in original).

4187. In inter-office correspondence dated February 18, 1983, from Johnston to Alfred Udow, Philip Morris Consumer Research and Marketing Department, entitled "Still More on Trends in Cigarette Smoking Prevalence," Johnston discussed "the encouraging upward trend in smoking prevalence among 18-29 year-olds – encouraging because of the importance of these younger smokers to Philip Morris." 1003285174-5178 at 5174 (US 20157) (O).

4188. A Philip Morris document entitled "Magic: Finding the Right Twist to Individual Smoking" discussed 1983 data that included a 16-24 age group. The document proposed the creation of "the first American blend cigarette with variable taste" called "Magic." Since, as the document stated, most older smokers do not switch brands, "Magic should try and attract a younger smokership - people who are more flexible in terms of choice." The target group, described as the "Artari [sic] Generation" were the "age group between 16-34 years old (46% of all smokers are in this age bracket.) Magic is made for people who work hard to be able to play hard. They are young, active people full of vitality and determined to enjoy their lives." Atari were video game players popular with children and teenagers. 2073690712-0724 at 0714, 0716, 0717 (US 24678) (O).

4189. An internal document entitled "Product Testing Short Course," dated January 23, 1984, prepared by the Philip Morris Research and Development Department, explained how Marlboro succeeded by attracting new teen smokers: "Marlboro floundered for 8 years and then hit a responsive chord among the post-war baby-boom teenagers with the theme from the 'Magnificent Seven' and an image uncalculatedly right for the wave of teenagers coming of smoking age." Explaining the importance of teenage smoking initiation, the document stated: "Of the two important demographic influences in the last 35 years – women and teenagers – one

has peaked and the other is working against us. Other demographic groups probably don't hold much promise since they are already smokers." 2028817401-7576 at 7504, 7508 (US 20016) (A).

4190. Metacorp, a marketing development corporation, prepared a March 1984 document entitled "1984 Marlboro Spring Resort Field Marketing Opportunities" for Philip Morris. Metacorp outlined various venues and events occurring during Spring Break, among them the 2nd Annual New Music Showcase, featuring Duran Duran, a band popular with teenagers. 2044390059-0073 at 0061, 0064 (US 20453) (O).

4191. In a March 16, 1984 memorandum to Leo Meyer, a Philip Morris scientist, discussing smoking prevalence and smokers' educational attainment, Myron Johnston stated, "Not much can be said of the 17-24 year olds because most of them are still in school." 2040280991-1022 at 0993 (US 21780) (O).

4192. A March 20, 1984 Philip Morris document entitled "The Cigarette Consumer" stated that "[p]eople begin smoking 1) [because of] peer pressure, 2) to rebel/assert independence, 3) to appear grown up, [and] 4) to experiment," and that "products targeted to younger end of spectrum [are] most viable." 2500002189-2207 at 2203, 2205 (US 21460) (A).

4193. EPSY, a Swiss-based survey company, in 1984 conducted for Philip Morris surveys of "juvenile smokers" in order to characterize " [t]he regular Marlboro smoker," "[t]he new Marlboro smoker," "[t]he Marlboro switcher to Camel," and the counterparts for "juvenile smokers" of Camel. The study found that “[t]he **new Marlboro smoker** still lives strongly in the world of illusions (**due to his young age**) and is attached to the Marlboro cliché to a much greater degree than the regular smoker.” The study concluded that "Marlboro has become vulnerable . . . because of discrepancies between brand psychology and the changing life attitude

of the **juvenile target group**" and because "[a]ttraction for juvenile smokers has decreased." The study recommended "more emphasis on motivational promotions" and "[t]arget-oriented promotions, i.e, Marlboro Challenge, Marlboro Music Promotions." 2040261475-1479 at 1475, 1479 (US 26920) (O) (emphasis added).

[This space is intentionally blank, as a result of substituting ¶4193 (above), submitted with The United States' Notice of Errata to United States' Proposed Findings of Fact," filed on August 16, 2005, to remove references to Bates page numbers 2040261472-1474 in US 26920.]

4194. A July 9, 1984 Philip Morris memorandum drafted by Myron Johnston to Leo Meyer on the subject of "The Changing Geography of Menthol and the Threat Posed by Newport" recognized the success of Lorillard's Newport brand and stated: "The fact that Newport smokers are very young gives further indication that Newport's growth is disproportionately at the expense of Marlboro. (Their median age as derived from the Tracking Study data is 23.2, and that does not take into consideration those under the age of 18.)" Johnston further stated: "Lorillard has clearly recognized that menthol smokers are disproportionately black and disproportionately young – groups that have relatively low newspaper and magazine readership and that tend to be pack buyers rather than carton buyers. Hence Newport relies heavily on point-of-purchase and outdoor advertising-63 percent of Newport's 1983 advertising expenditures were for outdoor." 2040280951-0977 at 0954-0955 (US 37496) (A).

4195. A November 1, 1984 Philip Morris USA inter-office correspondence from Myron Johnston to Tom Goodale, Director of Operations and Sales, and copied to the Central File and twenty-two employees, including Carolyn Levy and Bob Mikulay, both of whom would later head Philip Morris's Marketing Department, acknowledged the impact that smokers under the

age of 18 had on the median age of smokers of the Virginia Slims brand. In the memorandum, Johnston addressed his "serious reservations about the advisability of introducing a Virginia Slims 120," a line extension with an older demographic that he thought might damage Virginia Slims's younger demographics (including teenagers). Johnston wrote:

> The most serious reservation is demographic. Will the natural constituency for 120s (females with a median age of 38 for the menthols and 48 for the nonmenthols), be attracted by the carefully nurtured image created for Virginia Slims, where the median ages are 30 for the menthols and 35 for the nonmenthols? (Since these median ages are based only on smokers aged 18 and over, the actual median ages are probably several years younger.) . . . I'm not sure that it should be done, for fear of damaging the youthful image of Slims that has contributed so much to its success.

2001255708-5710 at 5708, 5709 (US 85182) (O).

4196. A December 12, 1984 Philip Morris special report entitled "Cigarette Market History and Interpretation" prepared by John E. Tindall, Senior Scientist at Philip Morris, and broadly distributed within Philip Morris, traced the history of the cigarette market from 1938 to 1984 and analyzed brand shares and relative performance in terms of the demographics of the smoking population and the turnover in the smoking population. The report explained the rise of Marlboro, Kool, and Newport: "New smokers entering the market were disproportionately attracted to those brands." The report stated: "**[I]f the domestic cigarette market is to survive long-term, it must have a constant influx of new smokers.** In the past, the psychology of brand choice for new smokers has been an area to which we have had to give little attention since our brands have been among the major beneficiaries of new smokers' brand choices. There are reasons to believe we may not be so fortunate in the future." The report further stated that "**Marlboro's growth and, presumably, its position as the brand of choice among new smokers, coincided with the Marlboro Country campaign. That was certainly a**

remarkable campaign and one that probably did appeal to young people, but not one that marketers would have been likely to have composed to attract young people in the 1960s." 2001265000-5045 at 5012, 5030 (US 20299) (A) (emphasis added).

4197. An August 15, 1985 report entitled "Trends in Smoking Among High School Seniors," authored by Johnston and addressed to Jon Zoler, stated that "about half of all people, in all age cohorts, who ever smoked have been smokers at age 18. Thus by studying trends in smoking among 18-year-olds we might gain some insight as to what to expect in the future." The report provided extensive data on the smoking habits of high school seniors. Zoler commented that this study was "the most comprehensive study I've seen on the subject." 2040282066-2092 at 2066 (US 20437) (O).

4198. A September 18, 1985 Philip Morris inter-office memorandum by Johnston to Tom Goodale, entitled "The Implication of Those Strange Happenings in the Menthol Market," surveyed menthol smokers by race, age, and gender in order to explore a drop in the 18-24 year old menthol smoker market. The memorandum identified menthol as an "entry brand," and asked the question, "Why are the young abandoning menthols?" Johnston concluded that women who begin smoking before age 18 were less likely to choose menthol, whereas those who begin smoking after age 17 were more likely to choose menthol. 2056267569-7584 at 7569, 7570, 7572-7573 (US 20497) (O).

4199. A document apparently drafted after 1986 entitled "Impact of Marlboro Sponsorship in CART Racing: Are We on Track?" discussed Marlboro car racing promotions. The document stated that 14% of 18-24 year olds were racing fans and that racing was perceived as "[m]asculine" and "dangerous" because racing "is like grabbing Death by the gonzos and saying 'Ha!'" 2040750492-0510 at 0495, 0496 (US 20438) (O).

4200. Philip Morris sent an advertising contract dated January 14, 1986 to the Los Angeles Dodgers Advertising and Novelty Department for the purpose of placing Marlboro advertising in the 1986 Dodgers scorecard and magazine available at Dodgers major league baseball games. 2041595387-5387 (US 38212) (O).

4201. The November 6, 1986 "Marlboro Review" included the following as part of the Philip Morris overall "Five Year Challenge": "**Increase share of new smokers**," "Retain current smokers," and "Develop targeted marketing tactics." The review recommended that Philip Morris "[e]xpand [the] Marlboro franchise into the mainstream menthol category" with a "target audience" of the "**new smoker**." To accomplish these goals, the review recommended: "[d]iagnostic consumer research to further assess positioning/advertising . . . [and] [i]nterviews with young smokers to determine potential appeal." 2045409872-9911 at 9890, 9906, 9908 (US 26949) (O) (emphasis added).

[This space is intentionally blank, as a result of substituting ¶4201 (above), submitted with The United States' Notice of Errata to United States' Proposed Findings of Fact," filed on August 16, 2005, to remove references to Bates page numbers 2045409912-9920 in US 26949.]

4202. A 1987 Philip Morris document entitled "Parliament Brand Plan Executive Summary" recommended a shift of focus to a younger demographic target because "strategically, if Parliament is to stabilize and grow over the long term, we must pick up younger smokers. Fortunately, we have reason to be optimistic about our ability to appeal to younger smokers. . . .

To target the 18-24 males and females, our retail focus will be on pack outlets (52% of smokers in this age group buy the pack compared to 30% of all smokers) and will be trial/conversion oriented. This younger age group is more likely to make decisions based on peer pressure. To convey the idea that everyone is smoking Parliament, the brand should have continuous high levels of visibility in as many pack outlets as possible." One question for research was: "Who are the 18-24 year old male and female Parliament smokers? Why do they smoke Parliament (taste, filter, advertising, peer pressure)?" 2045287048-7092 at 7061, 7063, 7064 (US 38407) (A).

4203. An August 1987 Philip Morris document stated that Marlboro, Benson & Hedges, and Virginia Slims events, like Marlboro Auto Racing, had been "highly successful in creating brand awareness and generating positive publicity." 2044732959-2963 at 2959 (US 21754) (O).

4204. An August 19, 1987 inter-office memorandum from Nancy E. Brennan (now Lund), current Senior Vice President for Marketing at Philip Morris, to David E.R. Dangoor, Executive Vice President at Philip Morris, summarized "Key Marlboro Issues." According to Brennan, "**The life blood of the Red franchise is new, young (male) smokers**. In this regard, several demographic and industry factors are working against us: 1) a shrinking population of young adults, 2) a lower incidence of smoking among young adults and, 3) an increasing percentage of new smokers entering the market with a low tar cigarette." In order to maximize share, Marlboro should "**[s]eek ways to display Marlboro continually in the convenience stores to fully capitalize on new smoker trial** and reduce temporary 'defection' . . . . **For Marlboro, the most critical retail visibility is displayed product. Currently, the Brand does not have continuous leadership display presence in pack or carton outlets. This should be our first priority. We are missing trial opportunities**." 2045305938-5942 at 5938, 5939, 5941 (US 26948) (O) (emphasis added). As is demonstrated by many documents cited supra,

Philip Morris increasingly emphasized visibility at the point of sale in the 1990s, an emphasis that has continued through the present day.

4205. Roy Anise, a manager in the Philip Morris Market Research Department, drafted a February 1, 1988 report addressed to Jon Zoler which noted that Philip Morris had reviewed the decreasing smoking incidence among high school seniors to determine if it was a cause of declining smoking rates of military personnel. Anise's report cited Myron E. Johnston's 1985 report entitled "Source Trends in Smoking Among High School Seniors" which stated that "[h]istorically about half of all people . . . who ever smoked have been smokers by the age of 18." 2042078401-8405 at 8404 (US 20442) (O); 2022214369-4395 at 4369 (US 20357) (O).

4206. A March 1988 Industry Review for Philip Morris included a section entitled "Smoking Among High School Seniors," which contained charts tracking, among other things, total cigarettes smoked by high school seniors and the race and gender of those seniors who smoked. The review did not distinguish between those high school seniors aged 18 and those 17 or younger. 2073001682-1738 at 1695-1700 (US 24647*) (O).

4207. Myron Johnston authored a March 17, 1988 memorandum addressed to Jon Zoler entitled "Smoking Among High School Seniors" in which he stated that, "I am even more confident than before that we can use the data on high school seniors to predict trends in smoking among young adults." 2042329558-9566 at 9561 (US 20443) (O).

4208. An April 5, 1988 letter from Elizabeth H. Reiman, Leo Burnett employee, addressed to Nancy Brennan Lund, now Senior Vice President for Marketing at Philip Morris, provided "details regarding the upcoming Camel qualitative study" and stated that "[r]ecent strong Camel performance, especially among the young male target, has resulted in an effort to explain that success and determine the potential threat to Marlboro." The letter indicated that

respondents for this study were to be "recruited among 18-24 year old smokers." 2045471014-1015 at 1014 (US 20461) (O).

4209. A June 20, 1988 memorandum on Philip Morris USA letterhead from consumer researcher Jan Jones to Ed Gee, Director of Consumer Research at Philip Morris, entitled "Statement of Position on the Social Pressures Construct" stated: "**We already have Marlboro as the brand of choice for young smokers entering the market**." 2050801835-1853 at 1845 (US 38763) (A) (emphasis added).

4210. A September 26, 1988 inter-office memorandum written by Carolyn Levy, then Philip Morris Assistant Director of Consumer Research, and sent to David Dangoor, Executive Vice President, outlined issues to research in 1989, including: "**Can we gain a better understanding of young smokers? What are their personality traits, beliefs, values, lifestyles? What are the marketing implications of these findings?**" 2080009511-9515 at 9511 (US 20535) (A) (emphasis added); see also 20080009516-9522 (US 88155) (A); 20080009523-9529 (US 88156) (A).

4211. A Philip Morris report entitled "Starter Profile and Their Regular Brands" provided data from 1989 to 1991 for "starters" who were "under 25." The report stated that in 1989, 82% of total "starters" were under the age of 25. 2504018410-8423 at 8411 (US 27965) (O); 2504018424-8429 (US 27966) (O).

4212. Philip Morris's 1989 Proposed Budget earmarked $80,000 to "Understand the Group Dynamics of Smoking Behavior and Brand Choice" including "entry brand choice." 2060393130-3189 at 3145 (US 20504) (O).

4213. A "Schedule of Product Placement 1987-1989," apparently drafted in 1989, listed a number of movies in which Philip Morris cigarettes and other products, such as neon cigarette

advertising signs, were supplied to movie studios for product placement in fil This list included such movies as "Disorderlies," "Robocop," "Tapeheads," "K-9," "Crocodile Dundee," and "Who Framed Roger Rabbit." 2025863632-3635 (US 20420) (O).

4214. On February 24, 1989, John A. Kochevar, Vice President Corporate Affairs at Philip Morris wrote to Representative Thomas A. Luken, detailing the product placement of Philip Morris cigarettes and marketing materials in movies from 1979 to 1989. Kochevar wrote: "During the preceding 10 years, when approached by filmmakers, Philip Morris U.S.A. has occasionally provided free cigarettes and promotional materials such as brand name signs, and in a few instances, apparel promoting the film. On such occasions, the script for the film in question has provided for one or more scenes in which smoking or related products were to be depicted." According to Kochevar, during that ten year period, Philip Morris "employ[ed] independent film industry consultants to review scripts submitted by movie producers and script writers and to advise us" and "provided signage and cigarettes for an average of 17 films per year," as well as making a $5,000 contribution to the Sylvester Stallone Fund for Autism. 2025863700-3702 at 3700-3701 (US 87790) (O).

4215. In a May 18, 1989 letter to Representative Luken, Kochevar admitted that Philip Morris had provided cigarettes and period cigarette advertising signs for "Who Framed Roger Rabbit" in 1988, and had provided cigarettes for "Crocodile Dundee" in 1986. 2023326334-6340 at 6339-6340 (US 20387) (O).

4216. A May 12, 1989 Philip Morris document entitled "Marlboro Brand Review" contained a discussion of Marlboro issues, performance, and strategy: "Major strategic shifts are not recommended for Marlboro. Our plans, in fact, have become even more focused on appealing to the core young adult male user and reinforcing our strong male, full flavor brand

image. Further, Marlboro's position against competitive threats will be offensive not defensive." Regarding the threat of Camel, the document stated: "Camel has perhaps the strongest flavor, most male image of any cigarette in the industry. This equity is being effectively leveraged with the bold, young 'smokin' Joe' advertising and promotion effort, an effort which taps directly into the young male headset – have fun, get wild, and be macho. **The campaign limitation may be that it can't support the franchise as it ages because the message is so young**." To meet Camel's threat, the document discussed a potential new advertising campaign, in addition to the traditional Marlboro advertisements, which would be "designed to appeal specifically to the young, adult male; ads which are strong in subject and tonality thereby reinforcing our core position." 2025871433-1506 at 1434, 1438, 1440 (US 22054) (O) (emphasis added).

4217. Leo Burnett prepared a September 22, 1989 report for Philip Morris entitled "Young Adult Smoker Target: An In-Depth Look" which examined the values and goals of the 18-24 year old age group who are "now key to PM (Philip Morris) target," and described the "young adult smoker" as a "**moving target in transition from adolescence to young adulthood**." 2048677983-8044 at 7984-85, 7987, 7994, 8037 (US 22336) (A) (emphasis added). Although Michael Mahan, Vice President for Marketing and Sales of the Asia Pacific Region for Philip Morris, testified he assumed, based upon the terminology "young adult smokers," that this document only meant 18 to 24 year olds, Mahan admitted that "adolescents" are 13, 15, 16, and 17 year-olds. Mahan PD, United States v. Philip Morris, 5/31/02, 89-91.

4218. In internal Philip Morris correspondence dated October 25, 1989 from Cathy Lieber, Philip Morris Manager of Promotions, to David Dangoor, Executive Vice President, Lieber wrote: "[W]e are naturally more interested to learn how you plan to target the emerging young adult female smokers rather than the older female smokers." 2504034812-4813 at 4812

(US 20570) (O).

4219. The "Philip Morris USA R&D Strategic Plan, 1991-1995," written in 1990, stated: "A review of Marlboro demographics is also a review of the 18-25 year old age group. . . . [I]n 1989, Marlboro's share of that smoker group was in excess of 60%. The brand's strength since 1977 has been in that age group. . . . **[T]he continued success of this brand depends on keeping its age profile young. This fact then would say that we do not want Marlboro or the Marlboro image to be old. Its success through the years have been its ability to attract the entry smoker.**" 2026230097-0713 at 0211 (US 20423) (A) (emphasis added).

4220. A Philip Morris presentation entitled "Reasons for Considering Camel as a Serious Competitor," apparently drafted in 1990 or 1991, stated that "Camel is becoming younger." The presentation cited market share statistics showing "in the past three years, Camel's share of adult college smokers almost doubled" and named Camel's growth among youth as the key reason Camel had to be taken seriously. 2043982154-2167 at 2155, 2159 (US 20452*) (O).

4221. A report dated August 7, 1990 entitled "New Brand Opportunities in the Cigarette Industry" was written for Philip Morris by Gibbons, Voyer & Associates. The report found that 17-19 year olds comprise 18.9% of smokers. It stated "Marlboro dominates young adult smoker market: initial exposure, peer pressure, meets image wants." It recommended that any marketing approach "insure that Philip [Morris] has a brand entry to meet the various wants of young adult smokers: image, product, price." 2049397333-7369 at 7343, 7348, 7350 (US 20486) (A).

4222. Jeanne Bonhomme, Manager of Consumer Research at Philip Morris, and Karen Eisen, a marketing researcher at Philip Morris, wrote a February 6, 1991 memorandum to James Taylor, Brand Manager, New Products at Philip Morris, entitled "Marlboro/Camel Consumer Research" which discussed research comparing the advertising and images of Camel and

Marlboro among 18 to 24 year old male Marlboro and Camel smokers. Respondents were asked whether various descriptive statements fit the Marlboro Man and Joe Camel, including whether these characters were "[r]ugged and [m]acho," "independent," "rebellious," "cool/hip," and whether they were someone that "I'd be friends with." When asked what the Marlboro slogan "Come to Marlboro Country" means, most respondents responded that it meant to "smoke/try/switch" to Marlboro. 2045732054-2074 at 2054, 2057-2058 (US 20465) (A).

4223. An April 29, 1991 speech given by Carolyn Levy, then Director of Philip Morris Consumer Research, discussed the marketing research conducted on Marlboro Medium, a Marlboro extension created in order to compete with the market success of Camel. 2044957040-7047 (US 85183) (A).

4224. Handwritten notes taken by Levy dated May 2, 1991 related to a Philip Morris project researching consumers' thoughts about cigarettes. Levy's notes stated: "Smoking is a social ritual which enables us to express and reaffirm our self-image by reactivating the **initiation into adulthood**. This taboo is for you, Playing with fire, Forbidden fruit, U.B.U., Badge of honor, It hurts so good, Dare to be me, The rite to be me." 2062145828-5833 at 5828, 5833 (US 85184) (A) (emphasis added). In her testimony at trial regarding this document, Levy acknowledged that "Philip Morris knows that cigarettes are one of the things that adolescents use in their transition from childhood to adulthood," based both on this research and on published literature. Levy WD, 50:2-51:21.

4225. The "Philip Morris Draft Marketing Plan (1992-1996)" stated: "To sustain growth during the plan, Marlboro must maintain its strength among young adult smokers." 2021508238-8284 at 8239 (US 20347) (A).

4226. During a 1992 presentation to analysts regarding Philip Morris's 1993 plans,

Michael Szymanczyk, then Senior Vice President of Sales at Philip Morris, stated: "To protect our premium volume we plan to continue focusing our marketing and retail sales efforts on Marlboro. Its younger smoker base and ability to retain its smokers mean that its profit stream has a longer time horizon than any other brand in the industry." Szymanczyk also stated that, "The average age of adults who smoke our brands is seven years younger than the average age of our competitors' smokers." 2046569094-9117 at 9105, 9115 (US 20470*) (O).

4227. "The Viability of the Marlboro Man Among the 18-24 Segment" dated March 1992, prepared by Bruce Eckman, Inc. for Philip Morris, made recommendations for Marlboro advertising in light of Camel's success. Eckman recommended that "to reduce the effectiveness of the Camel advertising with the 18-24 segment, Marlboro should consider: a) capitalizing on the strength of being the number one brand; make the users feel that they belong to a special group of smokers through point of sale which reinforces being number one; b) increasing the breadth and variety of the Marlboro Man advertising campaign without sacrificing the strength of his integrity[:] 1) show him not only at work, but also at leisure, . . . 2) show him enjoying the benefits of his chosen path, . . . 3) show him in charge . . . and desirable in magazines where he could be pictured with a woman, . . . 4) consider using a copy line to direct the visuals, [and] . . . make him more accessible and less removed." 2045060177-0203 at 0178, 0180 (US 20459) (A).

4228. In an April 1992 presentation to the Board of Directors, David Dangoor, Senior Vice President of Marketing at Philip Morris International, explained how the race car drivers pictured in Marlboro advertisements represented a "contemporized" and "relevant" Marlboro man:

> We are in constant search for more contemporary ways to convey the 'west' with more appeal to young adult smokers. Auto racing is one such avenue. Our drivers symbolize the modern day cowboy and the advertising support creates more relevance for today's

> consumer. . . . Marlboro's positioning remains strong and relevant. Its advertising whilst effective, needs careful attention to maintain its appeal to young adult smokers. We must continue to compete effectively at retail with more image enhancing promotions.

2045068451-8470 at 8456, 8460 (US 23931) (O).

4229. Philip Morris's "Marlboro Brand Review" dated April 12, 1992 analyzed Marlboro's past share growth and predicted future patterns. The document stated that, while Marlboro Red King Size and Marlboro Lights King Size had shown steady growth from 1989 to 1992, this growth "has not however compensated for the loss from the Red parent brand" which showed declining sales. The document discussed marketing strategies aimed at a key type of Marlboro consumer, the CHIMP, defined as 18-24 year olds who are "young, self-confident, socially-active." 2501081089-1104 at 1093, 1094 (US 20560*) (O).

4230. A document entitled "PM USA Business Update" dated October 8, 1992 stated that Philip Morris "faces two significant negative trends. The growth in discount cigarettes is reducing our premium sales and we are not obtaining our historic share of entry-level adult smokers." In order to "[a]ssure PM USA's long term prospects by obtaining our historic share amongst entry-level adult smokers," Philip Morris must:

> Contemporize all Marlboro creative with more arresting promotional advertising like Adventure Team and racing; Develop the Marlboro Adventure Team and similar high quality continuity programs into long term affordable promotion in C-stores [convenience stores]; Reinvigorate Marlboro Medium with stronger and more relevant advertising; Develop an alternate mainline campaign to Marlboro Country/Cowboy; [and] Relaunch Bucks, including a lower priced box, with an irreverent advertising campaign meaningful to the young adult smoker.

2046569728-9731 at 9728, 9729-9730 (US 20471) (A).

4231. A December 1992 Philip Morris document entitled "Motorsports Sponsorship Marketing Review" discussed the marketing of Marlboro to 18 to 25 year olds. The document

stated: "Motorsports Overall Objectives . . . To look at current and new program opportunities to extend our reach with starters and young adult smokers . . . . Formula 1 Marketing Strategy – Media: Focus on TV, cinema, and innovative outdoor campaigns; explore new programming, eg., MTV." As discussed above, racing-themed promotion was one marketing tool recommended in the October 8, 1992 "PM USA Business Update" to obtain Philip Morris's "historic share amongst entry-level adult smokers." 2501058650-8680 at 8658, 8667 (US 21702) (A); 204656728-9731 at 9728-9729 (US 20471) (A).

4232. According to the "Philip Morris USA 1994-1998 Plan Overview," Marlboro had approximately a 60% market share among young adult smokers in 1993, and Philip Morris understood that "Marlboro's favorable demographics are the key to long term growth." This share of young smokers was disproportionate to Marlboro's overall market share of 42%. 2071032180-2206 at 2181, 2185, 2187 (US 21964) (O).

4233. A July 1993 report entitled "Marlboro Adventure Team Image Study" showed that Philip Morris was pursuing the Marlboro Adventure Team promotion, which was one marketing tool recommended in the October 8, 1992 "PM USA Business Update" to obtain Philip Morris's "historic share amongst entry-level adult smokers." 204656728-9731 at 9728-9729 (US 20471) (A).

4234. During a March 26, 1993 speech, Michael Szymanczyk, then Senior Vice President of Sales at Philip Morris, stated, "The fact that there is not a clear discount brand leader among 18 to 24 year old smokers suggests that whoever catches these smokers may be able to retain them over a longer period of time." Szymanczyk further stated that "**we have to maintain our 60 share of young adult smokers, since we know that they are our future**." 2023771556-1604 at 1587-1588, 1603 (US 20395) (O) (emphasis added).

4235. A document entitled "Worldwide Marlboro Monitor: Five Year Trends 1988-1992," written in April 1993 and produced from the files of Philip Morris's Marketing Research Department, stated: "In markets where Marlboro Red's share of young adult smokers has declined, **share of starters was also down. Thus, the ability to attract new smokers and develop them into a young adult franchise is key to brand development**. . . . **Longer-term brand development depends more on a growing share of starters translating into a strong franchise of young adult smokers**. . . . If the young adult smoker franchise is not growing, the brand profile ages over time, which means a smaller proportion of its smokers are in the prime target. As a result, the brand is less visible and impactful among our target smokers and their peer group." 2044895379-5484 at 5389 (US 85185) (A) (emphasis added).

4236. On April 2, 1993, Philip Morris cut the price of the world's best-selling cigarette – Marlboro – by almost 20%. This dramatic price cut came to be known as "Marlboro Friday." Marlboro Friday successfully ended the price war that "discount" (cheaper) brands had been waging on the "premium" brands such as Marlboro. Prior to Marlboro Friday, Marlboro's share of the United States cigarette market, once around 30%, had fallen to 22%. Philip Morris, like the other Cigarette Company Defendants, had responded to the gradually falling volume of cigarette consumption in the 1980s and early 1990s by pushing up prices to maintain profits. Manufacturers of generic cigarettes had held down prices to maintain volume. The widening gap between premium and generic products had been filled by low cost brands. However, Marlboro Friday halted the growth of the discount brand market. By 1994, due to the significantly lower cigarette prices resulting from Marlboro Friday's sharp reductions of the wholesale prices of premium cigarettes, total cigarette consumption stabilized – a reversal of the previous ten consecutive years' of decline. By 1995, Marlboro had regained its lost market share, and

premium and generic prices were rising together. 520879974-9977 (US 87761) (O); Chaloupka WD, 86:6-87:13.

4237. Szymanczyk stated in a speech to Equipment Manufacturers in October 1993: "Marlboro's age profile reveals a brand that has a higher share among each successively younger adult age group. Its share of adult smokers under age 25 is greater than the combined share of all other brands, premium or discount." 2062331315-1324 at 1322 (US 20510) (O).

4238. Philip Morris's "1994-1998 Plan Overview," apparently drafted in 1993, stated that Philip Morris's primary goal was "to deliver predictable IFO growth, cash flow and share growth." The document stated: "Marlboro has over a 60% share of young adult smokers. Its share of the young adult smokers coupled with its ability to retain the loyalty of smokers as they age are Marlboro's largest assets and the foundation of its growth." 2071030043A-0068 at 0043A, 0050 (US 20520) (A).

4239. In 1994, Bob P. Roper, International Vice President of Marketing for Philip Morris, forwarded to Geoffrey Bible, President and Chief Executive Officer of Philip Morris Companies, notes from the Marlboro summit in Monaco. The notes summarized the "key conclusions of our worldwide review of the issues facing Marlboro" and stated: "Generally speaking in Asia, the full flavour segment is declining. . . . Despite that, **Marlboro Red's share of young adults and beginners is up everywhere which is encouraging.**" 2048237361-7370 at 7361, 7366 (US 21987) (O) (emphasis added).

4240. Jeanne Eiban and Linda Schwartz, both in Philip Morris's Direct Marketing Group, sent an inter-office memorandum dated February 9, 1994 to Roy Anise, a Manager in the Philip Morris Market Research Department, proposing "heavy-up name generation options in Region 5 " because of the paucity of information regarding that Region's 21-25 year olds in

Philip Morris's database. The memorandum stated that "Marlboro's goal is to maximize the number of YAM/YAF [Young Adult Male/Young Adult Female] smoker contacts in this geography, and subsequently follow-up with branded direct mail packages to these smokers in order to establish an on-going line of communication." 2061808612-8620 at 8612 (US 20508) (O).

4241. On March 19, 1994, advertising agency Leo Burnett held an internal meeting called "Camp Marlboro" to discuss Leo Burnett's performance on Philip Morris and Philip Morris International business. Geoffrey Bible, Atria's CEO, gave a speech at Camp Marlboro in which he told Leo Burnett that they were the "guardians of Marlboro, working with PM senior management." At Camp Marlboro, Bible indicated that Leo Burnett should "Leverage core values which are attractive to YAMS by portraiting [sic] the full breath [sic] of Marlboro country: Masculinity, Freedom, Limitless Opportunity, Self-sufficiency, Mastery of destiny, Harmony with Nature." After Camp Marlboro, Karen Green, Leo Burnett Planning Director and Senior Team Member, wrote a "Summary of Findings" which indicated that the "**Marlboro brand strengths**" included "**No. 1 brand among starters/**YAS, Brazil, Latin America, **USA**." "Starters" is a term used for those who are starting to smoke, who are most often underage. Dudreck PD, United States v. Philip Morris, 6/21/02, 83:9-107:19; LB0058147-8186 at 8176, 8185 (US 22070) (O) (emphasis added).

4242. The March 24, 1994 plan for Philip Morris's Chesterfield brand prepared by Young & Rubicam for Philip Morris stated: "Smoking enthusiasm is firmly grounded in the emotional connection . . . **[t]he emotional connection – adventure, living on the edge – is the deep basis for category attraction** . . . [l]ater, more rational issues may counterbalance this attraction." Moreover, the plan stated: "Significant choice moments in cigarette smoking tend to

coincide with critical transition stages in life. . . . **Choice of a 'starter' brand [coincides with] [y]outhful conformity/rebellion**." 2500086977-7024 at 6983, 6984 (US 27908) (A) (emphasis added).

4243. The 1994 Revised Marlboro Media Plan dated May 20, 1994, stated that an objective is "to find the most effective and efficient balance of media which reinforce/build brand image among key YAS 21-24." 2060331504-1687 at 1523 (US 20503) (A).

4244. The Philip Morris Continuous Consumer Tracking Survey (also called "Continuous Tracking Survey") is a telephone survey commissioned by Philip Morris and performed by its various market research suppliers. It is an ongoing survey that Philip Morris has conducted since approximately 1980. Until 1988, the survey was conducted approximately twice per year. In approximately 1988, on the recommendation of Carolyn Levy, director of the department handling the survey, the data collection methodology was modified to become a "continuous" study in order to avoid "gaps" in information. The method of calling is a "random digit dialing" procedure, where surveyors call people who claim to be adult smokers and ask them questions about their cigarette brand preferences and their buying behavior. According to Levy's testimony at her June 23, 1998 deposition, "[H]istorically, and we continue to this day, our method is to go for the youngest male who is at home. So the idea was you select the youngest male adult smoker in the household who's home at the time. . . . We try to go to the hardest to find first [the youngest male] if they are there." Questions asked include: the promotions they may have seen or purchased; the cigarette brands they have purchased in the last week; the type of store at which they purchase cigarettes; whether they are saving Marlboro Miles; their knowledge of certain brand images; promotion and advertising awareness; and the number and ages of all smokers in the household. Levy PD, California v. Philip Morris, 6/23/98,

18:18-30:12; Levy WD, 17:18-20:15, 27:2-28:19, 41:7-43:18, 48:4-51:21.

4245. Philip Morris has conducted extensive consumer research to help inform and shape marketing campaigns that appeal to their youngest potential smokers. For example, by its continuous smoker tracking survey in November 1994: (1) Philip Morris determined that Marlboro and Camel are the leading non-menthol brands for male smokers ages 18 through 24; (2) Philip Morris examined the lifestyles and attitudes of 18-24 year old male smokers to explain their brand choices, including their leisure time activities (e.g., hanging out with friends, keeping car looking good, talking on the phone with friends, going to bars or rock concerts), social circles, attitudes about smoking, brand image, and their aspirations and objectives; (3) Philip Morris profiled male Marlboro smokers between the ages of 18 and 24 and compared them with the profiles of Camel male smokers of the same age; (4) Philip Morris determined the Marlboro Brand image among 18 to 24 year old males included: cool, outgoing, popular, outdoorsy, adventurous, and independent; (5) Philip Morris's profile of an 18 to 24 year old male Marlboro smoker was a relaxed smoker who feels unpressured; (6) Philip Morris determined that, unlike Marlboro smokers, Camel smokers were attracted by the individuality of their brand (and the advertising packaging); (7) Philip Morris researched the size of its smoker base and determined that Marlboro male smokers age 18 to 24 made a disproportionately high contribution to Marlboro's total volume comprising 7 million smokers, and accounting for one in five of Philip Morris's total smokers; and (8) Philip Morris determined that smokers 18 to 19 shared a similar racial make-up and that 86% were white males who smoked Marlboro Red. 2048735500-5604 at 5501, 5505, 5508, 5518, 5531-5541, 5543, 5547, 5555 (US 21971) (A).

4246. A report dated November 1994 entitled "Profile of the Young Adult Marlboro Smoker" indicated that in Marlboro Ultra Lights test markets, Philip Morris conducted research

among 18 to 21 year olds to determine whether the test marketing of Marlboro Ultra Lights was affecting the brand image of Marlboro Red and Marlboro Lights. The report found that Marlboro Ultra Lights remained a minority brand in 1994 but was becoming more mainstream. It also found that Marlboro Ultra Lights offered an alternative for young males who were currently smoking Camel, who it profiled as needing to stand out and be different. 2048735500-5604 at 5565-5604, 5563-5564 (US 21971) (A).

4247. On November 29, 1994, Shari Teitelbaum, Director of Marketing and Sales Decision Support for Philip Morris, wrote an internal draft memorandum to Karen Chaikin, Manager of Trade and Business Programs, that summarized and attached the research results of the "Ohio Retailers Study." This memorandum showed Philip Morris's knowledge that underage purchase of cigarettes is frequent. In the memorandum, Teitelbaum concluded from the results reported in an attached table: "It appears that minors attempting to buy cigarettes happen on a fairly regular basis. Approximately 85 percent of retailers say that minors under the age of 18 attempt to purchase cigarettes in their store at least once a day. Of these, more than half say this happens at least three to four times a day, including 16 percent saying this happens ten times a day." This conclusion and the corresponding table were omitted from the final version of the memorandum and attachment, which were sent on December 9, 1994. 2046828693-8693 (US 21802) (O); 2046828694-8697 (US 21803) (O); 2046828612-8615 at 8612 (US 20479) (O) (emphasis in original).

4248. A document entitled "Proposed Script for Marlboro Story," apparently drafted in 1995, traced the development of Marlboro advertising themes from the Marlboro Man to the Marlboro Racing Team and Marlboro Adventure Team. The document indicated that the Marlboro Man represented independence and rugged independence, whereas the promotional

events Marlboro Racing Team and the Marlboro Adventure Team used themes of freedom and adventure. As discussed above, the Marlboro Adventure Team promotion was one marketing tool recommended in the October 8, 1992 "PM USA Business Update" to obtain Philip Morris's "historic share amongst entry-level adult smokers." 2071349278-9281 (US 20526) (A); 2046569728-9731 at 9728-9729 (US 20471) (A).

4249. Philip Morris opposed bans or limitations on self-service display advertising at retail stores which would limit the availability and visibility of their cigarette brands at retail. A Philip Morris document produced from the files of Joshua Slavitt, Director of Policy & Programs for Tobacco, Philip Morris Management Corporation, written in or after 1995, provided talking points in "Opposition to Ban on Slotting Allowances": "Self-service display advertising is an effective means to enhance awareness and encourage loyalty at the point-of-purchase for individual brands among adult smokers. Cigarette racks and promotional displays are positioned to help generate greater visibility and accessibility for adult smokers' favorite brands." 2063018737-8739 at 8737 (US 85164) (O).

4250. In 1995 Philip Morris tracked the smoking preferences of college students through an analysis of College Scan 1995, a telephone study conducted among 3,000 full time college students 18+ years of age in Spring 1995. The Philip Morris analysis stated that "Marlboro's share reached an all-time high (61.4%) in 1995, Camel's share continued to decline, and college smoking incidence . . . historically low, appeared to be stabilizing at about 14%." The analysis also concluded:

> Philip Morris's share of adult college smokers (69.3%) is up in 1995 (+5.3%). The gain is traceable mainly to Marlboro and Parliament. . . . Among full time college students, RJR's share has been declining since the price reduction of Marlboro Friday in 1993. . . . Together, Marlboro and Camel comprise 80.2% of the college market. . . . Marlboro's growth has come largely at the

> expense of Camel and Salem. . . . Marlboro has reached all time highs among . . . 18-19 and 20-23 year old adult full time college students. . . . Camel has declined among . . . 18-19 and 20-23 year old full-time college students.

2040171445-1455 at 1445, 1446 (US 37478*) (O).

4251. Susan Norris, a fifteen-year Philip Morris employee, testified in this case that during her tenure as a Brand Manager for Marlboro from 1995-1999 she attended "at least one presentation" on Generation X regarding "attitudes, lifestyles, trend, trend changes, trend forecasts as it relates to young adults. I assume younger adults." Norris testified that the presentation was either given by the Philip Morris consumer research department or an outside consumer research department brought in by Philip Morris. Norris testified that the presentation was attended by Philip Morris marketers and employees from the consumer research department. Norris further testified that she attended the presentation because "to the extent that I was working on Marlboro programs or new products, I needed to understand what young adults were thinking. So certainly that would have been important for general knowledge as a marketer." Norris testified that she was unaware of what age groups Generation X encompassed at the time she attended the presentation. Norris PD, United States v. Philip Morris, 7/31/03, 254:12-257:8.

4252. Nancy Lund, Senior Vice President of Marketing at Philip Morris, testified about a study entitled "Metro Area Consumer Retail Study." This study, apparently drafted in the 1990s, was performed by Philip Morris to learn where it should place Philip Morris cigarette products in retail stores to ensure that its products drew the maximum amount of consumer attention. As part of the study, consumers wore eye-tracking glasses while shopping so that researchers could track their eye movements to learn what displays and products drew the most consumer attention in retail outlets. The study found that the best, most visible, point of sale spots were "on the counter, behind the counter or cashier, and on and around the door."

Currently Philip Morris's cigarette displays are consolidated behind the counter at retail outlets, and its point of sale materials are similarly placed. The study also reported that stores that operated under Philip Morris's retail program – Retail Masters stores – provided higher visibility for Marlboro than other cigarette brands. Lund PD, United States v. Philip Morris, 6/27/02, 200:25-203:15; 2073194491-4524 at 4492, 4494 (US 42869) (A).

4253. A February 1, 1995 letter on Leo Burnett letterhead from Esther Terrell Franklin, then researcher for Leo Burnett, addressed to Susan Norris, Marlboro Brand Manager from 1995-1999, delivered an attached study entitled "Insight: A Look at Today's Young Adults." In the letter, Franklin wrote: "*InSight* is part of a larger project, Young Adult Trend Track, initiated by the Philip Morris research group. The purpose of this project is to keep the entire Philip Morris team abreast of the current lifestyles of young adult consumers." Under the heading "Notes from the Editor," Franklin, listed as Editor-In-Chief, explained the purpose of the project: "[t]his booklet (and the editions which will follow) will help you gain a clearer understanding of [Generation X], by giving you a sense of their hearts, their minds, their souls. And by beginning to better comprehend the young adult mindset, advertising to this segment can be truly inviting, impactful and influential." Half of the study's participants were non-smokers. At her July 31, 2003 deposition in this case, Norris was unable to identify what age groups Generation X encompassed in 1995 when she received the study. 2041601887-1931 at 1888, 1889, 1891 (US 38213) (O); Norris PD, United States v. Philip Morris, 7/31/03, 238:25-250:6.

4254. A presentation dated May 1995 bearing Philip Morris and Young & Rubicam insignias entitled "'Creative Frame' Discussion Guide for 1996 Creative Direction" depicted the dynamics involved in smokers' cigarette brand switching over the course of their lives. Under the heading "Understanding the 'Breakaway Brand' Window of Opportunity - Choice Dynamics

Evolution," the presentation stated that "significant choice moments in cigarette smoking tend to coincide with *critical transition stages in life*." The document listed the following life transition stages:

Choice of a 'starter' brand	----->	Youthful conformity/rebellion
'Breakaway' brand	----->	Early maturation: individuation and self-assertion
Choice of 'mature' brand(s)	----->	Later maturation: self management/trade-offs

The document reported that choice dynamics are determined by four factors, which were depicted as three quadrants divided by the following: "Group Identity" and "My Identity" from left to right and "Smoking Enthusiasm" and "Smoking Compromise" from top to bottom. Handwritten notes on the document described the representation as a "Consumer Lifecycle" and noted that "can be analogized to product life-cycle." Describing smokers characterized by the upper left quadrant of "Group Identity" and "Smoking Enthusiasm," the document stated: "Issue: Rebellion/Conformity," "Smoking involved," "Attracted to category center of gravity," and "Preoccupied with peer approval." This quadrant was identified as the transition stage in which consumers choose a "Starter Brand" 2071443747-3788, 3749, 3767, 3768-3772 (US 40459) (O) (emphasis in original).

4255. In 1995, Philip Morris decided to attempt to expand its Virginia Slims target audience, previously age 25-44, to include younger women aged 18 and older. As the series of research reports below demonstrate, Philip Morris conducted marketing research itself and also contracted with third parties for research on women 18 plus. The "Regional Analysis of 18-29 Year Old Women," conducted by Roper Starch for Philip Morris, described the new target group

as having the "psychographics" of being in transition to becoming independent, getting their first real job, moving away from home, finishing school, and establishing themselves as individuals. 2045812333-2387 (US 38490) (A). Focus group research on women age 18 to 24 conducted for Philip Morris explored whether an attitude of independence would appeal to these women. 2063684453-4480 (US 39819) (A). A Roper Starch Report prepared for Philip Morris USA dated June 1995 entitled "You've Come A Long Way Baby, But Where Are You Going Now?" analyzed the behavior and attitudes of 18-29 year old females. 2045812333-2387 (US 38490) (A). A June 29, 1995 memorandum from Suzanne LeVan, Vice President of Premium Brands, discussed attracting these younger smokers from the brands they currently smoked, Marlboro, Winston, and Camel. 2063684304-4306 (US 70272) (O). To effectively reach these smokers, Philip Morris conducted qualitative research "to understand the attitudes that are relevant to switching from a . . . herd brand to a non-herd brand and to . . . explore both product and imagery associated with those two categories of brands and to provide input on new product concepts that might be available for Virginia Sli" LeVan PD, United States v. Philip Morris, 6/25/02 148:12-18; see also 2063684338-4340 (US 39817) (O).

4256. On June 23, 1995, Nancy Lund wrote a memorandum to Marian Wood, a Philip Morris research analyst, forwarding and summarizing a report from Marketing Perceptions, a marketing research contractor for Philip Morris, entitled "Marlboro Women." Marketing Perception had undertaken a qualitative research study in June 1995 to determine how female Marlboro smokers perceive the Marlboro brand image. The results of the research study showed that Marlboro successfully conveyed an aggressive, bold, adventurous, independent, and confident image. This study also concluded that the continuity programs reinforced this Marlboro brand imagery. 2071580565-0566 at 0565-0566 (US 20528) (O); 2071580567-0605 at

0596, 0601-0605 (US 40489) (O).

4257. A July 1995 Qualitative Research Report prepared for Philip Morris entitled "'Settled' Women's Issues" sought "[t]o understand changes in lifestyle or attitudes which may prompt switching from a 'herd' brand to a 'non-herd' brand." The study found that "many herd brand smokers admitted that their brand selection was based on the overall 'popularity' of the brand and its acceptance by peers." "Herd brand" is a term used at Philip Morris for the few brands such as Marlboro, Camel, and Newport that are selected by the majority of teenagers when they begin to smoke. 2063684341-4371 at 4342, 4344 (US 39818) (A); see also 2072047214-7216 (US 24585) (O) (referring to "herd" brand smokers).

4258. Using this research, Philip Morris designed a new campaign "It's a Woman Thing" and a bar program aimed at women aged 18 and older; this campaign was launched after June 1995 and successfully increased Virginia Slims's share of women ages 18 to 24. A set of talking points for a presentation given by CEO Michael Szymanczyk in late 1998 or early 1999 referred to Virginia Slims's growth of market share among women 18 to 24 in 1997 or 1998 and stated: "Virginia Slims growth among women 18 to 24 years old driven by new 'It's a Woman Thing' campaign and 'Dueling Diva's' bar program." 2070672027-2027 (US 85189) (O); LeVan PD, United States v. Philip Morris, 6/25/02, 176:9-178:12.

4259. A July 5, 1995 Philip Morris internal memorandum from Jay Schwartz, a senior analyst in Philip Morris's Consumer Research Department, regarding "College Scan - Spring 1995" and was sent to various Philip Morris employees, among them Suzanne LeVan, Vice President of Marlboro. The memorandum stated that College Scan, a nationally projectable telephone study of college students age 18 plus regarding their smoking habits, incidence rates, and brand choices, was conducted during April and May of 1995. 2040171445-1455 at 1445

(US 37478*) (O), 1/10/05 (LeVan). While discussing the "College Scan" document, LeVan testified that she agreed with the statement: "Marlboro scores by far and away the highest in terms of brand usage and smoking incidence . . . " among 18 year olds. LeVan PD, United States v. Philip Morris, 6/25/02 185:19-22.

4260. From data obtained in part from its continuous tracking survey and in part from other qualitative and quantitative research performed by Philip Morris in August 1995 through its contractor Marketing Perceptions and used by the Marlboro Brand Group, Philip Morris is aware that young females (starting at age 18) comprise a larger part of the Marlboro franchise compared to total Philip Morris brands. Thus, Philip Morris continued to conduct research starting at age 18 into consumers' perceptions of its brands' images to ensure the effectiveness of its marketing campaigns with young consumers. 2045596130-6141 (US 20462) (O); LB0175849-5934 (US 33731) (O).

4261. Philip Morris solicited research proposals for national consumer research to profile the demographics, lifestyle, world view and culture, and entertainment and media consumption of young people between the ages of 18 and 24 living in urban areas. 2045592699-2709 (US 38434) (O).

4262. In a September 19, 1995 Philip Morris memorandum entitled "Parliament Lights Menthol Blind Tasting," authored by Melissa Jeltima, a Philip Morris scientist, and addressed to Shelby Rafferty and George Yatrakis, Jeltema wrote that: "**Interest in this product will likely come from a variety of sources, including new smokers**." 2051835270-5271 (US 38803) (O) (emphasis added).

4263. A 1996 Philip Morris document, "The Importance of Promotional Display Visibility, Location, and Call-out . . . A Selling Story," discussed the use of POS promotions to

attract "new" customers. The document discusses various POS promotions including: "Outdoor (banners) to impact new or potential customers . . . Indoor to increase consumer awareness and understanding of offer." Effective promotions positively affect sales: "When the offer is effectively communicated to the consumer such that value is perceived . . . the promoted product will typically sell faster than non-promoted product!" 2072953301-3316 at 3302, 3314 (US 42434) (O).

4264. A Special Roper Reports Analysis dated January 1996 entitled "'Talkin' About My Generation:' An Examination of Generation X" discussed the Roper organization's study of the purchasing behavior of Generation X, those born between 1966 and 1985. The analysis was prepared for Philip Morris and presented to a group of Philip Morris Brand and Consumer Research employees. 2047130104-0170 (US 38583) (A).

4265. In a May 22, 1996 "CPC New Products" speech, Bob Mikulay, Senior Vice President for Marketing at Philip Morris, stated, "The final area for review today is the young adult smoker. While these 18-24 year old smokers currently represent only 13.9% of all smokers and 11.1% of industry volume, they are absolutely critical to our future. Because brand loyalty in the industry is high and adult smokers tend to retain their brand as they age, the ability to attract and retain these smokers signals the industry's leaders in future years. Marlboro is the clear segment leader with a young adult smoker share of over 62% . . . . Newport is the #2 YAS brand, with a smoker share of 13.1%. Camel is #3, at a 10% share of YAS. Because of the segment's importance, we will aggressively defend Marlboro's position as the competition's future is dependent on penetrating this category." 2041518797-8956 at 8819-8820 (US 23907) (O).

4266. A July 22, 1996 Philip Morris USA memorandum written by Susan Kaufman to various employees at Philip Morris USA and Leo Burnett stated that "YAMS continue to be a

key smoker group for the Racing equity" and "Racing speaks strongly to YA" 2072516263-6267 at 6263 (US 41558) (A).

4267. A 1996 telephone study produced by Philip Morris USA surveyed 850 smokers on "the appeal of racing in key demos in order to assess its viability as a national marketing equity." The study concluded that "[r]acing imagery and Marlboro 'fit' on a number of levels" because racing "[o]verlaps core imagery of confidence, determination, masculinity, independence and control. . . . Reinforces Marlboro's status as a popular, worldwide brand. . . . Lends an upbeat tone of excitement, competitiveness, dynamism, challenge and 'edginess' to brand image [and] Provides relevant, aspirational but obtainable images." Additionally, "traits associated with the drivers are consistent with those often mentioned for the cowboy – masculinity, confidence, strength, determination, independence and skill." In sum, "[r]acing as a communication vehicle (i.e. calendar, newsletter, advertising) has strong national potential, particularly among YAS by communicat[ing] values of masculinity, independence and strength . . . excitement . . . color and cutting edge modernism to the base image." 2072475100-5149 at 5102, 5122, 5123, 5148 (US 85191) (O).

4268. Philip Morris recognizes the importance of product promotion at retail to increase the volume of cigarettes sold. A Philip Morris document planning retail promotions for 1996 entitled "The National Promotion Process" stated "Promotions are critical to growing PM volume & share and a key element of Category Management. Placing the right promotions in the right stores, at the right time and effectively communicating the offer to the consumer will . . . strengthen brand image & awareness . . . increase volume . . . [and] increase share." 2072953660-3671 at 3661 (US 42460) (O).

4269. A 1997 "Marlboro Metro Market Plan" tracked "Marlboro Share of Young Adult

Smokers (18-24)." 2073966872-6883 at 6875 (US 70637) (A). A 1997 presentation entitled "The Metro Plan Overview & Update" noted that "Marlboro is underperforming in Metropolitan areas." To reverse this trend, "Metro Marketing Goals" were set for "Marlboro Leadership [in] retail presence . . . market share . . . [and] share of young adult smokers." By adopting a "Tailored Marketing Plan" with "promotions . . . POS - new & breakthrough . . . [and] merchandising display" the brand would "[e]stablish the POS 'Look' consistent with brand strategies" and "[s]ell and place product, and incentive promotions . . . to increase . . . volume & share store by store." 2063007459-7477 at 7460, 7464, 7465, 7466 (US 70269) (A).

4270. Prior to the MSA, Philip Morris had a leadership program in outdoor (billboard, transit, and stadia) advertising that was designed to get "great locations on great expressways." Camisa PD, United States v. Philip Morris, 6/1/02, 115:20-117:2.

4271. Philip Morris focused its efforts on retail visibility – making its brands highly visible at convenience stores – because its own consumer research indicated that most young people visit and purchase their cigarettes at convenience stores. The 1998 "Generation X/C-Store Study" conducted by Philip Morris explored 18 to 25 year olds' "Attitudes about Convenience Stores . . . Behaviors related to Convenience Stores . . . How they perceive the Convenience Store visit." The study determined that: "Most of these young adult smokers routinely visit and purchase cigarettes almost exclusively at C-Stores." It also found that "Few among these young adult smokers are carton buyers, and most do not want to be carton buyers." 2082512930-2986 at 2931, 2935, 2986 (US 45497) (A).

4272. In 1998, Philip Morris USA was concerned that its share of so-called "young adult smokers" was declining. In order to counteract its dropping share of so-called "young adult smokers," Philip Morris launched new Retail Visibility and Bar Event Programs, as well as

related magazine and newspaper advertisements with the purpose of increasing Marlboro's "perceived popularity." In a June 1998 "Metro YAS Tracking Study-Pre Wave" Philip Morris stated: "To counteract the softness in Marlboro's share among young adult smokers, retail visibility promotion programs and bar event programs were launched in selected areas beginning in May 1998. The programs were implemented to increase Marlboro's top-of-mind awareness and perceived popularity. In addition, they are designed to improve the brand's relevance by increasing its association with YAS' lifestyles and self images in these Metro areas." Additionally, the document noted that "**Point of purchase is the key source of brand visibility.**" 2071693599-3614 at 3600, 3608 (US 24574) (A) (emphasis added).

4273. An internal Philip Morris memorandum dated June 29, 1998 from Natalie Ellis, then a consumer researcher for Philip Morris, to a distribution list of Philip Morris employees discussed and attached the results of the above referenced Tracking Study. In the memorandum, Ellis reported: "**Seventy percent of the smokers surveyed thought Marlboro was the most visible brand at the store where they buy cigarettes most often.**" The memorandum further stated that "**[p]oint of purchase is the key source of brand visibility**," more so than magazines, bars or clubs. Under the heading "Description of Marlboro Signs/Posters at Point of Purchase," the Tracking Study further found: "Young adult smokers, particularly males, noticed the Marlboro Man most at their point of purchase in the past three months." Under the heading "Brand Image Baseline," the Tracking Study ranked in order of consumer opinion phrases which describe consumers' perceptions of the Marlboro brand image, including the following: "Most popular brand," "Brand my friends would smoke," "For someone my age," "Advertises more than most other brands," "Growing in popularity," "Social," and "Trendy." When asked why it is important that Marlboro be perceived as a "Brand my friends would smoke," Susan Norris

testified that for Marlboro,

2073056226-6242, 6226, 6236, 6237, 6240 (US 42807) (O) (emphasis added); Norris PD, United States v. Philip Morris, 7/31/03, 227:10-238:10 (Confidential).

4274. Philip Morris tracking found that its summer 1998 Retail Visibility and Bar Event Programs successfully increased the perceived popularity of Marlboro. A September 1998 "Metro YAS Spending Study – Post-Wave I" stated that: "Awareness levels for Marlboro promotions noticeably increased after the Retail Visibility Program was implemented. . . . All smokers report seeing more Marlboro advertising in bars and Marlboro smokers are seeing more advertising in local publications. . . . In the medium spending markets, the Brand's programs succeeded in bumping up Marlboro's perceived vitality. . . . [and] Young Adult Smokers perceptions were strongly affected [in the perceived increase in popularity of Marlboro]." LB0170038-0053 at 0038, 0042, 0044, 0050 (US 25906) (O).

4275. An October 6, 1998 letter from Natalie Ellis and copied to Philip Morris's advertising agency, Leo Burnett, detailed the findings of Metro YAS Tracking studies, that were instituted to "measure any changes in brand visibility and perceived brand popularity before and after the summer Metro and bar progra" Ellis wrote that one key finding was: "smokers in this study were most likely to recall seeing advertising at retail, followed by magazines, local nightlife oriented publications and in bars and clubs. Marlboro enjoys a clear advantage at POS and in magazines." The letter attached September 1998 the "Metro YAS Tracking Study, Post Wave I, Final Report." The report stated that, at least as recently as 1998, Philip Morris launched nationally in urban metro areas retail visibility, promotion, and bar programs to counteract the decrease in Marlboro's share among so-called young adult smokers, to increase Marlboro's "top-of-mind" awareness and "perceived popularity." In testimony in this case, Philip Morris Senior

Vice President of Marketing Nancy Lund confirmed that these programs were launched "to increase [Philip Morris's] share of young adult smokers." LB0170036-0037 (US 25905) (O) ; 2073056243-6263 at 6243, 6245 (US 21818) (O); Lund PD, United States v. Philip Morris, 6/27/02, 195:23-196:13; 2072353137-3148 (US 87799) (O); 2072353198-3109 (US 87800) (O); 2072353085-3096 (US 87801) (O); 2072353124-3135 (US 87802) (O); 2072353111-3122 (US 87803) (O).

4276. In a January 5, 1999 speech, Shelby Rafferty, who for approximately eight years was responsible for marketing Philip Morris's Parliament brand, stated with respect to the target market for the national launch of Parliament: "I have talked a lot already about who the audience is . . . Camel, Winston and Newport . . . but why these three brands? And I think that can be summarized in a few words . . . they are all vital and growing . . . particularly among young adult smokers." 2081804781-4820, 4786 (US 45449) (A).

4277. A new Marlboro promotion called "Cowboy's Place," created by Philip Morris's advertising agency, Leo Burnett, for Philip Morris's Marlboro brand was described in a document dated February 2, 1999. The document acknowledged that Marlboro's traditional advertising image "plays on the '**approaching adulthood**' side . . . [featuring] independence," and compared that to the "competition" - specifically, Camel and Newport - whose advertising "plays on the 'being young (adult)' side . . . [featuring] sociability, nightlife, partying, fun-loving, experiencing the moment." Leo Burnett recommended that the "Cowboy's Place" promotion feature the themes of sociability, spontaneity, and partying usually featured by Camel and Newport. Leo Burnett promised that "Cowboy's Place" would provide the "**[o]pportunity for Marlboro to own** '**the road to adulthood**.'" LB0090212-0230 at 0216, 0217, 0218 (US 33211) (A) (emphasis added).

4278. A Leo Burnett document entitled "Virginia Slims - Stuck in the Seventies" establishes that Philip Morris initiated the "Find Your Voice" campaign in 1999 to make Virginia Slims more appealing to younger women. The document stated that "Find Your Voice" advertisements "will begin running in December 1999 publications" and predicted subsequent "volume growth" for Virginia Slims cigarettes. LB0131023-1026 at 1023, 1026 (US 33402*) (A).

4279. A presentation deck entitled "Philip Morris Portfolio Management Discussion," stated as its "underlying premise" that "[t]he smokers you have are the smokers you are most likely to keep." 2070648930-8964 at 8954 (US 24534) (O). Suzanne LeVan testified that this presentation was given to Philip Morris employees on June 25, 1999 by Michael Peters from the Leo Burnett Company. LeVan confirmed that "brand loyalty," as captured by this presentation, was a concept that was frequently internally discussed at Philip Morris. LeVan defined "brand loyalty" by referring to an idea included in the presentation: "that premium tobacco brands and smokers are very highly loyal and that they don't switch brands very often." LeVan PD, United States v. Philip Morris, 6/25/02, 225:3-228:12; 229:4-230:11.

4280. A draft presentation dated August 6, 1999 bearing Philip Morris and Young & Rubicam insignias entitled "Life after Launch: Parliament Creative Development and Photoshoot for Year 2000" depicted a transition experienced by smokers from "Group Identity" to "My Identity." According to the presentation, smokers in the "Group Identity" stage are confronted with the issue of "Rebellion/Conformity" and are "[p]reoccupied with peer approval" and "[h]ave experienced 'starter' brands." The presentation reported that it is during this stage that smokers choose their "first usual brand." The presentation listed Parliament's audience as "YAS - Marlboro outswitchers to Camel, Winston & Newport" as well as "regular Camel, Winston &

Newport smokers." Under the heading "Creative Framework," the presentation listed that the goal for Parliament was to "[c]reate a place that connects with YAS on an emotional level." 2080490740-0774, 0746-0747, 0760, 0765 (US 70717) (A).

4281. After negotiating and entering the MSA in 1998, Philip Morris increased its media presence in 1999 by placing more advertisements both in magazines with smaller but comparatively young readership and in magazines with larger but comparatively older readership. Philip Morris's December 23, 1999 "Marlboro Mainline Media Plan" stated that Philip Morris placed 28% more advertisements in magazines aimed at its "primary audience" which it called "YAP [Young Adult Progressive]." Philip Morris continued to advertise in "lower priority audience titles (Older Adult Smokers)" because these magazines acted as "'reach boosters' among YAS audience." 2071230813-0888 at 0835-0836 (US 40404) (A). Philip Morris increased its spending on placing advertisements in media in 1999. 2085313660-3660 (US 85193) (O).

4282. Philip Morris's 1999 "Marlboro Marketing Mix Monitor" compared "the profiles of 7 key marketing equities: Advertising . . . In-Store Advertising . . . ROP/Bar Nights . . . Party at the Ranch . . . Racing School . . . Marlboro Menthol . . . [and] New ways to use Miles." The report concluded that: "Marlboro's core product imagery remains rooted in quality, popularity and flavor. The brand's personality is popular, outdoorsy, adventurous, active and a leader. . . . Female smokers think of Marlboro as popular and sociable." The report further concluded that marketing at retail (POS) acted similarly to print advertising to communicate Marlboro's "personality." It stated: "[a]ttribute and personality communication of print and POS is very similar" and "POS acts like print advertising." 2073970989-1050 at 0991, 1049, 1050 (US 24685) (A).

4283. An April 14, 2000 memorandum from Michael M. Cassidy, an employee of Philip

Morris, to various Philip Morris employees entitled "YAM Scan II-Final Presentation Summary" discussed "[w]hat is happening with young adult males." The memorandum indicated that, based on a series of focus groups conducted with males aged 19-24, young adult males choose a cigarette by considering a brand's imagery and the associations attached to a brand, and pick the brand to match the image they want to portray at that moment. The memorandum further confirmed that Philip Morris extensively studied perceptions of its brand image for Marlboro, Marlboro Lights, and Marlboro Ultra Lights. 2080985436-5438 at 5436 (US 45363) (A).

4284. A September 2000 Philip Morris document entitled "Marlboro Bar Program 2001" stated that the purpose of the Marlboro Bar Program was to: "[c]reate news at the local level among YAS . . . [by] [i]ncreas[ing] visibility in bars." In furtherance of this goal, Philip Morris "[c]ontracted with 2687 bars in 62 markets . . . . [and] [i]ncreased the wall graphics program from 2457 to 3299." Wall graphics advertising Marlboro cigarettes remain in bars year round. 2701400725-0738 at 0725, 0726 (US 46092) (O).

4285. Contrary to its assertions that the goal of its marketing was to maintain brand loyalty and to get adult smokers to switch to their brands rather than to attract new smokers, as recently as 2001, Philip Morris tracked industry volume of cigarette sales on a weekly basis. One such tracking report showed volume for the current week and the difference from 2000 in both raw numbers and percentages, indicating that Philip Morris was interested in the overall size of the market, not just its share. 2700100027-0057 (US 25647) (O).

4286. Starting in the calendar year 2001, Philip Morris implemented a new marketing strategy called "Focus on Four." This strategy was "a way of focusing [PM's sales force] resources . . . both monetarily as well as manpower . . . on four brands: Marlboro, Virginia Slims, Parliament and Basic. . . . Those brands contribute most to Philip Morris's business objectives . .

. . Parliament is not the largest national market share, but it . . . is a large brand particularly in the Northwest." LeVan PD, United States v. Philip Morris, 6/25/02, 40-43.

PM3000613782-3913 at 3879 (US 88647) (A); PM3000540103-540118 at 0111 (US 88649) (A) (Confidential).

4287. In a June 28, 2002 email to, among others, Nancy Lund, Senior Vice President of Marketing at Philip Morris, Marlboro Vice President Suzanne LeVan reported "specifics from the conversation" she had that day with CEO Michael Szymanczyk regarding RJR' Camel Turkish Royale line extension and associated promotions. LeVan stated that, in her opinion, Camel's Turkish Royale promotion was a "great way to get YAS trial by news & promotion in the marketplace." 2067198070-8071 at 8070 (US 85194) (O).

4288. Shari Teitelbaum, Director of Marketing and Sales Decision Support at Philip Morris, testified that Philip Morris markets its products to smokers 18 years old and older. Teitelbaum testified that Philip Morris continues to conduct extensive research into the preferences of young smokers beginning at age 18, in focus groups, triads, and in-depth one-on-one interviews. Teitelbaum PD, United States v. Philip Morris, 4/16/02, 21:10-17; 23:14-25:19; 77:21-78:25.

4289. Michael Mahan, Vice President of Marketing and Sales of the Asia-Pacific Region for Philip Morris, testified that Philip Morris markets its products to smokers 18 years old and older, and further testified that some of Philip Morris's marketing efforts such as bar night programs are specifically directed toward young adult smokers which he defined as smokers age 18 to 24. Mahan testified that Marlboro's "prime target" is young adult smokers.

Mahan testified that he attributes Marlboro's overall success to the original positioning of the brand, good marketing, and a good quality product. Mahan described Philip Morris's communication strategy for Marlboro as using high-quality visuals and focusing advertising on the core elements of the campaign, which are "Come to where the flavor is" and "Marlboro country." Mahan also confirmed that point of sale promotions in retail stores used by Philip Morris to this day, as well as advertisements on the back covers of magazines used by Philip Morris until late 2000, could be seen by children. Mahan PD, United States v. Philip Morris, 5/31/02, 76-77, 84-85, 186-194, 120:20-122:2.

4290. Suzanne LeVan, Vice President of Marlboro and former Vice President of Philip Morris Premium Brands, is the highest level person at Philip Morris who is responsible for marketing Marlboro. LeVan testified that Marlboro's brand image has not changed since 1954. Marlboro's brand imagery is an "image that portrays quality, freedom, independence, adventure, and the gateway to the American frontier, the American West." LeVan admitted that if there were no new smokers, but only existing smokers, Philip Morris would eventually go out of business. LeVan PD, United States v. Philip Morris, 6/25/02, 124:14-17, 221:10-221:14.

4291. LeVan testified that: "[A]dvertising is a vehicle which . . . had a broad reach, that could in fact reach children, and it certainly reached adults who did not choose to smoke." Id., 261:13-23.

4292. At her June 11, 2002 deposition in this case, Ellen Merlo, Senior Vice President at Philip Morris, admitted that she was aware that Marlboro was the leading cigarette brand smoked by minors, and that Philip Morris has not "taken issue" with this statistic or undertaken to determine whether this conclusion was inaccurate. She also admitted that she was aware that over 80% of smokers start smoking before they turn 18. Merlo PD, United States v. Philip

Morris, 6/11/02, 42:22-45:15, 48:2-48:6.

4293. Notwithstanding its public statements that it intends to market only to adults 21 years of age and older, according to a report entitled

PM3002956620-6692 at 6624, 6692 (US 88650) (O) (Confidential).

(d) Liggett Intentionally Marketed To Youth Contrary To Its Public Statements

4294. Liggett, like the other Cigarette Company Defendants, was well aware of the import of the youth market, and designed its advertising and marketing to appeal to youths. Liggett's Board of Director Minutes dated August 17, 1960 indicate that Liggett purchased advertising time for NCAA football games and that its L&M Filters brand sponsored one of the college football bowl games. The minutes also indicate that Liggett used L&M, Chesterfield, and Oasis brand cigarettes to sponsor a college football contest at 100 colleges. Liggett's Board of Director Minutes dated September 21, 1960 indicate that Liggett's participation in the NCAA college football telecasts "enabl[ed] [Liggett] to attract the attention of the young college audience, a group always difficult to reach." LMIN000001249-1251 at 1250-1251 (US 85195) (A); LMIN00001252-1255 at 1254 (US 85196) (A).

4295. Liggett's Board of Director Minutes dated April 19, 1961 stated that Liggett sponsored television programs such as "Gunsmoke," "The Twilight Zone," and "Dr. Kildare." Liggett also sponsored the television show "Way Out," and in its corporate minutes Liggett stated that such sponsorship "appears to be attracting a young audience which we have had difficulty in

reaching heretofore." LMIN000001301-1304 at 1303 (US 85197) (A).

4296. Liggett's Executive Committee Minutes dated June 4, 1963 indicated that Liggett was advised by R. B. Walker, of the American Tobacco Company, of his surprise that Liggett had contracted for sponsorship participation of the "Jamie McPheeters" television show that featured a 12-year old boy. Walker advised Liggett that advertisement of cigarettes on this program might be questioned since the television show might be viewed by young people. Liggett's Executive Committee felt the idea that advertising on this show would appeal to youth was "far fetched." LMIN000005080-5082 at 5081 (US 87805) (A). Bennett LeBow, Chief Executive Officer of Vector Tobacco and controlling shareholder and Chief Executive Officer of Vector Group, the holding company that is 100% owner of both Liggett, Vector, and Liggett Vector Brands, acknowledged that Liggett went forward with the sponsorship despite the concerns expressed by Walker of the American Tobacco Company. LeBow WD, 65:17-66:9.

4297. On November 2, 2000, Liggett admitted that "it acknowledges that the tobacco industry has marketed to youth, which means those under 18 years of age, and not just those 18-24 years of age." Answer of The Liggett Group, Inc. to Plaintiff's Complaint For Damages and Injunctive and Declaratory Relief, United States v. Philip Morris (served 4/2/02).

4298. Bennett LeBow testified that, "I recall documents indicating that certain tobacco companies had targeted 13 and 14 year olds." LeBow WD, 61:6-13. LeBow also testified that he had concluded, after his attorneys reviewed internal tobacco industry documents and discussed them with him, that certain tobacco companies "had been targeting the sale of tobacco products to those under twenty-one years of age, including to those under eighteen years of age." LeBow WD, 42:2-18. Specifically, LeBow testified:

> Q: I want to ask you some questions about youth marketing. Is it your understanding that the internal industry documents the

> Kasowitz law firm studied and which you reviewed and discussed with Kasowitz attorneys indicated that the United States tobacco industry marketed cigarettes to youths?
> A: Yes. I recall documents indicating that certain tobacco companies targeted 13 and 14 year olds. I don't know where such documents came from and do not recall whether I reviewed or discussed such documents with the Kasowitz firm.

LeBow WD, 61:6-13; 508453918-3920 (US 20812) (A).

4299. LeBow further testified that "if the tobacco companies really stopped marketing to children, the tobacco companies would be out of business in 25 to 30 years because they will not have enough customers to stay in business." LeBow WD, 63:16-64:1. LeBow testified that a conversation with his six-year old grandson in which his grandson identified the fact that LeBow was in the cigarette business with the Joe Camel character, reaffirmed LeBow's belief that the industry marketed to youth, and that something was "dreadfully wrong." Id., 62:19-63:5.

(e) Lorillard Intentionally Marketed To Youth Contrary To Its Public Statements

4300. A July 24, 1963 letter from Shirley Young of Grey Advertising to Richard F. Kieling, Director of Market Research at Lorillard, discussed a Lorillard study which sampled the smoking behavior of students as young as 16 years of age. 89834681-4684 at 4681 (US 21108) (O).

4301. Manuel Yellen wrote a September 15, 1964 memorandum entitled "Lorillard Sales Position" to Morgan J. Cramer, Lorillard President and Chief Executive Officer. In this memorandum Yellen stated that Lorillard marketed Newport as "a 'fun cigarette'. . . . It was advertised as such and obtained a youthful group as well as an immature group of smokers." 01124257-4265 at 4262 (US 20033) (A).

4302. On June 2, 1966 Lorillard sent a letter authorizing Grey Advertising to conduct a "Penetration/Usage/Image" study designed to examine the success of Kent and True marketing.

The letter indicated that the study's results "will be tabulated out for the age cell of 16 thru 20 years, in order that we may analyze this group separately." 89834271-4271 (US 20943) (O).

4303. In 1966 and 1969, Eastman Chemical Products, a subsidiary of the Eastman Kodak Company, conducted extensive surveys of cigarette smoking behavior and attitudes that it provided to Lorillard. The introduction to the first volume of Eastman's 1969 study of cigarette smoking behavior and attitudes provided to Lorillard noted that: "In the 1966 survey group interviews, only adults aged 18 and over were included. . . . However in 1969 a better insight into the habits and attitudes of the younger age groups was needed. . . . So this [group interview] phase of the survey was concentrated on young people ranging in age from 12 to 24 years." 81560431-0496 at 0438 (US 85200) (A).

4304. Also in the first volume of Eastman's 1969 study of cigarette smoking behavior and attitudes provided to Lorillard, Eastman looked closely at smoking initiation behavior of individuals aged 7 to 21. Eastman found that over thirty percent of young males obtained their first cigarette, not from parents, friends or relatives, but from buying it (over 10%), stealing it (over 15%), or making it (nearly 10%). Both boys and girls reported about equally that their first cigarette made them feel grown-up. Among the subset of interviewees 16-24 years of age, nearly 20% of males and over 10% of females reported feeling "big," while nearly 20% of both sexes mentioned confidence and security as reasons why they started smoking. The study also examined regular smoking among youth ages 13 and up. Id., 0454-0455, 0458, 0460, 0465-0471. The The second volume of Eastman's 1969 study of cigarette smoking behavior and attitudes included a survey of the literature published between 1967 and 1969 on the smoking behavior of children as young as 11, as well as teenagers. 81560497-0541 at 0500-0508 (US 85201) (A).

4305. On August 13, 1970, Philip Gaberman, creative director for Robert Brian Associates, was involved in creating a new package design for Lorillard's Kicks cigarettes brand. Gaberman wrote a letter to Professor Charles Seide of Cooper Union, an art college, proposing the use of Seide's students in creating the Kicks package design. The letter stated: "We're adults. You've got a group of talented kids. Hence this letter. We have been asked by our client to come up with a package design . . . a design that is attractive to kids . . . (young adults). We were wondering if this project might serve as a challenging assignment for your package design class(es). . . . **Note: While this cigarette is geared to the youth market, no attempt (obvious) can be made to encourage persons under twenty-one to smoke. The package design should be geared to attract the youthful eye . . . not the ever-watchful eye of the Federal Government**." 92352889-2890 (US 21725) (O) (emphasis added).

4306. A February 1972 Lorillard report entitled "The Menthol Cigarette Market – A Summary" stated that "[t]here is a wide difference among Menthol brands, with Newport and Kool far more heavily youth oriented by volume than Salem." 89824702-4785 at 4734 (US 32092) (A).

4307. F.B. Satterthwaite, a Lorillard employee, wrote a June 7, 1973 memorandum to Lorillard President Curtis H. Judge, regarding Lorillard's analysis of its own and its competitors' brand shares by age. Satterthwaite stated that:

> The company analysis, based on cumulative brand shares by age group, though correct as far as it goes, is misleading. The favorable trends toward youth for RJR, Philip Morris and Brown and Williamson are completely explained by three brands - Winston, Marlboro and Kool, respectively. Without these three brands these companies present an older age pattern similar to the other two companies. The exclusion of Newport from their most recent period is detrimental to the overall Lorillard pattern.

91270029-0030 at 0029 (US 21109) (O).

4308. A report entitled "A Special Presentation for Lorillard . . . Cigarette Advertising 1974-1975" by Gallup gauged the effectiveness of advertising in particular magazines, including in the category of "Glamour (Age 15-34)" magazines such as, among others, *Seventeen* and *Teen*. 03496228-6630 (US 20057) (O).

4309. A document dated June 10, 1975 contained the script of a speech given by Curtis Judge, then CEO of Lorillard, to a "Maxwell Tobacco Seminar" describing Lorillard's marketing strategy for the latter half of the 1970s. In his speech, Judge stated: "Recent research indicates the Old Gold brand smoke profile has changed dramatically over the past few years from an older, blue collar market to a young adult market with better education and better income. We are currently testing new marketing efforts which are designed to develop strong appeal for Old Gold among this target audience." Judge also discussed Zack, a new filter cigarette "designed to find a place within today's casual, young adult lifestyle." 01424199-4215 at 4207, 4208 (US 20051) (O).

4310. An August 22, 1975 memorandum entitled "Progress Report - Zack Filter and Menthol" from R.E. Ritchie to A.J. Bass at Lorillard reported that "**retailers continue to comment that the majority of consumers are younger people between 14 to 25 years of age**. Sales from types of accounts like convenience stores continue to support these comments. I feel another sample program is needed with emphasis placed in the suburban areas where the younger people can be reached, and this to be done with outside samplers." 91529112-9114 at 9112 (US 21110) (O) (emphasis added).

4311. In a June 10, 1977 Lorillard memorandum from J. Gordon Flinn, Director of Market Research for Lorillard, to company president Curtis Judge, Flinn projected that, of the 55 million smokers in 1977, teenagers aged 14 to 17 accounted for 28% of the total.

03357069-7070 at 7069 (US 20055) (O).

4312. At a March 27, 1978 Lorillard field sales representatives seminar, several marketing ideas for Newport cigarettes were discussed. Discussion subjects included: sponsoring youth sports teams; advertising featuring black athletes; tie-ins with pro sports teams; sports posters and bumper stickers; give-away sweat bands; tie-ins with record companies; scholarships for underprivileged youth; "Tie-in with any company who help black . . . Target group age 16+;" and sponsoring Miss Black Teenager contests. Also specifically discussed was "[h]ow to reach *Younger* Smokers: P.O.S. material, sampling, Black inner-city newspapers, Tee-shirt give aways." 85530255-0264 at 0262-0263 (US 31998) (A) (emphasis in original).

4313. In a June 9, 1978 Lorillard memorandum entitled "Black Marketing Research-Findings and Recommended Actions to Date" to J.R. Ave, Senior Vice President of Marketing, and T.H Mau, G. Flinn, J. Rowe, J. Greene, and E. Ricci, Newport Assistant Brand Manager Robert Davis stated that Newport was "definitely a starter brand . . . . Newport is identified as an 'entry' brand." Under the heading "Demographics," Davis stated: "Black Newport and Kool smokers are even younger than the switching data would indicate." The memorandum characterized the Newport brand profile as being "Age 18-30." Davis also indicated in his memorandum that Newport appealed to high school as well as college students, in competition with Kool, "the dominant entry brand in the inner city." Because inner city convenience stores lacked financial resources to hold inventories of many competing brands, Davis recommended that, instead of forcing Kent and other brands on these retailers in addition to Newport, "the push should be for the brand with the most potential, usually Newport." Davis additionally recommended that Lorillard implement the recommendations discussed at the March sales seminar to market to teenagers: "Trial generating promotions, especially sampling;" "more

frequency at the local level in newspapers;" and developing in-store and neighborhood promotional activities. Davis concluded that: "the key to sustained . . . growth in 'inner-city' areas is 'image' promotion somehow tied in with events and trial inducing devices." 85530255-0264 at 0255-0256, 0258-0260 (US 31998) (A).

4314. An August 30, 1978 Lorillard memorandum from Ted Achey, Lorillard's Director of Sales in the Midwest, to company President Curtis H. Judge regarding "Product Information," demonstrates that Lorillard recognized the significance of the underage market to the company:

> The success of NEWPORT has been fantastic during the past few years. Our profile taken locally shows this brand being purchased by black people (all ages), young adults (usually college age), but **the base of our business is the high school student**. NEWPORT in the 1970's is turning into the Marlboro of the 60's and 70's. It is the 'In' brand to smoke if you want to be one of the group. Our problem is the younger consumer that does not desire a menthol cigarette. If that person desires a non-menthol, but wants to be part of the 'In' group, he goes to Marlboro . . . . I think the time is right to develop a NEWPORT NATURAL (non-menthol) cigarette to attract the young adult consumer desiring a non-menthol product. . . . A good test area might be the Camden, New Jersey Division.

03537131-32 (US 22357) (A) (emphasis added).

4315. An August 11, 1981 memorandum from Tom A. Mau to various Lorillard employees, 01110991-0992 (JE-021604) (A), attached a document entitled "Replies to 5-year Plan Questionnaire" which stated that "the easiest [brand] to keep riding is Newport. However, I think **we must continually keep in mind that Newport is being heavily supported by blacks and the under 18 smokers.** We are on somewhat thin ice should either of these two groups decide to shift their smoking habits." 01110993-1032 at 1030 (US 20031) (A) (emphasis added).

4316. An October 1981 report prepared for Lorillard by the research firm Shoi Balaban Dickinson Research entitled "An Exploratory Study for Newport Smoking and Purchase

Behavior of Young Adults" stated:

> One-half of these respondents began to smoke at ages 10 to 13 years, with most of the remainder starting to smoke between 14 to 17 years of age, with the pattern precisely equal between male and female respondents. Among these participants, it was rare to start smoking at an age older than 18 years. Marlboro and Newport were mentioned far more often than any other brands as the initial brand smoked. . . . Almost all of the respondents report current friends who smoke the same brand as the respondent, and there is a ready awareness of the brands their friends smoke. . . . One of the most striking findings is the very limited number of brands mentioned either as used by their friends or associated with smokers their own age.

The report further stated: "Both the male and female respondents thought of the typical Newport smoker as 'young,' and both cited Newport as a brand used by those who are just starting to smoke." 84411662-1689 at 1669,1680 (US 55999) (A); 83896981-7009 at 6989, 7000 (US 55927) (A).

4317. A November 25, 1981 Lorillard memorandum from Laurie Moroz, Manager of General Marketing Research, to J.R. Ave entitled "Smoker Incidence by Age Groups" attached estimates of smoking incidence (the number of smokers) within 11 age groups for the total population. The incidence chart included smokers aged 13 to 17. The author relied on census bureau projections, internal "switching study data," and "government studies on smoking among teenagers," and stated that "the teenage smoking figures are the least reliable." 03926040-6042 at 6040 (US 20065) (A).

4318. An August 2, 1982 Lorillard memorandum from Florian Perini, Senior Research Chemist, to M.A. Sudholt, Manager of Analytical Development, on the subject of "Idea Session July 27, 1982 of the Tobacco Science Group" contained a proposal that "Video Game Imagery [be] incorporated in pack design (youth appeal)." It detailed: "the widespread video game craze has certain fundamental features which we could be the first to exploit. Names such as PAC

MAN, SPACE INVADERS, TRON and their imagery can imaginatively show up on cigarette packs with repeat motifs . . . and patterns, and their bright imagery can have lasting appeal. Can extend concept to SPACE IMAGERY (Galaxy, Cosmos, Universe)." 96509517-9519 at 9519 (US 56890) (A).

4319. A March 14, 1983 Lorillard document regarding magazine and newspaper data detailed which magazines were likely read by teenagers 12 to 17 years old. The document stated that: "[T]here is no reliable research on 12-17 year olds. Lorillard and its agencies use only the adults 18+ figures when analyzing media. . . . There was a 1976 study that measured teenage readers but the firm (TGI) is no longer in business." In order to determine teenage readership, the document relied upon United States census figures to calculate the proportion of the population made up of teenagers, and derived teenage readership from that calculation: "Based on these figures, if we assume that teenagers read as much as their parents, then approximately 12% of any magazine readership would be teenagers." 04334493-4500 at 4494, 4497, 4499 (US 20067) (O).

4320. Laurie R. Moroz, Manager of General Marketing Research at Lorillard, stated in a September 2, 1983 memorandum to Curtis H. Judge, President of Lorillard, that "because the number of teenagers is declining rapidly, even a stable smoking incidence would mean a declining number of entering smokers." 03922854-2854 (US 21755) (O).

4321. A 1984 Lorillard document entitled "Kent marketing manager's conference speech presented by 'Monty' Kiernan, product manager, and Vickie Lamb [Assistant Brand Manager]," stated:

> **A year ago we unveiled a new long-range plan for Kent. It targeted sharply against the new market of younger smokers and was based on new totally offensive marketing strategies**. Every element in the brand's marketing mix has now been fine

> tuned. In 1985, we will move beyond the planning phase, we are into implementation. . . . You also know that with our industry under pressure and the competitive climate intensifying, any constraint to new user trial is unacceptable. . . . In recent years, entry level smokers . . . have gravitated to more artificial, smoother, fuller flavored brands. As a result the entire market is shifting . . . In 1985, Kent will make its move to meet this shift in consumer demand. We []now have every element in place. **We have targeted advertising and promotional programs to pull us younger.** Most importantly, [we] now have the product modification that can pull us up with no disruption to our user base. Combined, the totally integrated effort will drive Kent into a market growth position by mid-1985. By year's end, we should be strategically positioned to exploit maximum sales and profit opportunities.

04398447-8468 at 8447-8448, 8450 (US 20068) (O) (emphasis added).

4322. In February and March 1984, Lorillard conducted focus groups of young menthol smokers ages 18 to 24. A February 20, 1984 Lorillard document entitled "Topic Guide – Young Menthol Smokers" provided ways for an interviewer to gather information about young smokers. This document included a list of questions to ask young adults, including:

> How many packs do you usually buy at a time? . . . When do you buy cigarettes in a store, do you notice it if some brand has a special display? . . . Sometimes you might get a small free sample pack of a brand. Have you ever bought the brand later based on trying the sample? . . . How do you think of the cost of cigarettes compared to other things you buy – expensive, cheap, or what? . . . Quite often there are brands on display that are being promoted at a lower price than other brands. When you see that type of offer do you ever take advantage of the lower price? . . . What do you think of the idea of being able to buy cigarettes in packs of 10 cigarettes, which would be priced at half of what you now pay for a pack? Under what circumstances can you imagine yourself buying a 10-pack?

85377724-7729 at 7725-7727 (US 21078) (O). In a March 8, 1984 memorandum entitled "Young Menthol Smoker Focus Groups" to S.T. Jones, Lorillard Director of Product Development and Marketing Research, Laurie Moroz discussed "observations and hypotheses"

from these focus groups and stated: "the females in the 18 to 24 year old age group are more experimental and open to new brands than males." 85377682-7682 (US 87806) (O); 85377680-7681 at 7680 (US 87807) (O).

4323. Lorillard's September 1988 "Newport Image Study" concluded that "[i]n all areas Newport smokers were viewed as party-goers, those that do their own thing and [are] fun-loving" and "[i]n all areas Newport smokers were viewed younger and more fun-loving than Kool and Salem smokers." 89579737-9797 at 9784 (US 67673) (A); 89576893-6936 at 6935 (US 67669) (O).

4324. Despite the explicit acknowledgment in internal Lorillard documents that the desired image of Newport was youthful and fun-loving, Lorillard CEO Martin Orlowsky refused to answer questions confirming this fact in his written direct testimony. At trial, Martin Orlowsky admitted that, in his written direct testimony, where he was asked 10 to 11 times about various Newport advertisements featuring young slender models, he "answered the question in the same way" stating that the models "were at least 25 years of age" and "young is hard to define." Orlowsky TT, 10/12/04, 2216:15-25. Orlowsky also admitted that his attorney was with him the entire time or "for the most part" while he was reviewing his written direct testimony. Id., 2213:25-2214:2.

4325. Richard DiDonato, Division Manager at Lorillard, wrote in a March 16, 1989 memorandum to R.H. Orcutt, Lorillard Senior Vice President of Sales and Marketing, entitled "Style Lights Progress Report" that large, "bright, and extremely eye catching" point-of-sale materials are "effective in gaining consumer awareness" of the products. 89817995-7998 at 7996 (US 21107) (O). In a similar progress report entitled "Newport Slim Menthol Box 100's Progress Report," DiDonato wrote: "The **P.O.S. is extremely effective, it perfectly targets our potential**

consumer. It conveys a crisp, clear message and is easy to read, resulting in the reinforcement of brand awareness and the stimulation of consumer trial." 92007692-7693 at 7693 (US 57157) (O) (emphasis added).

4326. A document setting out strategies for Newport's Van and Music Truck Programs, Club Event Nights, Race Car Program, and other promotional events for 1991 and 1992 stated that the programs "maximize Newport's exposure to our target audience, where they live, and where they have fun." For example, the Newport Van Program sent out vans which acted as "mobile billboards," for the purpose of "developing new business." The document explained that "[y]oung adult smokers, especially in inner-city areas, will tend to emulate those adults that are already smoking. . . . **The targeted age factor plays a major role in selecting sampling locations**." Regarding Newport's Special Events programs at music festivals and street fairs with "exceptionally large crowds," the document stated: "The promotional effectiveness of getting potential smokers to touch, hear, taste and see the activities we provide . . . must have the desirable impact in generating trial and positive recall for Newport." 93374749-4761 at 4756, 4757, 4761 (US 85204) (A) (emphasis added).

4327. Orlowsky admitted that Lorillard was concerned with the importance of entry level smokers as demonstrated in its "Newport 1992 Strategic Marketing Plan" dated August 15, 1991. The plan discussed Newport's "1992 Key Issues," which included "Fewer entry level smokers," and mentioned the importance of the "Alive With Pleasure" advertising campaign, coupled with price promotions, to "generate interest and trial among entry level smokers." Although the document stated that Newport's "primary target" was 18 to 24 year olds, Lorillard was well aware that the majority of smokers entered the cigarette market before the age of 18. Orlowsky admitted seeing this document while in his position as Lorillard's Senior Vice

President of Advertising and Brand Management. Orlowsky WD, 40:22-41:2, 45:1-13; 92011118-1156 at 1124, 1130, 1134, 1137 (US 22352) (A).

4328. The "Newport 1992 Brand Plan" recommended marketing to the "young adult audience" through print media "to increase brand awareness and reinforce brand image." 92278882-8951 at 8898 (US 21114) (A).

4329. A 1992 Lorillard presentation on Kent stated that "Kent's franchise is one of the oldest of all cigarette brands (50+)" and that "one way to reduce Kent's smokers' median age is to to [sic] introduce substantially younger smokers (18-34) into the franchise." The presentation also stated that "magazines are the only medium that allows us to target a particular demographic group." 94245877-5885 at 5877-5878 (US 85205) (O).

4330. Lorillard's September 23, 1991 "Harley-Davidson Year I Strategic Marketing Plan" stated: "Harley-Davidson cigarettes are positioned to appeal to young adult male smokers, 18-24 years of age with high school educations, generally blue collar occupations as a brand which offers a unique smoking experience by virtue of its association with Harley-Davidson motorcycle imagery." 94258098-8143 at 8105 (US 85206) (A).

4331. An August 17, 1993 letter from Ronald Goldbrenner, Lorillard Associate General Counsel, to Timothy K. Hoelter, Harley Davidson Vice President and General Counsel, indicated that Lorillard was still seeking a trademark license for the Harley Davidson name for use with a new cigarette brand. 88024283-4286 at 4284 (US 21105) (O).

4332. In two letters, one dated August 17, 1993, and the other dated August 27, 1993, Timothy K. Hoelter wrote to Ronald Goldbrenner expressing Harley Davidson's concern that Lorillard's proposed upcoming cigarette advertising campaign to introduce its new Harley Davidson brand, especially when combined with the low price of the brand, would "recruit

underage smokers." In fact, Hoelter indicated that Harley Davidson had hired a market research firm specializing in child research to evaluate the Lorillard advertising campaign, and that this firm had concluded that "the campaign will appeal to underaged children." 91384161-4162 (US 54404) (A); 92670418-0419 at 0419 (US 21760) (A).

4333. By letter dated August 30, 1993, Goldbrenner responded to Hoelter's August 27 letter with a warning to Harley-Davidson:

> In your letter you refer to market research which Harley-Davidson has conducted. As you know, Lorillard's 'American Quality' campaign is an important trade secret, as are the timing and details of virtually all new products and advertising campaigns. Your letter raises serious concern on our part for the basic protection of very important Lorillard trade secrets. . . . Furthermore, if such research has been improperly conducted or analyzed, it may be very damaging to the reputation and business of Lorillard's disclosure, whether or not trade secrets are involved. . . . We would further appreciate your forwarding to us an immediate copy of the test results and methodology so that we will be better able to discuss this matter with you. We cannot impress upon you too strongly your obligation to maintain these materials in confidence and to permit us to review and validate the market research you describe so that we may properly assess this matter.

92670436–0437 (US 57194) (A).

4334. Despite Hoelter's letters protesting the appeal of Harley-Davidson cigarettes to underage persons, Lorillard proceeded to introduce the brand and marketed the cigarettes until 1996 when Lorillard replaced Harley-Davidson which had "fail[ed] to make sales goals" with another brand called Maverick. 94917017-7017 (US 88152) (O); 92715334-5457 at 5440-5442 (US 87927) (O).

4335. In a fact sheet entitled "Newport America's #1 Menthol" that Victor Lindsley prepared in April 1993, Lindsley discussed Newport's "20 straight years of volume growth" beginning in 1972, which he credited to the brand's marketing: "To communicate the Brand's

'Pleasure' image among targeted smokers, the 'Alive with Pleasure' campaign was created. The campaign, which has remained unchanged over the past 20 years, is a reflection of the franchise in social situations, capturing highly original, relevant, pleasurable experiences with a unique visual twist." This campaign, coupled with "a powerful promotion plan," moved Newport all the way up to the "#1 Menthol Brand" and the "#3 Brand" in the nation. 89959484-9486 (US 22350) (A).

4336. In a November 2, 1993 memorandum sent to Lorillard employees on the subject of "Special Promotions - POW! 'Pleasure on Wheels,'" Richard DiDonato wrote: "POW is a promotional program that utilizes Newport vans, operated by agency personnel, to distribute promotional items to Newport purchasers. The objective of the POW program is two fold:

- Generate incremental volume thru [sic] impulse purchase and long term conversion
- Reinforce Newport's image as the 'peer brand' among young adult smokers."

92092650-2651 at 2650 (US 57159) (O).

4337. Newport's 1994 Brand Plan, dated November 16, 1993, stated that "Newport's creative product must strengthen Newport's competitive edge as the 'peer' brand among younger adult smokers," and that Newport is "positioned to appeal primarily to general market/urban center adult smokers ages 18-24." 91945017-5124 at 5033, 5045 (US 21113) (A); 92002948-3012 (US 87808) (A); 92003013-3021 (US 87809) (A).

4338. A January 1994 document entitled "Final Report on Eight Focus Groups with Black and White Users of Newport, Salem, and Kool Cigarettes on Issues Related to Newport Cigarettes and its Advertising Campaign" was prepared by RIVA Market Research for Lorillard. In the "Executive Summary," the report stated that "Black Newport smokers perceive Newport as the 'in' cigarette, or cigarette of choice among themselves and their peers. They view it as a

popular cigarette which fits with their lifestyle." The report continued: "White Newport Smokers (men) really enjoy the taste of Newport cigarettes, yet feel they are 'out of the mainstream' because most of their friends smoke Marlboro Lights. The women feel they are smoking a 'cool' cigarette that people with happy, active, and upbeat lifestyles smoke, as Newport ads project." This report also stated that "Lorillard's Newport brand recognizes younger adult smokers as an important consumer base for this cigarette. This market is defined as a 'twenty-something' market; adults ages 18-29." 91950191-0242 at 0193, 0195 (US 74423) (A) (emphasis in original).

4339. Lorillard's "Newport '95 Promotional Platform Preliminary Presentation" dated November 30, 1994 stated that one objective was "[t]o develop a comprehensive Newport Promotion Program which . . . Enhances image as one of the 'cool' brands." 91945211-5218 at 5216 (US 85208) (A).

4340. A July 15, 1996 memorandum from Dick Westwood at Strategy & Tactics, Ltd. to Scott Benson, Group Manager of Marketing Research at Lorillard, regarding "The Menthol Market Study Reanalysis," concluded:

> Brand imagery should be pursued as the primary lever Lorillard can deploy in acting against the menthol market. Some Image Segments are, indeed, taste-based (for example, the Taste/Sensation segment with its focus on mintiness and iciness), and it is appropriate to pursue such segments through a taste-centered strategy. **But other market segments – including the Social Acceptance segment which is Newport's primary strength – are defined by more subjective aspects of imagery** and, for these, taste profiles need to be subsumed to fitting the image that the Company is seeking to create. . . . From a taste perspective, Newport is currently oriented to the Stronger end of the spectrum where, from the standpoint of taste characteristics, it competes primarily with Kool. However, the two brands play in different Image Segments – Social Acceptance and Strength respectively, and thus do not interact as directly as taste alone would suggest. Thus, for example, although both brands skew to

> males and African Americans, Newport has been able to attract a considerably younger adult smoker as its user base.

96290861-0869 at 0869 (US 85209*) (A) (emphasis added).

4341. A September 4, 1997 Lorillard memorandum from M.L. Orlowsky, CEO of Lorillard, to George Telford, Vice President of Brand Marketing for Lorillard, confirmed that the 1998 marketing budget for Newport would be $137.5 million. 82458620-8620 (US 85210) (O).

4342. In approximately 1998, Lorillard undertook a nationwide advertising campaign for Newport cigarettes captioned "Pleasure! Fire It Up!" in newspapers and magazines. Among several treatments, "Pleasure! Fire It Up!" advertising depicted attractive young men and young women smoking cigarettes, often in circumstances involving sports and other physical activities. (US 11209) (A); (US 11247) (A); (US 11257) (A); (US 11283) (A).

4343. A March 27, 1998 letter to Collett Thatch, the Senior Brand Manager for Newport, from Dorothy Straub at Saatchi & Saatchi, provided information on competitive print advertising campaigns. The letter described Lucky Strike as "making a concerted effort to reposition themselves as a contemporary retro cigarette (see inside visual of a James Dean look-a-like leaning on a 60's convertible coupe)." At the bottom of the advertisement was a toll-free number to call which provided information on upcoming "trendy bars/special promotions and money saving coupons." 86165773-5775A at 5775 (US 22207) (O).

4344. Lorillard's 2002 marketing and promotion budget was

Telford PD, United States v. Philip Morris, 6/26/02, 102:3-7 (Confidential).

4345. In this case, Lorillard's senior group brand director Victor D. Lindsley III, testified that the long-running advertising "concept of Newport Pleasure . . . should be appealing to anyone that likes to have a good time." Lindsley also testified that Newport's advertising theme

of "pleasure," especially the advertised "pleasure" of hanging out with friends, appeals to all ages including youth. Lindsley PD, United States v. Philip Morris, 5/16/02, 113:8-15, 115:7-116:3.

4346. As acknowledged by George Telford, Vice President of Brand Marketing at Lorillard in testimony in this case,

Telford PD, United States v. Philip Morris, 6/26/02, 85:13-88:14 (Confidential).

4347. Telford also testified that, as part of Lorillard's direct marketing efforts, the company collects demographic information about smokers' age, gender, and race, data which is then used by Lorillard to focus its marketing efforts. Telford further testified that Lorillard tailors its advertising for different brands based on the particular demographic profile of those brands. Because Newport advertisements are targeted at the younger segment of the adult smoking population, Lorillard advertises Newport in publications like *Sports Illustrated, Playboy,* and *Penthouse*, all of which have substantial youth readership. Telford PD, United States v. Philip Morris, 6/26/02, 59:22-62:2, 63:20-64:3.

(f) American Tobacco, BATCo and B&W Intentionally Marketed To Youth Contrary To Their Public Statements

4348. In a September 25, 1957 memorandum to Albert R. Stevens and Alan C. Garratt, B&W Advertising Managers, F.X. Whelan, American Tobacco Company Assistant Treasurer and Credit Manager, stated: "The first cigarette to saturate the morning television market will achieve positive results. . . . There is also the point that there is a vast audience of children at this time of day and, while I am not prepared to discuss the ethics of this particular phase, a child accompanying his mother to the market has an overwhelming passion for suggestion. . . . Many a Saturday I have gone to the A&P in my town and come back with several excess items over my

wife's list because my children who were with me had seen a product advertised on television and wanted it." Whelan concluded: "**To sum up, I believe the advantages in morning television are . . . [i]t delivers the message to the housewife at the best possible time – and to her children.**" ATX030308897-8899 at 8898 (US 21121) (O) (emphasis added).

4349. An April 6, 1960 American Tobacco memorandum from James R. Huott of the Filing Department to Karl W. Schullinger, Assistant to the Advertising Manager, stated that "the largest potential market for Lucky Strike is in the younger age groups," and that "Bonanza" would be a better television venue for Lucky Strike than "Lawrence Welk" because "Bonanza" was viewed by a greater number of people in the "younger age groups." An attached chart showed that three times as many "Teen-Agers (boys and girls 13-17)" watch "Bonanza" as watch "Lawrence Welk." ATX030308900-8901 at 8900 (US 20583) (A).

4350. An August 1962 proposal to the Tobacco Manufacturers' Standing Committee ("TMSC"), later renamed the Tobacco Research Council, by Market Investigations, Ltd. summarized "a large scale survey of smoking by children" that had already been performed for the British cigarette manufacturers (including BATCo) in 1961, and recommended that the TMSC fund further studies of "the trend in smoking by children and young adults" including "[t]he change in smoking habits as children grown older; particularly in the three or four years before the age of fifteen." Like CTR in the United States, TMSC was an organization that funded industry industry-sponsored research in the United Kingdom; BATCo officers sat on the TMSC Board. The 1962 proposal from Market Investigations Ltd. was entitled "Smoking by Children and Adolescents, Memorandum on Further Research to the Tobacco Manufacturers' Standing Committee" and suggested interviews of "ten and eleven year olds." The proposal stated: "Children in their teens present a dilemma for the tobacco manufacturer. On the one hand

you want to discourage children from smoking. . . . On the other hand, it is difficult for you to lend your weight to a campaign against smoking by young people without running the risk of discouraging them from taking up smoking altogether." 105408812-8815 at 8812-8813 (US 26273) (A).

4351. American Tobacco continued to study the impact of certain advertising on children ages 16 and above after it adopted the 1964 Advertising Code. American Tobacco determined that its advertising was reaching the 16 to 20-year old market. Gesell PD, Minnesota v. Philip Morris, 9/18/97, 54:19-55:11, 57:1-59:2.

4352. On December 15, 1967, Brad H. Littlefield, B&W Assistant Brand Manager, sent B&W internal correspondence to J.W. Burgard, Executive Vice President of Sales and Public Relations, which was copied to A.Y. Yeamen, B&W General Counsel, regarding "Analysis of Youth Audience Subgroups" for television viewing. Littlefield discussed the 2-20, 2-17, 6-20, 6-17, and 12 to 17 age groups as audiences for prime time television, defined by Littlefield as "7:30-11:00 p.m., EST." LG2004540-4542 at 4540 (US 21202) (O).

4353. Mark F. Fox, Product Manager for American Tobacco, sent a January 10, 1968 letter regarding an analysis of the Tareyton brand demographic profile to Clive Michaels of the advertising agency Batten, Barton, Durstine & Osborn. Fox explained in his analysis that: "Specifically, the brand shows greater than average strength among women, the high school educated and the 16-20 age group." MNAT00399850-9851 at 9850 (US 21632) (O); MNAT00399852-9852 (US 88802) (O).

4354. A July 1968 document "[p]repared for the American Tobacco Company" and entitled "The Position of Brighton in the St. Louis Market" stated: "The purpose of the study is to provide American Tobacco with consumer feedback on the impact of the Brighton brand.

Such feedback, beyond the customary sales information that is presently available, would greatly aid the company in realistically assessing the sales performance – not only of Brighton – but of other new brands in test markets, and would aid the company in instituting changes in strategy (advertising, packaging, etc.) to maximize the success of new brands." The researchers telephoned approximately 4,500 individuals in the age groups of 16-20, 21-34, 35-49, and 50 and over. In addition, "Age and sex quotas were assigned so as to yield the correct proportions of teen-age contacts and adult male and female contacts." MNAT00405881-5912 at 5883-5585 (US 88157) (O).

4355. On August 2, 1968, William Scholz of Ted Bates & Company Advertising provided an analysis of brand switching studies to Anthony Mercer, a marketing employee at B&W. The analysis found that "Kool attracts more in the 16-25 age group than it loses." In addition, the analysis included an "Index of Starters – Menthol Brands" that included data on individuals ages 16-25. 170051478-1481 (US 26590) (A); 170051490-1490 (US 26599) (A); 170051499-1499 (US 26608) (A).

4356. A report dated April 3, 1970 discussed a "1969 Survey of Cigarette Smoking Behavior and Attitudes" that was written by Eastman Chemical Products for American Tobacco Company. The survey, which was performed on those aged sixteen and over, stated, "At age 14 60% of the boys who were to become smokers, had smoked their first cigarette." The survey further concluded, "The age at which people start to smoke regularly is an important factor in assessing the future markets for cigarettes." In the survey, consumers were asked the following question: "What brand or brands of cigarettes come to mind when I say: Is best for people who are just starting to smoke regularly?" The survey also recorded negative reactions to first cigarette smoked including "disliked taste," "coughed," "unpleasant," "dizzy" or "ill."

650340129-0193 at 0151, 0156, 0162 (US 20948) (A).

4357. A 1973 B&W report entitled "New Product Concepts" described the company's strategy to reach a "**Direct Target Group: 6.3 million 16-25 year old smokers**." The strategy plan was to "[t]o improve B&W's position in attracting young male smokers by making as direct an appeal as possible in product, packaging, and advertising to young males." Possible names for a cigarette appealing to this segment included Laredo, Lancer, Durango, Champion, and Voyager. 670186789-6824 at 6811, 6815-6816 (US 21431) (A) (emphasis added).

4358. As an example of clear evidence that Defendants' Advertising Code was no restraint whatsover on Defendants' pursuit of the teenage market through media advertising, a February 21, 1973 internal B&W memorandum from R.L. Johnson, an employee of B&W's Advertising Department, to R.A. Pittman, a B&W Vice President, regarding Kool sales recommended that B&W should focus its media spending to the magazines that teenagers read: "**Kool's stake in the 16-25 year old population segment is such that the value of this audience should be accurately weighted and reflected in current media progra As a result, all magazines will be reviewed to see how efficiently they reach this group and other groups as well**." 680135996-6002 at 5996-5997, 5998 (US 20989) (emphasis added) (A). Johnson explained the reason for its targeted approach: "Kool has shown little-or-no-growth in share of users in the 26+ age group. Growth is from 16-25 year olds. At the present rate, a smoker in the 16-25 year age group will soon be three times as important to Kool as a prospect in any other broad age category." Id. (emphasis in original).

4359. A September 1974 report written by Kenyon & Eckhardt for B&W's New Ventures Project entitled "The 'New' Smoker" detailed Kenyon's focus group research conducted on behalf of the company, as reflected by the report above. Focus groups were conducted on

regular smokers under age 22, and data was tabulated for smokers age 16 and older. The research identified the typical smoking initiation process occurring before 10, and continuing into the junior high school or the early high school years. Influences on initiation included the desire to belong to a group and to rebel against parents. The research found that smoking initiation was prompted by psychological factors: "overcoming the unpleasant physical reaction became a strongly motivated goal. The psychological rewards for 'conquering' smoking seemed to center on proving manliness and strength to themselves and others and, for the most part, they seemed to feel it was worth the effort." The study concluded that "**the younger smoker is of pre-eminent importance**." 779217759-7833 at 7760, 7763-7768, 7827 (US 21054) (O); 779217758-7793 at 7760, 7768 (US 85211) (O) (emphasis added).

4360. A June 1974 B&W document entitled "Tramps Cigarette National Marketing Plan" described a plan to "[p]lace marketing efforts against all current smokers and those who are pre-disposed to commence smoking in the near future." The stated objective of the marketing plan was to "generate maximum exposure against a target audience of men and women 18-34." 670170921-0935 at 0926, 0930 (US 20965) (A).

4361. As Sharon Smith admitted at trial, tracking data purchased by B&W on individuals as young as sixteen was used by the company's marketing department in the 1970s. Smith TT, 1/7/05, 9249:22-9250:20. For example, a September 23, 1974 B&W Five Year Plan for all of B&W brands, written or approved by Richard L. Johnson in B&W's Advertising and Marketing Planning Department (which he subsequently managed), stressed the importance of effective marketing to young "starters" for the continued profitability of the company. The plan stated that, although B&W's share of smokers under twenty-five was greater than the rest of the industry, this was due entirely to Kool: "[w]ithout Kool's influence, the Company's profile is

female, old and getting older . . . a relatively undesirable situation." The document anticipated a coming battle over the shrinking pool of 16-25 year old potential smokers:

> [T]he younger smokers' importance cannot be denied. They have distinct brand choices and association appears to exist between growth brands and segments, and the younger smoker. Industry switchers and starters are predominantly found in this under-25 year old category -- especially among women. If the pool of starters and switchers shrinks, as it is expected to, even more effort could be waged against under-25 year olds in the battle for remaining new users.

The plan indicated that youth smokers were the market's growth: "among under 25 year olds, users have almost doubled. Kool's growth in this market is the greatest of any brand. It is also the fastest growing cigarette in the total market." The plan recommended that "[n]ew ways to selectively reach younger smokers and females entering the market should be found," and "[t]he need to make revitalization programs on established brands work is now critical." It summarized: "Segments or brands with attraction to the young and the female will be more likely to grow than segments or brands with male or older appeal. . . . Advertising funds may be more productively employed on growing brands than on declining brands in a more stable environment. In that regard, the transfer of advertising money from declining brands to growing brands could be worthwhile." 682823798-3801 at 3801 (US 21032) (A); 680500903-1076 at 0918, 0930, 0942, 0945 (US 21607) (A).

4362. B&W has claimed that it tracked marketing data on 16- and 17-year-olds only because it purchased syndicated data from third party vendors, and it had no choice over age ranges that began at age 16. To the contrary, though, the company both paid money for syndicated data on 16- and 17-year-olds as part of a larger age range, and also paid money to disaggregate and analyze the data specifically about 16- and 17-year-olds. A September 26, 1974 document authored by C.S. Muije, B&W Manager of Market Research, stated "a $3,000

exploratory study of brand switching among young smokers as they age was authorized . . . if the pilot study is successful, we estimate that another 12 to $15,000 will be needed to exhaustively track and table switching as younger smokers age. For example, we should be able to tell initial switching experiences as 16 to 17-year-olds start smoking and then track them up to age 21." 027887-7887 (US 34185) (A); Smith TT, 1/7/05, 9247:1-9248:7.

4363. A December 11, 1974 B&W document entitled "Marketing Planning Project Specifications Sampling" provided a framework for the company's product sampling activities. The report noted that "those [smokers] that are most inclined to switch (people under 30) are hard to reach selectively," and that one of the tasks for the supplier chosen to assist B&W in this effort was to "develop a national sampling program(s) on an established brand – Kool King Size – and a new product to be designated at a later date." 6801063446350-6347 at 6344, 6346 (US 20985) (A).

4364. A December 12, 1974 B&W report entitled "Target Audience Appendix" concluded that the target audience for Kool was a "pool of switching smokers" including 2.5 million people ages 16 to 25. The document also stated that the target audience for the Kool King Size sampling effort described above should take into consideration the "relative value" assigned to various groups of smokers, including 15 to 24 year olds. 680106344-6350 at 6349 (US 20985) (A).

4365. A B&W document from 1975-1976 entitled "Viceroy Agency Orientations Outline," was written to "prepare agencies for the creative and positioning assignments on Viceroy." The outline stated that Viceroy's target audience was "males 16-35, primarily." The document also stated that the "'Racing Campaign' . . . clearly positioned the brand as a young, exciting, full-flavored, satisfying cigarette." 680116947-6968 at 6947, 6959-6961 (US 21877)

(A).

4366. A 1975 B&W marketing presentation entitled "Cigarette Brand Switching Studies" stated that "Kool has a young age profile. The largest proportion of Kool's smokers are between 16 and 25 years of age," and that "Kool's young age profile contrasts with the older age profile of the other major menthol brand – Salem and is more similar to that of Marlboro." The presentation also stated that starters made up 15% of smokers ages 16 to 25, and that "Kool attracts a high level of starting smokers[,] especially 16-25 year old starters." 665076894-6916 at 6899, 6904, 6916 (US 20958) (A).

4367. A May 26, 1975 report entitled "What Have We Learned From People? A Conceptual Summarization of 18 Focus Groups Interviews on the Subject of Smoking," was prepared for B&W by the Ted Bates agency. A section of the report entitled "How Can We Introduce Starters and Switchers to our Brands," stated:

> With only very few exceptions, young people start to smoke because of their peer group." The document also stated that "an attempt to reach young smokers, starters should be based . . . on the following parameters: [p]resent the cigarette as one of a few initiations into the adult world. Present the cigarette as part of the illicit pleasure category of products and activities . . . . Consider a sampling technique to allow the young starters to actually try your brand . . . . In your ads create a situation taken from the day-to-day life of the young smoker but in an elegant manner have this situation touch on the basic symbols of the growing-up, maturity process. To the best of your ability (considering some legal constraints) relate the cigarette to 'pot', wine, beer, sex, etc.

680092632- 2668 at 2664-2665 (US 21693) (O); 170043558-3593 at 3581-3582 (US 20293) (A); 679018003-8278 (US 87928) (O).

4368. A document dated September 10, 1975 from L.M. Marshall, Jr., Ted Bates Advertising, to Mike A. Willson, B&W employee, regarding "Kool Analysis of Brand Switching Study – Wave 18" reported on smoking behavior of "the 16-25 age group." 665076813-6817 at

6813, 6814 (US 20957) (A).

4369. A 1976 B&W summary report entitled "Starters" recorded data and tracked starting smokers as a percentage of all smokers from 1969 to 1976, by gender and by age group. One of the age groups was "16-25." The report concluded that, "**The 16-25 age group has consistently accounted for the highest level of starters**." 170040333-0333 (US 22359) (O) (emphasis added).

4370. R.D. Lewis, B&W Manager of Marketing, sent a report dated April 1, 1976 entitled "Final Report - Study of Brand Switching Among Young Adults Smokers (Project # 1974-244)" to Robert A. Pittman, Senior Vice President of Marketing at B&W. This report stated that "[t]he 16-25 year old smokers have a much higher level of brand switching (59%) than the 26-35 year old smokers (37%)." 677354259-4263 at 4260, 4263 (US 20978) (O) (emphasis in original).

4371. An August 4, 1976 letter to Frank McKeown at B&W from Jeffrey Clinaman at Zimmer-McClaskey-Lewis attached a "recommendation for Kool's 1977 Promotion Program." The plan recommended a Kool Basketball Premium: "Basketball is a major source of recreation among young, black males. We would capitalize on this interest by offering a basketball premium, perhaps even green and white to tie in with Kool." The plan also advised that "Since Kool is heavily oriented toward the young and the brand's starter index is 10, **it will benefit us long-term to develop promotion events that involve the young and especially, to convince the starter group to smoke Kool**." 777080491-0522 at 0491, 0500, 0508 (US 31585) (A) (emphasis added).

4372. An August 10, 1976 document, written by Robert G. Yizar, B&W Assistant Brand Manager, about the Pontiac Kool Jazz Festival, stated: "Audience composition covered the age

spectrum with a slight skew toward the 16-25 age group." 666011286-1287 at 1286 (US 20960) (A).

4373. An August 22, 1976 document prepared for B&W by Young & Rubicam International entitled "Starters, Creative Workplan" summarized problems with the Viceroy brand and suggested Viceroy advertising objectives for the company:

> 1. Key Fact. Every year two million people in this country start smoking. 50% of them gravitate toward full flavored cigarettes – Marlboro and Winston. Viceroy gets none of them.
> 2. Problem The Advertising Must Solve. New smokers are not attracted to Viceroy because it has no clear image either as a smoke, or in terms of its personality.
> 3. Advertising Objective. To convince new smokers that Viceroy has the flavor and taste that they want as well as the image that is suitable to their needs and self perceptions.

170010440-0440 (US 20283) (O).

4374. A 1977 "Study of Consumer Awareness of and Attitudes Toward 24 Leading Cigarette Brands" produced by B&W concluded that the three factors that determined "sales success" were "[b]rand share of advertising pressure [and] [i]ntrusiveness and memorability of the advertising," "[p]ersuasive brand imagery," and "[b]rand [l]oyalty." 660110387-0390 at 0387 (US 20955) (O).

4375. A "Brown and Williamson Tobacco Corporation Problem Lab" dated April 27, 1977 recorded a brainstorming session addressing "[h]ow to better estimate future environment for tobacco industry and B&W growth" and B&W's need to "measure the intensity of the attitudes of children or other precursor groups." The group of B&W employees and executives participating in the session generated the following ideas generated at the session:

> 15. Wish I knew the impact of smoking and health propaganda on kids in schools – future customers' attitudes.
> 16. Correlate smoking incidence between kids and parents.
> 17. Psychological analysis, predictions: who's going to be kids'

heroes.
18. A six-month report on heroes of beginning age smokers (Do it every six months). . . .
25. Look at images of children and images of starting smoking age – are there certain characteristics that pre-dispose a child to smoke. . . .

1. Contact leading firms in terms of children research, e.g., Gilbert/Reilley. . . .
3. Contact Sesame Street.
4. Get a raft of 15-year olds who are not smoking . . . go back 3 or 4 years later and see who is smoking.
5. Contact Gerber, Schwinn, Mattel. . . .
7. Run a series starting at 6. . . . Learn correlation between age 6 and 18. . . .
9. Look at 13, 14-year olds and images of what they want to be.
10. Take a group of 6, 10, 14-year olds. Four years later see if can [sic] predict. Predict age group behavior based on previous responses. . .

680067120-7123 at 7120-7122 (US 20982) (O).

4376. A B&W report entitled "Situation Analysis" dated June 23, 1977, forecasted Kool's performance among teens: "Population data indicate that the 16-20 year old segment will be diminishing in size – the historical stronghold of Kool smokers and starter smokers." The "Demographic Profile for Media Selection" for the "Kool Kings & Box" style of cigarettes was described as "Young adult males, 16-25, young blacks (both sexes), 16-25, and some females 16-25." The document also included a chart on consumer awareness of Kool which contained data on the 13 to 24 age group. 666022186-2223 at 2193, 2200, 2219 (US 30803) (A).

4377. An October 18, 1977 report prepared for Imperial Tobacco, a member of the BAT group of companies, by Kwechansky Marketing Research stated: "Since how the beginning smoker feels today has implications for the future of the industry, it follows that a study of this area would be of much interest. Project 16 was designed to do exactly that – learn everything there is to learn about how smoking begins, how high school students feel about being smokers,

and how they forsee [sic] their use of tobacco in the future." The "recruiting qualifications" for the study were respondents "aged 16 or 17, attending high school, and smokers of 5 cigarettes or more per day." 566627826-7935 at 7839, 7840 (US 20939) (A).

4378. B&W recognizes the importance of imagery and packaging to make its products attractive to teenagers. An April 20, 1978 B&W document entitled "Implications for Cigarette Industry" stated that "[i]magery will continue to be important in brand selection for teenagers" and "[p]ackaging will become more important if not the most important advertising vehicle." 667007711-7714 at 7711, 7712 (US 20961) (O).

4379. An August 1978 B&W document entitled "Kool Family Utopian Objectives 1979-1985" discussed strategies for Kool to replace Winston "as the No. 2 cigarette in the country by 1985." The author wrote that to accomplish this goal, "Kool must achieve a user image that is acceptable to the majority of young adult and starter smokers." A section of the document entitled "Demographic Objectives" included the statement: "[r]eturn the starter index to 11% by 1982 and maintain this level as the highest starter index in the industry. . . . [t]he starter index has been the historical pillar of Kool strength and to return it to 11% will be to build longevity into the franchise." Strategies to achieve this objective included "advertising pressure against high filtration styles in young adult skewed publications" and to "[d]ominate specific young adult publications with a particular style." 680559149-9162 at 9149, 9152-9154 (US 54048) (A).

4380. A November 10, 1978 presentation to B&W by Acton Marketing Ltd. entitled "Kool Jazz Festival and Country Shindig Final Recommendations" stated that one of the Kool Brand Group's "primary objectives" was to "directly link Kool with music." A June 7, 1983 "formal" and "approved by Senior Management" memorandum from B&W Senior Brand Manager G.T. Reid to Senior New Products Manager M.A. Schreiber, entitled "Kool Copy

Strategy," stated: "The Kool property uses musical symbolism to communicate the strategy. The brand desires an improved quality image and universal appeal to all age groups." 666022850-2898 at 2856 (US 88158) (A); 675159236-9242 at 9238 (US 21749) (A).

4381. A BATCo document dated April 4, 1979 entitled "Year 2000" listed predictions for changes from 1979 to 2000, and advised "in **most** markets we do not examine smoking habits of those under 15." 109883101-3103 at 3101 (US 21518) (A) (emphasis added).

4382. An internal B&W document dated September 21, 1979 from Robert Chambers, a B&W Brand Manager, attached a report entitled "The Growth of Menthols, 1963 to 1977" describing Kool's growth phase from 1963-1977. The report stated: "Salem had created a vast market potential for menthol, and Kool had retained its taste, while brands in the 'tar' derby had dropped 'tar' and taste. This put Kool in a good position to capitalize on two emerging markets – the blacks and college-aged marijuana users. The post-war baby boom had, by this time, swelled the population of young and black; and Kool was positioned to take advantage. Kool increased its advertising and promotion to blacks and youth, who were both heavy pot users and heavy menthol smokers." 660110384-0386 (US 20954) (A).

4383. An October 1979 B&W document entitled "History and Key Trends in the U.S. Cigarette Market" contained several reports prepared for the company describing market trends occurring in the United States in previous decades. One of the reports described "Kool's growth phase" between 1963-1974: "Use of marijuana by young people was growing . . . according to a . . . consumer survey, 52% of marijuana users aged 12-17 also smoked cigarettes compared with only 11% of non-users. No hard data are available on the brands of cigarettes used by smokers of pot but menthols would appear to hold an above average share among such smokers. **This would be consistent with Kool's position as the favored cigarette of young smokers**." The

report on menthols also tracked Kool's share of smokers ages 16 to 25 and specifically noted Kool's share of black male smokers ages 16 to 34. 670624932-5364 at 4932, 5008-5009, 5013-5014 (US 53869) (A).

4384. Nicholas Brookes, Chairman and Chief Executive Officer of B&W from 1995 until 2000, testified in this case that B&W did not institute a company policy prohibiting research on youth marketing and smoking behavior for those under 21 until the "late 1970s or early 1980s." Brookes also admitted that prior to the early 1980s, B&W conducted marketing research on individuals as young as 16, specifically on the switching behaviors of individuals between the age of 16 and 25. Brookes also testified that since 1998 "the emphasis of the Marketing Department has moved . . . from mass media types of advertising to one on one marketing, and where you're able to verify that the individual is a smoker who's of legal age, i.e. eighteen or nineteen years old, then we might very well, you know, just talk to them about their smoking habit, but it would be on a one-to-one basis." Brookes PD, United States v. Philip Morris, 5/2/02, 134:24-136:23, 146:18-147:18, 148:2-148:19.

4385. Another B&W document entitled "Kool Switching History" tracked demographic data and smoking incidence of people aged 16 and older from 1966 to 1980. 542011811-1812 (US 20934) (A).

4386. According to B&W's internal 1981 "Kool Strategic Brand Plan," the company decided that "Kool resources will be allocated against geographic and demographic segments which represent the highest opportunity [including] [y]oung adult starting smokers." 670624652-4705 at 4654 (US 20973) (A).

4387. A February 4, 1981 B&W study entitled "Viceroy Switching Study Analysis Wave 28" stated that because "starting is a function of awareness among potential smokers which

is directly related to brand size (S.O.M.) and levels of [promotional] support, Viceroy's Parent's low starter rate is understandable. Viceroy Parent has not been advertised since 1977." The report also stated that "Viceroy Rich Lights' starter rates (15% and 11%) are significantly greater than the category and competitive brands, primarily because the brand was introduced relatively recently and supported by a relatively high spending rate." 670110917-0959 at 0937, 0945 (US 20963) (O).

4388. In an April 22, 1981 internal memorandum to Dick Veatch, B&W Brand Promotion Manager, from P.W. Stebbins, B&W employee, memorialized a phone conversation with Betty Carr regarding a Barclay sampling program, in which Carr reported that her Houston store, Tobacco Road, had been inundated with teenagers trying to sell or exchange the cigarettes they received as part of a Barclay promotion. Carr indicated that a similar situation had occurred with Kool Milds sampling in Houston. 666006105-6106 (US 20959) (A).

4389. Kwechansky Marketing Research wrote a report dated May 7, 1982 for Imperial Tobacco Limited entitled "Project Plus/Minus" that focused on two age groups: 16 to 18 year olds, and 19 to 24 year olds. The report built on "Project 16," an earlier study which examined "why do young people start smoking, and how do they feel about being smokers?" The report stated that a smoker's first brand choice comes from "peer example," and that "Imperial Tobacco's brands have the apparent lions [sic] share of this [the youth] market." The study stated that "the age of brand independence and of cessation of peer brand judgment seems to be getting lower," and concluded with an analysis of brand choice of cigarettes by young people. The report stated: "Juvenile dabblings with smoking take place mostly for reasons of seeking to sample forbidden fruit." 566627751-7824 at 7753, 7755, 7812, 7813, 7816 (US 20938) (A).

4390. A B&W document apparently drafted in 1983 entitled "Kool Advertising" stated

as a "Problem" that "[o]ur campaign does not currently appeal to young adults of all races (<25)," due to "trial growth weakest of all age groups" and "franchise aging rapidly." As the solution, the document recommended that Kool advertising "go for the fantasy" and "go for cool." 675159252-9253 (US 21730) (A).

4391. On April 13, 1983, B&W Artistry Limited, Pinewood Studios, England, mailed a contract to B&W. This contract was signed by N.V. Domantay, Vice President of Brand Management for B&W, and memorialized the agreement to place Barclay outdoor advertising displays in the film "Supergirl." 675048039-8042 at 8039 (US 20976) (O). On August 4, 1993, David Remes, an attorney with Covington & Burling, wrote to Congressman Schiff "[o]n behalf of the . . . six principle U.S. cigarette manufacturers" that the billboard in Supergirl was "included against the manufacturers wishes." The statement in Remes' letter is contradicted by the signed agreement between B&W and Artistry Limited, Pinewood Studios. 947181920-1921 at 1921 (US 22527) (O); 675048039-8042 at 8039 (US 20976) (O).

4392. A letter dated April 28, 1983, from Sylvester Stallone to Bob Kovoloff at Associated Film Productions ("AFP") recorded his promise to smoke B&W cigarette brands in five upcoming movies in exchange for $500,000. 690132319-2319 (US 21044) (O).

4393. A June 14, 1983 letter from James Ripslinger, Senior Vice President at AFP to Sylvester Stallone provided further details of the agreement to use B&W's tobacco products in his next five scheduled motion pictures. The letter stated that AFP was "representing their client B&W." 685083120-3120 (US 21033) (O).

4394. A September 14, 1983 B&W document entitled "Belair 1984 Media Plan" recommended a media target audience for Belair that included males and females ages 16 to 29. 676025033-5033 (US 53922) (A).

4395. H.T. Hughes, a B&W Marketing Manager, wrote a letter dated September 16, 1983 to P.R. Hill, BATCo, and copied to G.E. Lajti, an employee of the B&W Marketing Research Department, responding to Hill's requests for "general socio-economic information on the domestic U.S. cigarette market" and information to fill "data gaps for the years 1972-1981." Hughes attached a questionnaire which, under the heading "Age," included a category for those "Under 16" and "16 to 25." 539003010-3021 at 3010, 3012 (US 20933) (O).

4396. A B&W September 17, 1983 internal memorandum from J.L. Hendricks, Brand Promotions Project Manager, to M.A. Schreiber, Senior Brand Manager of Kool, stated that "the purpose of this memo is to recommend a continuity promotional concept for Kool" and that the Record Club of America ("RCA") had offered their Record Club facilities to Kool for 50% off regular price. 676026171-6172 at 6171 (US 20977) (A).

4397. An October 1983 document entitled "Market Dynamics" reported research conducted by B&W to determine trends in starting smoking and switching brands. The document stated that "[s]tarters are concentrated in the youngest age groups," and included a chart indicating that smokers age 16 to 25 compromise 15.2% of former smokers and 34.0% of starters. The document further stated that "Kool's ability to attract starters has been because of high development among young smokers," and provided a table of "Kool Starters: Male smokers 16-25" with data from 1979 to 1982. Concluding that "starters are concentrated in the younger age groups" and "starters are influenced by their peer group," the authors recommended that "**to increase Kool's share of starters, it will be necessary to increase Kool's share among young smokers.**" 670585199-5216 at 5211-5212, 5214 (US 20972) (A) (emphasis added).

4398. A 1983 B&W document entitled "Switching Overview" examined several brands to determine which ones were "attracting starters" or "attracting switchers" and which were

"losing due to switching-out," and concluded that "Marlboro is the only male brand attracting starters." As to female brands, "[Virginia] Slims, Eve and Satin [are] attracting starters." 674017018-7030 at 7020-7021 (US 20975) (O).

4399. An October 26, 1983 memorandum from D.R. Scott, B&W Director, Audit and Special Services, to N.V. Domantay, Vice President of Brand Management for B&W, attached an internal audit of B&W's relationship with Associated Film Productions ("AFP"). The audit revealed that B&W paid AFP $30,000 quarterly to "place B&W advertising and products in selected new movie productions." The audit indicated that AFP had succeeded in making placements in 22 movies and one television show between 1981 and 1983 including "Nine to Five," "Body Heat," "Only When I Laugh," "Sharkey's Machine," and the television program "The A Team." AFP had also placed B&W advertisements in movie theaters until August 1983 for approximately $100,000 per year. 685086478-6487 at 6477-6481, 6487 (US 21731) (O); 549000789-0789 (US 20936) (O).

4400. An October 26, 1983 report produced by the Information Center for B&W on the "starting age of all smokers on the switching study" shows starting ages ranging from 1-86, with most smokers starting between the ages of 12-18. Handwritten comments on the report state "get smokers as young as possible" and "Brand Choice of Starters [females 16-25] can best be predicted by Brand Choice of Smokers [females 16-25]." 670579884-9946 at 9888, 9891, 9896 (US 25429) (A).

4401. A January 1984 report entitled "Additional Analysis: The National Brand Switching Studies" prepared by Market Facts for B&W concluded that "[b]y age group, incidence among 16-25 year olds rose" and that "[f]irst time starters are a great deal younger, and smoke considerably less than the other categories of smokers." 670579702-9724 at 9705, 9723

(US 20971) (O).

4402. Linking Kool to music remained a goal for B&W. On May 18, 1984 B&W Special Events Manager R.J. Miller sent a letter to Dino Santangelo at Festival Productions regarding "Kool Jazz Festival Advertising." The letter discussed print, television, and radio advertising for the Kool Jazz Festival. 682144612-4614 (US 25449) (A).

4403. A July 30, 1984 Imperial Tobacco Limited document entitled "Proceedings of the Smoking Behaviour-Marketing Conference, Montreal, Quebec, July 9th-12th, 1984, Session 1" was distributed to many people including BATCo's Dr. L.C.F. Blackman; Tilford Riehl, Division Head, Product Development, B&W; Andy Mellman, Marketing, B&W; Michael Brennan, Scientific Advisory Board, Center For Tobacco Research; and C.I. (Ian) Ayers, Research Manager, BATCo. The report stated that "our future business depends on the size of [the] starter population," and asked, "Can we develop models of how smoking careers unfold?" The document indicated that Wayne Knox, Marketing Manager, Imperial Tobacco Limited, had "pointed out that the failure to develop new smokers may have more detrimental impact on the industry in [the] future than losses due to quitting." 536000000-0090 at 0016, 0017, 0027 (US 22338) (A).

4404. A B&W 1985 Strategic Marketing Plan stated: "High attraction of starters key to growth whether by company (PM) or brand (Newport, Virginia Slims, Marlboro or Generics)." The document also discussed the marketing strategy for Kool: "concentrate efforts on young adult, male prime prospects. . . . Advertising should symbolize both the best cigarette (quality) and a contemporary image of masculinity, self-assurance, confidence and control (cool)." 670146621-6701 at 6626, 6637, 6638 (US 30805) (A).

4405. A March 6, 1985 B&W memorandum from Brand Assistant A.G. Forsythe to

R.D. Sharp, a B&W Group Product Director, copied to Brand Assistant D.N. Lapere and L.D. Johnson posed the question: "How did Marlboro and Newport become the in-brands?" With respect to Newport, the response was "Newport was a regional brand that depended primarily on local programs targeted to young adults (beach events, sampling, vans, etc.) supported primarily by outdoor. Like Marlboro, Newport has maintained creative consistency since the early 70's. The Newport campaign has been tightly targeted to young adults. During this time, Kool either had no user image campaigns or was depicting older models. As a result 'Ports' [Newports] has become the in-brand among young Black adults while Kool has declined significantly among this group." This document also stated that "Kool must aggressively seek to re-establish itself among young adults with aggressive programs" such as music events and outdoor advertising. 554000052-0060 at 0053 (US 20937) (A).

4406. An April 19, 1985 internal B&W memorandum from Lawrence E. Gravely, Research Operations Manager, to Betty A. Sproule, Research, Development and Engineering, regarding "ARE STARTERS YOUNG OR OLD?" stated: "This is in response to your question of April 18, 1985. This data comes from the 1984 Brand Switcher . . . Starters are: 50.8% [ages] 16-25." 670541820-1820 (US 20970) (O).

4407. An internal April 29, 1985 document analyzing the success of the Marlboro brand entitled "Resolve Brand Marketing Strategies" stated that B&W's market weaknesses were among starters and switchers, largely due to the company's "failure to meet needs of young smokers." The author also stated that Kool needs to "focus on young adults." 528000268-0279 at 0269, 0275 (US 20924) (A).

4408. A July 9, 1985 B&W document entitled "Beta M National Theoretical Media Plan" stated that the "target audience for B&W's BETA-M cigarette" was "[w]omen [s]mokers

18-34 years of age," and recommended placing advertising in magazine "because of its special editorial directed to young women ranks high with women smokers 18-34." It further recommended placing advertising in *Rolling Stone*, *Record*, and *Spin*, all described as "young targeted music books." 670661599-1665 at 1627, 1628 (US 23054) (A).

4409. BATCo's November 1985 General Marketing Policies declared that "overall BATCo strategy will be market specific and multi-brand but within each major market major effort behind one brand aimed at starters/young adults." 109870521-0561 at 0536 (US 21925) (A).

4410. A 1987 document entitled "Econometric Analyses of the Kool Brand Family and Newport Brand Family With Recommendations" included data on the birth rates of teenagers, including both "white birth rates" of "17, 19, 26 and 27 yr. olds," and the "non-white birth rates" of "13, 16, 17, 18, 21 and 26 yr. olds." 795005304-5331 at 5307 (US 21056) (A).

4411. A February 17, 1987 memorandum entitled "Kool Isn't Getting the Starters" from D.V. Cantrell at B&W to I.D. Macdonald, B&W Marketing Vice President, addressed "the fact that Kool is no longer attracting new smokers (further referred to as starters)." The memorandum explained that "Menthol brands have been said to be good starter products because new smokers appear to know that menthol covers up some of the tobacco taste, and they already know what the menthol tastes like, vis-a-vis candy." 621079918-9921at 9918, 1920 (US 30792) (A).

4412. A July 2, 1987 B&W memorandum to "all area promotion managers" entitled "Kool Nights Bar Promotions" described a program "to conduct bar promotions in inner-city, Black neighborhoods to increase awareness and trial of Kool Milds and to further reinforce Kool as the leading Menthol Brand." Under the program, packs of Kool Milds would be made available for sampling (free give-aways) and area managers would be allocated "bar kits"

including promotional items such as Kools Milds ashtrays, "Kool & Mild Today" table tents, and "Kooltown" t-shirts. In a section entitled "Publicity," the memorandum suggested having local radio stations co-sponsor Kool Night events in order to "maximize awareness and attendance at your event; however no funds are authorized for this purpose." In addition, the memorandum instructed that the radio stations could broadcast the date, location, and times of the events, but could not mention the word Kool during any on-air promotion. 671712346-2355 at 2347-2349 (US 22182) (A).

4413. A November 1993 report entitled "The Psychology of Significant Moments and Peak Experiences in Cigarette Smoking, The Motivations and Semiological of Smoking" was prepared by Hugh Baines Research for BATCo. One section of the report focused on children's motivations to begin smoking, finding that: "Children's reasons for experimenting with smoking: Children start to experiment with smoking for a variety of reasons. Observing adults smoking, children from a very early age often use substitute objects as 'pretend cigarettes' in play, mimicking the actions adults make when smoking." 500287512-7596 at 7532 (US 20624) (A).

4414. An August 2, 1994 letter from Laura Moorhead at Campbell Mithun & Esty, an advertising and marketing communications firm, to Donnar Sengalaub, a B&W Marketing Financial Analyst, showed that in 1994, B&W was placing its media and sale promotion dollars behind Kool rather than its other brands such as Viceroy and Capri. An August 25, 1994 invoice from Campbell Mithun & Esty indicated that in 1994 B&W placed Kool advertisements in magazines with a substantial youth readership, such as *Sporting News* and *Sports Illustrated*. According to MRI data, nearly 28% of readers of *Sporting News*, and nearly 18% of readers of *Sports Illustrated* were between the ages of 12 to 17 in 1994. 671443677-3677 (US 20974) (A); 461301164-1167 at 1166 (US 21994) (A); Krugman WD, 116:3-122:7.

4415. Carl Schoenbachler, President and CEO of BATIC, testified that B&W in the mid-1990s was interested in acquiring Santa Fe Tobacco because B&W needed to address the problem of having "a fairly old brand portfolio when measured in demographic ter" Santa Fe Tobacco's main brand, American Spirit, had "grown year after year after year and so, and . . . [was] a very much younger, ASU 30 type of brand." BATIC is the upstream parent of Brown and Williamson Tobacco, which ultimately is owned by BATCo. BATIC is a holding entity for Brown and Williamson Tobacco and related tobacco subsidiaries, and also provides management services for Brown and Williamson. Schoenbachler testified that Santa Fe Tobacco was ultimately purchased by RJR. Schoenbachler PD, United States v. Philip Morris, 10/29/02, 37:14-40:5.

4416. Sharon Smith, when she was Director of Creative Services and Director of Lucky Strike, attended meetings annually in London with individuals from other BAT group companies where information and research was shared concerning Lucky Strike advertising. Although B&W claims it does not market to persons under age 21 or perform market research using persons under age 21, the BAT global policy is that it markets to and conducts market research on persons ages 18 and above. BAT group companies conducted consumer research on Lucky Strike which included individuals as young as18 that was shared with individuals at B&W. Smith WD, 37:23-39:6; 500049909-9912 (US 20618) (O); 283000783-0789 at 0783-0784 (US 87810) (A).

4417. The 1995 Brand Plan for Lucky Strike cigarettes stated that one of the brand's strengths was its "young adult male franchise in most [i]nternational markets." The Brand Plan also discussed the opportunity to attract YAUS (young adult urban smokers) because of the "[a]ging consumer profile for Marlboro." The target consumers for Lucky Strike were described

as "independent young adult males who are the role models that will lead a breakaway from the herd mentality of Marlboro." 500029079-9090 at 9080-81 (US 66280) (A).

4418. On January 11, 1995 Tim Rutter, Creative Alliance employee, sent a document entitled "Growing the Kool Franchise" to Robert John Dunham, Kool Brand Manager, which included "initial, topline ideas for enhancing the growth of Kool." Rutter stated that "[t]he Kool franchise continues to age, attracting fewer and fewer new customers each year." Suggestions for "growth" include vending machines and Kool signage inside jukeboxes in bars and nightclubs. 291001508-1508 (US 67743) (A); 291001509-1515 at 1509, 1513 (US 22992) (A).

4419. A letter dated October 10, 1995 from Nicholas G. Brookes, B&W Chairman and Chief Executive Officer, to Hilary Barton, BATCo employee, enclosed "briefing notes" including one entitled "B&W's Strategic Vision." The notes stated that in 1995 B&W's strategic vision was to generate "sustainable long-term growth through increased penetration of young adult smokers (Kool, Lucky Strike)." The briefing notes also stated that "[b]uilding a strong position in the YAS segment has been identified as a priority during the plan period." 582302425-2436 at 2426, 2434 (US 20942) (O).

4420. B&W Director of Creative Services Sharon Smith testified this case that the "B Kool" campaign grew out of "Project Look." "Project Look" was an effort in the mid 1990's by B&W to re-position Kool as a brand for so-called "young adult smokers" when market research showed that Kool received low ratings for "leading brand," "kept up with times," and "for a younger adult." Kool was B&W's most profitable brand and the success of B&W depended on the success of Kool. As discussed in an April 28, 1998 Business Briefing video featuring Senior Market Analyst Nick Wilkerson, the purpose of "Project Look" -- which included the new Kool soft and box packs, the "Team Kool Green" Indy car, and "B Kool" advertising campaign -- was

to reestablish the Kool brand among younger adults. Wilkerson stated in the video that B&W wanted to launch these campaigns at the beginning of 1998, before the marketing environment became more restricted. Smith WD, 7:11-18, 10:11-15; 582302425-2436 at 2426 (US 20942) (O); USX1640103-0104 (US 47668) (A); DXA1100054-0054 (US 87811) (A).

4421. A 1996 B&W study of the Kool brand reported that "Young Adult Smokers (YAS) represent approximately 11% of total smokers in the U.S." and that "[b]uilding a strong position in the YAS segment is critical to achieving long-term sustainable growth in the U.S. market." The document further stated that B&W "Continues to Significantly Underperform" in this important segment. 314002773-2792 at 2776 (US 21835) (A).

4422. In a 1996 BATCo memorandum entitled "Brand Portfolio Strategy Development," Bob Miller, BATCo's Head of Marketing Information, stated that "[g]aining young adult smokers is critical for the future growth of our brands and business (ergo, YAUS [young adult urban smokers] target audiences across many key brands)." 780011787-1790 at 1787 (US 22197) (A).

4423. A March 27, 1996 Marketing Research-Initiating Project brief outlined a research project in conjunction with the 125th anniversary of the Lucky Strike trademark. The objective of the research was to "understand consumer's general perception on the idea of . . . celebrating the 125th anniversary of the Lucky Strike Trademark." Participants in the research included individuals as young as 18. The research results were to be submitted to the Lucky Strike United States International Brand Group in Louisville, including Paul Wessel, a Vice President of Marketing at B&W. This evidence contradicted the company's professed policy of not conducting marketing research on individuals under 21. 780003262-3264 at 3262-3263 (US 22196) (A); 66000000-0024 (US 87813) (A); 307000035-0036 (US 87814) (A); 465960989-1027 (US 87815) (A); 465961028-1029 (US 87816) (A).

4424. Paul Wessel, B&W Divisional Vice President, testified in this case that employees in the International Brand Group in Louisville had access to a database that included research on individuals under 21, despite B&W's policy of not conducting consumer research on individuals under 21. He further testified that these consumer surveys included information on brands such as Lucky Strike and State Express 555 which are sold in the United States. When asked whether the consumer surveys were limited to individuals under 21, he testified that "they would go market by market, subject to age of majority . . . [and that] some markets go lower than 21, down to 18." Wessel PD, United States v. Philip Morris, 3/19/03, 64:6-71:4.

4425. In the "Project Look Overview Brief" dated October 1, 1996, Nick Wilkerson, Director of Market Strategy and Development for B&W, discussed "Kool's shortfalls in image attributes [among] . . . Young Adult Smokers." The document indicated that Project Look aimed to "return Kool to its heritage by making the brand relevant over time to male smokers aged 21-30" by sponsoring race events and by the promotion of sports and music events. With respect to promotions, the document stated that "primary consideration should be given to addressing the wants and needs of Noisy Boys." 295020733-0739 at 0734, 0736-0737 (US 36451) (A).

4426. A summary of an October 11, 1996 B&W marketing meeting in Louisville documented that

800058817-8821 at 8820 (US 56547) (A) (Confidential).

4427. A November 7, 1996 document entitled

stated that one of BATCo's the

The Marketing Plan also disclosed that, for the State Express 555 brand,

800251281-1299 at 1282, 1287 (US 56593) (A) (Confidential).

4428. The 1997 Media Plan for Kool cigarettes listed the following among its objectives" "Communicate 'Up-to-Date', 'Leading Brand', 'Quality', and Popular.'" The 1997 preliminary list of magazines in which Kool advertisements were placed included publications such as *Spin* and *Sport*, each of which had a youth readership (readers between the ages of 12 to 17) of over 30%. 462205141-5145 at 5141 (JD-011795) (O).

4429. The 1997 Creative Plan For Kool cigarettes included a section on the development of creative images to be used in advertisements, in POS, and in communications to support the Kool Indy car sponsorship. The plan indicated that the images should "[r]eflect masculinity, popularity, and young adult imagery in a manner that differentiates Kool from Newport and Marlboro Menthol through a contemporary exploitation of the Kool Indy car program." 176020757-0775 at 0773 (US 23344) (A).

4430. The 1997 Media Plan for Lucky Strike cigarettes described its "Target" as "21-25 Year Old Male Smokers . . . Bohemian Noisy Boys." 176020856-0926 at 0910 (US 23357) (A).

4431. In 1997 B&W sponsored the H.O.R.D.E. (Horizons of Rock Developing Everywhere) Festival, an annual all-day music festival which was staged in 28 cities across the United States over the summer. Prior to the H.O.R.D.E Festival, B&W sponsored the "Extremely Kool Band-to-Band Combat" competitions in 10 United States cities "with the grand prize being the opening act on the Second Stage at three H.O.R.D.E shows." The objectives for the "Extremely Kool Band-to-Band Combat" competitions included "[i]mprov[ing] perceptions

of Kool as a popular, up-to-date, leading brand" and capturing names for B&W's smoker database. 306014279-4279 (US 22102) (A).

4432. A 1997 BATCo report entitled

stated that

325335439-5468 at 5443, 5445, 5451 (US 24093) (A) (Confidential).

4433. Other internal documents confirm that B&W sought to "update the image of its Kool brand" with its "B Kool" advertising in the late 1990s. Advertising awareness for Kool increased between 1997, when the "B Kool" campaign was initiated, and 1999. Adult smokers under 30 who were aware of the advertising were more likely to associate Kool with "key imagery measures" that included popularity and sophistication. The "B Kool" campaign communicated an image of the Kool smoker as independent. Masculinity and confidence were also themes associated with the B Kool campaign. Masculinity, popularity, sophistication and independence are all themes that appeal to youth. 462110343-0376 at 0344 (US 22490) (A); 309031048-1071 at 1051 (US 22660) (A); 315022030-2207 at 2041 (US 22496) (A); Biglan WD, 36-95; Krugman WD, 94:1-99:23; Smith WD, at 16:20-17:6.

4434. A February 12, 1997 agreement between B&W and Gateway Motorsports Corporation made Kool the "Official and Exclusive Tobacco Sponsor" of the 1997-1998 CART World Series event at Gateway International Raceway. B&W received the right to display Kool banners and signage around the racetrack, as well as point of sale signage "in and around all

concession areas." The agreement also included provisions guaranteeing that Kool would receive six P.A. announcements each day of the event, and provisions authorizing B&W to conduct a direct mail promotion in connection with the event. 323011515-1519 at 1515-1516, 1517 (US 47068) (A).

4435. A May 30, 1997 BATCo plan entitled "Lucky Strike – Strategic Development of Get Lucky Campaign" produced from the files of B&W demonstrated that B&W had access to and reviewed BATCo marketing research using smokers under 21. The plan discussed Lucky Strike's "[e]xtremely successful sales results . . . achieved in the two key test markets," and indicated that the principal target group of the Lucky Strike campaign was male young adult urban smokers ages 18 to 25 who were "opinion leaders and trend setters." The document described Lucky Strike as: "James Dean – an archetypal Luckies smoker," "a legendary marque of teenage rebellion and rock 'n' roll heroes of the 1950's." It stated: "Lucky Strike is one of the greatest 'badges' of all time . . . . Cigarette consumers crave this sort of 'badge'; it is more important to them than anything else. This sort of authenticity is rare and invaluable since it demonstrates to peer groups that you are 'in the know.'" 844002422-2437 at 2432, 2434, 2437 (US 21921) (A).

4436. An August 21, 1997 letter from Roger DiPasca at Grey Advertising to Nick Wilkerson, Sharon Smith and Leslye Thornton, Manager of Marketing Research at B&W, included information regarding a "psychographic" study the focus of which was young men whose personalities were described as "noisy boys #2 and 3." 220280849-0849 (US 20542) (A).

4437. Nicholas Brookes testified in this case that B&W advertised its Kool cigarettes using a marketing campaign known as "B-Kool." According to Brookes, the campaign had an "ASU 30 [adult smoker under 30] focus" and was "focused on a play of words . . . around the

name of our brand Kool." When asked whether B&W considered whether the "phrase 'B Kool' might be attractive to youth," Brookes responded: "I am sure we did not." Brookes PD, United States v. Philip Morris, 3/31/03, 58:19-60:24.

4438. B&W continued its efforts to market via various types of music. GPC, a B&W Brand, was the title sponsor of the 1998 and 1999 George Strait Country Music Festival National Tours. The festivals were comprised of 10 or 12 events across the summer months, with activities such as a country and western GPC smoking room; GPC also appeared on promotional material for selling tickets and signage. 283204039-4040 (US 85221) (A).

4439. An April 6, 1998 B&W memorandum entitled "Kool Mix Nights" from Jeff Picket, Manager of Trade Marketing Promotions, to Roger DiPasca at Grey Advertising suggested promotions at urban dance clubs. 210430224-0228 (US 21825) (A).

4440. "BAT's America-Pacific Regional Plan 1999-2001," circulated for editing by B&W employee Doug Brown on October 22, 1998, stated BATCo's regional strategy: to

The Kool portion of the Regional Plan described initiatives implemented to position Kool for long term share growth

Two prior initiatives implemented in new advertising creative and new packaging, increased awareness

142000500-0663 at 0503, 0558-0559 (US 23342) (A) (Confidential).

4441. A December 8, 1998 TMG Worldwide proposal to B&W for the development of a Kool brand loyalty program contained a situation analysis that provided information on the growth of the age 18 and older "smoker universe." The report detailed the growth of the Marlboro, Newport, and Camel brands from 1994 to 1998 among this population in contrast to the decrease in the number of Kool smokers among the same population. 318034354-4406 at 4360-61 (US 22215) (A).

4442. In a 1999 slide presentation entitled "ASU30 Project," manager Rick Stevens analyzed BATCo's "ASU30 Performance 1998," stating that younger adult smokers were a "critical factor in the growth and decline of every major brand and company over the last 50 years." Furthermore, a slide entitled "Value of YAS," included the admissions "[m]arket renewal is almost entirely from 18 year old smokers" and "[n]o more than 5% start smoking after age 24." The slide presentation also included an analysis of "Generation Y" that observed "one in nine teenagers has a credit card." 321539777-9806 at 9782, 9787-9788 (US 24084) (O). This view of the fundamental importance of attracting the youth market is shared by B&W: in this case, Sharon Smith testified that it was preferable for a cigarette brand to have a young age profile. Smith WD, 14:23-15:1.

4443. A May 19, 1999 memorandum from Patrick Carroll, BATCo affiliate employee, to Brian O'Connell, a BATCo employee, and copied to Susan Ivey, then CEO of B&W and now head of Reynolds American, entitled "Potential Marketing Uses on the Internet," stated that "the most valued smoker at BAT is the ASU 30." 321884042-4042 at 4042 (US 88159) (A).

4444. In testimony in this case, Carl Schoenbachler, current president and CEO of BATIC (a former parent of B&W Tobacco and holding entity for B&W Tobacco), was asked if the statement, "The key to sustainable long-term profit growth in the U.S. is ASU30," was

accurate. Schoenbachler responded: "Yes, I would say that's true." He explained that "there tends to be a great deal of loyalty in cigarette brands. So, just a natural mathematical equation would suggest if you -- if you don't have thirty-year-olds smoking your product, you won't have forty-year olds and fifty-year-olds. It's a very brand loyal business." Carl Schoenbachler conceded that there would be a financial benefit for B&W if it was able to obtain market share in the under 21 age group. He also testified that although the company has a stated policy of not marketing to non-smokers, "it was a reasonable conclusion" that B&W would become unprofitable if non-smokers did not become smokers. Schoenbachler PD, United States v. Philip Morris, 5/21/02, 72:16-21, 73:13-22, 141:11-141:21; 152:20-25.

4445. A regional overview of the American Pacific strategies, entitled and produced from the files of B&W, stated that

One of the was

250300207-0268 at 0210, 0222 (US 25512) (A) (Confidential).

4446. In May 2000, B&W launched a new advertising campaign for Kool known as the "House of Menthol" campaign. B&W sought to market to youth through its "House of Menthol" advertising. Richard Newman, executive vice president and worldwide account director at BATES USA, stated that one of the meanings associated with "House" is house music, a type of

music that is popular with teenagers. 700500191-0193 at 0193 (US 85223) (A).

4447. Contrary to its public assertions that it does not conduct research on individuals under 21, B&W, as recently as 2001, conducted focus group research on individuals as young as 18. A January 16, 2001 email from Kevin Korte, B&W Senior Manager, Process Innovation and Recon Development, to a BATCo employee, indicates that

271101190-1121 at 1194-1195 (US 22210) (O) (Confidential).

4448. Nicholas Brookes conceded in testimony in this case that it is possible that some nonsmokers might be "prompted by an advertisement" to start smoking. Brookes PD, United States v. Philip Morris, 3/31/03, 77:17-78:1.

4449. The former President and CEO of B&W, Susan Ivey, now CEO of Reynolds American, testified that advertising targeting young adults ages 21-30 could also appeal to youth. Ivey WD, 16:4-6.

4450. Carl Schoenbachler, current president and CEO of BATIC, testified that B&W's marketing expenditures have increased since the MSA. Schoenbachler PD, United States v. Philip Morris, 5/21/02, 108:20-109:5.

4451. Paul Wessel, B&W Divisional Vice President, testified in this case that B&W defined youth as "people who are below the age of majority to smoke," which would be 19 in certain states. Wessel also testified that B&W would market to individuals as young as 19 in states where that was the age of majority. Therefore, contrary to its stated policy not to market its product to individuals under 21, B&W marketed its cigarettes in certain circumstances to individuals under 21. Wessel PD, United States v. Philip Morris, 3/19/03, 58:21-59:9.

(g) RJR Intentionally Marketed To Youth Contrary To Its Public Statements

4452. RJR requested and obtained a proposal dated March 14, 1958 from George MacGovern of the William Esty Company to study high school students' attitudes toward cigarette smoking. 501113763-3764 (US 22361) (A).

4453. A December 9, 1959 letter from MacGovern to W.A. Sugg, RJR, enclosed a marketing study of the smoking habits of high school and college students undertaken by the William Esty Company resulting from the March 14, 1958 RJR proposal. One of the conclusions reached was that, "Preference-wise, CAMEL and WINSTON are shown as holding their shares substantially constant while SALEM increased its share, especially among high school students." 501113723-3730 at 3723 (US 22366) (A).

4454. The December 1958 report prepared at RJR' request was entitled "Summary of Findings" of "The Youth Research Institute Study Regarding Cigarette Smoking Among 8,112 High School and College Students in 82 Cities Throughout the United States, October-November, 1958." The report included data and conclusions on smoking incidence, smoking volume, and brand preferences of 3,052 high school students, 58% of whom were smokers, and 5,060 college students, 73% of whom were smokers. Both the high school and the college categories were further broken down into "freshman-sophomore" and "junior-senior" classes. 501113743-3749 at 3744 (US 22362) (A).

4455. George MacGovern, of the William Esty advertising agency, sent a January 16, 1964 letter to RJR that attached a plan in response to another RJR' request for research proposals to study, among other things, trends "on cigarette smoking at the teen-age level." 517145828-5830 at 5828 (US 80621) (A).

4456. A lengthy February 1964 report prepared for RJR by the William Esty Company

summarizing a national report on smoking trends included further information on smoking incidence, smoking volume, and brand preferences for 8,863 families who participated in the National Family Opinion ("NFO") panel. Information in this report was collected on smokers as young as 16. 500396569-6607 at 6572 (US 20632) (A).

4457. In a March 12, 1964 letter from W.A. Sugg at RJR to William S. Smith of the Tobacco Institute Advertising Committee, Sugg attached the February 1964 study and stated: "We [RJR] put a similar survey in the field about February 10. . . . This and later studies will help us in evaluating changes in incidence of smoking, volume of smoking, and brand switching resulting from the report of the Surgeon General's committee and subsequent developments. . . . **The most interesting finding in the study is the great strength of WINSTON among young smokers, the brand having its highest preference share with teen-agers**, its next highest with young adults, and its lowest popularity with smokers 50 years of age and older." 501795141-5141 (US 20687) (A) (emphasis added).

4458. A March 16, 1965 document produced from the files of RJR contains charts on the audience composition of various daytime television programs, including one reporting data on the percentage of viewers under age 17 for programs such as *Andy of Mayberry*. Subsequent charts break down the viewership of these programs into age groups as young as 2 to 5 years old. According to this document, 35.7% of the total viewers of *Andy of Mayberry* were between the ages of 2 and 5. 501934748-4757 at 4748-4749 (US 87818) (O).

4459. In an April 9, 1968 memorandum entitled "Teenage and Adult Smoking Attitudes," T.P. Haller, Marketing and Research Department at RJR, recommended that RJR needed semi-annual studies of teenagers (both smokers and non-smokers) in order to "forecast our future requirements in leaf buying, plant facilities, manpower, etc." Among other benefits,

Haller stated that the study "will put light on the very vital teenage sector of the market." 517142447-2448 (US 21659) (A).

4460. In a September 19, 1969 draft document entitled "Proposal of a New, Consumer-Oriented Business Strategy for RJR Tobacco Company," Claude E. Teague, Assistant Director of Research, analyzed the behavior of the "pre-smoker," Teague's term for a person who had not yet begun to smoke, most often a teenager. In his analysis, Teague stated that "the propensity of a pre-smoker to begin to smoke cigarettes is largely determined, on the positive side, by the gratifications he expects to receive. These are largely social and emotional gratifications which may be completely offset by health anxieties and changes in the social acceptability of smoking." 500915701-5719 at 5706 (US 21433) (A) (emphasis in original).

4461. As early as 1964, as set forth above, and during the 1970s, RJR gathered and interpreted data on the smoking habits of 14 to 17 year olds from the National Family Opinion ("NFO") survey results. National Family Opinion data could be used to determine how underage smokers perceived certain aspects of certain brands. Donald Tredennick, Manager of Marketing Research at RJR, testified that during the 1970s he could use information from publicly available sources to determine why people under 18 started smoking. Tredennick further testified that, in the mid-1970s, RJR became aware by using various consumer research methods that their "share of market among younger people [was] much lower than it had to be in order to maximize [their] volume." Tredennick PD, 5/13/02, 42:16- 46:20, 104:3-105:05, 148:22-149:09, 144:05-22, 171:07-24. The data on "teenage smokers" (14-17) from the NFO enabled the company to become very familiar with the teenage smoking market. Specifically, using the data, the company could calculate: the relative share of RJR in capturing this market; the share of each of the company's competitors in this age group; RJR's share among this age group among its own

key brands; the share of the company's competitors in this age group by key cigarette brands, the share of the total market broken down by age and gender, and the number of cigarettes smoked per day in this age group broken down by gender. 501443912-3921 at 3913-3915 (US 20681) (O).

4462. At an April 7, 1971 meeting between representatives of the RJR's Marketing Research Department and the William Esty Company, RJR decided to include and count smokers ages 13 and under and to begin profiling 14 to 20-year olds in future National Family Opinion surveys. 500347108-7111 (US 20628) (A).

4463. A July 2, 1971 letter from William Esty Company to Jerry Clawson, RJR's Marketing Research Department employee, reported the preliminary findings of a study requested by RJR regarding "smoking incidence and preference shares, by age, among those aged 14 to 20 responding to the new questionnaire" during the National Family Opinion survey. The letter concluded, "[f]inally, Jerry, you expressed interest in learning the number of cigarette smokers 13 or younger found in the sample. There were 14 such smokers [out of sample of 1,850 respondents], thirteen aged 13 and one aged 12." 506052583-2584 (US 20751) (A).

4464. A November 29, 1971 report issued by the RJR's Marketing Research Department entitled "Marketing Research Report on NFO [National Family Opinion] Profiles for Camel Regular and Filter [Cigarettes]" concluded that "there are indications of progress in expanding our franchise among younger adult smokers." Attached to this report was a chart entitled "Younger Smokers - Ages 14-20." 501426066-6095 at 6067, 6095 (US 20679) (A).

4465. Claude Teague wrote an April 14, 1972 report entitled "Research Planning Memorandum on the Nature of the Tobacco Business and the Crucial Role of Nicotine Therein." On the topic of smoking initiation, Teague wrote that a smoker "appears to start to smoke for

purely psychological reasons -- to emulate a valued image, to conform, to experiment, to defy, to be daring, to have something to do with his hands, and the like. Only after experiencing smoking for some period of time do the physiological 'satisfactions' and habituation become apparent and needed. Indeed, the first smoking experiences are often unpleasant until a tolerance for nicotine has been developed." 500915683-5691 at 5686-5687 (US 20659) (A). Teague repeated these statements, almost verbatim, in a 1973 memorandum discussing "factors influencing pre-smokers to try smoking, learn to smoke and become confirmed smokers." 502987407-7418 at 7408 (US 20708) (A).

4466. A September 21, 1972 memorandum written by Joseph H. Sherrill, Director of Marketing Research at RJR, to William S. Smith, Tobacco Institute Advertising Committee, entitled "Company Shares Broken by Age Groups" stated "Philip Morris [is] the fastest growing company . . . among smokers under 35" and "that in the last six years Marlboro King has almost doubled its share with most all of its growth coming from young adults." 500769839-9840 at 9839 (US 21454) (O).

4467. A September 26, 1972 memorandum entitled "Share of Smokers: By Age - Top Ten Brand Items" from Sherrill to Smith included tables tracking brand share among teenagers ages 14 and older based on April 1972 data. In the memorandum, Sherrill stated that "Marlboro King and Kool King have significantly higher shares among younger smokers than among the population in general." 500810043-0046 at 0043 (US 21456) (O).

4468. In an October 25, 1972 letter to Robert A. Rechholtz, RJR Vice President and Marketing Director, Beverly Walker of Universal Pictures solicited the use of contemporary Winston and Camel cigarette radio advertisements for placement in the film "American Graffiti." Walker stated that "[t]he value of this type of subliminal advertising is known and accepted by

now. It certainly seems an excellent means of having your products identified with the warmest aspects of American life, to a captive audience at 'prime' time." 500201433-1433 (US 21875) (O).

4469. In a February 2, 1973 RJR research planning memorandum entitled "Some Thoughts About New Brands of Cigarettes for the Youth Market," Teague addressed a dramatic decline in RJR market share due to Marlboro's success in attracting new teenage smokers. Teague addressed the significance of the underage market in these terms:

> At the outset it should be said that we are presently, and I believe unfairly, constrained from directly promoting cigarettes to the youth market; that is, to those in the approximately twenty-one year old and under group. Statistics show, however, that large, perhaps even increasing, numbers in that group are becoming smokers each year, despite bans on promotion of cigarettes to them. If this be so, there is certainly nothing immoral or unethical about our Company attempting to attract those smokers to our products. We should not in any way influence non-smokers to start smoking; rather we should simply recognize that many or most of the '21 and under' group will inevitably become smokers, and offer them an opportunity to use our brands. **Realistically, if our Company is to survive and prosper, over the long term, we must get our share of the youth market. In my opinion this will require new brands tailored to the youth market** . . . . Thus we need new brands designed to be particularly attractive to the young smoker, while ideally at the same time being appealing to all smokers. Several things will go to make up any such new "youth" brands . . . What image? and What quality? Perhaps these questions may best be approached by consideration of factors influencing pre-smokers to try smoking, learn to smoke and become confirmed smokers.

502987407-502987418 at 7408 (US 20708) (A) (emphasis added).

4470. Donald Tredennick, former Director of Consumer Research at RJR, subsequently reviewed the aforementioned Teague memorandum entitled "Some Thoughts About New Brands of Cigarettes for the Youth Market," and made extensive notes on a copy of the memorandum. His handwritten comments included: "Outlandish attempt to exploit perceived vulnerabilities of

youth (clearly 19 + under) . . . must start before 18 . . . clearly 21 + under including 'teens' . . . although bad marketing, his intent is clearly to induce non-smokers to become smokers . . . **almost the smoking gun**." 519556867-6878 at 6867-6868, 6871 (US 85227) (O) (emphasis added).

4471. John McCain of the William Esty advertising firm sent a March 8, 1973 letter to Jack Watson at RJR concerning National Family Opinion preference share data for 14-20 year old Marlboro and Winston smokers. McCain wrote that "[m]any manufacturers have 'studied' the 14-20 market in hopes of uncovering the 'secret' of the instant popularity some brands enjoy. . . . Creating a 'fad' in this market can be a great bonanza. To date, success, if it comes, has often been a function more of luck than of prior marketing perception." 508453918-3920 at 3919 (US 20812) (A).

4472. An April 12, 1973 RJR marketing group memorandum credited Marlboro's appealing advertising for its growing market share, particularly among young smokers:

> **The Reynolds marketing group feels that the favorable share trend for Marlboro as compared to Winston is due almost entirely to the fact that Marlboro has hit upon a highly successful advertising copy approach**. . . . Marlboro's ability to gain market share while Winston is losing market share should, in my judgment, be the primary concern of Reynolds in the cigarette field. . . . In my opinion some way must be found to sharply reverse the present market share trend on Winston vs. Marlboro if Reynolds is to retain its preeminent position in the cigarette field. It was said that young smokers are smoking Marlboros two-to-one over Winstons. This is an alarming statistic for Winston.

500165434-5439 at 5437-5438 (US 21494) (A) (emphasis added).

4473. A May 4, 1973 proposal entitled "Meet the Turk" was presented to RJR management "to expose Management to the opportunity to aggressively position Camel Filter against the young adult market (male)." The proposal stated that males aged 14 to 34 "represent

approximately 35% of 85 mm NFF [non-filter full flavor] smokers." 500723696-3718 at 3697, 3699 (US 20647) (A).

4474. The November 1973 RJR Winston Box Marketing Plan recommended increasing marketing efforts to support the Winston box franchise because "[b]oth Winston and Marlboro enjoy their strongest franchise among the under 25 year old smoker and especially the young male smoker" and "[w]hile only 7.2% of all adult smokers (18 and over) smoke a cigarette in a Box, **24.4% of those 14-20 yrs. . . . smoke a Box cigarette**" 500724265-4313 at 4272, 4273 (US 20648) (A) (emphasis added).

4475. A December 4, 1973 inter-office memorandum entitled "Cigarette Concept to Assure RJR a Larger Segment of the Youth Market" from Frank G. Colby, Associate Director of Scientific Information at RJR, to R.A. Bleyins stated that to succeed in the youth market, the company should "develop a new RJR youth-appeal brand" that "delivered more 'enjoyment' or 'kicks.'" The memorandum stated: "**it should be easy to develop, within a relatively few weeks, these new youth-appeal cigarettes for market testing** for which the following advertising claims could be unequivocally proven: They will deliver more flavor, more enjoyment, and more puffs for the money than any large selling cigarette on the market, or for that matter, than any other cigarette now on the market." 501166152-6153 (US 23051) (A) (emphasis added).

4476. A December 5, 1973 RJR internal study entitled "Salem 'Ripe 'n' Ready' Campaign Evaluation - Final," included a profile of black smokers ages 14 to 20. The study discussed the Salem "Ripe 'n' Ready" campaign, which was designed to increase Salem's market among black smokers but which was eventually terminated because it "failed to achieve its objective." 500791561-1577 at 1566 (US 85228) (A).

4477. In 1974, Donald Tredennick, Manager of Consumer Research for RJR, was directed by a supervisor to determine what caused smokers to select their first brand of cigarettes. In response to this direction, Tredennick sent a July 3, 1974 memorandum to F. Hudnall Christopher, Director of Marketing Research for RJR. Using publicly available sources and consumer surveys of people over 18, Tredennick found that "most smokers begin smoking regularly and select a usual brand at or before the age of 18." Tredennick further stated: "If a person is going to smoke cigarettes, he generally starts during his teens, primarily to conform with a close friend or friends, to give himself greater confidence in stress situation, or to avail himself or [sic] the physical enjoyment smoking offers . . . . The main causes of initial brand selection; i.e., the influence of friends, the user image a brand projects and differentiated product characteristics, are logically related to the reasons a young person begins to smoke." A table entitled "Age Started Smoking," which included a category for "12 & Under," was appended to this memorandum. 501899346-9359 at 9346, 9351, 9352 (US 20688) (A).

4478. A February 28, 1974 inter-office memorandum from A.H. Laurene, Director at RJR, to Murray Senkus, Director of Research for RJR, and Claude Teague, with the subject "New Product Proposals Which Would Require Some Research," indicated that "a low tar cigarette ('tar' range of VANTAGE and below) with good Marlboro character might be a winner in the youth market and in the elder Marlboro smokers' market." The memorandum proposed research and development of a "Camel Filter cigarette with increased free nicotine level and more Camel than Winston taste." 508116703-6704 (US 20808) (A) (emphasis in original).

4479. Joan F. Stuart, RJR marketing research employee, sent a March 15, 1974 letter to National Family Opinion. In the letter, RJR requested that, when National Family Opinion conducted its consumer surveys, it continued to question 14 to 18 year olds. The letter also

requested different types of reports from National Family Opinion, including those entitled "Product Testing Availabilities," "Smoking Incidence and Brand Preference - ages 14-17," and "Sales Promotion/Special Events." 500487414-7416 (US 21865) (A). On April 16, 1974, Stuart sent another letter to National Family Opinion. In this letter, she asked NFO to separately break out the results of the sales promotion questions for "men over 17 years of age." 500571477-1478 at 1477 (US 22498) (A).

4480. In a March 21, 1974 letter from Jane Z. Martin of RJR's Marketing Research Department, to National Family Opinion's Kathe E. Schultz, Martin enclosed "the following books from [its] October, 1973 Screening of Smokers: . . . Cigarette Switching Matrix (Ages 14-20) . . . Cigarette Brand Preference Report (Ages 14-20)." 501375647-5648 at 5647 (US 48840) (O).

4481. According to an RJR conference report, Teague met with RJR's internal marketing staff and representatives from outside advertising agency Tatham-Laird & Kudner on June 5, 1974. The report of this meeting identified RJR's developments in the area of creating a "Cigarette Designed for Beginning Smokers," stating: "This cigarette would be low in irritation and possibly contain an added flavor to make it easier for those who have never smoked before to acquire the taste for it more quickly. It would not necessarily be low in tar and nicotine content. The taste would be somewhat bland; there would be minimal after taste/buildup – which would tend to cut down on the 'motorman's glove' morning-after mouth taste . . . . The idea is based on the fact that smoking to the initiate is a fairly traumatic experience." 501186367-6369 at 6367 (US 20673) (O); 500254578-4580 at 4578 (US 48080) (A).

4482. Douglas Cummins, an RJR employee, sent a September 24, 1974 letter with attachments entitled "Salem [cigarette brand] Back-Up Advertising [and] Creative Development

Statement" to A.M. Allen, William Esty Company. The letter discussed Salem's "image problem among young adults as identified by several research studies over the past year (including focus groups, the segmentation study, etc.). . ." According to the letter "[t]he attached sheet outlines the objective and strategy and should serve as a guide for all of us in evaluating new [cigarette] campaign alternatives." The creative strategy was to "[i]mprove the Brand's image among young adults" by repositioning Salem's personality: "[t]his Brand 'personality' positioning will also provide, as a secondary benefit, an image which will improve Salem's attractiveness to . . . current Kool smokers . . . as well as to the majority of young adult smokers entering the cigarette market for the first time." The letter recommended communicating "simple, clear product benefit(s) compatible with the projected [cigarette] Brand personality" which "should serve as a rational handle for the consumer to use to justify Salem trial even though his real motivation for trial may be our improved image. In effect, then, our image advertising will be working through the 'back door' of the consumers' mind." 501721136-1140 at 1136-1137 (US 21868) (O).

4483. A September 30, 1974 RJR document entitled "1975 Marketing Plans Presentation" (also referred to as "The Hilton Head Report") stated: "In 1960, this young adult market, the 14-24 age group, represented 21% of the population. . . . [T]hey will represent 27% of the population in 1975. They represent tomorrow's cigarette business. **As this 14-24 age group matures, they will account for a key share of the total cigarette volume – for at least the next 25 years.**" The presentation discussed the importance of youth smokers in reestablishing RJR's share of market growth and setting the marketing strategy that would be implemented to gain market share among youth. 500746950-6976 at 6951 (US 21609) (A) (emphasis added).

4484. In a November 26, 1974 memorandum entitled "R.J. Reynolds Tobacco Company

Domestic Operating Goals," the company stated its "[p]rimary goal in 1975 and in ensuing years is to reestablish RJR's share of growth in the domestic cigarette industry." Increasing the young adult franchise was crucial to reestablishing RJR's growth because the "14-24 age group in 1960 was 21% of population; in 1975 [it] will be 27%. . . . [and a]s they mature, will account for key share of cigarette volume for next 25 years. Winston has 14% of this franchise, while Marlboro has 33% – Salem has 9% – Kool has 17%." The memorandum indicated that RJR "will direct advertising appeal to this young adult group without alienating the brand's current franchise." 500796928-6934 at 6928 (US 22363) (A); 500796976-6983 at 6977 (US 21610) (O).

4485. In a "Secret" memorandum dated January 23, 1975 to RJR President of Marketing Charles Tucker, James F. Hind advised: "Our attached recommendation to expand nationally the successfully tested 'Meet the Turk' ad campaign and new Marlboro-type blend is another step to meet our marketing objective: To increase our young adult franchise. **To ensure increased and longer-term growth for Camel Filter, the brand must increase its share penetration among the 14-24 age group which have a new set of more liberal values and which represent tomorrow's cigarette business**." A handwritten cover memorandum to the "Secret" Hind memorandum revealed that Tucker subsequently obtained company approval of the "Turk" recommendation. 505775556-5561 at 5556, 5557 (US 78787) (O) (emphasis added).

4486. A document entitled "Smokers Screening – April 1976 Profile (14-17)" conducted by National Family Opinion for RJR contained 1976 brand preference information for respondents aged 14 to 17. 501376255-6406 (US 20678) (A).

4487. Dawson admitted in her modified written direct testimony that, while she was spokesperson for the Tobacco Institute and its member companies, she made statements that the tobacco industry had a longstanding commitment that young people should not smoke; yet, no

one from RJR informed her that in its internal 1975 memoranda, RJR set forth its intent to increase its share penetration for CAMEL Filter among the 14-24 year age group in order to ensure increased and longer-term growth. Dawson WD, 87:6-11; 505775557-5557 (US 50861) (A).

4488. J.M. Wallace, RJR Marketing Research Department employee, authored an October 30, 1975 product research report entitled "Share of Smokers by Age Group." Wallace's report provided an "annual update of trends in share of smokers by age. Information is drawn from the April NFO [National Family Opinion] panels." Wallace continued:

> Marlboro's traditional source of strength – younger smokers, though still sizable, is eroding at a rapid rate. Between April, 1974, and April, 1975, Marlboro King showed a five share point loss in the 14-17 year old age group and since 1973, Marlboro King's share of market has declined by eight share points in this segment . . . . Winston King did not capitalize on Marlboro's decline, but exhibited some softness itself - especially in the younger age groups (14-17 and 21-24) . . . . This growth for Salem occurred at a time when Kool King declined substantially in the 14-17 market and the 18-24 market. Thus, while Salem is beginning to show strength in the younger markets, Kool is showing major signs of weakness in the same markets.

500769032-9036 at 9032 (US 21814) (A).

4489. RJR annually engaged in ten year planning forecasts using youth data. According to a March 15, 1976 report entitled "Planning Assumptions and Forecast for the Period 1977-1986 for R.J. Reynolds Tobacco Company":

> The present large number of people in the 18 to 35 year old age group represents the greatest opportunity for long-term cigarette sales growth. Young people will continue to become smokers at or above the present rate during the projection period. The brands which these beginning smokers accept and use will become the dominant brands in future years. **Evidence is now available to indicate that the 14 to 18 year old group is an increasing segment of the smoking population. RJR-T must soon establish a successful new brand in this market if our position**

in the Industry is to be maintained over the long term.

Leary PD, United States v. Philip Morris, 5/2/02,102:9-105:11; 501630269-0288 at 0283 (US 21605) (A) (emphasis added).

4490. A May 4, 1976 RJR document discussed a "HI-FI category," defined as "14 mg [of tar] and lower," including brands such as Marlboro Lights and Winston Lights. This document included data that tracked "HI-FI" smokers ages 14 to 50 and over. 500379448-9474 (US 20629) (O).

4491. Tim Key, RJR Marketing Research Department employee, wrote an August 12, 1976 memorandum to T.L. Ogburn entitled "Share of Smokers by Age Group" which contained "an annual update of trends." The memorandum stated that Winston King's share among 14-17 year olds "is off two points for the second year in a row. Current share is 9%. Conversely, Marlboro King's share among this age group which had shown losses during the past three years was up one point. Current share is 32%." Key stated: "Salem King appears to have retained most of the share gain seen during 1975 among 14-17 year olds. Current share of 9% is only one point off the previous years [sic] high of 10%. Kool King has a larger share at 15% and was even with the previous year." Under "Corporate Comparisons," the memorandum stated: "Philip Morris posted a 4 point gain among 14-17 year old smokers (RJR and B&W each lost 2 points)." 500234050-4051 (US 48071) (A).

4492. An October 8, 1976 RJR Marketing Department Report entitled "Marketing Department Key Issues – Position Papers" observed that adult smokers under age 25 would "show a major shift in brand preference" away from Marlboro and that the decline in Marlboro's share of this market would continue to open the market for another dominant brand to emerge from peer group pressures. The basis for this projection was a National Family Opinion study

showing that "Marlboro's acceptance among 14-17 year olds had dropped from 39% to 32%. This pattern has been repeated by three brands with Pall Mall peaking in 1969, total Winston in 1970, and total Marlboro should peak share in 1978." The report further predicted a "reduction in the number of new smokers" due to "stronger enforcement of laws prohibiting sale of cigarettes to teen-agers," which, according to the report, would have a negative impact on RJR's sales and profits. 500387795-7899 at 7822, 7836 (US 20631) (A).

4493. At trial, CEO Andrew Schindler testified that the information and tracking data collected by RJR on 14-17 year olds was not used to create marketing plans. However, a Salem 1977 annual marketing plan contained information on the market share of certain styles of Salem among 14-17 year olds. Schindler TT, 1/24/05, 10862:5-11; Schindler TT, 1/25/05, 10914:15-10928:21; 505774340-4441 (US 90113) (A).

4494. An October 31, 1977 memorandum to T.L. Ogburn, Jr., written by Jeffrey F. Durgee, RJR Product Design, and copied to J.H. Sherrill, E.N. Monahan, and T.J. Key, regarding "Share of Smokers by Age Group," was "the annual update of trends in share of smokers by age group" with data "drawn from the April NFO panels" that included 14 to 17 year old smokers. The memorandum reported various trends among 14 to 17 year olds, including:

> Perhaps because of their higher susceptibility to fads, peer pressure, etc., younger (14-18) smokers show frequent, short-term changes from one brand to another. . . . As a group, younger smokers probably emulate the smoking habits of smokers in the next oldest group, the 18-24 year olds, since trends for younger smokers tend to follow (by 2-3 years) trends for the latter group. . . . Every year, Vantage and Carlton gain slightly among older (over 35) smokers. At the same time, the popularity of these brands seems to filter down to younger and younger age groups. . . . RJR's share of younger (under 18) smokers continues a 3 year decline. In 1975, RJR brands accounted for 28% of the smokers in this category. Today, they account for 25%. Among younger smokers, only Brown and Williamson brands have shown a similar decline. In contrast, Philip Morris has shown steady gains, not only among

> the younger smokers, but also among the adult (over 18) age groups. If share trends for the past 5 years indicate future share trends, Philip Morris will draw increasing numbers of young smokers (ages 14-35), giving it a decidedly younger franchise.

94681077-1079 at 1077, 1079 (US 32322) (O); 501380878-0982 at 0878-0880 (US 48844) (A).

4495. A June 23, 1978 RJR memorandum from G.H. Durity, Manager, Forecasting Group, to H.H. Cudd, Jr., Business Planning and Research Manager, stated: "**For legal reasons we do not include in our calculations persons under 18, although we recognize that they are potential smokers.**" 501730483-0483 (US 22532) (A) (emphasis added).

4496. A June 30, 1978 report entitled "Demographic Characteristics of Smokers," authored by RJR employee G. Harry Durity, attached tables "display[ing] the demographic characteristics of smokers as compiled from survey data supplied by National Family Opinion (NFO)." The tables included data on the incidence of smoking among males and females ages 14-17. 501989644-9655 at 9644 (US 49012) (A).

4497. In an August 24, 1979 internal document, written in response to a question by RJR employee G.A. Mason as to "whether the young adult market (35 years of age and younger) is responsive to . . . promotions," Kay Brubaker, also an RJR employee, asserted that "the young adult market is most responsive, in terms of participation, to retail sampling, disco sampling, and B1G1F's [Buy one pack get one pack free] in convenience stores." 500686342-6351 at 6342 (US 20646) (O).

4498. A November 11, 1979 letter from Dr. Vernen J. Knott, who was affiliated with the Royal Ottawa Hospital, proposed a five year study both of children as young as eight and of adults to see whether some people are predisposed to be smokers due to intrinsic pyschophysiological factors. Knott hypothesized that, since "smoking alleviates stress," it might have "clinical utility for psychiatric patients." The letter was submitted to the Canadian

Manufacturers Tobacco Council, whose members included Imperial Tobacco, RJR-MacDonalds, Rothmans, and Benson & Hedges. 500944757-4758 (US 20663) (O).

4499. In 1980, the RJR Marketing Development Department issued a series of internal reports entitled "Teenage Smokers (14-17) and New Adult Smokers and Quitters." The reports contained the RJR Marketing Research Department's analysis of the data provided by the National Family Opinion regarding the smoking behavior of 14-17 year-old smokers. 501443912-3921 (US 20681) (O); 501098917-8922 (US 23050) (O); 500768429-8438 (US 20649) (A); 500768427-8428 (US 22341) (A); 501254289-4301 (US 20674) (A); 501254267-4283 (US 22342) (O); 501757367-7384 (US 22343) (O); 500768754-8754 (US 20650) (A); 500794841-4843 (US 20653) (A).

4500. One of the series of "Teenage Smokers (14-17) and New Adult Smokers and Quitters" reports, dated February 1, 1980, written by Stephen R. Perry, RJR Marketing Research Department employee, discussed "franchise aging" – the process of young smokers entering the smoking population as older smokers leave the market, either because they quit or they die. The report stated: "For example, in 1979 approximately one million smokers became 18 years old while approximately 450,000 older smokers left the market. The extent that each company is affected by this process is determined by the age skew of its franchise." This report demonstrates RJR's knowledge that smoking initiation and brand choice most often occurred in the teenage years even before age 18: "[m]any adult smokers have already formed consistent smoking patterns by the time they enter the market at age 18." 501443912-3921 at 3912, 3915 (US 20681) (O).

4501. Another in the series of "Teenage Smokers (14-17) and New Adult Smokers and Quitters" reports, dated February 4, 1980, from Uziel Frydman, an employee of RJR's Marketing

Research Department, was sent to J.B. Stuart, also an employee of the Marketing Research Department. This report stated: "In the last five years, share of cigarette volume of the 14-17 year-olds declined by about 36%, from 3.14% in 1975 to 2.00% in 1979. . . . The share of companies of the 14-17 year-olds has changed very significantly in the last five years: RJR's share declined from 29.9% in 1975 to 21.3% in 1979. A large part of the share loss can be traced to Winston." 500768427-8428 at 8427 (US 22341) (A).

4502. Another in the series of "Teenage Smokers (14-17) and New Adult Smokers and Quitters" reports was dated July 9, 1980, and sent from Kay Duffy, RJR employee, to Uziel Frydman, an employee of the Marketing Research Department; Jerry R. Moore, RJR Marketing Development Department; and S.R. Perry. This report included the claim that the gathering of youth data is "a natural by-product of the tracking of adult smokers" which was conducted "in order to improve our ability to forecast future trends. . . . [and was] not designed to be used as a tool for developing marketing strategies for this population group." The memorandum stated that, while RJR was losing share among young smokers, Philip Morris was gaining share and that "18-24 year olds are more active than any other age group in terms of both quitters and new smokers." 501254289-4301 at 4289, 4297-4298 (US 20674) (A).

4503. Kay Duffy wrote an October 23, 1980 memorandum to L.W. Hall Jr., Vice President of Brands Marketing at RJR, entitled "Younger Adult Smokers." Duffy stated "[s]moking behavior of 14-17 year olds is analyzed . . . to improve our ability to forecast future trends." The memorandum stated: "P. Morris continues to gain share among the 14-17 year old age group. . . . P. Morris' large share among 18 year olds has made it the only company to realize substantial share gains due to the aging process." Duffy also stated that "RJR continues to lose share due to . . . a decrease in new smokers and an increase in quitters," that Lorillard and

American were also losing share and that Liggett Group, Inc. & Myers had an unchanged share. Finally, Duffy stated that "Brown and Williamson Tobacco Corporation gain share from . . . new smokers and quitters" although, like American, B&W share among 14-17 year olds had declined. 500686301-6313 at 6302, 6303 (US 21566) (A).

4504. An internal July 22, 1980 RJR memorandum from G.H. (Jerry) Long, RJR Executive Vice President, to Edward A. Horrigan, Jr., RJR's CEO, entitled "MDD [Marketing Development Department] Report on Teenage Smokers (14-17)," stated: "Attached is a MDD report covering the aforementioned subject. Last January, a report was issued on this subject that indicated that Philip Morris had a total share of 59 among 14-17 year old smokers, and specifically, Marlboro had a 52 share. This latest report indicates that Philip Morris' corporate share has increased by about 4 points; however, Marlboro remains the same at 52." This memorandum stated that "RJR continues to gradually decline," and concluded, "[h]opefully, our various planned activities that will be implemented this fall will aid in some way in reducing or correcting these trends." 508453894-3894 (US 20811) (A).

4505. According to an August 20, 1980 memorandum to Dick Nordine, RJR Product Design Department, from Diane Burrows, RJR Marketing Development Department researcher, RJR decided to no longer market on college campuses in or shortly after August 1980, based on data that indicated that the rate of smoking among college males was less than half that of out-of-school young adults. 526147009-7012 at 7010-7012 (US 79320) (A); Burrows PD, United States v. Philip Morris, 6/27/01, 24:3-10.

4506. On September 12, 1980, in preparation for a meeting with Wall Street security analysts, Gerald Long, Executive Vice President of RJR, wrote to L.W. Hall, Jr., Vice President of Brands Marketing; Ellen N. Monahan, Marketing Development Department; Greg Novak; and

H.E. Osman seeking "[a]ny information that you could specifically provide that would compare prime prospect age information for the various Winston, Salem, and Camel brand styles versus primary competitive brand styles" in order to counter the perception that RJR's "brands appeal only to older smokers." 503747121-7122 at 7121 (US 20723) (A) (emphasis in original).

4507. As the prior documents demonstrate, RJR's substantial market research on young people performed during the 1970s revealed that Philip Morris's Marlboro brand was dominating the youth market. By the early 1980s, according to internal documents and the testimony of Diane S. Burrows on June 27, 2001, RJR knew through research that the combination of so few young smokers choosing to smoke RJR brands and the tendency of those smokers to be loyal to their first brand of choice would ultimately lead to market share declines for the company if its brands continued to be unpopular with young people. RJR knew, as it stated in its "1975 Marketing Plans Presentation," that teenage smokers were "tomorrow's cigarette business" and accounted for "a key share of the total cigarette volume -- for at least the next 25 years." 500746950-6976 at 6951 (US 21609) (O); Burrows PD, United States v. Philip Morris, 6/27/01, 15:19-16:4.

4508. RJR also knew at this time that it was unlikely to be able to win the teenage market with a new, unknown brand, and that it would be wiser for RJR to revise an existing brand's image to make it more appealing to teenagers. In a September 29, 1980 RJR memorandum to Gerald Long entitled "Younger Adult Smoker Opportunity Analysis – New Brands," L.W. Hall stated about young smokers:

> Socially insecure, they gain reinforcement by smoking the brands their friends are smoking, just like they copy their friends' dress, hairstyle, and other conspicuous things. To smoke a brand no one has heard of – which all new brand names are – brings one the risk of ostracism. It's simply not the 'in' thing to do. If this theory is correct, it would be extremely difficult to achieve success with a

> new brand name who's [sic] primary thrust was against younger adult smokers. Certainly, there have been many attempts – 'Maverick,' 'Zack,' 'Luke,' and 'Redford' come immediately to mind – and all have failed. . . . My thinking is that to maximize our success among this important group, we should place our efforts and our resources behind our established brand names, keeping them young and contemporary through advertising, promotion, and line extension strategies and executions.

501340949-0950 (US 20677) (A)

(i) RJR's Joe Camel Campaign

4509. The following internal documents, from the early 1980s onward, demonstrate RJR's continuing research on teenagers, marketing to teenagers, and the development of the Joe Camel campaign intended to appeal to teenagers. Biglan WD, 320-340.

4510. Despite the fact that the documents below clearly demonstrate that RJR marketed Camels to youth with its Joe Camel campaign, RJR publicly denied doing so. For example, an April 27, 1998 RJR document entitled "Camel 'Mighty Tasty' Campaign General Statement/QA." intended for use in making public statements. claimed: "The goal of the campaign is to capture adult smokers' attention by taking a distinctly different approach than most cigarette advertising . . . We take pains to develop ad campaigns and use marketing vehicles to communicate with adult smokers, not youth. 524944105-4112, at 4105, 4111 (US 30567) (O).

4511. In the early 1980s, as Diane Burrows testified in this case, RJR did not have a successful young "adult" smoker brand that could challenge Marlboro's dominance of the younger smoker market. However, Burrows also testified that Camel was identified through focus group research performed in 1985 as the only RJR brand that younger smokers did not hate. In fact, RJR had tried already, unsuccessfully, to transform Camel into a youth brand with its 1973 to 1978 campaign "Meet the Turk." Burrows PD, United States v. Philip Morris, 6/27/01, 55:9-56:14; Long PD, United States v. Philip Morris, 10/18/01, 66:4- 25.

4512. Between 1979 and 1982, RJR CEO Edward A. Horrigan, Jr. initiated the Joe Camel campaign by asking his marketing department to look at the French "Funny Camel" campaign to see if RJR could reinvigorate Camel with a similar approach. According to Horrigan, people at the company were excited about the idea. The French "Funny Camel" campaign had been very effective with young people in France. As a February 7, 1984 memorandum from Dana Blackmar to Rick McReynolds about the "French Camel Filter Ad" stated: "I think the French advertisement for Camel Filters is a smash. It would work equally well, if not better, for Camel Regular. It's about as young as you can get, and aims right at the young adult smoker Camel needs to attract." 502303940-3940 (US 22067) (O); Horrigan PD, United States v. Philip Morris, 10/25/01, 25:1-27:8.

4513. In 1984, Frances V. Creighton of the RJR Marketing Research Department prepared an "Established Brands Research Proposal: Camel Younger Adult Campaign Focus Groups," a proposal that sought to "qualitatively explore three creative strategies/campaigns for their appeal, relevance, and fit with Camel among target 18-20 year old smokers." In order to compete with Marlboro, "the Brand is currently developing new advertising creative targeted to younger adult male smokers. Three advertising strategies are being pursued . . . : Freedom and Independence, Interactive Sociability, and Pack Graphics." 521895585-5587 at 5585 (US 20902) (O).

4514. In an October 18, 1984 document entitled "Younger Adult Smoker Perceptions of Camel, "Charles A. Martin of the RJR Marketing Development Department discussed how young adults' perceptions of Camel could be used to increase market share, especially among FUBYAS (First Usual Brand Younger Adult Smokers). Martin stated: "Camel is excellently positioned to appeal to FUBYAS who want to project themselves as being different from the

crowd because they seek the ultimate in adventure and excitement. It supports this image through its heritage and mystique. Camel is a brand which differentiates itself from the vast majority of other cigarettes in the market. Camel projects an image of virility that is heroic and 'larger than life.' And, as it is a brand that's not for everyone, Camel is exciting to smoke." 503561565-1570 at 1567 (US 21704) (A); 502656424-6660 (US 87821) (A).

4515. A 1985 RJR Report entitled "Are Younger Adult Smokers Important?" contained an extensive discussion of young smokers, that divided young adult smokers into two distinct classes: (1) "FUBYAS – those younger adults who are already smokers but have reached the stage of choosing a First Usual brand," and (2) "Switchers – younger adult smokers who have already chosen a First Usual Brand." The premise for this report was that "FUBYAS, not switchers, have driven the success of the brands of this century. They are leading indicators of growth and decline." This report examined the marketing strategy of Jack Daniels (calling it "the Marlboro of Bourbons") and Budweiser as brands that had successfully repositioned themselves as leaders in the youth market, noting marketing techniques used by Jack Daniels that were subsequently utilized in the Joe Camel campaign. As one example, the report stated that, to target the younger "adult" audience, "JD [Jack Daniels] puts more 'pages' in *Rolling Stone* than any other book." The report also commended Jack Daniels for its use of promotional merchandise: "JD-is an example of a viable positioning, executed in a 'non-standard' but authentic and unpretentious way, which reaches YA consumers, not only through their books, but by converting YAs into walking billboards. They started with a good idea and stuck to it." Finally, the report concluded with a breakdown of the "social groups" that make up young "adults," analyzing their values and attitudes as well as their likelihood to be smokers. The groups discussed in the report described pre-teens and teenagers more accurately than adults

using terms such as: "Rockers," "Party Parties," "Punkers," "Discos," and "Burnouts." The report concluded that these groups "are large, loosely knit BUT HIGHLY LABELED sub-societies FROM WHICH FUBYAS DRAW THEIR IDENTITY, i.e., by BELONGING to the group and using the group TO BE DIFFERENT from other younger adults." Although authorship of this report is unknown, a copy produced by RJR included Burrows' name in marginalia. 505931938-2044 at 1938, 1949, 1957, 2020, 2030 (US 20749) (O) (emphasis in original).

4516. A January 15, 1985 internal memorandum entitled "Camel Perceptions From Qualitative FUBYAS Research," written by Burrows to John Winebrenner, provided "some details of the Strategic Research Group qualitative research in August-September 1984, which led us to conclude that Camel holds potentially leverageable interest among 18-20 year old smokers (FUBYAS)." 517161840-1842 at 1840 (US 80666) (O).

4517. A February 1, 1985 focus group report written by Charles A. Martin entitled "Established Brand Research Proposal: Camel Younger Adult Smoker Focus Group" stated that, "[d]ue to the growing importance of younger adult smokers, Camel has developed a campaign which is directed solely towards this group." Martin summarized the findings of the focus group: "Overall, many of the male and female respondents held negative user and product perceptions of Camel. In their minds, Camel was thought to be a non-filtered, harsh product smoked by older males. However, exposure to the younger adult ads appear to somewhat improve these attitudes. This improvement stemmed primarily from two characteristics: humor, and relevancy to younger adult smokers. Certain ads did convey the message that Camel was an acceptable choice for younger adult smokers." Martin also discussed focus group reactions to advertisements featuring the "French Camel," which was the precursor to the Joe Camel campaign: "These ads were well-received due to the fun/humor aspects of the cartoons. More than any other theme, the

'French Camels' appeared to attract the respondents' attention. **The main drawbacks of these executions were that: one, they may be more appealing to an even younger age group** and two, there is some confusion as to the meaning behind them (some focus group members were hard-pressed to explain the purpose of the ads)." 521895554-5555 at 5554 (US 52788) (A); 504585737-5757 at 5738-5739 (US 50628) (A) (emphasis added).

4518. RJR continued to work toward launching its Joe Camel campaign, even though another company executive explicitly raised the issue of Joe Camel's appeal to youth. A March 5, 1985 memorandum from J.S. Carpenter, RJR Tobacco International employee, to John Winebrenner about the "'Funny' French Camel Design" described RJR's use of the "French Camel" campaign to attract young smokers in France. Carpenter wrote: "I must caution that this design was used in France during a time when an attempt was being made to 'youthen' the brand; the entire advertising and promotional campaign used at the time was geared to this end, with the 'funny' Camel playing a key role in the advertising. Indeed the design did help to achieve this end." 506768857-8857 (US 20765) (O).

4519. In a March 12, 1986 memorandum entitled "Camel New Advertising Campaign Development," labeled "RJR Secret," R.T. Caufield, of the RJR Brand Group, emphasized appealing advertising as key to repositioning Camel for younger smokers: "It is recommended that creative efforts reflect a primary focus on developing advertising which is highly relevant, appealing and motivational to 18-24 male smokers. This recommendation is based on consideration of the marketplace dynamics which are perpetuating Marlboro's growth (i.e., brand loyalty and peer influence), and which strongly suggest that repositioning Camel as the relevant brand choice for younger adult smokers will be critical to generating sustained volume growth." The report indicated that "advertising will be developed with the objective of convincing target

smokers that by selecting Camel as their usual brand they will project an image that will enhance their acceptance among their peers." 503969238-9242 at 9238 (US 79096) (A).

4520. In an August 14, 1987 report entitled "Camel General Market Campaign Focus Group Report – Tulsa," Frances V. Creighton discussed focus group reactions to "French Camel" advertisements: the "'Camel, Never Ordinary' [advertisement], which portrayed the 'French Camel' in various social situations, came perhaps the closest to meeting the objectives of Camel's advertising strategy." Creighton further stated that this advertisement was popular with the 18-24 age group. 521895431-5450 at 5434 (US 20898) (O).

4521. In 1988, RJR launched the Joe Camel campaign with the "Camel's 75th Birthday Celebration," a year long print and billboard advertising, promotional, and point of sale campaign. For the twenty years preceding the Joe Camel campaign, Camel's share of the overall cigarette market fell by 50%, from 9.2% to 4.3%. Camel had only 2.4% of the 14 to17 year old market in 1979, according to internal RJR data. By 1993, Camel, with the Joe Camel campaign in effect, had 13.3% of the teenage market, according to both official government survey data and data from surveys conducted by RJR itself. 506763382-3402 at 3383 (US 22231) (O); Eriksen WD, 1/17/05, 49:7-53:5; VXA1900036-0049 (US 63946) (A).

4522. RJR had extensively planned and researched the 75th Birthday Campaign before its launch in 1988. For example, in an August 21, 1987 RJR memorandum entitled "Camel's 75th Birthday Plan," Y.M. Jones stated that campaign promotional ideas "must appeal to the 18-34 year old mindset," and included an example of a "Party Animal" magazine pop-up insert. 521190415-0418 at 0416 (US 20895) (O); 506885567-5603 (US 87823) (A).

4523. An RJR August 24, 1987 inter-office memorandum planned for the Camel's 75th Birthday Campaign. Proposals ranged from having children or grandchildren of employees and

retirees send in "renderings" of "Old Joe" to be featured in *Caravan*, to arranging for an RJR night at Barnum & Bailey Circus during which an employee would play ringmaster and "the leading act would be, you guessed it, the camels, all wearing Camel 75 blankets." 507843401-3401 (US 20791) (O).

4524. RJR tested the promotions, advertisements, and other types of marketing that it intended to run as part of the Camel's 75th Birthday Campaign in which it launched Joe Camel. For example, S.L. Snyder, RJR Marketing Development Department employee, wrote an August 27, 1987 "Promotion Research Report – Camel 75th Birthday Promotion Ideas" evaluating promotional ideas targeting 18 to 34 year old smokers as part of the 1988 campaign. 521895453-5465 (US 21759) (O).

4525. An October 7, 1987 document entitled "Marketing Research Proposal: Camel 75th Birthday Hispanic Focus Groups" written by W.R. Penick of RJR's Marketing Development Department discussed focus groups responding to Joe Camel advertisements including groups composed only of males aged 18 to 24. 506877657-7658 (US 20769) (O).

4526. In an October 14, 1987 internal memorandum entitled "Content Outline/Camel 75th Birthday Video," C.A. Williams, an RJR employee, indicated that Camel's target was young males who currently smoked Marlboro. Williams wrote that the Camel's 75th Birthday Campaign was intended to make "Camel more relevant to our target smokers 18-34 male non-menthol competitive smokers (primarily Marlboro)." 521893143-3145 at 3143 (US 20897) (O).

4527. In another example of RJR's testing of its Camel's 75th Birthday Campaign, Frances V. Creighton prepared a November 1987 report entitled "Marketing Research Proposal - Camel Project Big Brand Perceptions Tracking Study." The report indicated that the planned

market testing would "evaluate target smokers' perceptions and attitudes toward Camel before and after the launch of [Camel's] 75th Birthday celebration" among a target audience of 18 to 34 year old males. 521895557-5559 at 5557 (US 20900) (O).

4528. RJR's testing of the Camel's 75th Birthday Campaign marketing found a positive response among the young male smokers it hoped to target. A December 4, 1987 memorandum from Creighton and Penick to E.J. Fackelman highlighted key findings and conclusions from the communications testing of the 75th Birthday advertising among male smokers ages 18 to 34: "**75th birthday advertising generated a very strong and positive emotional response among 18-34 year old male target smokers**." 506864599-4601 at 4600 (US 20768) (O) (emphasis in original).

4529. A 1988 RJR document entitled "Camel Advertising Development White Paper" provided the roadmap for RJR's repositioning of Camel with the Joe Camel campaign in order to take away Marlboro's majority share of the young smoker market. The document showed RJR's awareness that smoking initiation and brand choice occur in the teenage years: "[O]nly about 5% of all smokers start smoking after the age of 24 . . . . The majority of younger adult smokers will stay loyal to their first brand choice." It stated that Camel's current image, conveyed through advertising, was too "old," and that advertising using younger models and themes that appealed to youth (independence, rebelliousness, etc.) could make Camel's image younger:

> Camel's current existing market image (i.e., brand perceptions, not advertising perceptions) includes aspects that are highly consistent with the wants of younger adult males . . . including: independence, doesn't follow crowd, lives by own set of rules, stands up for beliefs, not afraid to express individuality, enjoys being different, won't settle for ordinary . . . . The major weaknesses in Camel's in-market image is that it is not considered by younger adult smokers to be contemporary, and thus is not relevant. Negative perceptions include: . . . a lot older than me . . . . In an attempt to address Camel's weaknesses. . . an alternative campaign 'Share a

> New Adventure' was developed. This campaign used models that were not as old looking and used more relevant situations to address the brand's 'older' image weaknesses. . . . The advertising will position Camel as an authentic brand for smokers who are admired and respected by their peers because their attitudes and lifestyles distinguish them as individuals who challenge convention and stand tall . . . . In order to fully target the younger adult market, Camel must displace Marlboro as the younger adult brand. Simply speaking, Marlboro is the younger adult smoker market. . . . Marlboro's key strength relates to peer acceptability and belonging. . . . Marlboro is perceived by younger adult smokers as a brand which provides a sense of belonging to the peer group. A variety of research studies including the Segment Description Study, the Marlboro Vulnerability Analysis, in-market perception research, as well as in-depth qualitative all show this. . . . The [Camel] advertising should elicit an emotional response to positively motivate target smokers to rethink their brand choice. . . . In order to stimulate [youths] to think about brand alternatives, the advertising and brand personality must 'jolt' the target consumer. Since Camel does not have a demonstrably different or unique product (rational) benefit to sell, this jolt needs to be based on an emotional response and is unlikely to be accomplished with advertising which looks conventional or traditional. Studies have shown that the so-called 'hot buttons' for younger adults include some of the following themes: Escape into imagination. . . . Excitement/fun is success: Younger adults center their lives on having fun in every way possible and at every time possible. Their definition of success is 'enjoying today' which differentiates them from older smokers.

506768775-8784 at 8777, 8779-8783 (US 20764) (A) (emphasis in original).

4530. In advertisements that featured the cartoon character Joe Camel, he was often shown engaging in "adult activities" that teenagers would aspire to do, including hanging out at bars, visiting casinos, riding motorcycles, or driving cars; Joe Camel was also portrayed as a cool, rebellious, and adventuresome character, all themes with great appeal to teenagers. Biglan WD, 320-340. For example, RJR planned to place a Joe Camel advertisement in the *Sporting News* and "other Jumbo Jr. Size Magazines" from April 1, 1988 through June 30, 1988, which was captioned "Get On Track With Camel's 75th Birthday!" and depicted Joe Camel in a

Formula One-type automobile racing suit, opening a bottle of champagne, with racing cars whizzing by in the background. 509131846-1847 (US 20823) (O). As Edmund Conger Leary, Senior Vice President of Marketing and President of Sports Marketing for RJR, testified at his May 2, 2002 deposition in this case, RJR conducted research among 18 to 24 year old smokers about "every aspect" of Joe Camel "for its appeal and relevancy to the target." Leary further testified that RJR understood that "kids would like to be adults." Leary PD, United States v. Philip Morris, 5/2/02, 59:7-60:15; 522668842-8856 (US 88160) (A); 522445029-5041 (US 88153) (O).

4531. Joe Camel advertisements were often combined with coupons for free Camel cigarettes because RJR knew that coupons were effective means to encourage product trial by young people. Burrows testified in this case that it is necessary to get a person to try an RJR brand before they will be loyal to it, and that methods to get someone to try an RJR brand include in-store promotions, e.g., free lighters with a certain number of packs purchased, or buy-one-get-one-free promotions. Leary testified in this case that advertising and promotion "can influence the behavior of purchasers" to try a brand, and that RJR uses "advertising and promotion to incent [sic] adult smokers of other brands to try our brands and hopefully to switch." As an example of this type of advertisement combined with a coupon, in 1988 RJR placed a multi-page advertisement for Camel cigarettes in various print media, including *Sports Illustrated*, a magazine with a substantial youth readership. The advertisement depicted Joe Camel in the foreground, with a beautiful woman sitting on the hood of a convertible automobile in the background. The second page of the advertisement was captioned "Some have it. Most don't," and stated, "You can have it free!" The advertisement contained a coupon for a free pack of Camels. Burrows PD, United States v. Philip Morris, 6/27/01, 60:10-61:14; Leary PD, United

States v. Philip Morris, 5/2/02, 45:2-11; 509131376-1378 (US 20822) (O).

4532. Creighton prepared a January 27, 1988 "Marketing Research Proposal 'Heroic Camel' Advertising Test" recommending that RJR conduct market research to determine the effectiveness of the "Heroic Camel" advertising campaign, and assure that it was positively received by 18 to 30 year olds. The "Heroic Camel" campaign showed Joe Camel in a "series of 'heroic' situations drawn from bigger than life fictional characters," including as a fighter pilot, a foreign legionnaire, " Hollywood," and a detective. These advertisements were run in 1989. 521895566-5570 (US 24813*) (O).

4533. C. Rashti of McCann-Erickson wrote a Contact Report recording the February 25, 1988 meeting between McCann-Erickson and RJR regarding "Camel – High Impact OOH, Second Half 1988 Creative and Project Big Idea Concepts." OOH means "out of home," or billboard advertising. Participants at this meeting discussed the upcoming 'Heroic Camel' advertising campaign as well as the use of "Camel Cash" – coupons with the appearance of dollar bills – instead of traditional coupons. "Camel Cash" was inserted into packs of Camels and could be redeemed for t-shirts, mugs, jackets, and other promotional items. 521895803-5805 (US 20905) (O).

4534. An RJR 1988 document entitled "Managing the 'Smooth Moves' Concept" spoke primarily to the lifestyle and social status of young adult smokers. The "Smooth Moves" creative program, as detailed in the document, had to "[d]irectly link this concept with the advertising campaign. . . . If you want to be a 'Smooth Character', you have to have 'Smooth Moves'." 506871767-1771 at 1767 (US 22449) (O).

4535. An RJR document entitled "Volume Impact of Camel YAS Growth" examined Camel growth among young adult smokers in 1988: "In 1988, Camel Ex. Regular posted a 2.2

point national gain in usual brand share among males 18-24 (the brand's target) and a gain of 1.4 points among total 18-24 (YAS). This was the largest 12-month YAS gain ever recorded on Tracker, for Camel or any other RJR brand." 517161869-1876 at 1869 (US 80669) (O).

4536. In an internal RJR March 20, 1989 memorandum entitled "Camel Performance Analysis" from G.C. Pennell to J. T. Winebrenner and R.M. Sanders, Pennell stated that "Camel's ability to reach and convert younger adult smokers is significant with the 18-20 year old group driving this growth. Accordingly, the brand should maintain its single-minded focus against this important smoker group." 517161877-1877 (US 80670) (O).

4537. An RJR report dated July 6, 1989 discussing the "Smooth Moves" Camel campaign in the 1990s showed that the company deliberately used the advertising theme of sex appeal in order to appeal to young males. Listed in the report as "Consumer Target Hot Buttons" were "Sex," "Girls, Women, Sex," and "Playboy Magazine, Penthouse Magazine." The "hot buttons" list, according to the author, "may serve as the theme or substance of promotions that will attract and appeal to the target. We are using this list as the starting point for developing promotions." The same report detailed a strategy for "smooth move" advertising, stating "good looking women are major hot buttons for the target." 507238911-8934 at 8915-8916, 8926 (US 22451) (O).

4538. In 1989, RJR placed Joe Camel advertisements in various media as part of "program 900162," which included "buy one, get one free coupons" and the following advertisements: (1) an advertisement with the words "Bored? Lonely? Restless? What you need is . . ." featuring the face of a beautiful woman gazing at the reader; (2) advertisements captioned "Camel Smooth Moves," including "Smooth Move #325 - Foolproof Dating Advice," which advised "[a]lways break the ice by offering her a Camel;" and "Smooth Move #334 - How to

impress someone at the beach," which advised that the reader "[r]un into the water, grab someone and drag her back to shore, as if you've saved her from drowning. The more she kicks and screams, the better" and "[a]lways have plenty of Camels ready when the beach party begins"; and (3) an advertisement captioned "Smooth Move #437 - How to get a FREE pack even if you don't like to redeem coupons." 513590183-0185 (US 20854) (O).

4539. A 1989 RJR document entitled "Camel Y&R Orientation" discussed the "strategic importance" of younger adult smokers: "YAS are the only source of replacement smokers. Less than one-third of smokers start after age 18." The document further stated, "To stabilize RJR's share of total smokers, it must raise share among 18-20 from 13.8% to 40% . . . ASAP." 507241613-1838 at 1617, 1620 (US 20774) (A).

4540. A September 15, 1989 RJR document entitled "Diez Y Seis Fiesta Event Summary" reported on Camel marketing at the Denver Diez Y Seis Fiesta, a festival that offered "kiddy rides, vendor booths, and live entertainment on both stages." The document stated: "The Camel booth was the most popular and a constant line existed all day as people waited to play the basketball game. Samplers distributed 275 caps, 480 playing cards, and 596 mugs as prizes. Samplers collected 385 screener cards filled out by those waiting in line. The Camel booth was also the most visible with its banners and yellow flags clearly standing out in the crowd . . . . Camel was definitely the strongest presence at the event. Camel hats could be spotted everywhere throughout the crowd." Other 1989 RJR documents provided summaries of similar events in Corpus Christi and Dallas, Texas. The Dallas event included a midway area with carnival rides for the children: "Camel presence, as a major sponsor, was certainly realized by all those at the event. 25 large banners were hung around the perimeter of the park. The Camel 30-ft. inflatable giant pack was situated next to the main stage." A Camel basketball game in a

"freestanding booth with banners, flags and giant packs" was located in the midway area with children's carnival rides which achieved "maximum brand impact." The documents indicated that 2,000, 5,000, and 28,000 free samples of cigarettes were distributed at these three events, respectively. 507525019-5023 at 5020, 5022 (US 20778) (O).

4541. Charlee Taylor-Hines, Young & Rubicam, New York, sent a November 27, 1989 memorandum regarding "Camel Creative Exploratory Focus Groups," which summarized Joe Camel's allure as discovered in focus group research: "Of all the executional approaches, 'Leader of the Pack,' was the consistent favorite across all groups. It combined the elements favored in the current campaign – Camel as hero, bright colors, simple yet involving scenarios – but also added a stronger sense of Joe being more involved in the action/adventure. There was also an element of Joe as the rebel." 507257278-7281 at 7278 (US 20775) (A).

4542. A May 4, 1990 RJR report entitled "Camel Brand Promotion Opportunities" discussed a number of promotional items geared directly at "young adult target smokers." The report described the "target smokers" as "approaching adulthood, hence they are sensitive to peer group perceptions regarding their maturity and masculinity. . . .Young adult target smokers are active, sociable and fun loving in nature. Their key interests include girls, cars, music, sports and dancing - all of which can include family and friends and can be accomplished on a limited budget." The promotional items suggested by this report included blank audio tapes with Camel logo, a Camel Walkman case and other "entertainment-oriented incentives." Other suggestions included the "Camel pocket game," which included chess, checkers, dominoes, or Parcheesi, all using Camel logos, graphics and visuals, or the idea that "Camel can even go so far as to design its own game to reinforce major marketing themes" such as "Camel sliders" in which the object was to slide a "slider" molded to look like Joe Camel across the tabletop and get closest to the

target. 509216033-6056 at 6035-6036, 6041, 6044-6045 (US 20826) (O).

4543. In a November 28, 1990 memorandum to Juacane Reynolds, an employee of RJR, proposing Camel promotions, Edward Battle, of Total Marketing, stated that the objective of "[a] successful promotion effort is to: Develop a targeted promotion concept that:

- Increases trial/retrial/conversion rates among competitive smokers.

- Builds promotion equity.

- Provides a mechanism for measurement results.

- Supports the brand's personality and reinforces brand positioning.

- Provides smokers with a compelling reason to buy Camel cigarettes."

509216028-6032 at 6030 (US 20825) (O).

4544. In a December 4, 1990 presentation entitled "Camel Advertising Overview," later made in a slightly shorter form on April 17, 1991, Young & Rubicam reported to RJR that the Joe Camel campaign had "set the stage for an exciting 1991," explaining: "Camel is the brand for the '90s and, wherever Camel's message is, it is there in a big way. If a market is covered, it is covered ubiquitously. If we run a one-shot ad or a local promotion, the execution must be so provocative and unexpected that it transcends its medium." 507490339-0354 at 0346-0347 (US 23010) (A); 522732100-2116 (US 87827) (O).

4545. Joe Camel advertisements run in the 1990s used the same themes and techniques used in the advertisements run during the Camel's 75th Birthday Campaign in 1988. The 1990s advertisements continued to portray Joe Camel as cool, rebellious, and adventuresome, showed him engaged in adult activities, and offered "Camel Cash," which could be redeemed for promotional items such as t-shirts, lighters, and mugs. One such advertisement, which RJR placed in various print media in 1992, was captioned "Camel Lights." It depicted Joe Camel

wearing sunglasses, a t-shirt, and blue jeans, with a pack of cigarettes rolled up in his sleeve and a lit cigarette hanging from his mouth, while casually leaning against a convertible car. 509131534-1534 (US 21717) (O); 515123613-3634 (US 87828) (A).

4546. An April 1991 RJR Executive Summary, entitled "Operating in a Restricted Environment," predicted that greater future restrictions on RJR's marketing and advertising were a virtual certainty, and explored ways to continue to market RJR's brands if such restrictions were implemented. The summary stated that the Joe Camel cartoon campaign was particularly at risk, and suggested that RJR should "[b]egin now to explore ways to transfer Old Joe's irreverent, fun loving personality to other creative properties which do not rely on models or cartoon depictions." The summary also indicated that billboards exposed young people to cigarette advertising: "Outdoor advertising continues to bear the brunt of anti-smoker criticism as regards unrestricted exposure to youth, and in fact, it is the medium that we are least able to defend in these terms." 507755082-5094 at 5085, 5091 (US 20787) (O).

4547. In an October 1991 research summary entitled "A Qualitative Assessment of Camel Advertising Equity," Ellison Qualitative Research reported to RJR the findings of focus groups of young adult smokers, ages 18 to 34, which were conducted to measure consumer perceptions of Joe Camel advertising. The research study found that:

> By all indications, the repositioning of the Camel brand seems to be generating a sense of upgraded appeal and relevance among key smoker segments – particularly adult males 18-24. A principal part of the repositioning – the 'Smooth Character' advertising and integrated communications programs – appear to be critical in helping to make the recent Camel effort successful.

507642890-2934 at 2892 (US 22055) (A). The 18 to 24 year olds mentioned as Camel smokers in 1991 were 15 to 21 years old when the Joe Camel campaign began in 1988.

4548. In the 1991 Ellison report, the market researchers also enthusiastically noted the

effectiveness of the Joe Camel advertising to allay consumer skepticism and create positive feeling and personal comfort with the brand: "This point seems particularly noteworthy, since consumers are generally reluctant to overtly admit to being influenced by advertising. Generally speaking – in a focused group environment – whether for cigarettes or for other packaged goods – consumers are inclined either to be critical of advertising and/or to deny that it plays any role in their choice of products." The researchers also stated that the respondents had strong positive responses to the Joe Camel advertisements, and were able to remember them in detail: "The details recalled and the strength of the favorable Camel advertising commentary were considerably beyond what is typically heard in focused groups . . . when awareness of/attitudes toward advertising – in the absence of stimuli – are explored." 507642890-2934 at 2906, 2910 (US 22055) (A). This focus group research report indicates that RJR was well aware that images connecting sex appeal with smoking would be effective in influencing youth to buy Camels. The responses of focus groups on Joe Camel advertisements revealed that the advertisements clearly communicated this theme: "He's the type the babes love . . . You can tell." 509045372-5416 at 5392 (US 22441) (A).

4549. Clare M. Smith, RJR Business Information and Analysis, wrote an October 18, 1991 memorandum entitled "Camel Campaign Equity Focus Group Final Report" regarding the Ellison Qualitative Research report. In it, Smith summarized the Ellison focus group findings, stating that "[o]verall, it appears to be the aspirational quality of Joe Camel that has fueled the popularity of the post-re-positioning campaign. Both competitive [Marlboro] male and female smokers commented on Joe Camel's ability to 'do everything, go anywhere and be anything.'" Smith also pointed out that focus group respondents were unwilling to see Joe Camel in "ordinary" scenarios, preferring to see him in aspirational situations: "Smokers commented on

situations perceived to be inappropriate for Joe Camel, including Joe as a 'couch potato' or showing Joe Camel working in a blue collar occupation. These activities were perceived as too ordinary for Joe Camel as respondents did not want to see Joe Camel in situations that they do on a daily basis. Smokers expressed their desire to see Joe Camel in fantasy situations . . . being the center of attention among a group of friends and always participating in cool activities." Smith recommended, based on this research, that "[f]uture [Joe Camel] campaign development should continue to avoid ordinary/boring activities and continue to focus on exciting and lively situations. . . . [and] on variety, humor and surprise." 509045369-5371 at 5370, 5371 (US 20821) (O).

4550. In a March 16, 1992 letter, Thomas C. Griscom, RJR's Executive Vice President, External Relations, forwarded to Preston Kirk a compilation of Camel market data that included data on 12 to 17 year olds. This data included "No. [number] of Smokers Underage (12-17). . . . Total Cigarettes Smoked Per Year - Underage. . . . Percentage of Total Cigarettes Accounted For by Underage Smoker. . . . Camel's Share-of-Market Among Underage Smokers. . . . Total Camels Purchased by Underage Smokers . . . [and] Percentage of Camels Bought by Underage Smokers." 512027239-7240 at 7240 (US 20845) (A).

4551. By 1992, it was clear that Joe Camel advertising had succeeded in reaching teenagers. A California Department of Health Services report estimated that Camel had achieved 96% of its total penetration among 13-year old teenagers, while Marlboro had achieved 82%, and Virginia Slims 69%. 2025685890-6054 at 5997 (US 20418) (O).

4552. A November 1993 Roper Starch report reported on an "Advertising Character and Slogan Survey" conducted with a "national sample of young persons, age 10 to 17 years" to track awareness of the Joe Camel Campaign. The study found that 86% of the 10 to 17 year olds

surveyed recognized Joe Camel. Joe Camel was identified correctly as advertising cigarettes by 95% of the 10 to 17 year olds who claimed awareness of the Joe Camel character. This percentage was higher than the percentage of children who knew that Ronald McDonald advertised McDonald's fast food and within 1% of the number of children who knew that the Keebler elves advertised for cookies. The top two responses of 10 to 17 year olds to the open ended question of "How would you describe Joe Camel?" were (1) he smokes, and (2) he is "really cool/acts cool/ thinks he's cool." RJR released the study in an attempt to deflect criticism that the Joe Camel campaign was directed at minors. 517145060-5108 at 5064, 5082, 5085 (US 20877) (O).

4553. A 1994 RJR document entitled "Camel Crisis Vision" tracked smokers ages 18 to 34, showing a peak in this market of almost 13% in 1993. 521896268-6289 (US 52790) (O).

4554. From 1995 until at least 1999, marketing agency Long Haymes Carr prepared a series of recommendations for placement of Camel advertisements in magazines and newspapers. Although these plans specifically referred to Camel's target as 21 to 24 year olds, the plans included strategies that clearly had great appeal to teenagers. For example, the "Camel 1994 Media Plan" suggested placement of advertisements in magazines including *Rolling Stone* and *Sports Illustrated*, both of which had a high percentage of 12 to 17 year old readers, and also suggested advertisements to increase awareness of Camel's NASCAR, drag, and bike racing programs. 513878927-8957 at 8929, 8942 (US 87829) (A); 524723099-3123 (US 87830) (A).

4555. The "Camel Cash 1995 Media Plan" recommended that RJR "heighten Camel's involvement at the Daytona NASCAR event with page insertions in broader appeal sports and/or automotive enthusiast publications." 514190393-0416 at 0399 (US 20856) (A); 519579346-9444 (US 87831) (A).

4556. Three cigarette advertisements used by RJR in 1996 included offers of Camel Cash. Two showed Joe Camel wearing sunglasses and a leather jacket and offered $25 savings on Ticketmaster tickets with 100 Camel Cash C-States; in one, Joe said "Wanna see a show?" and in the other, Joe said "Go ahead, it's on me." The third advertisement showed Joe Camel driving a car, saying "Take a Rockin' Road Trip" and included an offer of $25 savings on Ticketmaster tickets for "Camel Cash." 526310001-0015 at 0001, 0004 (US 21979) (O); 509137483-7486 at 7483 (US 21982) (O).

4557. The December 10, 1996 "Camel Final 1996 Media Plan" suggested that RJR "Heavy-up [increase] Camel Motorcycle program support during key events in 1996: Daytona, Sturgis, and Laconia." 518117818-7841 at 7825 (US 20880) (A); 524723230-3239 (US 87832) (A).

4558. The "1997 Final Media Plan" dated January 16, 1998 recommended supporting Camel campaigns at key biking events. 518116832-7488 at 6855 (US 21821) (A); 515129153-9177 (US 87833) (A); 514872663-2709 (US 87834) (A).

4559. The "Camel 1998 Media Recommendation Revision 5" recommended placing the "Biker" and "Billiards" series of Joe Camel advertisements. 522728834-8896 (US 52867) (A); 522728897-8904 (US 52870) (A); 522728905-8915 (US 52871) (A).

4560. Even after Joe Camel was replaced with "Kamel" and other campaigns for Camel cigarettes in 1998, RJR continued to market the brand to young people, particularly through its media placements. For example, the "Camel 1999 Media Recommendation" recommended that RJR "select and utilize media that provide a sense of change, disruption, and high impact." 522668862-8890 at 8864 (US 20911) (A). The "Camel 1999 Print Selection Rationale" identified magazine titles based on their ability to "[f]ollow the latest music trends and

entertainment news, [e]njoy the nightlife, [a]bility to evoke change and disruption." 522669065-9093 at 9068 (US 20913) (A).

4561. The "1999 Camel Media Recommendation Print Categories" recommended that Kamel 'Core' Books should be *Bikini*, *Jane*, *Spin*, and others, because of their younger reader profile. 522694030-4038 at 4030, 4307 (US 20914) (A).

4562. The "Camel 1999 Final Media Recommendation" identified as its objective to "[s]olidify awareness of Camel's brand identity among the target audience, adult smokers 21-24 (core target) . . . described as confident, fun-loving, adventurous, slightly irreverent, and having an individualistic attitude and outlook on life." 522728272-8320 at 8274 (US 21831) (A).

4563. During his May 8, 2002 deposition, RJR Senior Vice President for Marketing, David Iauco, testified that RJR sought to make its Camel Brand "a relevant brand to younger adult smokers." David Iauco PD, United States v. Philip Morris, 5/8/02, 149:16-150:12.

(ii) Other RJR Campaigns

4564. Throughout the 1980s, RJR recognized the need to attract young smokers to its brands and conducted research on how to appeal to them. In a September 20, 1982 memorandum, Diane S. Burrows, RJR Marketing Development Department researcher, stated, "if a man has never smoked by age 18, the odds are three-to-one he never will. By age 21, the odds are twenty-to-one." 500582269-2272 at 2270 (US 20641) (A). RJR used the research it conducted on young males and the research it collected on teenagers as young as 12 to develop its Joe Camel campaign that was launched in 1988. The following paragraphs discuss this research as well as RJR's efforts to market its other brands – Winston, Salem, and Doral – to youth.

4565. In 1981, RJR developed a system called "AGEMIX," to determine smoking

incidence and rates across demographic categories of sex and age for individuals as young as 12. A 1981 RJR document entitled "RJ Reynolds Cigarette Industry Volume Forecasting System" stated that the AGEMIX system allowed RJR to track the incidence and rates of smokers by sex and age. In a July 8, 1982 letter to Data Resources regarding the development of AGEMIX, Burrows wrote that AGEMIX allowed RJR to determine smoking incidence and smoking rates for individuals aged 12 and over, as the AGEMIX system included age breakdowns of 12 to 17, 18 to 24, etc. Burrows stated, "[s]ince few people start smoking after age 24, we will assume that incidence remains fixed as a group ages past 24." 502661958-1963 (US 20704) (O); 501291100-1101 (US 85234) (O); 503011402-1403 (US 50279) (O).

4566. A May 4, 1981 letter from Warren Cowan, President of the Beverly Hills public relations firm Rogers & Cowan, to Gerald Long, Executive Vice President of RJR, discussed Rogers & Cowan's past and continuing efforts on behalf of RJR to feature smoking favorably "in a prominent way" in movies, in celebrities' public appearances, on television, and in other arenas. Cowan stated, "[a]mong the films that met our criteria in which we were able to place products were: 'The Jazz Singer' with Neil Diamond. 'Backroads' with Sally Field. 'The Cannonball Run' with Burt Reynolds, Farah Fawcett and Roger Moore. 'Only When I Laugh' with Marsha Mason. 'Pennies From Heaven' with Steve Martin. 'Blowout' with John Travolta. 'Rich and Famous' with Candice Bergen and Jacqueline Bisset, and many, many others." The letter also discussed Paul Newman smoking RJR products in a recent spot on *Good Morning America* and placing stories about Mikhail Baryshnikov smoking four packs of cigarettes per day as part of his routine. 503579240-9244 at 9240-9241 (US 20718) (O).

4567. In a December 8, 1981 letter to E.N. Monahan entitled "Aging 18 Year Old Smokers Into NFO [National Family Opinion] Panel Data," Midge Barnes, RJR Marketing

Development Department, recommended "aging [i.e., counting] all known under 18 year old smokers into the NFO Panel Data at age 18 and classifying them as 'Continuing Smokers,' with only those smokers new to the business classified as 'new' smokers." 503412316-2318 at 2316 (US 21587) (O).

4568. A January 28, 1982 letter from Thomas A. Trumbull at National Family Opinion to Linda Mabee in the RJR Marketing Development Department confirmed that the January wave of the Mass Smokers Screening study produced for the company would include "the name, address, telephone number, and age and sex of each family member 17 years and older." Midge Barnes, RJR Marketing Development Department, had previously written to Paul J. Cousino at National Family Opinion on July 28, 1981, with respect to the same study to express Reynolds's desire "to address . . . any recommendations you have for introducing 17 year old smokers to the panel as they age into 18+." 502992729-2730 at 2729 (US 50276) (O); 503425601-5608 at 5602 (US 50372) (O).

4569. A March 22, 1982 document entitled "Export Family Strategy" discussed marketing strategy for Export cigarettes, RJR's leading Canadian brand:

> It is hypothesized that very young starter smokers choose Export 'A' because it provides them with an instant badge of masculinity, appeals to their rebellious nature and establishes their position amongst their peers. . . .It is at this transition point (ages 18-24) that Export 'A' is declining in its ability to hold the young adult males as they go through the maturing process, due to its out-dated irrelevant image. . . .Since we cannot direct our media or our creative to starter smokers, the optimal target group is young adult smokers between the ages of 18-24. . . . The key influencing factor to initial brand selection amongst new smokers appears to be conformity to what their friends smoke . . . .While Export 'A' appears to be chosen as a first brand based on this key influencing factor, we must strive for peer group acceptability throughout the maturing process, for all the Export brands.

800057286-7321 at 7299 at 7302 (US 21057) (A).

4570. A September 27, 1982 RJR memorandum from Burrows to P.E. Galyan, an employee in the Marketing Research Department, summarized the conclusions of the National Bureau of Economic Research on relative price sensitivity and stated, "A key finding is that younger adult males are highly sensitive to price. This suggests that the steep rise in prices expected in the coming months could threaten the long term vitality of the industry, by drying up the supply of new/younger adult smokers entering the market. **It could also undermine the long range growth potential of brands which rely on new/younger smokers, including Marlboro and Newport**." 503011368-1369 at 1368 (US 20709) (A) (emphasis in original).

4571. In a September 27, 1982 memorandum entitled "NBER Models of Price Sensitivity by Age/Sex" to Marketing Development Department employee Jerry R. Moore, Burrows summarized National Bureau of Economic Research findings on the relative price sensitivity of age and sex groups, including data on "teens 12-17." She discussed the NBER findings that "[t]eenagers and younger adult males are highly price sensitive," and that "[p]rice affects incidence; rate per day is virtually unchanged." Burrows also noted that the NBER findings were "highly consistent" with internal RJR findings. Burrows' memorandum stated further: "The loss of younger adult males and teenagers is more important to the long term, drying up the supply of new smokers to replace the old. This is not a fixed loss to the industry: its importance increases with time. In ten years, increased rate per day would have been expected to raise this group's consumption by more than 50%." On October 6, 1982, Burrows sent this memorandum to the Vice President of RJR Marketing Department, L.W. Hall, Jr. 503011370-1378 at 1370 (US 22347) (A); 503011368-1369 (US 20709) (A); 513318391-8392 (US 20851) (A).

4572. A 1983 document discussing "Project YAX," proposing that RJR develop a

"young adult smoker brand," stated:

> Premise: A brand that helps provide the younger adult smoker with peace of mind and a sense of well-being by representing appealing forms of escape. . . . Positioning hypothesis . . . A brand that stands for the **joy**, **closeness**, and **sense of belonging** of male/female relationships via intimate and/or romantic situations will be perceived by younger adult smokers as contributing to their sense of well-being. A brand that stands for **financial security** via achievable wealth-oriented imagery will be perceived by young adults as contributing to their sense of well-being . . . . A brand that stands for **good times** and **belonging** via fun, group situations will be perceived by younger adult smokers as contributing to their sense of well-being.

502761709-1714 at 1709 (US 78810) (O) (emphasis in original).

4573. Burrows testified in this case that, in the 1983-1984 time-frame, she recommended that RJR needed to increase its popularity among young adult smokers, possibly through development of a new brand. Burrows PD, United States v. Philip Morris, 6/27/01, 16:23-17:4.

4574. A June 29, 1983 report entitled "13-30 Corporation/R..J. Reynolds" summarized a meeting "[t]o develop concepts/options for media vehicle(s) for use in, on, under or around convenience stores which will satisfy the needs of . . . the convenience store customer . . . owner . . . [and] the R.J. Reynolds Company." The report described convenience stores ("Youth Oriented," "Hang-Out" and "Video Games"), convenience store customers ("Younger," "Children With Them," "Late at Night-Younger" and "Kids on Friday Night Buying Evening 6-Packs"), and convenience store purchasers ("Young, Single" and "People with Less Spending Money"). The report listed "beginning ideas" to be implemented at convenience stores to encourage purchase of RJR's cigarette brands, including "activity booklet appealing to young people – things to do," "develop a bike rack for kids with bikes – create ad space," "hook-up cigarettes with other youth purchases," "have a video game token given away with purchase," "create a music channel that is

closed-circuited into C.S. [convenience store] that is on-target to youth market," and "some kind of game or contest . . . via proof of purchase – with a weekly winner. Could be video game – high school sports quiz." The report considered ways to connect RJR marketing to dating: "facilitate boy meets girl at C.S.," and "how to legitimize the boy/girl encounter – e.g., movie schedules." 500863242-3272 (US 20654) (A).

4575. In a 1984 RJR report entitled "Strategic Research Report Market Overview and Key Trends/Issues," Richard Nordine provided a "broad overview of the cigarette market" spanning the preceding thirty years. Nordine stated: "[T]here are clear differences between growing and declining brands. Those which have younger adult profiles are growing and those which show older are declining (except Generics)." 517142223-2257 at 2224, 2230 (US 21764) (O).

4576. On February 2, 1984, R.J. Harden of the RJR Marketing Development Department wrote a memorandum to A.M. Curry entitled "A Perspective on Appealing to Younger Adult Smokers" which stated: "A cigarette brand's (and the associated company's) long-term vitality is strongly influenced by its ability to attract young adult smokers." 502034940-4943 at 4940 (US 20695) (A).

4577. In a February 29, 1984 memorandum entitled "Younger Adult Smokers: Strategies and Opportunities," Burrows stated:

> **Younger adult smokers have been the critical factor in the growth and decline of every major brand and company over the last 50 years. They will continue to be just as important to brands/companies in the future** for two simple reasons:
>
> [1] The renewal of the market stems almost entirely from 18-year old smokers. No more than 5% of smokers start after age 24. [2] The brand loyalty of 18-year-old smokers far outweighs any tendency to switch with age. . . . Marlboro and Newport, the only true younger adult growth brands in the market, have no need for

> switching gains. All of their volume growth can be traced to younger adult smokers and the movement of the 18-year-olds which they have previously attracted into older age brackets, where they pay a consumption dividend of up to 30%. A strategy which appealed to older smokers would not pay this dividend. . . . Younger adult smokers are the only source of replacement smokers. Repeated government studies . . . have shown that: Less than one-third of smokers (31%) start after age 18. . . . Thus, today's younger adult smoking behavior will largely determine the trend of Industry volume over the next several decades. If younger adults turn away from smoking, the Industry must decline, just as a population which does not give birth will eventually dwindle.

503049069-9072 at 9069 (US 20711) (A); 501431517-1610 at 1519 (US 20680) (A); 506653291-3348 at 3291, 3296 (US 85235) (O) (emphasis in original). In his written direct testimony, CEO Martin Orlowsky admitted that this memorandum was addressed to him. Orlowsky WD, 42:14-44:17.

4578. In the same document, Burrows emphasized the importance of positive and contemporary or modern marketing intended to attract young smokers: "the major younger adult brands have been succeeded by a brand which was positioned to be different from its predecessor and better 'in-touch' with the younger adult smokers of the time. . . .All of these successful brands have stressed positive product messages . . ." Burrows also recommended that RJR "**should make a substantial long-term commitment of manpower and money dedicated to younger adult smoker programs. An unusually strong commitment from Executive management will be necessary**, since major volume payoffs may lag several years behind the implementation of a successful younger adult smoker strategy." 503049069-9072 at 9070-9071 (US 20711) (A) (emphasis in original).

4579. In an April 13, 1984 RJR letter, Nordine stated that "[i]t is relatively easy for a brand to retain eighteen-year-old smokers once it has attracted them. . . .Conversely, it is very difficult to attract a smoker that has already been won over by a different brand."

502033156-3157 at 3156 (US 49017) (A).

4580. In an RJR document dated June 14, 1984 entitled "New Brands and Strategic Research Report: Project XG Qualitative Exploratory III MDD Topline Perspective," P.S. Cohen, an RJR employee, stated: "In recognition of the importance of younger adult smokers to RJR growth, Project Planning has been asked to develop a brand which appeals to the image and peer acceptance wants of 18-24 year old smokers." This effort was code-named "Project XG." Cohen further stated that, to appeal to the younger adult smoker, visuals would convey a sense of: "Adventure/controllable risk, Independence/freedom, Honesty/straightforwardness, 'In control'/ 'street-smart'/urban personality, Spontaneity/lack of inhibitions." 502034890-4895 at 4892, 4893 (US 20694) (O).

4581. A July 9, 1984 RJR document entitled "Project XG Brand Review" described "Project XG" as RJR's effort to "[d]evelop a Brand to appeal to younger adult smokers," and "[r]eplace Marlboro as the key brand among younger adult smokers (18-24)." 502761453-1487 at 1455 at 1457 (US 20705) (O).

4582. In a July 16, 1984 memorandum entitled "Thoughts on Younger Adult Smoker Study," Nordine remarked that "[i]n the past, trends with the younger adult sector have led to growth brands," and therefore RJR must "understand the driving motives of younger adults and the way they express these motives in their lifestyles." Nordine listed as an issue to explore: "What 'rules of thumb' are there are [sic] developing effective younger adult smoker marketing programs?" 503517461-7462 (US 20716) (O).

4583. In a September 17, 1984 memorandum, Burrows discussed Nordine's previously-stated hypothesis that, if schools permitted smoking, the effect would be to discourage student smoking. In response to Nordine's hypothesis, Burrows stated that prohibition of smoking may

feed into teenagers' rebelliousness and actually encourage them to smoke as a form of rebellion and as a way to get positive support from other rebels in their peer group. Burrows PD, United States v. Philip Morris, 6/27/01, 53:14-54:17; 503571003-1003 (US 20717) (O).

4584. In a January 28, 1986 document regarding Camel entitled "State of the Brand Report," Frances V. Creighton stated that "[t]he trend among 18-24 year old males has exhibited growth throughout 1985 reflecting targeting promotional activities throughout most of the year. . . . [S]hare among the 18-24 old male smokers is currently 5.7%, up +1.3% versus November [a] year ago." 505736433-6454 at 6435 (US 20745) (O).

4585. C.D. Greene, of RJR Camel Brand Team, wrote a February 11, 1986 memorandum entitled "Results of the Camel 1985 SDS Analysis." The purpose of this memorandum was to allow the Camel Brand Team to "gain a better understanding of Camel's target of male 18-24 year old smokers," whom Greene described as being "driven by a desire for social success." 514341837-1839 at 1837 (US 51847) (O).

4586. A document entitled "Youth Target 1987," prepared by The Creative Research Group for RJR-Macdonald Inc., RJR's Canadian subsidiary, expressly studied smoking habits, lifestyles, and value systems of smokers ages 15 and older. 521893064-3142 at 3070 (US 20896) (O).

4587. A June 8, 1987 document showed that RJR conducted a Canadian study allocating 17% of the interviews to 15 to 17 year olds. 512679728-9807 at 9732 (US 20848*) (O).

4588. An October 15, 1987 memorandum entitled "Project LF Potential Year 1 Marketing Strategy" from J.H. Miller to Emily C. Etzel and Ann E. Biswell, and copied to H.T. William C. Parks, discussed "introducing Project LF in 13 priority regions . . . . Project LF is a wider circumference non-menthol cigarette targeted at younger adult male smoker (primarily

13-24 year old male Marlboro smokers) . . . .[W]e are assuming $100MM for a national launch and $70MM for a regional introduction." Miller attached a table showing "Priority Regions" and "Remaining Regions" by brand: Marlboro, Winston and Camel. This document was contained in a file entitled "Youth Target." 505936377-6378 (US 50876) (A).

4589. A 1988 RJR document entitled "Strategic Overview" discussed Marlboro's success and advised that, in order to meet the goal of increasing RJR's market share, the company must target the "young adult" market. To meet this goal, "[s]everal research programs have been completed to increase understanding of YAS." 521895685-5732 at 5723 (US 20903) (O).

4590. A March 1988 report entitled "Younger Adult Smoker Opportunity" discussed "RJR's most critical strategic need – Younger Adult Smokers." The report stated: "Improved younger adult development is a key Corporate priority . . . – Necessary for core brand revitalization (#1 Corporate priority) – Lack of younger adults responsible for total Company volume trend." It indicated that RJR's "[m]arketing department [was] refocusing efforts against younger adult smokers." The report indicated the importance of unrestricted advertising in reaching these younger smokers; regarding a possible advertising ban, it stated that, "[i]f enacted, [an] advertising ban would severely limit RJR's ability to introduce [a] new brand or attract younger adult smokers." The report also stated that "[y]ounger adult smokers drive the growth of two major competitors" – Marlboro and Newport – which were "capturing an ever increasing share of younger adult smokers." Finally, the report explained that young smokers were crucial to the continuing survival of RJR because teenagers remain loyal to their brand of choice as they age and because teenagers smoke an increasing volume of cigarettes as they become adults: "younger adult smokers are the **key** to future growth for any company or brand for several reasons: (1) Aging explains **75%** of SOM [Share of Market] growth. (2) Benefits of younger

adult smokers compound over time as a result of **brand loyalty** and the **increase in rate per day** as smokers age." In summary, the report stated, "RJR must begin now to capture younger adult smokers: – Volume decline inevitable without YAS – Potential for future advertising restrictions – Marketing department restructured to address the issue." 506664499-4558 at 4499-4500, 4506-4507, 4557 (US 20763) (O) (emphasis in original).

4591. An August 1988 report entitled "Permanent Young Adult OOH (Out of Home) Plan" discussed RJR's OOH marketing ("out of home" primarily refers to billboards and other outdoor advertising) and made recommendations for targeting the younger adult smoker ("YAS") market. The overall plan for RJR's billboard efforts was described as "[c]ontinuous, high impact visibility in the most YAS-oriented media available." The overall objective was to: "Assure continuous OOH presence for highest potential Brands, utilizing locations, units and creative executions that are uniquely and singlemindedly relevant to younger adult smokers." The report recommended placing billboards in the areas most likely to be frequented by young adults, including:

> – Near venues where rock concerts are regularly held.
> – Along cruising strips/streets with heavy concentrations of fast food restaurants and convenience stores.
> – Near technical colleges, military bases, video game arcades, city basketball courts, motocross tracks, major record stores, etc.

The report stated that, with respect to marketing in such areas, "[t]raditional OOH selection parameters do not necessarily apply! Highly 'daily effective circulation' not critical - maybe YAS only in area on weekends - that's OK!" 507286174-6181 at 6175-6576, 6178 (US 22051) (A).

4592. A September 9, 1988 RJR resource allocation document stated: "RJR's YAS brands should reach YAS with a dominant promotion voice in 1989, i.e., at least $48MM should reach General Market YAS." 507181787-1824 at 1799 (US 20772) (O).

4593. A July 1989 internal RJR document entitled "Soundwaves Program Awareness and Perception Study" declared that the Soundwaves Program was:

> being developed to improve Salem's appeal, relevance, and share among younger adult smokers, the key subgroup fueling the brand's long-term decline. The program is designed to tie the Salem brand name with music, a very important and universal interest among younger adult smokers. The program will focus on the areas of music most meaningful to the 18-24 year old smoker target, new music, via various elements of the program-music magazine, record/tape offer, retail offers, media delivered offers, and local field marketing events – club nites and talent search.

514347738-7774 at 7738 (US 51850) (O).

4594. Marketing reports prepared for RJR, under the heading "Decision to Smoke," included the following statement: "66% of all new smokers by age 18." The document also reported on the brand loyalty of smokers, indicating that "90% [of] smokers use only one brand," and that the "Implications for 90's" are that 18 to 24 year olds will be "[c]ritical to long term brand vitality as consumption increases with age." Another report prepared for RJR, from approximately 1989, entitled "Younger Adult Smokers" discussed the strategic importance of younger adult smokers, stating that "YAS are the only source of replacement smokers-[l]ess than one-third of smokers start after age 18." The report analyzed the differences between "FUBYAS" (ages 18 to 20) and "Switchers" (ages 21 to 24), stating that "FUBYAS are in transition - belonging to the **FAMILY** (secure) replaced by belonging to selected **PEER GROUP** (not as secure)." MBDOJ06953-6966 at 6955-6956, 6969, 6993, 6996 (US 59747) (O) (emphasis in original).

4595. In a letter dated October 12, 1989 entitled "Dollar Value of YAS Over Time," Burrows provided "estimates (attached) of the value of capturing Younger Adult Smokers and holding them over time." The letter calculated the profits that RJR would gain "[i]f an 18 year

old adopts an RJR full price brand" for 3 years ($1,359), for 7 years ($3,710), for 10 years ($6,148), or for over 20 years ($18,794). Burrows concluded: "[o]ur aggressive Plan calls for gains of about 5.5 share points of smokers 18-20 per year, 1990-93 (about 120,000 smokers per year). Achieving this goal would produce an incremental cash contribution of only about $442MM during the Plan period (excluding promotion response in other age groups and other side benefits). However, if we hold these YAS for the market average of 7 years, they would be worth **over $2.1 billion in aggregate incremental profit**. I certainly agree with you that this payout should be worth a decent sized investment." 507181261-1261 (US 20007) (O) (emphasis in original).

4596. In an October 27, 1989 document, RJR Business Department employee L.B. Smith requested in-house legal advice concerning cash offers for consumer survey participation to "younger" adult smokers "ages **18**-24." The document indicated that "[t]he amount of the offer is intended to make it 'worthwhile' for younger adult smokers to respond" and that RJR did not require age information when respondents called the toll-free number. A copy was also sent to Douglas Weber, RJR's Director of New Products Development and Established Brands. 507187215-7215 (US 20773) (O) (emphasis in original).

4597. An RJR document entitled "1990 Workplan Objectives" stated that "**The number one priority for 1990 is to obtain younger adult smoker trial and grow younger adult smoker share of market**." In addition, the document asked "Why target the YAS market?" and answered:

Each Year:

- 800,000 new smokers (18+) enter the market
- 1,500,000 smokers leave the market

With about 50 million smokers, this means that each year there are:

- 1.6 share points of new smokers
- 3.0 share points of quitters

At least 95% of all new smokers are 18-24. About 70% are exactly 18 (i.e., aged in the 18+ market).

Each brand and company has a share of new smokers and quitters, which is reflected in their shares of YAS and older smokers. These shares drive long-term market performance.

513869196-9303 at 9197, 9198 (US 30058) (A) (emphasis in original).

4598. RJR sought to develop brands of cigarettes specifically targeted at young adult female and African American smokers. A 1989 internal RJR document titled "Smoker Dynamics" stated that "YAS [Younger Adult Smokers] are the only source of replacement smokers." The 1990 RJR Business Plan discussed the test marketing of two brands: "Project VF [Virile Female] . . . designed to attack Marlboro's vulnerability among younger adult female smokers" with the Dakota brand; and "Project UT [Uptown] . . . targeted to Newport's strong franchise among younger adult Black smokers." Schindler WD, 94:9-95:6; 507201540-1599 at 1563 (US 89344) (A); 507586669-6777 at 6686 (US 89345) (A).

4599. Memoranda discussing RJR's 1989 and 1990 focus group testing of Dakota reveal that the company sought to target less- educated young females. An April 13, 1989 Reynolds memo entitled "Project VF" described the "target" demographic as 18 to 20 year old female Marlboro smokers, with the "majority [having] no education beyond high school," and with "Long-term earning potential . . . low to middle income." A December 7, 1989 memorandum from Laura Bender, RJR Senior Brand Manager, entitled "Dakota Smoker Profile for Sales Conference" described the Dakota smoker as "an 18-24 year old female . . . [who] is fairly downscale with a high school education or less and generally has an 'unskilled' job." A June 16, 1989 document created by Trone Advertising, the advertising agency of record for Dakota, titled

"VF Year I Promotion Recommendations" described the target customer demographic as "Caucasian Females, Age 18-20" who aspire "to get married in her early twenties and have a family," and who spends her free time "with her boyfriend doing whatever he is doing." 507366520-6522 at 6521(US 89353) (A); 508768290-8291 (US 89336) (A); 507178161-8201 at 8166-67 (US 89350) (A).

4600. In January 1990, RJR marketing documents describing the test marketing of its new Dakota brand to 18 to 24 year old so called "Virile" women, those without college educations or professional careers, were leaked to the press, causing a public furor. A January 1, 1990 RJR document indicated that Philip Morris had informed RJR that it (Philip Morris) had not revealed that the marketing documents "leaked" to the *Washington Post* were indeed RJR documents: "they [Philip Morris] did not tell the *Post* reporter that the materials cited in the story were theirs [RJR's]." 507301283-1298 at 1286, 1298 (US 22726) (O).

4601. In a February 6, 1990 memorandum entitled "Dakota Public/Government Relations Plan," Lynn Beasley, now the COO of RJR, recommended, "[g]iven recent articles in the *Atlanta Constitution* and *Ad Week*, it is probable that Dakota's preliminary criticism will regard female targeting. Recommended responses in order are: 1) Deny female positioning as outlined in attached Q & A's." On February 17, 1990, an article ran in the *Washington Post* titled "New Ad Target, Virile Female: RJR Plans to Introduce Cigarette." The article stated that "[t]he R.J. Reynolds Tobacco Co. plans soon to introduce a brand of cigarette that, according to the detailed marketing strategy prepared for the company, targets young, poorly educated, white women whom the company calls 'virile females.' Reynolds plans to test the new brand, called 'Dakota,' this April in Houston." On the same day the article was published, the Chairman and CEO of RJR, James Johnston, issued a statement claiming that "[t]he Dakota marketing plan is

focused on current adult Marlboro smokers – nothing more, nothing less." RJR's press release failed to acknowledge either females or 18 to 24 year-olds as Dakota's primary target group. Schindler WD, 110:9-19; 518014738-4742 at 4738 (US 80215) (A); 515576297-6299 (US 89359) (O); 515010881-0882 (US 89360) (O).

4602. In a March 30, 1990 letter, RJR employee L.L. Bender described the press attention to RJR's Houston test marketing of Dakota cigarettes to the "Virile Female." Bender stated:

> I. LEARNING
> . . . Even with the tightest possible security, however, **we must operate with the knowledge that anything we write, say, or do can become 'public knowledge' overnight**. . . . Fortunately, focus group learning suggests that **exposure to the brands' advertising can quickly reorient brand perceptions/positioning.** Surprisingly, focus group learning also indicates a **straightforward 'statement' ad or letter from the company would be less effective at reversing negative brand perceptions than advertising.** In fact, detailed explanations of our position seemed to surface new issues and fuel the controversy.
> II. IMPLICATIONS FOR FUTURE [NEW BRAND] INTRODUCTIONS/ CONTROVERSY
> 'Target' definitions should be broad and refer only to competitive brands. . . . Proposals/recommendations that are not accepted should be discarded immediately. Out of date documents should also be destroyed. If anti's, the press, or government officials misrepresent the brand, advertising reflecting correct brand positioning should be run as soon as possible. However, this advertising should not be designed to refute claims directly.

507511965-1967 at 1965-1966 (US 20777) (O) (emphasis in original).

4603. In 1989-1990, RJR also sought to develop a cigarette brand, "Uptown," targeted at young adult uneducated African Americans. Project Uptown was part of RJR is "Black Initiative" to increase RJR's share of 18 to 20 year old black smokers by 2.5 points in 1990. An internal RJR document that pre-dated Project Uptown, "Black Opportunity Analysis," stated that"Black Smokers have been identified as a potential opportunity sector for RJR" and that

"[s]everal studies have suggested that Blacks are becoming polarized into an 'elite' and an 'underclass' . . . [it] is the 'underclass' who are smokers." In a section of the document titled "Blacks as People," it states, "[i]nner city Black smokers are resigned to a future which permits only modest aspirations. . . . Younger adult inner-city black men seem to have fewer goals than the females. . . . From their discussions, it was evident that most of these men had surrendered to their dismal fate rather than actively seeking a solution." A March 6, 1989 document produced from RJR' files entitled "1990 New Marketing Ideas" referenced an "Inner-City Black Targeted Brand" that would be a "distinctive cigarette brand targeted at the Inner-city Black smoker" and would "leverage the Black consumers' desire to use products which . . . are more 'potent' (e.g., Blacks drink malt liquor rather than beer)." An October 18, 1989 RJR marketing research report titled "Project UT [Uptown] Creative Qualitative Research" stated "Project UT is a new brand targeted to younger adult Black smokers," and described the results of focus group testing conducted in Chicago among 18-24 year old African American males and females who had "a high school or less education, and a total household income under $20,000 per year." Only after the Secretary of HHS at the time, Dr. Lewis Sullivan, gave a speech condemning Uptown did RJR decide not to bring Uptown to market. Schindler TT, 1/25/05, 10952:4-10953;14; Schindler WD, 112:2-22, 121:19-24; 505925251-5295 at 5253, 5263, 5278 (US 89347) (A); 507297419-7442 at 7438 (US 89351) (A); 507318253-8287 at 8254, 8257 (US 89346) (A).

4604. On January 10, 1990, J.P. McMahon, RJR Division Manager, sent a memorandum headed "**VERY IMPORTANT, PLEASE READ CAREFULLY**!!!" to all Division Sales Managers requesting that they identify stores frequented by "young adult shoppers" that were located near high schools, colleges, or other areas frequented by such individuals. McMahon wrote: "I need all of you to study the attached scroll list of monthly accounts in your assignment

that are presently doing more than 100 CPW [cases per week] for purposes of denoting stores that are heavily frequented by young adult shoppers. These stores can be in close proximity to colleges, high schools or areas where there are a large number of young adults frequent the store." Such stores were to be classified as "young adult" and singled out for special treatment, even if the stores were not otherwise considered "Preferred Presence units." 507341428-1430 at 1430 (US 22376) (O) (emphasis in original); 509056992-6994 at 6992 (US 22378) (O).

4605. Almost four months later, McMahon sent a May 3, 1990 letter to all sales representatives to "clarify" the language in his January 10 letter. In it, McMahon stated:

> In reviewing my files, I have noticed that I sent you a letter dated January 10th of this year, asking you to identify stores located in close proximity to high school and colleges for placement of our premium items. First of all, looking back on this letter, I realize I was wrong in identifying the specific age group of these young adults. It has always been this company's policy that we do not promote or sell our cigarettes to anyone under the age of 21.

516018462-8462 (US 51982) (O).

4606. In an April 5, 1990 RJR memorandum entitled "Young Adult Market . . . Account Grouping," R.G. Warlick, RJR Division Manager, requested that all sales representatives in Norman, Oklahoma, provide him a list of their "Y.A.S. accounts," meaning "[a]ll package action calls [locations that sell cigarettes by the pack rather than the carton, i.e., convenience stores] located across from, adjacent to are [sic] in the general vicinity of the High Schools or College Campus. (under 30 years of age)." 89281671-1671 (US 22735) (O).

4607. An RJR document dated June 21, 1990, entitled "US Cigarette Market in the 1990s," stated that the "majority [of smokers] become regular smokers before age 18. . . ." 507798137-8230 at 8142 (US 20789*) (A).

4608. In 1992, RJR supposedly adopted a policy which proscribed marketing to anyone

under 21 years of age. CEO Andrew Schindler the policy in fact meant that RJR would not use source data information gathered from research into the smoking preferences of 18 to 21 year olds. Schindler further testified that RJR does not "interact with" or "talk to" 18, 19, and 20 year olds, but rather "conducts its interactive marketing practices only with those 21 and older." Schindler WD, 170:16-171:18; 208:16-18. Beasley PD, United States v. Philip Morris, 6/25/02, 54:17-55:19; 77:19-78:4, Burrows PD, United States v. Philip Morris, 6/27/01, 14:5-7. In his May 2, 2002 deposition in this case, Edmund Conger Leary, Senior Vice President of Marketing and President of Sports Marketing for RJR, testified that RJR "marketed to adults 18 and up" prior to 1992. Leary PD, United States v. Philip Morris, 5/2/02, 19:13-18, 22:14-16, 30:3-33:12.

4609. A May 28, 1992 RJR internal memorandum entitled "Advertising Practices," from James C. Schroer, Executive Vice President of Marketing and Sales, to Lynn Beasley and other marketing staff, set out RJR's supposed policy change to stop marketing to individuals younger than 21: "it would be in our long-term best interests to join the ranks of our competitors and limit our advertising and marketing efforts to smokers 21 years of age and older." The memorandum recognized that all of RJR's competitors publicly stated that they did not market to anyone under 21: "[n]one of our competitors in their public statements admit that they advertise or promote their products to anyone under 21." 513180912-0913 (US 51672) (A); 511388874-8875 (US 22497) (O); 513385651-5652 (US 20852) (O); 507647460-7461 (US 21680) (O); 522908112-8112 (US 87746) (O).

4610. This same May 28, 1992 memorandum reveals, however, that the motivation behind RJR's policy change was to blunt attacks by adversaries, rather than any desire to actually avoid marketing to youth:

> The fact that our public statements on this issue differ from our competitors' and, on the surface might appear inconsistent with

> elements of the Cigarette Advertising and Promotion Code, has not gone unnoticed by our adversaries . . . . [w]e don't believe for a minute that this will silence our adversaries in their attempts to misrepresent our motives or the effect of advertising. We do feel that it will blunt this point of attack and provide us with a three-year 'cushion' that can be used in response to claims that we're after the underage market . . . All brand positioning statements that currently reflect audiences below the age of 21 should be revised to reflect audiences which are 21 or older.

511388874-8875 (US 22497) (O).

4611. Despite RJR's supposed post-1992 policy proscribing marketing to anyone under 21 years of age, RJR made no changes in its marketing efforts after enacting this policy. For example, RJR did not restrict the locations of cigarette vending machines to only age 21-plus venues. Nor did RJR withdraw or change its "Joe Camel" campaign even though Andrew Schindler testified that the target group of this campaign was 18 to 24 year olds. Schindler agreed that RJR conducted research among 18 to 24 year old smokers about "every aspect" of Joe Camel "for its appeal and relevancy to the target." Schindler WD, 166:15-20, 174:1-3.

4612. Despite RJR's supposed policy, Schindler stated that if an 18 year old sees an RJR ad campaign which was developed to target 21 year olds, likes it and switches to R.J Reynolds cigarettes as a result, "It is not a problem because they are of legal age to buy the product." Schindler WD, 173:14-21.

4613. In fact, after 1992, RJR continued to conduct market research on those under 21. In May 1994, RJR conducted a "Tracker Tag-On" among 300 smokers "age 18+" to determine whether these smokers would be interested in a cigarette without additives. 513823320-3325 at 3320 (US 22463) (O).

4614. A survey dated November 28, 1995 bearing the legend "Property of RJRTC" on every page analyzed whether "Adolescents Will Not Be Predisposed to GTC." "GTC" was the

in-house code name for RJR's tobacco heated products such as Eclipse. The survey discussed reasons why an adolescent would be inclined to smoke GTC: "Less Concern About The Risks Associated With Smoking (Minimize Initial Physical Reaction To Smoking). . . .More Likely To Experiment. . . .Less Likely To Quit Smoking Under A Perception of Lower Risk Associated With Smoking And Because Smoking Is Seen As Less Objectionable Among Peers. . . .By Influencing Adult Smoking Incidence, Impact Is Made On Smoking By Adolescents Through Parental Example. . . .In Fact, Parents May Be Less Forceful About Their Kids [Not] Smoking If They Perceive The New Product As Having Healthier Benefits." 514510001-0015 at 0006 (US 51860) (O).

(iii) RJR's Repositioning of Salem and Winston Towards The Youth Market

4615. In the mid 1990s, despite RJR's supposed 1992 policy of not marketing to those under 21, RJR repositioned its Winston and Salem brands to make them more appealing to younger smokers. Documents discussing these efforts specifically identify 18 to 24 year olds as RJR's target. For example, a 1996 RJR "Competitive Summary" discussed repositioning Salem. Identifying Salem's competitors as Newport and Marlboro Menthol, the document stated, below a chart of 18 to 24 year old brand share, that it was "[c]ritical that Salem have front door opportunity to ensure long-term viability." 514200832-0889 at 0865-0866 (US 20857) (O); TLT0132032-2268 (US 87838) (O).

4616. An October 24, 1996 email from RJR employee Diana Martin to fellow employee Gus Lejano attached a document discussing the repositioning of the Winston brand. Martin's e-mail attachments indicated that "[s]ustained growth driven only by younger adult smokers" and contained data on Winston's share among 18 to 24 year olds. Martin also advised: "[s]uccessful repositioning [of Winston] requires young adult smokers." 700186251-6251 (US 54461) (O);

700186252-6252 (US 54462) (O); 700186253-6253 (US 54463) (O); 700186254-6255 (US 54464) (O); 700186256-6256 (US 54465) (O).

4617. In a March 14, 1997 memorandum sent by Daniel Murphy at Diagnostic Research International to L.G. Dube, an RJR employee, Murphy indicated that his company was evaluating Salem's market share among 18 to 34 year old smokers in various markets. Similarly, the M/A/R/C Group performed research in 1997 on behalf of RJR to evaluate the awareness of the "SALEM MVP Proposition" and whether it "improves overall brand perceptions and positively impacts brand buyer dynamics" on smokers as young as 18. 519941785-1786 (US 85239) (O); 516949904-9907 at 9905-9906 (US 85240) (O).

4618. A 1997 memorandum from Regena Pasterczyk, Senior Brand Research Manager for Winston and Senior Information Manager in RJR's Business Unit Research Department, to Lynn Beasley, Vice President of the Winston business unit, summarized the findings among respondent groups that included 18 to 20 year olds: "no additives, no artificial ingredients, and a 'no bull' brand is clearly coming across among the critical 18-34 NM competitive prospect group." "No Bull" was the slogan that RJR used to launch its repositioned Winston in 1997. 519588649-8659 at 8649 (US 22465) (O).

4619. A September 4, 1997 Tracking Research Report entitled "Winston 1997 Hispanic Tracker Pre-Wave Results" published by the Business Information and Analysis Department at RJR revealed that following the introduction of its Winston "No Bull" advertising campaign in August 1997, RJR developed "a comprehensive national tracking plan . . . to monitor the awareness and penetration of the launch among [Hispanic] **smokers 18**+." 520650706-0727 at 0706 (US 52621) (O) (emphasis added); 518090228-0255 at 0233, 0242, 0244-0249, 0251 (US 52152) (O); 518090256-0268 at 0260-0265, 0267 (US 52153) (O).

4620. At trial, RJR's CEO Andrew Schindler admitted that 1997 Winston Launch plans for the "No Bull" campaign included quantitative information obtained from a survey of 18-34 year olds, and that such quantitative information could inform the company with respect to the marketing of its products. Schindler TT, 1/25/05, 10942:8–10947:16; 520601649-1699 (US 22116) (A).

4621. A January 5, 1998 document entitled "Winston 1997 Hispanic Tracker Post-Wave Results" reveals that RJR marketed to persons under age 21 through its No Bull campaign. It tracked the effect of the "No Bull" campaign on Hispanic smokers ages 18 and over. These individuals were asked if they had "ever tried," "recently tried," "ever purchased," or "recently purchased" Winston cigarettes, and asked about "proposition awareness" of the "Winston No Bull" marketing campaign. 520650728-0755 at 0729, 0744-0749 (US 22468) (O).

4622. In the "Winston 'No Bull' National Launch Tracking Report IV- November" dated January 8, 1998 from A. Phillips, an employee of RJR, to E. Leary, Director of Winston Brand, RJR tracked the total of smokers ages 18 and older who had ever tried and ever purchased Winstons since the brand's national launch. It concluded that "new business to the brand is coming primarily from younger adult smokers, 18-34, where purchase . . . and repeat purchase . . . have doubled since [the Launch]." 519921955-1983 at 1958 (US 22467) (O).

4623. During her June 20, 2002 deposition, Frances Creighton, RJR Senior Vice President for Marketing, testified that RJR tracks brand performance and brand perception among smokers as young as 18. Creighton PD, United States v. Philip Morris, 6/20/02, 54:5-57:7.

4624. An August 18, 1999 email from Tyler Brule of Time Inc. to Melanie Barbee and Frances Creighton, a Marketing Vice President at RJR, outlines some advertising concepts for

the "21st Century Turks" campaign. In it, Brule explains: "[t]he style is strong, very striking and new for the US, which is key if you're going to stand out in *Rolling Stone*, *Details* et al. The look won't be as cartoony as where you've been lately but more iconic and animated by the characters we cast." In providing specific examples of ad executions, Brule wrote:

> All of the characters stand out because they're young Turks, doing they're [sic] own thing, living life and having a great time doing it . . . . whirling dirvish [sic] - on a nightclub dance floor a girl dances the night away. She's happy by herself, guys and girls look on at her with envy and the scene feels like it could by [sic] Ankara or Akron. She's beautifully styled, with a pack of full flavours tucked into her waistband . . . the coolest commute - in a vintage Mercedes–late 60s model–a girl's driving along smoking her menthol and experiencing the pleasure of the open road.

RJR000001499005724700286110-6111 (US 61795*) (O).

(5) Defendants Exploit Young People's Desires To Smoke "Popular" Brands Their Peers Smoke

4625. Defendants claim in public statements that young people begin to smoke due to peer pressure, rather than due to Defendants' marketing efforts. For example, in a May 24, 1979 letter to Joseph A. Califano, Jr., Secretary of the Department of Health, Education and Welfare, Horace R. Kornegay, President of the Tobacco Institute, stated that "your statements appear to reflect the erroneous view that brand advertising has an effect on the decision to begin smoking," and asserted that the 1978 Surgeon General's Report "suggested that the primary motivating factors in smoking by young people were the influence of peers, smoking parents, and older siblings." TI05031337-1338 at 1338 (US 21245) (A). See US FF § III.E(5), supra. Defendants fail to publicly address the question of what factors encourage those "peers" to smoke, and how marketing may influence peer pressure.

4626. However, as established in the testimony of Dr. Krugman and in the Cigarette Company Defendants' internal documents and other evidence, Cigarette Company Defendants

purposefully have marketed their brands as "popular" and used "peer appeal" to encourage young people to smoke their brands. Cigarette Company Defendants researched what they deemed the "herd" instincts of young people – that young people would choose a cigarette brand that they perceived to be the most popular or "number one" among their peers – and harnessed these "herd" instincts in their marketing to encourage youth initiation and brand choice. Krugman WD, 85:11-92:18.

(a) Philip Morris

4627. In a December 12, 1984 Philip Morris report entitled "Cigarette Market History and Interpretation," John E. Tindall, Senior Scientist at Philip Morris, stated that, in order to discover why certain brands have captured the young smokers, "**[w]e need not try to understand why young people have a herd instinct. From their choices of food, clothes, transportation, entertainment, heros [sic], friends, hangouts, etc., it is clear that they do.** More important to us (and probably to many other product categories) is why they make certain choices instead of others." 2001265000-5045 at 5030 (US 20299) (A) (emphasis added).

4628. An October 7, 1987 internal Philip Morris document containing plans for marketing Parliament in 1988 and 1989 stated: "To target the 18-24 males and females, our retail focus will be on pack outlets . . . and will be trial/conversion oriented. This younger age group is more likely to make decisions based on peer pressure. To convey the idea that everyone is smoking Parliament, the brand should have continuous high levels of visibility in as many pack outlets as possible." 2045287059-7067 at 7063 (US 38408) (A).

4629. An August 7, 1990 report entitled "New Brand Opportunities in the Cigarette Industry" written by Gibbons, Voyer & Associates for Philip Morris stated that 17 to 19 year olds comprise 18.9% of smokers; the report found that "**Marlboro Dominates Young Adult Smoker**

Market: Initial Exposure, Peer Pressure, Meets Image Wants" and that "switching occurs as smokers enter their mid-20's." 2049397333-7369 at 7343, 7348 (US 20486) (A) (emphasis added).

4630. With its continuous smoker tracking survey, as stated in a November 1994 document entitled "Profile of the Young Adult Marlboro Smoker Part 1: Males, 18 to 24 Years Old," Philip Morris found that 18 to 24 year old males cite Marlboro's popularity with friends ("brand I grew up with," "an 'in' brand") and availability as factors driving their initial choice of a regular brand. The document also stated that a male Marlboro smoker 18 to 24 years old is most likely to consider his brand to be "popular" and "well established." 2048735500-5604 at 5544, 5546 (US 21971) (A).

4631. In her testimony, Nancy Lund, Philip Morris Senior Vice President of Marketing, testified that Philip Morris collected information on whether smokers perceive particular brands to be "popular" brands as part of its continuous consumer tracking survey in order to help it to "understand if the brand is remaining new and relevant and growing in the marketplace or whether the consumers think that this brand [] is washed up." When asked why this information would be important in marketing Marlboro, Lund admitted that "at least what we know about young adult smokers, for some of them, **the fact that Marlboro is a popular brand may be a factor in why they choose Marlboro.**" Philip Morris interprets a high "popularity" rating for Marlboro as positive. When asked whether she was aware that there is internal Philip Morris data from the Youth Smoking Prevention Department that shows that children ages 12 to 17 choose to smoke Marlboro because of its popularity, Lund testified: "I certainly have heard and understand that Marlboro is a popular brand among that group [12 to 17 year olds]." Lund PD, United States v. Philip Morris, 6/27/02, 137:17-140:13, 197:24-199:11 (emphasis added).

4632. Philip Morris regularly tracks through its continuous consumer tracking survey whether 18 to 24 year old smokers report that Marlboro is "growing in popularity." As Suzanne LeVan, Vice President of Marlboro, testified in this case, "if young adult smokers were saying that a brand was rapidly declining in popularity, then that might be something to be significantly -- to be concerned about." LeVan PD, United States v. Philip Morris, 6/25/02, 246:22-23, 247:13-16.

4633. In a June 23, 1995 memorandum from Philip Morris research analyst Marian Wood to Lund, Wood discussed the results of a qualitative market research study concerning the Marlboro Lights brand. This study, conducted by Marketing Perceptions, a market research contractor for Philip Morris, found that "most of the Lights smokers [in that study] chose Marlboro because of the brand's popularity. However, once they were in the franchise, many of these smokers identified with the independent image the brand conveyed." 2071580565-0566 at 0566 (US 20528) (O).

4634. Focus group research conducted by Sun Research Corporation for Philip Morris in September 1995 and contained in a report entitled "Qualitative Insights on Preliminary Ad Campaigns For a New Parliament Lights Menthol" confirmed that young people, starting at age 18, rate certain cigarette brands as "popular," including Newport, Marlboro, and sometimes Kool. 2045596130-6141 at 6133 (US 20462) (O).

4635. In a February 21, 1996 memorandum, Natalie Ellis, Marlboro Research Manager at Philip Morris USA, remarked upon the "**critical role brand popularity plays in the Marlboro core image.**" 2040837079-7080 at 7079 (US 23898) (O) (emphasis added).

4636. Philip Morris's marketing for its youth brand, Marlboro, is expressly designed to appeal to young smokers' desire for peer acceptance by emphasizing Marlboro's popularity and

status as the "number one" brand. Camisa PD, United States v. Philip Morris, 6/28/02, 107:6-109:22, 111-113, 158:7-159:8; 2071230813-0888 at 0820-0821, 0830-0832, 0838-0839, 0850, 0856, 0862, 0864 (US 40404) (A), (US 20521*) (O); 2080499829-9896 at 9859 (US 20536) (A).

4637. A November 1998 document entitled "Marlboro Worldwide Creative Brief," written by Philip Morris's advertising agency Leo Burnett for Philip Morris and produced by Philip Morris in this case, analyzed the marketplace dynamics affecting Marlboro's volume and share performance and recommended ways to market Marlboro to "young adult male smokers" who "continue to be of primary importance for the growth of Marlboro." The report opened by discussing "Key Consumer Insights," including: "**Friends/peers are more important than before**. Given increased pressure from a rapidly changing world around them, there is a growing need for 'connectedness' with this group. Young Adult Smokers today communicate with each other differently -- they care more about relationships with others." After discussing the "core values of Marlboro Country" – "Masculinity, Freedom, Adventure, Limitless Opportunities, Self-Sufficiency, Mastery of Destiny, Harmony with Nature" – the report addressed Marlboro's "Advertising Challenge":

> With more than 30 years of experience behind the Marlboro Country campaign idea, we are confident that its timeless, universal appeal will continue to build the brand's image, awareness and sales well into the future. Nevertheless, our key advertising challenge is to keep the Brand Essence and Core Values of Marlboro Country relevant and impactful in the context of changing young adult smokers and marketplace dynamics. As an evolutionary process, the advertising approach must continue to link to the historical advertising theme, while keeping the communication fresh and vital.

The report continued by addressing, under the heading of "Creative Direction," Marlboro's "Advertising Objectives":

> We need to deliver well-targeted advertising that: 1.

> Builds/maintains brand and advertising awareness. 2. **Reinforces Marlboro's position as the world's #1 cigarette** . . . .As part of these objectives we want to: Reinforce Marlboro as the brand of choice and build loyalty among Young Adult Male Smokers (YAMS). . . . **Bonding/Camaraderie[:] Images that capture aspects of camaraderie and sociability. . . .This content area is the place to reveal the social, more approachable side of the Cowboy.**

LB0092389-2414 at 2391-2394, 2396 (US 33235) (O); 2085298486-8512 at 8488-8491, 8493 (US 22906) (O) (emphasis added).

4638. A November 1998 document written by Philip Morris's advertising agency Leo Burnett for Philip Morris, entitled "Marlboro Advertising: A Strategic Perspective, Core Values Communication," shows that Philip Morris followed the recommendations of the document entitled "Marlboro Worldwide Creative Brief" discussed above by adding "camaraderie" – peer-appeal – to its list of Marlboro core values to be communicated through advertising. The document stated: "Globally, our key advertising challenge is to keep the execution of the Core Values of Marlboro Country **relevant** and impactful in the context of LA-24 adult smokers and marketplace dynamics." It discussed Marlboro's current advertising: "A mix of images worked hard to effectively communicate freedom, self confidence, respect, dignity, independence (by choice), **camaraderie**, harmony with nature, tranquility, majesty and power . . . **[r]esulting in keeping the Marlboro Man fresh** and **expanding his most aspirational qualities**." LB0092512-2522 at 2521-2522 (US 58941) (O) (emphasis added).

4639. A Philip Morris "National Market Structure Study" dated May 1999, which discussed a 1998 survey conducted to update a similar 1992 survey, examined cigarette brand popularity. The study found that respondents are not accurate in self-reporting their motivations for choosing a cigarette brand. The study reported that, despite self-reporting to the contrary, popularity of the brand is most important: "The attributes associated with brand choice are very

different from those stated to be important – popularity is key." The study concluded: "Young adults are influenced by peer popularity while 25's to 29's look to overall popularity in assessing brands." 2073785602-5662 at 5613, 5615 (US 24680) (O).

4640. In contradiction to the May 1999 study's findings, Nancy Lund, Philip Morris Senior Vice President of Marketing, testified in this case that "smokers choose Marlboro because it's the most flavorful and probably the highest quality cigarette in the marketplace." However, the May 1999 study itself reported that only "23 percent of smokers choose Marlboro for its quality tobacco." Lund PD, United States v. Philip Morris, 6/27/02, 225:20-22; LB0124583-4647 (US 33374*) (A).

4641. At her April 16, 2002 deposition in this case, Shari Teitelbaum, Philip Morris Director of Marketing and Sales Decision Support, testified that Philip Morris has used the term "herd smoker" to refer to smokers of the most popular cigarette brands, like Marlboro, Camel, and Newport, because these brands attract the largest share of young adult smokers. Teitelbaum further testified that herd brands are "the most popular, it's for smokers that would be likely to kind of follow the herd, kind of more of a group mentality type of thing." Teitelbaum PD, United States v. Philip Morris, 4/16/02, 77:22-78:25.

(b) Lorillard

4642. A November 11, 1993 presentation by McCracken Brooks for Lorillard entitled "Newport Promotional Concepts" stated that one of the "objectives" was to "[s]trengthen Newport's competitive edge as the **peer brand** among young adult smokers." 91949806-9831 at 9808 (US 57155) (A) (emphasis added).

4643. Newport's 1994 Brand Plan stated that "Newport is the leading menthol cigarette brand among younger adult smokers in the freshness segment, positioned to appeal primarily to

general market/urban center adult smokers ages 18-24" and that "Newport's creative product must strengthen Newport's competitive edge as **the 'peer' brand** among younger adult smokers." 91945017-5124 at 5033, 5045 (US 21113) (A) (emphasis added).

4644. A July 1994 report entitled "An Evaluation of the Newport 'Pleasure on Wheels' Promotion Tiers 1 and 2" prepared for Lorillard by Meyers Research Center stated that one of the "primary marketing objectives" of this promotion was to "[r]einforce Newport's image as **the 'peer brand'** among young adult smokers." This report was attached to a July 26, 1994 memorandum entitled "Final Report: Newport P.O.W. Promotion Evaluation in Tiers I and II – MPID #5543/394" from Scott Benson, Lorillard Manager of Consumer Research, to Victor Lindsley, Lorillard Senior Group Brand Director. 91840214-0311 at 0218 (US 74415) (A) (emphasis added); 94291134-1139 at 1134 (US 21119) (A).

4645. The "Newport 2000 Strategic Plan Overview," dated October 8, 1999, stated that "The Newport Family as Lorillard's core power volume brand must contribute significant volume and share growth . . ." A "Key Issue" was Newport's need to strengthen its marketing programs: "Newport's marketing programs have not been strong enough in a substantially changed marketplace to protect the brand's core business base, significantly improve volume and share trends, or defend against Marlboro Menthol's aggressive marketing initiatives." The "Creative Strategy" to increase volume and gain long term growth was: "Develop creative executions that continue to strengthen and refresh **Newport's competitive advantage as the peer brand of choice among younger adult smokers** by reinforcing the perception that Newport delivers smoking pleasure in social settings relative to their lifestyles . . . Continue to leverage the Pleasure campaign equity to reinforce the brand's fun, spontaneous, upbeat image through a variety of settings portraying social interaction, spontaneous fun, refreshment and smoking

situations." 98196660-6681 at 6661, 6665, 6671 (US 56953) (A) (emphasis added).

4646. The dated June 9, 2000, set forth that included: This plan, like the year 2000 plan discussed above, stated that Lorillard must

99310880-0893 at 0884-0885 (US 57656) (A) (Confidential) (emphasis added).

4647. According to Victor Lindsley, Lorillard's Senior Group Brand Director for Newport cigarettes, the advertising theme of "pleasure" appeals to all ages, especially the advertised "pleasure" of hanging out with friends. Lindsley PD, United States v. Philip Morris, 5/16/02, 115:7-116:3.

4648. In his modified written direct testimony, Lorillard CEO Martin Orlowsky testified that "[p]eer acceptance is an important business issue in terms of brand selection, because it is a factor affecting brand choice among younger adult smokers." Orlowsky WD, 58:3-4.

(c) B&W

4649. A 1974 B&W report above entitled "Young Adult Smoker Life Styles and Attitudes," recorded that "as part of [B&W's] investigation of the 'new' smoker, a program of consumer research was undertaken." The purpose of the research was "to gain insight into the perceptions, attitudes and behavior of younger, recently-starting smokers regarding initial product

usage, current smoking and health concerns." Included in the findings was the statement that smoking starts with younger people for four reasons: "The first factor is the desire of young people to look older than they really are. The second is peer pressure and doing what friends and authority figures do. The third reason is to rebel against parents with only modest risk. The fourth reason identified had to do with physical reaction. This physical reaction was described as a 'high' or as a challenge to be strong enough to smoke without getting sick." B&W designed its marketing campaigns around themes that would exploit these attitudes. 170040977-1001 at 0977 (US 20289) (O).

4650. On November 15, 1977, B.L. Broeker, a B&W Senior Brand Manager, wrote to Phil Weinseimer at the Bates agency attaching "exploratory advertising strategies, 'Exhilaration' and 'Confidence.'" The "Key Fact" under the Exhilaration advertising strategy was that "Kool is losing smokers to menthol competition and not attracting enough starter and switcher smokers to affect this loss." The 'Confidence' advertising was designed to address the problem that Kool "lacks an upbeat, exciting image to reinforce its youthful franchise and attract new smokers." The "Promise" of the Confidence creative strategy was "Smokers who try Kool will derive a sense of confidence and preeminence among their peers via association with this superior product." 686032807-2811 at 2808, 2810 (US 31034) (A).

(d) RJR

4651. A handwritten document produced from the files of RJR addressed to "D. Nordine and D. Burroughs," presumably Diane Burrows of RJR, stated that "important needs to FUBYAS [First Usual Brand Young Adult Smokers]" included "belonging (fitting in) to the group." 517142220-2222 at 2220, 2222 (US 20876) (O).

4652. In a February 2, 1973 RJR document entitled "Research Planning Memorandum

On Some Thoughts About New Brands Of Cigarettes For The Youth Market," Claude E. Teague, Jr., Assistant Director of Research at RJR, set forth the following strategy for appealing to young people's desires to smoke popular and peer-approved brands:

> A. Group Identification – Pre-smokers learn to smoke to identify with and participate in shared experiences of a group of associates. **If the majority of one's closest associates smoke cigarettes, then there is strong psychological pressure, particularly on the young person, to identify with the group, follow the crowd,** and avoid being out of phase with the group's value system even though, paradoxically, the group value system may esteem individuality. **This provides a large incentive to begin smoking**. If this be true, then **the same effect strongly influences the brand chosen, it likely being the popular, "in" brand** used by ones [sic] close associates. **Thus a new brand aimed at the young smoker must somehow become the "in" brand and its promotion should emphasize togetherness, belonging and group acceptance, while at the same time emphasizing individuality and "doing ones [sic] own thing.**"

502987407-502987418 at 7413 (US 20708) (A) (emphasis added).

4653. A March 12, 1986 memorandum entitled "Camel New Advertising Campaign Development," labeled "RJR Secret," sent to David Iauco, RJR Senior Vice President for Marketing and R.T. Caufield, of the RJR Brand Group, stated regarding RJR's plans for developing the Joe Camel campaign: "Overall, **CAMEL advertising will be directed toward using peer acceptance/influence to provide the motivation for target smokers to select Camel.**" 503969238-9242 at 9238 (US 79096) (A) (emphasis added).

4654. A 1988 RJR document entitled "Camel Advertising Development White Paper" discussed the importance of younger "adult" smokers and analyzed "[w]hy Camel has an opportunity to target younger adult smokers." The White Paper stated that "Marlboro's key strength relates to peer acceptability and belonging . . . . Marlboro is perceived by younger adult smokers as a brand which provides a sense of belonging to the peer group. A variety of research

studies including the Segment Description Study, the Marlboro Vulnerability Analysis, in-market perception research, as well as in-depth qualitative [research] all show this." The White Paper then discussed how Camel could reconfigure its market image in order to appeal to the "peer acceptability and belonging" themes so effectively exploited by Marlboro's advertising. 506768775-8784 at 8776, 8781-8784(US 20764) (A).

4655. In the summer of 1999, RJR developed its Red Kamel campaign which it aimed at a young, hip audience. In a June 4, 1999 email from Leslie Ip to Stephanie Harper, Ip outlined the brand personality:

> While Red Kamel also stands for "Lust for Living," the brand targets those adult smokers (21-34) who can truly be described as "cutting edge" trendsetters who are nightlife savvy and exhibit and [sic] attitude of "urban hip and coolness". . . The key drivers of Red Kamel are its unique packaging and word of mouth regarding the brand.

RJR000001499036205770028679-6780 (US 22136) (O); Beasley PD, United States v. Philip Morris, 6/25/02, 161:5-162:5; 523737919-7921 (US 87863) (O); 524095489-5724 (US 87864) (O).

4656. Through smoker research, RJR knows that first brand choice is largely based on brand popularity and "peer pressure" which can be affected and created by advertising and promotion. At his May 2, 2002 deposition in this case, Edmund Leary testified that "Just like any - any brand that's popular, people tend to pick a popular brand, and that's just the way people act . . . I think **advertising and promotion can influence an adult smoker's brand choice, and I think, you know, if it's your first brand choice, if the brand is popular, that has lot to do with it**, as well as what your friends smoke." Leary PD, United States v. Philip Morris, 5/2/02, 60:25-62:23 (emphasis added).

(6) Defendants Exploit Young People's Price Sensitivity

4657. Cigarette Company Defendants have long used price-based marketing efforts as a key marketing strategy, particularly for attracting young people. Defendant-initiated price reductions, such as the steep drop in the wholesale price of cigarettes most popular with young people that was led by Philip Morris on "Marlboro Friday," have reduced the rate of decline in overall cigarette smoking and contributed to the increases in youth smoking incidence and prevalence observed during much of the 1990s. Chaloupka WD, 86:5-87:13.

4658. Similarly, Cigarette Company Defendants' price-related marketing efforts, including coupons, multi-pack discounts, and other retail value added promotions, have partially offset the impact of higher list prices for cigarettes, historically and currently, particularly with regard to young people. Id., 61:3-6. In fact, David Beran, Executive Vice President of Strategy, Communications and Consumer Contact for Philip Morris, testified the recently decreasing rate of increase of cigarette prices at retail is attributable to price promotions. Beran TT, 4/18/05, 19377:7-10.

4659. Cigarette Company Defendants' use of price promotions to reach young people and encourage trial and initiation has increased dramatically in recent years. The FTC reported that, in 1999 (the year after the MSA went into effect), $3.54 billion, or 43% of the tobacco industry's advertising and promotion expenditures, were devoted to trade promotions, up from $856 million in 1987. 1900082-0107 (US 60663) (A) (FTC, Report to Congress for 1999 Pursuant to Federal Cigarette Labeling and Advertising Act) ("FTC Cigarette Report to Congress for 1999").

4660. Independent research confirms Cigarette Company Defendants' knowledge, as stated in their internal documents and other evidence, that youth and young adults are more

responsive to increases in cigarette and other tobacco prices, and will not try smoking or continue to smoke if cigarette prices are higher. Chaloupka WD, 94:23-124:4.

4661. Generally, young people are two to three times more sensitive to price than adults. As Dr. Chaloupka testified:

> Economic theory and econometric research clearly indicate that teenage smoking is affected by cigarette prices. Marketing activities that significantly reduce cigarette prices will increase the initiation of regular smoking and daily smoking by teenagers, and will increase the number of cigarettes smoked by teenage smokers beyond what would have been the case in the absence of these marketing activities. Based on the 2002 FTC data, marketing expenditures that directly reduced the price of cigarettes amounted to about 46 cents per pack. In November 2002, as reported in the annual Tax Burden on Tobacco, average cigarette prices, not including generic brands and not including temporary price reductions caused by the price-related marketing described above, were just under four dollars per pack. Given this, price related marketing activities reduced the average price per pack by at least 11.6 percent, which, based on the estimates described above, meant that as many as 100,000 teenagers would have initiated daily smoking in 2002 as a result of these marketing activities. Given the likelihood that Defendants' marketing activities are concentrated on their leading brands which are the brands most likely to be smoked by teenage smokers, it is likely that these price-related marketing activities result in even larger increases in teenage smoking initiation.

Id., 93:15-94:7.

4662. A June 1997 published article, "The Food and Drug Administration's Rule on Tobacco: Blending Science and Law," found that data has confirmed that children and teens are more price sensitive than adults and that pricing has an immediate and direct impact on cigarette sales to minors. HHS1202891-2895 (US 59999) (A) (David Kessler et al., "The Food and Drug Administration's Rule on Tobacco: Blending Science and Law," 99 *Pediatrics* 884, June 1997).

4663. The following examples of internal company documents and deposition testimony establish that, as early as 1956, Cigarette Company Defendants were studying young people's

price sensitivity and were offering lower priced cigarettes directly to the youth market to entice youth to start smoking and encourage them to continue smoking.

(a) Philip Morris

4664. A September 18, 1956 Philip Morris inter-office memorandum "re: College Survey" from George Weissman, Vice President of Philip Morris, to Dr. R.N. DuPuis, Philip Morris Scientific Research Director, described the results of a 1956 college survey conducted by Elmo Roper for Philip Morris. In a section of his memorandum entitled "The Economics of Cigarettes," Weissman stated: "Sixteen per cent of the students who never smoked gave 'too expensive' as a reason. Seventeen per cent who gave it up gave this as a reason. An even larger percentage suggested reduction in price. Again, this brings to mind the possibility of a less expensive unit of sale if such a unit can be controlled and strictly confined to the college market." 2022240073-0075 at 0074 (US 20359) (O).

4665. In a May 21, 1975 memorandum to Robert B. Seligman, Director of Commercial Development, Tobacco Products at Philip Morris, entitled "The Decline in the Rate of Growth of Marlboro Red," Philip Morris Senior Economist Myron E. Johnston analyzed data on "younger teenagers," including 15-17 year olds. Johnston blamed price elasticity and young peoples' price sensitivity for Marlboro's decline in sales in 1974: "I think price elasticity, like income elasticity, has a greater effect on lower income people than on those with higher incomes. As mentioned above, **Marlboro smokers, being younger, tend to have lower incomes. Thus, Marlboro sales are probably more responsive to price changes than are the sales of brands which appeal to older segments of the population**." Johnston postulated that, with any general increase in cigarette prices, "I would expect a disproportionately large number of Marlboro smokers to quit smoking or reduce daily consumption." 1003285497-5502 at 5497, 5500 (US

20160) (A) (emphasis added).

4666. In a September 17, 1981 memorandum to Harry Daniel, a Philip Morris Research and Development employee, Johnston discussed the March 1981 National Bureau of Economic Research ("NBER") working paper entitled "The Effect of Government Regulation on Teenage Smoking" which examined "the impact on teenage smoking of: (1) the excise tax on cigarettes, (2) the FCC Fairness Doctrine [which mandated equal-time anti-smoking commercials for all cigarette commercials], and (3) the cigarette advertising ban." Johnston stated that the NBER working paper was:

> the only study I know of that attempts to determine the price elasticity of cigarettes among different groups. Because of the quality of the work, the prestige (and objectivity) of the NBER . . . I think we need to take seriously their statement that 'if future reductions in youth smoking are desired, an increase in the Federal excise tax is a potent policy to accomplish this goal. . . Most researchers, myself included, have concluded that the best estimate of the price elasticity of cigarettes is about -0.4, i.e. that a ten percent increase in the retail price of cigarettes will cause a decline of about four percent in cigarette sales; . . . that the price increases would have less impact on the . . . older and therefore more habituated smokers, than on other smokers.

1003478193-8196 at 8193-8194 (US 20175) (O).

4667. In the September 17, 1981 memorandum referenced above, Johnston discussed findings by the NBER that teens and young adults are up to three times more sensitive to price increases and the inflationary loss of purchase power than are older smokers, stating that "it is clear that price has a pronounced effect on the smoking prevalence of teenagers." Anticipating a higher excise tax, Johnston predicted: "[G]iven the evidence that individuals are considerably less likely to initiate smoking after age 25, it is quite possible the cohort . . . who never begin to smoke as a result of the tax increase would never become regular smokers." 1003478193-8196 at 8195, 8196 (US 20175) (O). On September 22, 1981, Harry Daniel, Planning Coordinator at

Philip Morris, forwarded Johnston's September 17 memorandum to, among others, Myron E. Johnston. 2022249717-9721 at 9720 (US 26750) (A). Testifying at the Minnesota trial, Geoffrey Bible affirmed that Myron Johnston had characterized the March 1981 NBER finding on the effect of price elasticity among teenagers as its "most important finding, and the one of greatest significance to the company." Bible PT, Minnesota v. Philip Morris, 3/4/98, 6166:2-25.

4668. In a January 5, 1982 memorandum to Harry Daniel entitled "Cigarette Price Elasticities and the Implications for [Philip] Morris," Johnston again analyzed the effect of excise tax increases on demand for cigarettes, especially among teenagers, and concluded that "any increase in the price of cigarettes will have its greatest effect on the young, and, in particular, on young males." 1003478185-8191 at 8189 (US 35774) (A); 2049456635-6650 at 6639 (US 20487) (A).

4669. A December 6, 1982 Philip Morris report entitled "Price Elasticities, Excise Taxes, and Cigarette Sales" outlined Philip Morris's opposition to raising excise taxes on cigarettes despite studies showing that raising cigarette prices was the most effective way to reduce youth initiation and youth smoking. The report reflected Philip Morris's knowledge that "**[t]he main effect of an excise tax increase will be to reduce the number of young people who begin to smoke.**" Nonetheless, Philip Morris continued to vigorously oppose all cigarette excise tax proposals. 2049456670-6694 at 6684 (US 20489) (O) (emphasis added).

4670. In a September 3, 1987 Philip Morris memorandum to Jon Zoler and others entitled "Handling an Excise Tax Increase," Johnston stated that:

> You may recall . . . that Jeffrey Harris of MIT calculated on the basis of the Lewin and Coate data, that the 1982-83 round of price increases caused two million adults to quit smoking and prevented 600,000 teenagers from starting to smoke . . . this means that 700,000 of those adult quitters had been PM smokers and 420,000 of the non-starters would have been PM smokers. Thus, if Harris

> is right, we were hit disproportionately hard. We don't need to have that happen again.

Johnston then recommended passing on any future increase to smokers in "one fell swoop" to make it clear to smokers that the government is solely responsible for the price increase, encouraging smokers to stockpile so they will be less likely to remember what they last paid for cigarettes, and making sure the brands the retailers stockpile are Philip Morris brands. 2022216179-6180 (US 76177) (A).

4671. An August 7, 1990 report entitled "New Brand Opportunities in the Cigarette Industry" written by Gibbons, Voyer & Associates for Philip Morris found that 17 to 19 year olds comprise 18.9% of smokers, and recommended that any marketing approach must "insure that Philip Morris has a brand entry to meet the various wants of young adult smokers: image, product, price." 2049397333-7369 at 7343, 7350 (US 20486) (A).

4672. Philip Morris developed a plan to distribute coupons to counteract excise tax increases. A July 11, 1990 memorandum about the "New Jersey Tobacco Tax Plan" from Wanda Johnson of Leo Burnett U.S.A. to Sheila Spicehandler, Philip Morris Media Manager, stated: "The attached media plan provides a means of distributing coupons to P.M. smokers in the state, on an 'urgent' timetable, in order to counter any ill effects of that tax increase. The New Jersey plan is modeled after the California plan." 2060295219-5232 at 5219 (US 20502) (A).

4673. A November 1994 report entitled "Profile of the Young Adult Marlboro Smoker Part 1: Males, 18 to 24 Years Old" shows that, through its continuous smoker tracking survey, Philip Morris researched the price sensitivity of Marlboro male smokers age 18 to 24 by researching their sensitivity to promotions such as coupons and continuity give-away items (gifts such as t-shirts). The report recognized that the biggest threat to Marlboro Red's dominance of the 18 to 24 year old category was possibly discount brands which offered lower priced cigarettes

than Marlboro. The report recommended that, in order to counter this threat, Philip Morris should provide coupons and continuity items to these smokers to keep them from switching or, presumably, from quitting smoking. 2048735500-5604 at 5561 (US 21971) (A).

4674. In a 1994 speech, after "Marlboro Friday" had its intended effect of bringing hundreds of thousands of young people back to the market, Philip Morris's Tina Walls congratulated company employees for defeating 27 of 37 government attempts to increase price through excise taxes, stating: "Your batting average on state excise taxes has been outstanding." 2024252441-2562 at 2441 (US 21984) (O).

4675. On September 4, 1997, James J. Morgan, President and Chief Executive Officer of Philip Morris USA, testified that "I believe that . . . higher prices in the industry, whether by excise tax or manufacturer's price increases . . . affect industry consumption, and . . . they lower industry consumption. And I believe that there are two groups of people who are . . . impacted the most by higher prices . . . and . . . both [groups have] the least disposable income. One is what I would call young adult smokers . . . people who smoke who are arguably strapped of . . . cash, and the other [group] would be older people on fixed incomes who are also strapped of cash." Morgan PD, Minnesota v. Philip Morris, 9/4/97, 219:23-220:15.

4676. Susan Norris, a 15-year Philip Morris employee at the time, testified in this case that during her tenure as Associate Brand Manager for Discount Brands from 1994-1995, Philip Morris's premium brands, including Marlboro, were losing market share as smokers switched from brands like Marlboro to "lower priced alternatives." Norris testified that, for Philip Morris, "[t]o the extent that any of our premium brands were declining it was not good news," and that "given that Marlboro was our largest brand that people were generally concerned" about its loss of share. Norris testified that, in her experience, price was a "significant factor" in determining

purchase interest between brands. Norris PD, United States v. Philip Morris, 7/31/03, 38:5-45:9.

4677. Robert L. Mikulay, a Senior Vice President for Marketing at Philip Morris, testified that Philip Morris relied much more heavily on retail promotions in the late 1990s than it did during the mid-1980s because of the increase in the price of cigarettes and the increased presence of discount brand cigarettes. Mikulay PD, United States v. Philip Morris, 7/1/02, 145:13-146:19.

4678. Philip Morris currently admits that increased cigarette price is a variable that would lower youth smoking rates. Carolyn Levy, Senior Vice-President and Director of the Youth Smoking Prevention Department from its inception in April 1998 to approximately March 2002, testified in this case that Philip Morris was aware that "the price of cigarettes for some kids appears to be an important variable in preventing them from smoking." Levy also testified that "Philip Morris was aware that youth smoking behavior was price sensitive as a result of data in the Philip Morris TABS [Teenage Attitudes and Behavior Study] survey," which concluded that "[f]or children who do not smoke, the percentage of 11 to 14 year olds who agree that smoking is expensive is around 33 percent." Finally, Levy testified that it was "fair to say . . . that the price of cigarettes is an important variable in preventing children from smoking." Levy WD, 95:15-17.

4679. In his testimony in this case, Philip Morris Companies' CEO Geoffrey Bible testified that he "assumes that young people are sensitive to prices," so smoking incidence would decrease due to price increases caused by the MSA. Bible PD, United States v. Philip Morris, 8/22/02, 245:8-20.

(b) Liggett

4680. At the October 12, 2001 deposition of Harold Petch, Liggett's President of the Northern Strategic Business Unit, Petch testified that Liggett is aware that price affects

consumption. Petch PD, United States v. Philip Morris, 10/12/01, 101:25-102:21.

4681. Petch further testified that Liggett spent $113 million on promotional programs for its discount brands, including point of sale materials, buy downs, marketing accruals and coupons. Id., 65:12-66:16.

(c) Lorillard

4682. A February 1982 NBER report entitled "The Potential for Using Excise Taxes to Reduce Smoking" produced from the files of Lorillard examined the effect of teenagers' price sensitivity on their cigarette purchases and determined that "**price has its greatest effect on the smoking behavior of young males and that it operates primarily on the decision to smoke** rather than via adjustments in the quantity of cigarettes smoked." VXA0501915-1917 at 1915 (US 64544) (A) (emphasis added).

4683. A March 20, 1992 Lorillard memorandum from S.R. Benson to S.T. Jones, Director of Product Development and Marketing Research, regarding "Price Sensitivity By Age" stated that "there is some evidence that the younger adult smokers currently smoking a full price brand may be demonstrating a sensitivity towards price. . . it is clear that the younger adult, 18-24 smoker group, although still smoking a full price brand, 'claim' a greater sensitivity towards price than the older age groups." 82849666-9667 at 9666 (US 55569) (A).

(d) B&W

4684. In a May 10, 1983 internal memorandum to G.T. Reid, B&W Senior Brand Manager, R.P. Medicus of B&W's Brands Group discussed the impact of unemployment in 1974 and price increases on Kool's market share. Medicus wrote: "**Brands directed at segments most affected by economic adversity (youth and minorities) were affected disproportionately.** For four youth oriented brands/styles [Kool KS, Kool Milds, Kool Super Longs, and Marlboro],

there was a share trend break in the latter part of 1974, which coincided with increased unemployment." 670579615-9625 at 9616 (US 21748) (A) (emphasis added).

4685. Since approximately 2000, B&W has spent more on discounting or reducing the price of Kool cigarettes than any of its other brands, according to Paul Wessel, the Current Divisional Vice President at B&W in charge of value for money premium niche brand and new product development. Wessel PD, United States v. Philip Morris, 3/19/03, 28:17-29:1.

4686. Despite B&W's claimed sensitivity to avoiding the marketing of its products to youth, Wessel testified that he was unaware whether youths were price sensitive and whether B&W had ever taken a position on the price sensitivity of youth. Id., 3/19/03, 36:23-37:12.

(e) RJR

4687. In a September 20, 1982 memorandum entitled "Estimated Change In Industry Trend Following Federal Excise Tax Increase" to marketing employee P.E. Galyan, Diane Burrows estimated how the cigarette industry would be affected by a federal excise tax increase. The memorandum included data on "starting age patterns," "[s]tarting age," and "new smokers." Burrows estimated that an excise tax increase would result in 1,759,000 "new smokers" lost to the industry, whose potential consumption, if they had smoked 10 cigarettes a day, would amount to 605 million cigarettes, or .1% of the industry total. Burrows stated that: "Since the Industry growth rate depends on new smokers, losses in these groups can change the direction of the Industry trend." 501988846-8849 at 8846, 8846-8848 (US 20692) (A); 504630598-0702 at 0701 (US 20731) (O).

4688. In a September 20, 1982 internal memorandum to J.W. Johnston and H.J. Lees, Greg Novak, RJR Group Director of Marketing Services, stated: "**Our Forecasting Group has determined that younger adult smokers, particularly younger adult male smokers, tend to**

be very price sensitive. The effect of a price increase on younger adult male smokers could be three to four times greater than on smokers in general, in terms of negative impact on volume." 500151647-1647 (US 21785) (A) (emphasis added).

4689. In a September 27, 1982 memorandum entitled "NBER Models of Price Sensitivity by Age/Sex" to Jerry R. Moore, RJR Marketing Development Department, Burrows summarized National Bureau of Economic Research findings on the relative price sensitivity of age and sex groups, including data on "teens 12-17." She discussed the NBER findings that "teenagers and younger adult males are highly price sensitive," and that "price affects incidence; rate per day is virtually unchanged," noting that the NBER findings were "highly consistent" with internal RJR findings. Burrows' memorandum further stated: "The loss of younger adult males and teenagers is more important to the long term, drying up the supply of new smokers to replace the old. This is not a fixed loss to the industry: its importance increases with time. In ten years, increased rate per day would have been expected to raise this group's consumption by more than 50%." On October 6, 1982, Burrows sent this memorandum to L.W. Hall, Jr., Vice President of RJR's Marketing Department. 503011370-1378 at 1370-1371 (US 22347) (A); 503011368-1369 (US 20709) (A); 513318391-8392 (US 20851) (A).

4690. In an August 1986 report entitled "R.J. Reynolds Quarterly Industry Cigarette Demand Model," Data Resources updated RJR's earlier information regarding price elasticity. The report stated: "The current research effort has endeavored to test the validity of the relative price elasticity estimates and to further develop some conclusions concerning the impact of the anti-smoking campaign and changes in real income." The report applied a model to determine price elasticity estimates: "The principle output of the model is weekly average cigarette volume. The forecast is driven by : (1) transaction cigarette prices per package; (2) count of cigarette

articles appearing in the New York Times; (3) real personal disposal income in 1982 dollars; (4) consumer price index for food, 1967 = 1.0; and (5) population by 12 age/sex categories." An included chart entitled "1965 World Incidence" showed an age category of "12-17" year olds. 505611105-1138 at 1106, 1124 (US 20744) (O); 519498624-8749 (US 87844*) (A).

4691. In its Joe Camel campaign, which began in 1988, RJR relied heavily on price promotions such as coupons and "Camel Cash" to assure that teenagers would try and continue to smoke Camel cigarettes. Coupons were placed in magazines with large youth readership, such as *Rolling Stone* and *Sports Illustrated*, in order to achieve the maximum impact on the intended target of teenagers. As one example, on November 21, 1988, RJR placed Camel advertisements that included coupons for a free pack in *Sports Illustrated*. 509131376-1378(US 20822) (O).

(7) Defendants' Conduct Continues Today

4692. As set forth in US FF § III.E(2), supra, Defendants continue to deny that they market to youth. Despite Cigarette Company Defendants' public statements that they do not market to young people, and despite the prohibitions on targeting youth in the 1998 Master Settlement Agreement ("MSA"), in fact Cigarette Company Defendants have reshaped their marketing since the MSA so that they remain effective at reaching youth.

4693. As discussed in the introduction to US FF § III.E(4), supra, Cigarette Company Defendants continue to redirect their marketing activities when one form of media is disallowed. When Defendants could no longer market to youth on television, they turned to billboards; when billboards were disallowed under the MSA, they turned to retail and magazines; and since recent pressure regarding their magazine advertising has caused a public furor, they have funneled even more resources into direct mail marketing and marketing at retail. See US FF § III.E(4)(a), supra. As the documents and other evidence provided above and below establish, when one medium is

restricted or prohibited, Defendants harness other media to continue to effectively market to young people.

4694. Moreover, many of the provisions that Defendants negotiated and agreed to under the MSA were toothless because they restricted activities that Defendants were no longer or never engaged in. For example, David Beran, Executive Vice President of Strategy, Communications and Consumer Contact for Philip Morris, testified that he is responsible for overseeing Philip Morris's marketing and market information and analysis efforts. Beran testified that the MSA provisions regarding cartoons, paid product placement, brand name merchandise, and limited free samples had no effect on Philip Morris's marketing practices because they were not activities that Philip Morris engaged in before the MSA. Beran WD, 5:15-18; Beran TT, 4/18/05, 19262:7-19263:2.

(a) Defendants' Marketing Expenditures Have Dramatically Increased

4695. Statistics recently released by the FTC in its Cigarette Report for 1999 (published 2001) show that Cigarette Company Defendants' advertising and promotional expenses rose significantly **after** the Cigarette Company Defendants signed the MSA in November 1998. 1900082-0107 (US 60663) (A) (FTC Cigarette Report to Congress for 1999).

4696. In fact, from 1998 to 1999, Defendants' total advertising and promotional expenditures rose 22.3% to $8.24 billion, the most ever reported to the FTC. Id.

4697. While Cigarette Company Defendants reported substantial decreases for outdoor advertising (down 81.7% from 1998 to 1999) and transit advertising (down 86.1%) due to the restrictions of the MSA, increases in expenditures for promotional allowances and retail "value added" account for virtually all of the overall rise in spending. Id.

4698. Cigarette Company Defendants' expenditures on cigarette advertising and

promotion, historically and currently, remain high on an absolute basis and relative to other industries. For example domestic cigarette advertising and promotion in 1999 totaled $8.2 billion dollars, an increase of 22% over 1998, and a six-fold increase over 1963, after adjusting for inflation. In the nine-year period from 1991-1999, domestic cigarette advertising and promotional expenditures totaled $51.4 billion dollars (unadjusted for inflation). Promotional allowances have been the single largest category of expenditure each year since 1994. The Cigarette Company Defendants' expenditures are integrated marketing communications: they are inextricably linked and coordinated by the companies for maximum impact, particularly upon young people. Id.

4699. Philip Morris's marketing spending increased significantly in every year from 1998 to 2002. Its 1997 budget for total marketing spending, including advertising, events, price, direct mail, point of sale materials, and other marketing activities was $1.6 billion, while the total spending in 2002 was projected to triple to $5 billion. 2085298135-8136 (US 25253) (A); LeVan PD, United States v. Philip Morris, 6/25/02, 73:4-75:1.

4700. In testimony in this case, Suzanne LeVan stated that, since 1998, Philip Morris has increased the amount it has spent on price promotions for Marlboro from $806 million in 1998 to an estimated $4 billion in 2002, and on product promotions, such as free packs with a purchase, from $106 million in 1998 to $500 million in 2002. Id., 58:19-60:11, 63:14-64:12.

4701. David Beran, Executive Vice President of Strategy, Communications and Consumer Contact for Philip Morris, testified that,

Bera n TT, 4/18/05, 19417:17-19418:1 (Confidential - Under Seal). Beran also admitted that the large majority of Philip Morris's marketing funds are

for promotional activities which occur at retail locations. Beran WD, 15; 2085298135-8136 (US 25253) (A); Beran TT, 4/18/05, 19273:10-17, 4/18/05, 19274:5-10. Beran additionally testified that the large jump in Philip Morris marketing expenditures in the recent past is attributable to increases in price and product promotion. Id., 19274:11-25.

4702. According to May 16, 2002 testimony of Victor Lindsley, Lorillard's Senior Brand Manager, Lorillard has increased its marketing expenditures since Lorillard entered the MSA. Lindsley PD, United States v. Philip Morris, 5/16/02, 23:21-24:3.

4703. On cross-examination, Lynn Beasley, President and Chief Operating Officer at RJR, admitted that the MSA did not limit RJR's expenditures on advertising, or promotion, including retail value added, coupons, and direct mail. Beasley TT, 3/31/05, 17370:17-17371:13. Beasley also admitted that RJR was giving up nothing when it agreed in the MSA not to authorize or license to a third party the use of its trademarks on any item intended for children. Id., 17372:5-10. Beasley testified that marketing is extremely important to RJR, and that the company's market share will decline if it does not support its brands through marketing. Beasley TT, 3/30/05, 17309:6-8, 17310:21-17311:4.

4704. Lynn Beasley's responses to questions on cross examination before the Court demonstrated that the Court should give no weight to her testimony. First, Beasley, notwithstanding her position as President and Chief Operating Officer at RJR, and a long-serving employee of the company, incredibly denied knowing that RJR's leading cigarette brand, Camel, is the third most commonly smoked brand among 12-17 year olds. Beasley TT, 3/31/05, 17358:1-17359:16. Second, Beasley repeated before this Court her written direct testimony that in March 2001 RJR removed *Rolling Stone* and other magazines from its list of magazines approved for youth readership. She was then shown four different 2005 *Rolling Stone* magazine

editions that contained RJR cigarette brand ads for Camel. Id., 17364:11-17369:23. Third, Beasley's bias to give testimony favorable to RJR was apparent when she admitted that litigation results (such as the outcome of this case) that affect RJR stock prices can affect her personally given her position as President and Chief Operating Officer. Beasley TT, 3/30/05, 17308:1-17309:4.

(b) Defendants Continue To Market To Youth at Retail

4705. The Cigarette Company Defendants have engaged in a large post-MSA spending increase on various forms of promotion at the retail level, including coupons, value-added, and trade deals, which has helped to create relatively lower and more varied real prices for cigarettes sold at retail stores. For example, FTC data indicates that "retail value added" spending on offers such as "buy one, get one free" or "buy one and get a free lighter" grew from $1.56 billion in 1998 to $2.56 billion in 1999, accounting for 31.1% of the industry's total advertising and promotion spending. Additionally, cents-off promotions increased in prevalence after the MSA from 32% to 41% of stores in the United States. 1900082-0107 (US 60663) (A) (FTC Cigarette Report to Congress for 1999).

4706. In 2000, tobacco companies spent $9.57 billion dollars to market their products the overwhelming majority was spent on marketing aimed at retail locations such as convenience stores. In those retail locations in 2000, tobacco companies spent $4.26 billion on point of sale advertising (e.g., in-store signs) and promotional allowances (payments to retailers for prime shelf space and in-store displays, as well as volume discounts and buydowns) and $3.52 billion on retail value added items such as gifts with purchase and multi-pack discounts. Combining the figures for point of sale advertising and promotional allowances, tobacco companies spent approximately 81.2% of their marketing expenditures at retail locations. Chaloupka WD, 73:16-

91:7.

4707. Philip Morris's spending on Marlboro promotion at retail increased more than a hundred-fold between 1987 and 1997, and then doubled again from 1997 to 2000. Philip Morris's retail promotions budget for Marlboro increased from $16.7 million in 1987 to $469.4 million in 1997. By 2000, the Marlboro retail promotions budget exceeded $1 billion. Due to increased focus on price promotion, which is very costly, Philip Morris's Marlboro continuity program budget increased from $8.5 million in 1987 to $268.8 million in 1997. 2085296400-6461 at 6412 (US 45702) (A); Mahan PD, United States v. Philip Morris, 5/31/02, 146:22-154:25.

4708. According to Philip Morris's "2003-2007 Five Year Plan" dated April 3, 2003, Philip Morris's promotional strategy is

and to

PM3000540103-540118 at 0111 (US 88649) (A) (Confidential) (emphasis added).

4709. Also according to its "2003-2007 Five Year Plan" dated April 3, 2003, Philip Morris planned to "test concepts for a new wallet-sized Marlboro rewards card among young adult smokers in the fall of 2003 . . . to reinforce our equity messages and use an innovative approach to deliver incremental value that will continue to set our brands apart from those of our competitors." The proposed card would be preloaded with a fixed dollar amount that allows Marlboro smokers to make purchases wherever a major credit card is honored. Id., 0107, 0116.

4710. Post-MSA, RJR has increased its promotional spending and discounting. Leary PD, United States v. Philip Morris, 5/2/02, 16:4-17:19, 25:7-27:15, 63:3-64:17.

4711. Edmund Leary, Senior Vice President of Marketing and President of Sports Marketing for RJR, testified that, since entering the MSA, RJR has redirected its marketing funds to promotional spending and discounting because these are marketing tools that allow RJR to "gain trial from other adult competitive smokers." Leary PD, United States v. Philip Morris, 5/2/02, 25:7-27:15, 63:3-64:17; 526293849-4014 (US 87845) (O).

4712. As of May 21, 2002, Liggett was still promoting its products with "buy one get one free" programs, as well as sampling. Shipe PD, United States v. Philip Morris, 5/21/02, 86:21-87:13.

4713. The retail store has become one of Defendants' central forms of communication of brand imagery and promotional offers. At retail stores, Defendants use retail promotion techniques including "cash/rebates, free products, display cases to dealers, and special value added deals to consumers, encourage retailers to create tobacco friendly environments containing enticing displays, competitive prices, and visible point-of-sale advertising." The result of this onslaught of marketing techniques is that, as Dr. Krugman testified, "[c]onvenience stores and gas stations frequented by teenagers are more likely to be tobacco friendly environments because they contain a lot of tobacco messages. A recent Robert Wood Johnson funded study examined the use of advertising and promotion in stores. It found that retail environments (e.g. convenience/gas retailers) frequented by teenagers heavily promote tobacco use." Krugman WD, 129:17-130:11.

4714. In-store placement and signs are key methods by which Defendants communicate brand information. Presence at the retail level in the form of displays and signs are employed to communicate a brand's central message or image. Brand information at the store is coordinated with other advertising to display consistent images. Because of these synergies, advertising and

promotion messages in one medium reverberate in another medium. For example, storefront and in-store advertising can remind the consumer of an overall message or theme encountered in other media and stimulate purchase. Id., 41:7-19.

4715. Defendants compete with one another to obtain prime placement of their products in retail stores in order to achieve high consumer visibility. To ensure prime placement of their products and advertising in retail stores, tobacco companies offer a variety of incentive programs (such as volume discounts and buydowns described above) to retailers. Id., 129:17-140:2.

4716. A September 1994 Philip Morris USA document entitled "POS Visibility Strategy," produced from the files of Susan Norris, emphasized the importance of visibility at retail to drive Marlboro performance. The strategy's objective was: "To obtain & maintain leadership presence commensurate with Marlboro's market position. In other words, Marlboro should look like the 'BIGGEST BRAND' at retail on an ongoing basis." Further, "[a]s we experienced with MAT, MLP, & PRP [3 Marlboro promotions], Marlboro's increased visibility drove the brand's performance and reinforced Marlboro as the most popular brand in the mind of the consumer." 2060124885-4908 at 4888, 4896 (US 23997) (A).

4717. Using research from the 1994 "NACS State of the Industry Report" showing that tobacco accounted for 20.7% of convenience store profits, Philip Morris presented "What Does Tobacco Do For Your Store" to retailers, urging them to "[p]rominently display the leading brands . . . [and] [u]se cigarette promotions and advertising to build store traffic." 2077232243-2310 at 2250 (US 70700*) (O).

4718. Philip Morris research found that its Retail Visibility Programs, in conjunction with its Retail Masters Program, made Marlboro the leading brand in visibility at convenience stores, not only ahead of all other cigarette brands, but ahead of any other products carried at

these stores. A February 1999 "Marlboro Retail Prominence In-Store Test" stated: "Marlboro is clearly the leading brand in terms of perceived retail visibility, not only compared to other brands of cigarettes, but across categories as well. . . .**The Retail Masters program is an effective vehicle for enhancing Marlboro's perceived retail prominence. Even brands as big as Coke and Budweiser lag significantly behind Marlboro's retail visibility, as perceived by adult smokers**." The report further described that Philip Morris's product displays were most effective at driving visibility: "On counter product displays are more effective in driving visibility than signage. . . Marlboro is overwhelmingly perceived to be the most visible brand of cigarette in the store. . . . [Product] displays, more than signage, are cited for making Marlboro stand out." 2073970827-0848 at 0831, 0832, 0838 (US 43390) (A) (emphasis added).

4719. David Beran, Executive Vice President of Strategy, Communications and Consumer Contact for Philip Morris, admitted that Philip Morris's Retail Leaders 2004 Internal Presentation stated that

PM3002547761-7804

(JD-051493) (A) (Confidential); Beran TT, 4/18/05, 19412:3-19416:7 (closed court).

4720. On cross-examination, Lynn Beasley, President and Chief Operating Officer at RJR, testified that Philip Morris's Retail Leaders Program prevents RJR from getting highest visibility of its marketing at retail stores. Beasley TT, 3/30/05, 17311:5-25

4721. Howard Willard, Senior Vice President for Youth Smoking Prevention at Philip Morris, testified that Philip Morris's Retail Leaders program is a "merchandising program that helps ensure . . . visibility at retail." Willard testified that over 85% of cigarettes are sold in stores which participate in the Retail Leaders program. Willard also testified that, for retailers

who participate in this program, Marlboro will have the number one visibility spot at retail. He testified that, if a participating store plans to have cigarettes on the counter, then Marlboro cigarettes must be on the counter in the number one position. If a retailer chooses to have outdoor signage, then Marlboro signage must be in the number one position. Willard admitted that this program is a contributor to Marlboro being the number one brand Willard TT, 4/14/05, 19083:1-19086:19

4722. Under the Retail Leaders program, a suspension is authorized only after three convictions for underage sales. Philip Morris obtains information about convictions in retail stores only from about 19 states. It does not require the retailer to provide this information to it. There has been no showing that a retailer has ever been suspended by Philip Morris for underage sales. Philip Morris CEO Michael Szymanczyk knew of no retailer who had been suspended. Even was a retailer to be actually suspended, Szymanczyk testified, he would remain free to sell Philip Morris cigarettes. Permanent termination from the Retail Leaders program is never authorized under any circumstances: a suspended retailer may re-enter a Retail Leaders contract at the start of the next 12-month contract period. Szymanczyk TT, 4/12/05, 18543:6-18544:6, 18545:19-18546:4; Szymanczyk TT, 4/11/05, 18322:25-18333:4, 18338:22-18339:2, 18332:14-20; Willard TT, 4/14/05, 19130:23-19131:12.

4723. Szymanczyk's characterization of the Retail Leaders program as a Youth Smoking Prevention program was not credible given the documentary evidence and the testimony by Willard that Retail Leaders is a "merchandising program that helps ensure . . . visibility at retail." Szymanczyk WD, 137:8-19; Willard TT, 4/14/05, 19084:9-25; 19086:20-19087:8.

4724. Under Lorillard's Excel merchandising program, retailers are provided with monetary incentives in exchange for agreements to provide Lorillard cigarettes with visibility of

promotional signage equal to or exceeding that of competitors' brands. Milstein TT, 1/7/05, 9347:20-9348:11. The number of stores under the Excel program has gone up in the last several years. Milstein TT, 1/10/05, 9421:4-19.

4725. Lorillard does not require retailers to report convictions for underage sales to the company. At present, only four states report convictions to Lorillard. There are 46 states and the District of Columbia which do not report such convictions to Lorillard. Milstein TT, 1/7/05, 9356:2-16.

4726. Lorillard has approximately 79,000 retail stores which participate with its merchandising program, Excel. In just the four states reporting, more than 1,000 retailers have been convicted of underage sales. In November 2, 2001, Ron Milstein, the previous youth smoking prevention designee and Lorillard's General Counsel and Vice President, emailed Steve Watson, the executive level manager designated to reducing youth smoking and access to cigarettes under the MSA. In the email, Milstein asked Watson whether he was going to share Lorillard's information about these retailers' convictions for illegal sales with the National Association of Attorneys General or the state attorney generals. Watson responded: "Unless you think there is legal reasons [sic] to do so, I would be inclined not to share this info." Watson "was not inclined to share the information at this time with NAAG." Id., 9356:23-9361:4; 99409377-9377 (US 89183) (A).

4727. Even if a retailer is convicted of selling to a minor under Excel, that retailer need only obtain training in the We Card Program. Upon the second conviction, he is suspended for six months, and after three convictions, he can be suspended indefinitely from participating in the Excel program. Such a retailer would, however, continue to be able to sell Lorillard cigarettes. Milstein TT, 1/7/05, 9353:16-9354:24, 9363:2-6.

4728. Lorillard's Steven Watson admitted that Lorillard has opposed self-service ban legislation in the past and has not changed its position on this issue. Watson PD, United States v. Philip Morris, 4/2/02, 136:11-25. Milstein also admitted that Lorillard continues to oppose legal restrictions on self-service merchandising despite its stated support in its Corporate Principles of "further legislative efforts to curb youth access to tobacco." Milstein TT, 1/7/05, 9338:16-9342:3, 9384:15-25.

(c) Defendants Continue To Market To Youth Through Promotional Items, Events, and Sponsorships

(i) Promotional Items

4729. Defendants continue to market to youth by providing promotional items – gifts such as t-shirts, mugs, or lighters – at retail and via direct mail.

4730. A 1992 Gallup survey revealed that almost half of adolescent smokers and one quarter of nonsmoking adolescents had received promotion items from tobacco companies. Krugman WD, 107:18-20.

4731. Promotional items contribute to the initiation of smoking by adolescents. Three recent longitudinal studies indicate that getting a promotional item enhances the likelihood of later taking up smoking. One of these studies found that youth who owned or were willing to own a promotional item were nearly three times more likely to experiment with smoking or become a regular smoker three years later. Biglan WD, 67:9-68:3 (citing Pierce JP, Choi WS, Gilpin EA, Farkas AJ & Berry CC., "Tobacco Industry Promotion of Cigarettes and Adolescent Smoking," *JAMA* 279 (7):511-515, 1998); VXA0103206-3210 (US 77118) (O) (Biener. A.L. & M. Siegel, "Tobacco Marketing and Adolescent Smoking: More Support for a Causal Inference," *Journal of Public Health* 90:407-411, 2000).

4732. Defendants currently continue to provide individuals with promotional items that appeal to youth. For example, on May 7, 2003, B&W issued a press release entitled "Kool Connects Consumers with Free Motorola Pager Offer." The press release described an opportunity for consumers to purchase specially marked packs of Kool and receive coupons redeemable for a Motorola pager. The press release quoted Ledo Cremers, Divisional Vice President for Kool brand marketing, as stating: "Kool celebrates urban living . . . [t]he Motorola pager promotion fits into the lifestyle of Kool consumers who want to be connected." The press release indicated that the Motorola pager promotion would "be supported by advertising in newspapers, national magazines, and alternative media." TLT074110-0110 (US 86668) (A) (http://www.bw.com).

(ii) Events

4733. Defendants also continue to market to youth by holding and advertising events such as "Bar Nights" that appeal to young people.

4734. The Cigarette Company Defendants have increased their event budgets since signing the MSA. For example, the Philip Morris events budget was $23.3 million in 1987 and increased almost three-fold between 1987 and 1997. 2085296400-6461 at 6412 (US 45702) (A); Mahan PD, United States v. Philip Morris, 5/31/02, 148:12-149:3.

4735. Defendants often promote their events – and therefore their cigarette brands – in free newspapers available to anyone. For example, in 2002, Philip Morris continued to place advertisements for its events program Marlboro Bar Nights in "alternative" newspapers, such as the *Village Voice*, that are free and widely distributed. Camisa PD, United States v. Philip Morris, 7/11/03, 354:18-24, 356:7-18.

4736. Beginning in 1999, B&W sponsored the Kool Mixx DJ Competition. The objective of the Competition was to "contemporize the Kool image by creating grassroots programs that fuses or mixes different elements of hip-hop that will showcase artists skills and stretch the brand muscles . . . [and] [b]uild awareness, trial and image of Kool among Urban ASU 26 year old smokers, both male and females for all cultures." Competition events were scheduled in major United States cities such as New York, Chicago, Detroit, and Los Angeles. "Communication Vehicles" used to publicize the Competition included an 800 number, radio spots, pack sleeves, and retail tie-ins. B&W continued to sponsor the Kool Mixx DJ Competition in 2002 and 2003. 432210032-0067 at 0036, 0038, 0047 (US 22226) (A); ARU6432538-2543 (US78267) (A) (http://biz.yahoo.com/iw/030501/053377.html).

4737. A June 7, 2000 press release entitled "B&W Tobacco set to launch 'Band to Band' 2000 Music Competition—Over $100,000 in Cash and Prizes" described the Music Competition as "a rock-oriented, nationwide band-based talent search . . . [which] provides a unique platform for B&W to promote one of its flagship brands, Lucky Strike." B&W support for the program, which began in 1996, included "promotions, posters and media buys for the bands." In 2000, "Band to Band" program events were scheduled to take place in major cities such as Washington D.C., Chicago, Miami, Los Angeles, and Houston. 239040063-0065 (US 22201) (A).

4738. Although B&W claims to limit their event activities to "adult only establishments," internal industry documents reveal that age of individuals attending these events was not always verified. An internal Lorillard document describes how David Desandre, a Lorillard marketing employee, and Beth Crehan, an employee of a marketing promotion firm, were able to attend a Lucky Strike "Band to Band" event held at Park West Concert Hall on November 11, 2000 without being asked for any identification. Inside the Concert Hall were

"pole banners with the Lucky Strike Band to Band tag-line" as well as additional banners and signs. Desandre described how, while he was filling out a form to receive a free CD, a Lucky Strike staff member "threw me a pack of Lucky Strike cigarettes . . . she did not ask me if I was 21 or a smoker. She also did not ask for my id. Beth Crehan was also not asked if she was 21 or a smoker. Beth was also not asked for id." 98600272-0273 (US 22212) (A).

(iii) Sponsorships

4739. Defendants also continue to market to youth through their sponsorships of racing events that they know are televised to millions of viewers, and have great appeal to young people.

4740. The Cigarette Company Defendants have increased their sponsorship budgets since signing the MSA. In 1999, Defendants spent $267.4 million on sponsorships, an increase of 7.6 % from 1998. 1900082-0107 (US 60663) (A) (FTC Cigarette Report to Congress for 1999, at 5).

4741. Sponsorships allowed the Cigarette Company Defendants to garner national television exposure, despite the broadcast ban on televised cigarette advertising. Races are broadcast on television and radio, and are covered in newspapers and magazines; each of these types of media coverage mention the cigarette brand that sponsors the race itself or the racecar. For example, the Winston Cup NASCAR race series of over 30 races annually was broadcast on radio and television; race highlights were also shown on television news programs and in newspaper and were featured in magazine sports columns. 507424927-4929 (US 24261) (O). The broadcast coverage of Defendant-sponsored races that featured cigarette brands was no accident: often it was required under the broadcast contract. For example, in connection with the May 21, 1989 Winston NASCAR race in Charlotte, North Carolina, the broadcast contract called

for "a 'mid-race recap' which will air immediately after the second race segment. . . . a [60 second] length [recap] with a superslide of the Winston race logo at the top of the screen with the Nabisco logo displayed below and to the left." 507424864-4864 (US 22895) (O).

4742. Races are preceded by run-up events, including qualifying and announcement of pole positions, and followed by highlight footage or the announcement of awards, such as the Winston "No Bull" race awards. In connection with the 1989 Winston NASCAR race in Charlotte, North Carolina, RJR, through its parent RJR Nabisco and Charlotte Motor Speedway, provided pre-race events for broadcast to target markets. For example, these companies prepared six to eight driver's columns, video and audio news releases, video feed of open practice sessions, radio promotions and giveaways where "the grand prize will be a first rate weekend at The Winston," wire service stories and photographs of practice sessions and color slides of the drivers with The Winston logo, pre-race tours by drivers, as well as post-race coverage of the Winston Million. 507424862-4863 (US 51200) (O); 507424872-4874 (US 51201) (O).

4743. In addition, cigarette brand names are reinforced not only on the race cars themselves, but also on drivers' uniforms, team uniforms, hats, and the large transporters used to move cars from event to event. The events themselves offer marketing opportunities for trackside billboards, sampling, hospitality tents, and promotional giveaways, like hats, sunglasses, and progra 2072516263-6267 (US 41558) (A); 520809149-9152 (US 52643*) (O).

4744. Defendants falsely deny that the television exposure their cigarette brands garner does not motivate their continued sponsorship of racing events. As RJR asserted in its August 1994 statement before the United States House of Representatives Committee on Energy and Commerce, Subcommittee on Health and Environment: "radio and television exposure is not a motivating consideration for Reynolds in deciding whether to sponsor an event or a vehicle

participating in an event." 509321275-1290 (US 21993) (O).

4745. The television exposure garnered by Defendants' sponsorship of racing events is very valuable. For example, in 1999, for the three main tobacco-sponsored auto racing series – NASCAR Winston Cup, CART FedEx Championship (where Marlboro and Kool sponsor racing teams and Philip Morris offers the Marlboro Pole Award), and NHRA Winston Drag Racing – the tobacco industry realized over $120 million of television exposure in the United States alone. Krugman WD, 116:3-122:7.

4746. Joyce Julius and Associates provides measurement and estimates monetary values of cigarette brand exposures in independent sports and special event programs. Id.

4747. According to Joyce Julius data, Defendants' cigarette brands continue to receive considerable television coverage. For instance, in 2002 alone, across all airings of the measured televised racing events, 533,301,591 television viewers tuned in to shows where Defendants' cigarette brands were mentioned or exposed (this is a count of viewing instances and not of unique viewers). Over 11 million people attended these same races. Id.

4748. Joyce Julius values the total exposure received by Philip Morris of its cigarette brands at televised racing events during 2002 to be $197 million. Id. The Marlboro cigarette brand was exposed or mentioned to approximately 54 million television viewers and 2.4 million racing event attendees in 2002. Id.

4749. Joyce Julius values the total exposure received by B&W of its cigarette brands at televised racing events during 2002 to be $44 million. Id. The Kool cigarette brand was exposed or mentioned to approximately 136 million television viewers and over 5 million racing event attendees in 2002. Id.

4750. Joyce Julius data values the total exposure received by RJR of its cigarette brands at televised racing events during 2002 to be $1.2 billion. Id. The Winston cigarette brand was mentioned or exposed at every one of the televised racing events in 2002, reaching over 533 million television viewers and 11 million race attendees. Id.

4751. Minutes from a November 5, 1992 BATCo Management Board Meeting revealed that the company was aware of, and even calculated, the monetary value of cigarette brand exposure through the sponsorship of televised sporting events. Specifically, BATCo estimated the value of the television airtime that its brand State Express 555 would receive through its sponsorship of the Subaru International Rally Works Team in the 1993 World and Asian Specific Rallies Championship. 320010638-0640 at 0639 (US 28201) (A); 321440293-0311 at 0294 (US 85217) (A). At trial, Susan Ivey acknowledged that one of the benefits of brand sponsorship of televised sporting events is exposure of the brand name on television. Ivey WD, 48:6- 49:4.

4752. Millions of young people under the age of 18 watch Defendants' racing events. Races continue to be very popular televised programs, viewed by millions of people. In April 2000, NASCAR television ratings were double those of an NBA playoff game in a competing time slot. TLT0741089-1089 (US 88741) (O) (King, Bill, "Industry News," Speedvision.com, Apr. 26, 2000).

4753. As well as broadcast exposure, Defendants use their race sponsorships to promote their cigarette brands at retail. In 1996, RJR displayed at retail locations such as grocery or convenience stores: the Winston Motorsports simulator; the Winston or Camel show car; "well known Winston Cup or Smokin' Joe driver, surrounded by a small army of fans . . . . complete with autograph session;" extensive signage; and an inflatable Winston or Camel cigarette pack that was "an awe inspiring 15 feet tall." 514238599-8634 at 8604 (US 51832) (O).

4754. Similarly, Philip Morris's Marlboro Racing Program included various magazine, newspaper, billboard, and retail advertising components with broad reach. A Philip Morris document planning for its 1995 Marlboro Racing Program stated: "Philip Morris will implement a comprehensive advertising program to support Marlboro racing and will include the following: Outdoor advertising . . . ROP [free newspapers] . . . USA Today . . . [and] Insertions in racing enthusiast books and national magazines." Additionally, Philip Morris planned to "[d]ominate retail environment thirty days prior to the race with three tier wave promotion . . . [and] Display racing POS for 30 days prior to the race." The document also noted that the Marlboro Pole Award "provides Philip Morris with . . . Year-long visibility at all venues." 2060138575-8585 at 8577, 8580, 8581 (US 24004) (O).

4755. Today, further exposure to the Marlboro trademark occurs through media coverage in the United States of Philip Morris International sponsored races. In addition, the Internet features items for sale in dollars, available for shipment worldwide. One of the available items includes a child-sized jacket bearing the Marlboro logo. Szymanczyk TT, 4/11/05, 18372:5-18413:25.

4756. Substantial evidence was presented at trial of Philip Morris's current auto racing sponsorships to market its Marlboro brand. Philip Morris CEO and chairman Michael Szymanczyk testified that his company sponsors an auto racing team, called Marlboro Team Penske, in the Indy Racing League (IRL) series. The IRL is a racing body that sanctions a series of races in the United States, the best-known of which is the Indianapolis 500. Szymanczyk WD, 115:14-18; Szymanczyk TT, 18381:2-5.

4757. The Court has also received into evidence many exhibits and heard testimony on the Marlboro sponsorship of a Formula 1 racing team by the Altria wholly-owned subsidiary

Philip Morris International.

4758. As discussed extensively above, Philip Morris has long understood how important its use of racing imagery, and in particular its Formula 1 racing sponsorship is to attracting young smokers. In a December 1992 marketing review titled "Motorsports Sponsorship," Philip Morris evaluated its Formula 1 and other racing sponsorships and adjusted its "marketing strategy for motorsports" going forward. To the question of whether Philip Morris should remain in motorsports sponsorships, the answer was: "Yes: It enables us to reach millions of our target market with TV media coverage, and is particularly important in restricted markets." The identified objectives were: (1) to "Regain momentum in the hearts and minds of our target market - young adult smokers under 25"; and (2) "**To look at current and new program opportunities to extend our reach with starters and young adult smokers**." One specific Formula 1 marketing strategy was to create a Formula 1 "team of young talent which is not necessarily a winning team, more rebellious, fun, daredevil, more easily identifiable with the young adult target market." The team would feature "Anti-establishment gear (jeans/boots)" and a "Crazy car design." 2501058650-8680 at 8657-8658, 8661 (US 21702) (A) (emphasis added).

4759. Philip Morris International, a wholly owned subsidiary of Altria and the sister tobacco company to Philip Morris USA, sponsors a team in the Formula 1 racing league. The official team name is Scuderia Ferrari Marlboro. (no bates) (US 93343) (A). The team races two vehicles and has two drivers. The Marlboro brand name and logo are prominently displayed on both race cars and on the driver uniforms in all races except one, the United States Grand Prix. (no bates) (US 93263) (A); Myers TT, 5/19/05, 21688:6-19; 21689:14-17.

4760. The Court has received into evidence numerous exhibits showing how the Philip Morris Formula 1 sponsorship impacts audiences and viewers in the United States, particularly

when the races are broadcast in the United States and when photographs of the Marlboro race cars are printed in American magazines and newspapers. Philip Morris's sponsorship resulted in, and continues to result in, increased United States exposure of the Marlboro brand through the images in the various United States media.

4761. For example, the Formula 1 team, and specifically the lead Marlboro driver Michael Schumacher, was the focus of a lengthy article with several photographs of the Marlboro vehicles in the April 28, 2003 issue of *Sports Illustrated*. (no bates) (US 93250) (A). The Marlboro Formula 1 race car was shown in a May 28, 2004 edition of the *USA Today* newspaper. (no bates) (US 92110) (A). The vehicles and drivers, all bearing Marlboro brand names, were shown in numerous specialty magazines sold in the United States in 2003, 2004 and 2005, including *AutoWeek*, *Autosport*, and *F1 Racing*. (no bates) (US 93338) (A); (no bates) (US 93339) (A); (no bates) (US 93340) (A); (no bates) (US 93341) (A); (no bates) (US 93342) (A); (TLT1100006-0016) (US 89461) (A); (TLT1100017-0035) (US 89462) (A); (no bates) (US 92137) (A). The May 5, 2005 issue of *Autosport* magazine, for example, bore a very prominent Marlboro brand name on Michael Schumacher's helmet in the middle of the cover. (no bates) (US 92137) (A).

4762. Formula 1 races from around the world are broadcast in the United States on network and cable television. The 2005 season consists of 19 races; four races will be shown on CBS, and all the rest via cable on the Speed Channel. (no bates) (US 92110) (A); (no bates) (JD-055390) (A); Myers TT, 5/19/05, 21681:17-21682:3, 21685:20-21686:13, 21707:6-19.

4763. The Marlboro Formula 1 brand name sponsorship also impacts the United States via the Internet, where photographs of the Marlboro vehicles, drivers, and background signage are also posted. (no bates) (US 93256) (A); (no bates) (US 93274) (A); (no bates) (US 93276)

(A); (no bates) (US 93290) (A).

4764. Formula 1 apparel bearing Marlboro brand names and logos is available on the internet as well. The United States introduced evidence of one website where visitors could purchase in United States dollars Formula 1 clothing with the Marlboro brand name for both adults and children. (no bates) (US 93331) (A); (no bates) (US 93332) (A).

4765. The Philip Morris Formula 1 sponsorship expands the viewership of and the exposure to the Marlboro brand name in the United States. Myers WD, 36:6-7; Myers TT, 5/19/05, 21689:6-9. Each and every time a Formula 1 race is covered by the media in the United States, in every photograph, every newspaper or magazine article, and in every race that is broadcast on television, American youth are exposed to Marlboro brand marketing, just as they are exposed to Marlboro brand marketing through Philip Morris's sponsorship of the Marlboro IRL team.

(d) Defendants Continue To Market To Youth Through Magazine Advertising and Direct Mail Marketing

4766. After the MSA, Cigarette Company Defendants reported to the FTC significant increases in spending for newspapers (up 73%), magazines (up 34.2%), sampling – distributing free cigarette samples (up 133.5%) and direct mail (up 63.8%). 1900082-0107 (US 60663) (A) (FTC Cigarette Report to Congress for 1999).

4767. Numerous academic studies have found that Defendants increased the number of advertisements they placed in youth oriented magazines after the MSA. Dr. Krugman testified specifically regarding x such studies, including ones published in 1998, 2000, 2001, 2002, and a study that he himself conducted which was published in 2000. Krugman WD, 124:13-127:4.

4768. Mediamark Research Inc. ("MRI") is a leading United States supplier of

multimedia audience research, which offers comprehensive demographic data, lifestyle data, product usage data and data that measures exposure of people sampled to all forms of traditional media, including magazines, radio, and television. Currently, MRI measures the readership of over 300 national magazines. The sample data can be generalized to the entire population of the United States age 12 years and above. MRI's national syndicated data are widely used by advertising agencies as the basis for media and marketing plans that are written for advertised brands in the United States, particularly those that advertise in magazines. Id., 116:3-122:7.

4769. TNS Media Intelligence/CMR ("CMR") is a leading provider of marketing communication and advertising expenditure information to advertising agencies, advertisers, broadcasters and publishers. CMR measures advertising expenditures by national or regional advertisers in approximately 700 magazines. Id., 116:3-122:7.

4770. As set forth below, each Defendant has adopted and publicized a magazine policy that it claims prevents it from marketing to youth. Moreover, Defendants claim to follow the industry's Advertising Code which states that "[c]igarette advertising shall not appear . . . in publications directed primarily to those under 21 years of age." 2070557699-7702 (US 20519) (A). Over time, these policies have changed. However, the policies have been largely ineffective: Defendants have and continue to market to youth through magazine advertisements. As detailed below, MRI and CMR data over the last decade demonstrate that the Defendants continue to advertise heavily in magazines that have either, on average, over two million teen readers ages 12 to 17 per issue or over 15% of total readership, per issue, ages 12 to 17 years, hereinafter referred to as "substantial youth readership." Krugman WD, 116:3-122:7.

(i) Philip Morris's Advertising

4771. Prior to 1990 and during the early 1990s, Philip Morris's stated media policy was

to place cigarette advertisements in publications where 80% or more of a magazine's readership was 21 years and older. Philip Morris's evaluation process was not quantitative, but rather was a subjective determination by Philip Morris employees. The Philip Morris Media Department along with legal counsel made subjective determinations and recommendations for publication placements based upon their personal review of the "content" of the publication, including looking at whether the publication's editorial content was directed towards adults and whether other products advertised in the publication were adult products. Through this subjective determination process, Philip Morris's media employees and attorneys would decide whether a publication passed muster under the advertising guidelines as set forth in the industry's Cigarette Advertising and Promotion Code. **Virtually no magazines failed to qualify for placement of Philip Morris cigarette advertisements under Philip Morris's subjective review process during this period**. Camisa PD, United States v. Philip Morris, 6/28/02, 24:23-27:10, 32:19-33:11, 51:19-52:4, 81:14-82:16.

4772. In approximately 1995 or 1996, Philip Morris's stated media policy changed: cigarette advertisements were to be placed only in publications where 85% or more of a magazine's readership was 21 years and older. However, Philip Morris's evaluation process was still subjective and not quantitative, although it had some quantitative data upon which to base its decisions. At this time, Philip Morris continued to advertise in many magazines with high youth readership such as *Rolling Stone*. Id., 24:23-27-24, 51:19-52:8, 81:14-82:16.

4773. Philip Morris has purchased teen readership data from MRI on readers under the age of 18 since as early as 1995. Richard Camisa, Director of Media, became privy to such teen readership data upon his promotion to that position in 1998. Despite the fact that Philip Morris knew from this data that its magazine advertisements were read by many young people ages 12

to17, Philip Morris continued to rely upon its own internal subjective review standards under which virtually all magazines were fair game for advertising its products. Camisa PD, United States v. Philip Morris, 7/11/03, 243:17-244:23, 310:8-15; 2071239702-9705 (US 40405) (A).

4774. Beginning in 1998, Philip Morris initiated a new media placement policy that required publishers to provide a signed statement that their magazine was "primarily directed at adults" and to provide data of the percentages of adult (greater than or equal to 21 years old) plus subscription, circulation or readership as measured by the publisher's own research or by the MRI adult study. This information would determine if a magazine would be eligible for highly lucrative advertising contracts; yet it was sought from the magazine publishers themselves, who unarguably have a financial interest in maintaining their advertising sponsorships with cigarette companies. Moreover, Philip Morris accepted subscription numbers as a sole source of data providing eligibility for magazines without regard to how many magazines were sold through subscriptions as opposed to sold at newsstands. For instance, even if only 20% of a magazine's issues were sold through subscriptions, as opposed to at newsstands, Philip Morris would accept subscription data as evidence that the publication was "primarily directed at adults." With certification and publisher data in hand, Philip Morris again conducted its own "subjective review" of the publication content before determining whether to approve the placement of advertising in certain publications. Camisa PD, United States v. Philip Morris, 6/28/02, 29:4-30:19; Camisa PD, United States v. Philip Morris, 7/11/03, 266:10-267:13; 270:23-272:14.

4775. Although Philip Morris had been aware since at least 1998 that relying only on subscription data, instead of total circulation or readership data, would provide limited information about the audience of a magazine, it did not change its policies until 2000. In 2000, it adopted the policy that, if a magazine's subscriptions made up less than 60% of its total

circulation, then the publisher must provide a combination of subscription and newsstand data. Id., 270:23-272:14, 288:8-289:5; 2071228372-8378 (US 22199) (A).

4776. In 1998 and 1999, Philip Morris's stated Media Goals for Marlboro were to reinforce and maintain "Marlboro's leadership position," and "to identify new impactful opportunities that maximize visibility and brand essence with an emphasis on young adult smokers." According to Philip Morris's 1999 Media Plan, created by Leo Burnett's media-buying arm that buys magazine placement for Philip Morris advertisements, Marlboro maintained and built its leadership position in 1998 despite competitive pressure. It was recommended that Philip Morris increase its spending towards the so-called "young adult smoker" audience, focus on young adult smoker magazines, and increase the placement of Marlboro advertising in magazines that have high youth readership, including *Rolling Stone*, *Cosmopolitan*, *Vogue, Sports Illustrated*, *Entertainment Weekly, Playboy*, *ESPN*, *InStyle*, *GQ* and *Mademoiselle* magazines. Camisa PD, United States v. Philip Morris, 6/28/02, 107:6-115:11; 2071230813-0888 (US 40404) (A).

4777. Philip Morris developed a "Print Leadership Initiative" for execution in 1999 in an effort to maintain Marlboro's leadership position in magazines when billboards were not permitted after the MSA. The purpose of the initiative was to project Marlboro as being the number one brand (knowing full well that peer popularity drives youth brand choices, as discussed above). Richard Camisa, Philip Morris's Director of Media, testified that the initiative was intended to "showcase Marlboro's leadership position in print" by placing Marlboro advertisements in key locations in magazines, such as the back cover, the inside cover and the centerfold. These placements would communicate that Marlboro was "the number one brand." As Camisa described the initiative, "in a very cluttered print environment where you have so

many advertisers vying for presence in a magazine, are there things that you can do that could help your ad stand out versus others . . . not just be wallpaper and just be one of ad after ad which people see." Camisa provided examples of such placements, including: special impact units (3-4 pages units that may appear in a publication, as opposed to a single page); the "second" cover; pages one (the inside of the front cover and first page); the back cover; or, the center spread in a magazine that is stapled so that a reader naturally opens up to the magazine's center to see a showcased advertisement. Camisa PD, United States v. Philip Morris, 6/28/02, 113:6-114:24; 2080499829-9896 (US 20536) (A).

4778. Camisa further explained Philip Morris's print leadership initiative as follows:

> [L]eadership position is really, as it pertains to Marlboro, what we like to do is we like to see when we advertise in print, for example, that being the number one brand, we like to have Marlboro in the first tobacco position, which essentially is when you start reading a magazine, that of all the tobacco brands that may be advertised in that publication, we would like to have the first position. Because we think that is reflective of the brand's leadership position in the marketplace . . . showcase [Marlboro] as the first ad as you open the magazine.

Camisa PD, United States v. Philip Morris, 6/28/02, 111:22-113:5; 2071230813-0888 (US 40404) (A).

4779. Prior to the MSA and prior to the Print Leadership Initiative, Philip Morris had a leadership program in outdoor advertising which was designed to get "great locations on great expressways." After the MSA, Camisa testified, Philip Morris developed the 1999 Print Leadership Initiative in order to "try and enhance that whole leadership position for Marlboro using the only vehicle that [Philip Morris] had left at this time, which was print, given that . . . Philip Morris was exiting out-of-home [billboards] in compliance with the Master Settlement Agreement." Camisa PD, United States v. Philip Morris, 6/28/02, 114:25-117:2; 2080499829-

9896 (US 20536) (A).

4780. Under the Print Leadership Initiative, Philip Morris advertised Marlboro in leadership positions and competed for advertising with Marlboro's competitive youth brand, Camel, in the following youth publications: *Rolling Stone, Playboy, GQ, Spin, Car & Driver, Hot Rod, Penthouse, Vibe, Stereo Review, Car Craft, Cycle World, 4 Wheel, POV, Motorcyclist, Four Wheeler*, and *ESPN* through at least January 2000. Camisa PD, United States v. Philip Morris, 6/28/02, 149:2-152:6; 2080499829-9896 at 9837 (US 20536) (A).

4781. Even publishers of youth magazines pointed out that Philip Morris's advertisement placements in magazines such as *Rolling Stone* were aimed at teenagers. In a November 5, 1999 letter to Ellen Merlo, Senior Vice President at Philip Morris, *Spin* Publisher Malcolm Campbell questioned Philip Morris's decision (in fact due to external pressure) to pull advertisements from *Spin*:

> From a couple of terse phone conversations, I think our demise is based on a perception that Spin is too youthful. I respect your right to subjectively critique publications, however, to single Spin out for being too young, while continuing to support magazines, such as Rolling Stone or Details is ludicrous. I find an inconsistency in the logic that you cannot use Spin, but **you will run a centerspread in the current Rolling Stone with a 10 page cover line feature on "The Secret Life of Teenage Girls."** Only Rolling Stone has put teen phenoms Britney [Spears], Ricky Martin, The Back Street Boys and Jar Jar Binks on their cover this year, and all with pull-out posters for nifty bedroom collages. **These edit packages are clearly targeted at teens**, so comparatively, Spin's edit looks quite sophisticated.

2070748847-8852 at 8847 (US 21819*) (O) (emphasis added).

4782. Moreover, Philip Morris places its cigarette brand advertisements where they will reach the maximum number of people. Richard Camisa, Director of Media and Compliance for

Philip Morris, testified in his July 11, 2003 deposition in this case that Philip Morris advertised its Marlboro brand cigarettes on the back covers and inside front covers of magazines because "the ad awareness is much higher on a back cover as it is on the second cover page one versus any interior position. . . .So more of the readers of the publication are going to see an ad on the back cover or second cover versus inside the publication." When its advertisements were placed inside the magazine, Philip Morris sought other positioning designed to enhance awareness, such as running an advertisement adjacent to a horoscope page. Camisa PD, United States v. Philip Morris, 7/11/03, 219:23-221:5, 242:2-243:5.

4783. A document itemizing 1999 Philip Morris back covers, produced from the files of Richard Camisa, demonstrated that Philip Morris placed numerous back cover advertisements in magazines with substantial youth readership. For example: in 1999, Philip Morris had 8 (or 67%) of *Car Craft*'s back covers; 6 (or 50%) of *Hot Rod*'s back covers; 8 (or 33%) of *Rolling Stone*'s back covers; 11 (or 22%) of *Sports Illustrated*'s back covers; and 21 (or 40%) of *TV Guide*'s back covers. Advertisements that appear on the back covers of magazines are highly priced by magazines and valued by advertisers because they reach many more individuals than those placed inside magazines. 2085313542-3545 (US 88803) (O).

4784. In May 2000, Philip Morris once again changed its magazine policy to "voluntarily" incorporate a definition of "adult-oriented publication" that had been included in proposed regulation of tobacco advertising promulgated by the FDA in 1996. Camisa PD, United States v. Philip Morris, 6/28/02, 52:9-55:3; 2085314209-4215 (US 45714) (O); 2085314271-4271 (US 45716) (O). The definition described an "adult-oriented publication" as one: (i) Whose readers younger than 18 years of age constitute 15 percent or less of the total readership as measured by competent and reliable survey evidence; and (ii) That is read by fewer

than 2 million persons younger than 18 years of age as measured by competent and reliable survey evidence. 2085314271-4271 (US 45716) (O).

4785. In May 2000, when Philip Morris applied the new limit of 15% readership ages 12 to 17 or more than 2 million age 12 to 17 readers, it ceased advertising in *Sports Illustrated* because the magazine failed this standard. As Richard Camisa wrote in a May 19, 2000 letter to Fabio Freyre, the publisher of *Sports Illustrated*, "[t]he 1999 MRI Twelve Plus Study reports reach for your publication of 21.4% for persons below the age of 18 and reports readership of 17% for persons below the age of 18." 2085314266-4267 at 4267 (US 25275) (O).

4786. Similarly, application of this new standard forced Philip Morris to stop advertising in *Rolling Stone*. Application of the 1999 MRI Twelve Plus [12+] Study reported for *Rolling Stone* a "reach" of 11.1% for persons below the age of 18, and readership of 24% for persons below the age of 18. Prior to information from the MRI study confirming *Rolling Stone*'s high teen readership, Philip Morris had determined through its subjective, internal review process that *Rolling Stone* passed Philip Morris's internal requirements based upon the magazine's provision of a certification that its readership was primarily directed at individuals 21 plus, as well as its readership data. Camisa PD, United States v. Philip Morris, 6/28/02, 153:8-156:5; 2085314264-4265 at 4265 (US 45715) (O).

4787. A Philip Morris document entitled "2000 Marlboro Key Media Issues" stated that, because of the suspension of Philip Morris cigarette brand advertising in 32 magazines, its 2000 Media Plan was "less efficient due to loss of mass reach titles [such as] . . . *SI* [*Sports Illustrated*], *Rolling Stone*, *Cosmopolitan*, *People*, etc." 2085152525-2525 (US 25190) (A).

4788. Upon applying the 15% or 2 million readership standard using MRI and Simmons data in June 2000, forty of the publications in which Philip Morris had placed advertisements did

not meet the standard, including *Sports Illustrated*, *Rolling Stone*, and *Entertainment Weekly*. Between June 2000 and June 2002, the date of Camisa's deposition, another five to ten publications in which Philip Morris advertised cigarettes have failed the FDA standards. These are the same publications in which Philip Morris had continuously placed its cigarette advertisements notwithstanding its public statements – since the mid-1960s – that its cigarette advertisements "shall not appear [] in publications directed primarily to those under 21 years of age." Camisa PD, United States v. Philip Morris, 6/28/02, 62:16-76:23; 2085139972-9972 (US 25149) (O); 285139647-9649 (US 25118) (O).

4789. Camisa stated at his deposition in this case that prior to Philip Morris's adoption of its 2000 FDA standard for advertising in publications, he was not aware of the number of teens who were being reached by Philip Morris's advertisements in publications notwithstanding his position as Director of Media. However, other testimony Camisa gave suggested his department had access to, and utilized such data. According to Camisa, the Media Department created binders of "cheat sheets," similar to "Cliffs Notes," for the Philip Morris Brand Groups that contained synopses of each magazine in which Philip Morris cigarette advertisements could be published that included basic readership demographic information for the various publications in which Philip Morris cigarettes were advertised, including information on a magazine's age of readers, theme, and target audience. Camisa PD, United States v. Philip Morris, 6/28/02, 85:20-87:2, 92:2-93:15.

4790. Moreover, a September 17, 1996 draft presentation entitled "MRI and Simmons," with the handwritten notation "prepared for counsel," was developed for "internal PMUSA discussion only" and confirms Philip Morris had access at that time to MRI and Simmons data that showed the number of 12 to 17 year olds reading the magazines in which Philip Morris

advertised. Despite having these materials as early as 1996, Philip Morris did not begin to apply them until June 2000. 2071294033-4042 (US 20525) (O); 2070354075-4088 (US 21930) (O).

4791. A March 1998 draft letter from the files of Philip Morris USA, written by Corinne A. Goldstein, an attorney at Covington & Burling, to Judy Wilkenfeld, Special Advisor for Advertising Initiatives at the FDA, demonstrates that at that time Philip Morris had access to 1997 Mediamark Research Incorporated ("MRI") data showing that magazines in which Philip Morris advertised had substantial youth readership of above 2 million and/or 15% of total readership aged 12 to 17. 2069603598-3600 (US 27252) (A); 2069603601-3601 (US 27253) (A).

4792. In 1997 and 1998, Leo Burnett, Philip Morris's advertising agency, sent at least seven faxed reports to Philip Morris's Marketing Department and Media Department employees containing information derived from the MRI 12+ Studies (including data on 12 to 17 year olds) and the Simmons Studies. On January 23, 1998, Andrea Starshak, Account Manager for the Simmons Market Research Bureau, faxed a report which contained "horizontal percentage reflect[ing] the portion of each magazine that is comprised of teens age 12-17" from STARS+ 1996 data. 2071294089-4090 (US 21945) (O); 2071294011-4032 (US 20524) (O); 2071294007-4009 (US 21946) (O); 2071294086-4088 (US 20523) (O); 2071294061-4063 (US 21948) (O); 2071294004-4005 (US 20522*) (O); 20071294001-4002 (US 21951) (O); 2071294006-4006 (US 21952) (O).

4793. As recently as June 2002, Philip Morris maintained a total "consideration set" of approximately 100 publications in which it may choose to advertise its cigarettes. As of June 2002, of those 100 publications, Philip Morris was currently placing cigarette advertisements in 15 to 20 because only they had passed muster under the proposed FDA guidelines as measured by the MRI or Simmons studies. The remaining 80 to 85 publications are not measured by the

MRI or Simmons studies; according to Camisa, therefore, the FDA guidelines cannot be applied against them. Those approximately 80 publications would be measured against Philip Morris's "print certification" process which states that 85% or more of the subscription or circulation must be 21-plus. Philip Morris may in the future continue to advertise in those 80 publications, particularly for new product introductions, based upon its internal subjective review process. Camisa PD, United States v. Philip Morris, 6/28/02, 72:7-73:15, 76:24-81:4.

4794. MRI and CMR data for the years 1993 to 2003 demonstrate that Philip Morris spent almost $600 million advertising its cigarette brands in magazines with substantial youth readership, meaning that the magazines on average have either over two million readers ages 12 to 17 per issue or over 15% of total readership ages 12 to 17 years old per issue. Philip Morris's largest annual expenditure for advertising its cigarette brands in these publications was over $96 million, occurring in 1999, the first year after the MSA. Krugman WD, 116:3-122:7.

4795. Philip Morris advertised in *Sports Illustrated*, a magazine that the MRI data indicates averaged more than 4,700,000 readers ages 12 to 17 for each issue published during the time period from 1992-2002. In fact, from January 1993 to May 2003, Philip Morris USA spent a total of $133,727,300 on cigarette brand advertising in *Sports Illustrated*. In 1993 alone, Philip Morris USA spent $10,883,500 on cigarette brand advertising in *Sports Illustrated*; the MRI data indicates that, in 1993, on average more than 17% of the total readers of *Sports Illustrated* were teenagers ages 12 to 17 years old. Id.

4796. Although Philip Morris has reduced its print media profile as recently as June 2002, it has chosen to shift its spending to retail marketing which has extraordinarily broad reach. The reduction in print media advertising, and concomitant increase in retail and other promotional spending, is entirely consistent with Philip Morris's overall marketing strategy in

recent years, and is not based on a decision to stop targeting youth. Camisa PD, United States v. Philip Morris, 6/28/02, 87:3-89:13; 522642421-2433 (US 87852) (A).

4797. To this day, Philip Morris denies that it **ever** targeted youth in its advertisements. Furthermore, as of June 2002, Philip Morris was still placing cigarette advertisements in magazines with high youth readership, including *Outdoor Life* and *GQ*. Camisa PD, United States v. Philip Morris, 6/28/02, 87:1-91:25, 95:1-96:22.

(ii) Philip Morris's Direct Mail Marketing

4798. Philip Morris has stated that its policy is not to send any mailings to individuals on its Direct Mail Marketing Database who are under the age of 21. In her corrected written direct testimony, Jeanne Bonhomme, Philip Morris Director of Database Management and Direct Marketing Operations from 1998 to 2000, testified that during that period she "had general responsibility for all of the direct mail that Philip Morris USA sent to consumers" and also "responsibility for managing the Philip Morris direct mail marketing database." Bonhomme testified that "Philip Morris publicly claims that it directs its mailings to consumers 21 and older," and that, "[t]o [her] knowledge Philip Morris has never knowingly mailed brand mailings to anyone under 21 years of age." Bonhomme WD, 4:11-19, 67:9-68:10, 84:6-7, 87:9-14.

4799. *Marlboro Unlimited* is a glossy, color magazine created by Philip Morris and sent to individuals on Philip Morris's Direct Mail Marketing Database. It contains full color, glossy Marlboro advertisements which are either identical to, or are very similiar to, those that Philip Morris has placed in magazines such as *Rolling Stone* and *Sports Illustrated*. During his August 26, 2003 deposition, Leo Burnett U.S.A. corporate designee Thomas Dudreck testified on behalf of Leo Burnett that *Marlboro Unlimited* was routinely sent through the United States mail to approximately 750,000 to 800,000 people on Philip Morris's Database four times each year.

Dudreck PD, United States v. Philip Morris, 8/26/03, 458:21-460:2.

4800. Susan Norris, a 15 year Philip Morris employee and former Marlboro Brand Manager from 1995-1999, testified at her July 31, 2003 deposition in this case that Philip Morris first began distributing *Marlboro Unlimited* magazine in late 1998 or early 1999 and that it is distributed quarterly. Norris further testified that during her tenure as a Brand Manager for Marlboro, *Marlboro Unlimited* was mailed to an audience of approximately two million smokers. A memorandum on Philip Morris letterhead dated June 2, 1998 from Laura Meltzer, a then Assistant Brand Manager for Marlboro, to a distribution list of Philip Morris employees including Norris, discussed a planning meeting that had been held regarding *Marlboro Unlimited* and stated: "Team agreed that we should continue to use Unlimited as a relationship building tool geared towards YAMS 21 to 24. Primary objective is to reward loyalty and secondary objective is to create a dialogue with YAMS." Norris further testified that loyalty is important to Philip Morris because "[t]o the degree that an adult smoker selects your brand and stays with your brand . . . [it leads to] really consistent sales over a period of time." Norris PD, United States v. Philip Morris, 7/31/03, 211:12-218:2, 218:25-220:12; 2064933423-3425 at 3423 (US 39975) (O).

4801. Starting with its premiere issue in 1996, and continuing to the present day, Philip Morris has sent *Marlboro Unlimited* to tens of millions of individuals on its Direct Mail Marketing Database. PM3000196002-6092 at 6013 (US 23056) (A).

4802. Despite Philip Morris's supposed policy not to send *Marlboro Unlimited* to individuals under the age of 21, Philip Morris has sent millions of copies of its magazine to individuals for whom the company has no age information beyond the individual's own unverified representation that he or she is 21 or over. In 1999 alone, Philip Morris sent 8,264,645 copies of *Marlboro Unlimited* to individuals who had only a "signature" on record to

"verify" that they were 21 or above. Id., 6013.

4803. Despite its supposed policy which prevents it from sending mailings to individuals under age 21, Philip Morris has sent mailings to many individuals under the age of 21. In fact, Philip Morris has sent *Marlboro Unlimited* to many individuals who Philip Morris **knew** were under the age of 21 at the time they received it. For example, in 1999 alone, Philip Morris sent *Marlboro Unlimited* to 37,826 individuals who were under the age of 21, according to Philip Morris's own records. Id., 6016.

4804. Philip Morris has also sent marketing mailings other than *Marlboro Unlimited* to individuals who had only a "signature" on record – and no identification such as a drivers license – to "verify" that they were 21 or above. Between 1989 and 2003, Philip Morris sent 813,905,702 marketing mailings to such individuals. Id., 6011.

4805. Philip Morris sent products and coupons to individuals who only had a "signature" on record to "verify" that they were 21 or above. For example, in 1999 alone, Philip Morris sent 69,170,720 coupons to such individuals. Id., 6012.

4806. In 1993 alone, Philip Morris sent 2,815,036 mailings containing cigarette products to individuals who only had a "signature" on record to "verify" that they were 21 or above. Id., 6013.

4807. Philip Morris has knowledge that many individuals whose records contained on its Direct Mail Marketing Database and who had a "signature" on record to "verify" that they were age 21 or above were in fact under the age of 21 at the time they received marketing mailings from Philip Morris. Nonetheless, Philip Morris continued to send these individuals marketing mailings. In 1993 alone, Philip Morris sent 306,895 mailings to individuals who were

under the age of 21 at the time they received the mailing, despite also having a "signature" on record to "verify" that they were 21 or above. Id., 6014. Of these mailings, 173,432 were coupons, 96,906 were gifts or "continuity" items (such as t-shirts, posters, or mugs), and 18,820 were products. Id., 6016.

4808. Philip Morris has knowledge that many individuals whose records are contained on its Direct Mail Marketing Database and who had a "signature" on record to "verify" that they were age 21 or above were in fact **under the age of 18** at the time they received marketing mailings from Philip Morris. In 1993, Philip Morris sent 71,485 marketing mailings to such individuals, including 48,822 coupons and 28,335 gift or continuity ite In 1994, Philip Morris sent 94,151 marketing mailings to such individuals, including 44,919 coupons and 31,572 gift or continuity ite In 1995, Philip Morris sent 76,378 marketing mailings to such individuals, including 30,190 coupons and 34,909 gift or continuity item. Id., 6016-6018.

4809. Despite its supposed policy which prevents it from sending mailings to individuals under age 21, Philip Morris sends marketing mailings to individuals for whom it has no identification (such as a driver's license) and has no "signature" verifying their age on record. From 1989 to 2003, Philip Morris sent to mailings to 18,847,776 such individuals, including 60,973,164 marketing mailings. 3000196023-6025 at 6023 (US 61452) (O).

4810. Philip Morris continues to mail Marlboro, Parliament, Virginia Slims, Merit and Accord coupons, magazines, brochures, and other mailings directly to customers whose records are maintained on Philip Morris's Direct Mail Database. 2061162074-2077 (US 39166) (O); 2061162078-2087 (US 39167) (O); 2061162182-2187 (US 39168*) (O); 2061162512-2519 (US 39184) (O); 2061162965-2968 (US 39189) (O); 2061163206-3215 (US 39196) (O); 2061163610-3614 (US 39200) (O); 2061163783-3789 (US 39213) (O); 2061163832-3838 (US

39214) (O); 2061163996-3999 (US 39215) (O); 2061164303-4305 (US 39223) (O); 2061164581-4582 (US 39226) (O); 2061164605-4614 (US 39232) (O); 2061165008-5009 (US 39247) (O); 2061165295-5300 (US 39264) (O); 2061165311-5342 (US 39269) (O); 2061165494-5502 (US 39290) (O); 2061165503-5510 (US 39293) (O); 2061165564-5568 (US 39297) (O); 2061165569-5574 (US 39299) (O); 2061166050-6059 (US 39323) (O); 2061166097-6100 (US 39335) (O); 2061166101-6108 (US 39336) (O); 2061166109-6114 (US 39337) (O); 2061166121-6133 (US 39339) (O); 2061166134-6141 (US 39340) (O); 2061166142-6149 (US 39341) (O); 2061166275-6275 (US 39352) (O); 2061166278-6289 (US 39354) (O); 2061166301-6307 (US 39355) (O).

4811. According to Philip Morris's "2003-2007 Five Year Plan" dated April 3, 2003, Philip Morris planned to of its Direct Mail Marketing Database in 2003 with a newly launched website entitled www.smokersignup.com that currently allows people to add their names to the database over the internet. According to the Plan,

PM3000540103-540118 at 0107, 0116 (US 88649) (A) (Confidential). As further stated in its "2004 Original Budget & Five Year Plan Presentation," in order address the "Critical Issue" of the "Loss of mass marketing" that it faces ahead in 2004-2008, Philip Morris plans a short-term strategy of marketing through packaging onserts, expanded direct mail, and a rewards card that is preloaded with a fixed dollar amount for cigarette purchases, and a long-term strategy of controlled internet access, or "internet sites marketing cigarettes" to include selling cigarettes on line, or by phone, fax or mail orders. PM3000613782-3913 at 3790, 3801, 3804, 3887 (US

88647) (A).

(iii) Liggett's Advertising

4812. At his June 14, 2002 deposition in this case, James Taylor testified that Liggett Vector Brands's current print advertising policy is not to advertise in any publications with over 15% under 18 readership. Taylor PD, United States v. Philip Morris, 6/14/02, 95:8-25, 97:5-99:6.

4813. An examination of MRI and CMR data for the years 1993 to 2003 in magazines with substantial youth readership demonstrates that Liggett began advertising its cigarette brands in publications with a substantial youth readership for the first time in 2001, and that it has increased its expenditures on such advertisements in both 2002 and 2003. Since 2001, Liggett has spent over $6 million advertising its cigarette brands in magazines with substantial youth readership. Krugman WD, 116:3-122:7.

4814. The majority of Liggett's expenditures on its cigarette brand advertisements in magazines with substantial youth readership has been spent on advertisements in *People*, a magazine which had, on average, more than three million readers ages 12 to 17 years old per issue from 1992 through 2002. Id.

(iv) Lorillard's Advertising

4815. As of June 1998, it was Lorillard's policy not to advertise in publications that were primarily subscribed to by minors or distributed to minors. Lorillard's Media Services Department relied on a computer program designed by an independent outside service to identify the magazines in which it was not appropriate to place Lorillard advertisements. However, Lorillard only looked at readership information of people 18 years old and older in making its

determination. Lorillard would then use its "best judgment" based on the information provided by the publications about the readership of people 18 years of age and older to make a recommendation as to whether to advertise in a particular publication or not. The recommendations were made by Lorillard's media department in conjunction with its outside advertising agency. The recommendation was then reviewed and considered by Lorillard's brand group. Lindsley PD, Massachusetts v. Philip Morris, 6/8/98, 65:13-70:17; Lindsley PD, California v. Philip Morris, 6/9/98, 164:17-171:6.

4816. A document dated Fall 1999 entitled "Lorillard Marketing Regulation Manual (A Guide From Counsel)" stated: "Lorillard does not and will not advertise its products in publications directed primarily to persons under 21 years of age, including school, college or university media (such as athletic, theatrical or other programs), comic books or comic supplements." 83675546-5629 at 5591 (US 67506) (A).

4817. Lorillard's magazine advertising policy as of June 2002 was not to advertise in magazines that have greater than 18% youth readership (12 to 17 year olds). This advertising policy was based on the percentage, not the total number, of youth readers; therefore, Lorillard can and does place advertisements in magazines which have millions of young readers ages 12 to 17. Two syndicated services, MRI and Simmons, provided information to Lorillard on the percentage and total number of youth readership. Lindsley PD, United States v. Philip Morris, 5/16/02, 83:6-84:19; Telford PD, United States v. Philip Morris, 6/26/02, 34:8-35:4.

4818. It was also Lorillard's policy to place Newport and other brand advertisements in magazines for which there was no youth readership information available from these syndicated services. For example, Lorillard has placed its cigarettes advertisements in *ESPN* magazine although MRI and Simmons data subsequently indicated that there was greater than 18% youth

readership. Lindsley PD, United States v. Philip Morris, 5/16/02, 81:2-81:13; Telford PD, United States v. Philip Morris, 6/26/02, 35:5-35:8, 36:21-36:25. Lorillard did not make an effort to determine the youth readership level of magazines in which it placed advertisements if MRI or Simmons did not have youth readership information. For magazines that lacked MRI or Simmons youth readership data, Lorillard made its decision to place advertisements based on Lorillard's consideration of the editorial content of the magazines. Telford PD, United States v. Philip Morris, 6/26/02, 35:9-35:14.

4819. Victor Lindsley testified that Lorillard places advertisements in magazines to reach the respective brands' targeted consumers who were defined by brand marketing plans and that, in making a decision to place Newport advertisements in magazines, Lorillard considers the readership age of the magazine. Lindsley PD, United States v. Philip Morris, 5/16/02, 53:24-54:19. George Telford similarly testified that Lorillard tailors its advertising placement for different brands based on the desired demographic profile of those brands. For example, Lorillard advertises for Newport in younger publications like *Sports Illustrated*, *Playboy*, and *Penthouse*. Lorillard continues to place advertisements in these magazines: Lorillard's September 7, 2001 "Newport Brand Plan" for 2002 suggests targeting the young "adult" market through print media "to increase brand awareness and reinforce brand image." Telford PD, United States v. Philip Morris, 6/26/02, 61:9-62-2, 62:9-17, 62:22-63:1; 92278882-8951 at 8898 (US 21114) (A).

4820. MRI and CMR data for the years 1993 to 2003 demonstrate that Lorillard spent over $60 million advertising its cigarette brands in magazines with substantial youth readership, meaning that the magazines have on average either over two million teen readers ages 12 to 17 per issue or over 15% of total readership, per issue, are ages 12 to 17 years. Lorillard's

expenditures for cigarette brand advertisements in these publications almost doubled from 1997 through 2000, rising from $4.2 million in 1997 to $7.8 million in 2000, even though the MSA was enacted in 1998. Krugman WD, 116:3-122:7.

(v) Lorillard's Direct Mail Marketing

4821. A memorandum dated January 13, 2000, from H.H. Bell, Lorillard in-house counsel, to G.T. Baroody and A. Pasheluk, Lorillard employees, and copied to R.S. Milstein, Lorillard General Counsel, regarding "Database Name Compilation/Proof of Age for Continuity Programs" contained Bell's responses to a number of issues raised at a January 6, 2000 meeting. The first issue addressed was: "When soliciting or purchasing names for inclusion on Lorillard's consumer database, is it necessary to request/receive a 'photo I.D.' from the consumer?" Bell concluded: "It is not. The MSA requires an age-verified identification only when providing 'any item in exchange for the purchase of Tobacco Products.' See Section III(h) [page 26]. Since we are merely compiling a database rather than conducting a continuity program, the obligation to secure proof that the person is an adult is inapplicable. . . . [T]he mere accumulation of names on our database, without more, would not violate these principles." The second issue that Bell addressed was: "When soliciting or purchasing names for inclusion on Lorillard's consumer database, is it necessary to request/receive the consumer's signature?" Again, Bell concluded: "The MSA does not require that we have signatures on file." Another issue addressed by Bell was: "Is it desirable to maximize the number of consumers on our database who have supplied Lorillard with photo I.D. and signature?" Bell responded: "Ideally, yes. To do so creates a larger pool of already qualified consumers who can be communicated with in a variety of ways without having to take further steps to do so. However, it is a management call as to whether we maintain only a database of pre-qualified consumers or additional database(s) on non-qualified

consumers." 82093356-3358 at 3357-3358 (US 22198) (A).

4822. Orlowsky also testified that Lorillard currently maintains two databases, both of which contain names of smokers whose ages have not been verified through a copy of identification or public records database:

> The database . . . Epiphany . . . contains information on smokers who have certified they are 21 years of age or older and want to receive information on our products. Some of the smokers on Epiphany are verified, meaning it has been verified either through a copy of a Government identification or a public records database that they are at lest 21 years of age. Smokers whose age is verified are qualified to receive continuity goods. A second database, Suppression, contains a list of individuals who for a number of reasons are not eligible to participate in our direct mail program. The purpose of the Suppression list is to ensure that these people cannot get on the Epiphany database.

Orlowsky WD, 60:22-63:22; 82093356-3358 at 3357-3358 (US 22198) (A).

4823. At trial, Orlowsky admitted that "at times" Lorillard sent mailings to individuals for whom Lorillard has no government-issued identification, and that Lorillard does not have third party verification for every person to whom it mails, stating "[t]here's third party verification related to certain types of mailings that we make, not in every instance." Orlowsky TT, 10/13/04, 2277:25-2278:25.

4824. In 2000, Lorillard sent 4,181,593 mailings that included coupons for cigarettes to 2.6 million individuals for whom Lorillard has no third party age verification and no government-issued identification on file. 94945731-94945736 at 5734 (US 90002) (A).

4825. In 2003, Lorillard sent promotional mail to 2,261,881 unique (different) individuals for whom Lorillard had no third party age verification and no government-issued identification on file. In 2003, a total of 8.8 million mailings were sent to more than 2.2 million

individuals for whom Lorillard has no third party age verification and no government-issued identification on file. Id., 5734.

4826. As of August 16th of 2004, Lorillard had sent promotional mailings to more than 1.7 individuals for whom Lorillard has no third party age verification and no government-issued identification on file. These 1.7 million persons were sent 4.9 million total mailings. Id.

4827. As of August 10, 2004, Lorillard's direct mail marketing database, Epiphany, contained the names of 11,077,551 individuals. Orlowsky, Lorillard's Vice-President, testified that Lorillard limits its direct mail marketing to individuals who, at a minimum, self-certify that they are smokers of legal age. As of August 16, 2004, Lorillard had no government-issued identification age verification or third party age verification for approximately 2,341,622 individuals contained in its direct mail database. Orlowsky TT, 10/13/04, 2279:14-22; 94945731-94945736 at 5732 (US 90002) (A).

(vi) B&W's Advertising

4828. On September 1, 1998, B&W conducted a review of its marketing policies and guidelines. Instead of increasing the age of its models in advertisements, B&W lowered the age of models in its advertisements from 30 to 25 years of age. Susan Ivey testified that she was satisfied with the 25 year-old age requirement, and that she did not recommend that the company go back to the requiring models to be at least 30. Ivey WD, 10:2-22.

4829. In December 1999, after receiving a complaint from the National Association of Attorneys General (NAAG), B&W agreed to agreed to restrict the placement of the company's cigarette advertisements to magazines whose under-21 readership did not exceed 15% of the magazine's total readership. B&W initially relied on information provided by the publishers of

the magazines in which it advertised in order to determine whether the under-21 readership of a magazine exceeded 15%. B&W also examined the editorial content of the magazines in which it advertised. Id., 16:7-16; Ivey TT, 11/16/04, 6118:3-10.

4830. Sharon Smith, B&W's designated witness regarding the "B Kool" campaign, testified that B&W continued its "B Kool" campaign through the year 2000. Further, during this period, the "B Kool" campaign appeared in magazines, such as *Rolling Stone*, whose readership exceeded the 15% threshold. Smith WD, 7:3-10; 282300205-0207 (US 20574) (A).

4831. It was not until November of 2000 that B&W revised its magazine placement policy to rely on MRI and Simmons data to determine whether the youth readership of a magazine exceeded 15%. However, as early as 1996, B&W had magazine readership data from the Simmons Market Research Bureau including demographic groups of 12 to 17, 18+, 12-20 and 21+. B&W, prior to November 2000, also relied in part on MRI and Simmons data in developing its media plans. Furthermore, B&W in revising its magazine placement did not agree to only advertise in magazines included in the Simmons and MRI studies. Ivey TT, 11/17/04, 6313:18-6314:3; Ivey WD, 20:5-8; 210210020-0022 (US 20540*) (O).

4832. In an August 15, 2001 press release, B&W announced a revision to its magazine placement policy. Under the new policy, the company placed its advertisements only in certain editions of magazines sent to subscribers over the age of 21. Under this policy, B&W would advertise in magazines such as *Rolling Stone* regardless of whether the magazine had over 15% youth readership according to MRI or Simmons if the magazine was able to ensure that the company's advertisements only ran in those editions of the magazine sent to subscribers over 21. B&W received letters from the Attorneys General of Pennsylvania, Maine, and California expressing their concern about this new policy and requesting data on the "pass along" readership

among youth of magazines which are sent directly to subscribers 21 years of age and older but are passed along with a household to younger readers. B&W did not change its policy in response to these letters and never provided the requested "pass along" readership data. Ivey WD, 21:1- 25:7; 525022464-2464 (US 20918) (A); 282402351-0352 (US 89163) (A); 28250050-0051 (JD-012711) (A); 282500100-0102 (JD-012842) (A); (US 90060) (A).

4833. When B&W adopted its 15% limitation, it did not impose upon itself any limitation on advertising in magazines with a certain number of readers ages 12 to 17. B&W never adopted a limitation on its magazine advertising placement based on the actual number of young readers per issue. At trial, Susan Ivey testified that she does not favor a limitation on magazine advertising based on an absolute number of young readers per issue. Ivey WD, 16:17-17:10.

4834. Paul Wessel, B&W Divisional Vice President, testified at his March 19, 2003 deposition that it is the policy of B&W only to advertise in magazines where 85% of the readership is over the age of 21, and that the company does not "use any celebrities, any cartoons, any characters that would have specific appeal to youth." Additionally, he testified that models appearing in any advertising must be, and appear to be, 25 or older. Wessel PD, United States v. Philip Morris, 3/19/03, 57:20-58:18.

4835. Yet, Brown and Williamson continues to advertise its brands in general circulation magazines that it knows reach over 2 million readers under the age of 18. Newton PD, United States v. Philip Morris, 5/15/02, 138:25-146:18. In fact, B&W itself, in a July 9, 1985 document, described *Rolling Stone*, *Record*, and *Spin* as "young targeted music books." 670661599-1665 at 1628 (US 23054) (A).

4836. MRI and CMR data for the years 1993 to 2003 demonstrate that B&W spent $223

million advertising its cigarette brands in magazines with substantial youth readership, meaning that the magazines have on average either over two million teen readers ages 12 to 17 per issue or over 15% of total readership, per issue, ages 12 to 17 years old. B&W's largest annual expenditure for advertising its cigarette brands in these publications was over $38 million, occurring in 1999, the first year after the enactment of the MSA. Krugman WD, 116:3-122:7.

4837. In 1999, B&W placed in newspapers and magazines nationwide the "B Kool" advertising campaign for Kool cigarettes captioned "B Kool." In one "B Kool" advertisement, an attractive young woman gazed longingly back at a partially visible man in the foreground holding a lighted cigarette and a pack of Kools. ADV0480239-0241 (US 11642) (A); ADV0480299-0301 (US 11662) (A); ADV0840152-0154 (US 14522) (A); ADV0840164-0166 (US 14526) (A); ADV0840185-0187 (US 14533) (A); ADV0840208-0210 (US 14540) (A); ADV0840249-0251 (US 14553) (A).

4838. In 2000, B&W placed advertisements for Lucky Strike in *InStyle* and *Spin* magazines. MRI data indicates that in 2000, over 22% of the readers of *InStyle* were between the ages of 12 and 17, and 24% of the readers of *Spin* were between the ages of 12 and 17. ADV0850271-0273 (US 14659) (A); ADV0850308-0312 (US 14670) (A); ADV0500461-0463 (US 12225) (A); ADV0500493-0495 (US 12233) (A); ADV0500499-0501 (US 12235) (A); ADV0500511-0515 (US 12239) (A); ADV0500537-0539 (US 12245) (A); ADV0500549-0551 (US 12249) (A); ADV0500569-0571 (US 12255) (A); ADV0500590-0592 (US 12262) (A); ADV0500602-0604 (US 12266) (A); Krugman WD, 116:3-122:7.

4839. Currently, B&W continues to advertise in well known youth magazines such as *Rolling Stone* and *Sports Illustrated*. Moreover, B&W itself recognizes the power and influence of such advertising. In her testimony in this case, Claudia Newton, B&W Vice President for

Corporate Responsibility and Youth Smoking Prevention from November 1997 to January 2001, who was experienced in media placement, stated that advertising is effective through repetitive viewing and that effective campaigns can be had by placing numerous advertisements in several small circulation magazines where it is cheaper to advertise. Newton PD, United States v. Philip Morris, 5/15/02, 127:25-128:11, 139:25-146:18.

4840. Numerous public officials, including the former Governor of Florida and several State Attorneys Generals, have expressed their dismay at B&W's "B Kool" advertising campaign because of its appeal to youth. On October 22, 1997, Governor Lawton Chiles of Florida wrote to B&W regarding its "B Kool" advertising campaign. Governor Chiles stated in his letter: "I am very disturbed by B&W's most recent advertising campaign for Kool menthol cigarettes. This so-called "B Kool" campaign appears to be yet another flagrant attempt by Big Tobacco to hook another generation of teens. In addition, it clearly violates the spirit of the settlement agreement reached between the State of Florida and Big Tobacco." The letter criticized the use of a young female model in the campaign who "looks like a teenager from head to toe" and the use of billboards. The Governor concluded his letter by requesting that B&W remove "these offensive billboards immediately . . . and immediately halt this campaign." 282208267-8267 (US 22099) (A).

4841. On October 22, 1999, Attorney General of Indiana Jeffrey Modisett wrote a letter to B&W summarizing his impressions of a meeting he attended with the company on October 4, 1999. In response to representations made at the meeting that B&W only intended to target smokers between the ages of 21 and 30 with its "B Kool" campaign, Attorney General Modisett stated: "While your intentions have been clearly stated, to outside observers it is hard to believe that your company does not use advertising to entice non-smokers to begin smoking your

products." He also stated: "I find it amazing that no one would agree that kids age 10-14 are more interested in 'being cool' than the older, more mature 21-30 age group. So, while your intentions with the 'B Kool' advertising campaign seem clear internally, you have a long way to go to convince outside observers that this advertising campaign does not have an undesired impact on both younger smoking an non-smoking teens." 282204359-4361 at 4359-4360 (US 22211) (A).

4842. On December 3, 1999, the Attorney General of Oklahoma, Drew Edmonson, wrote to B&W on behalf of the NAAG Tobacco Enforcement Committee to express the Committee's concerns about the content of the "B Kool" advertising campaign and the placement of "B Kool" advertisements in magazines with significant youth readership according to data contained in the 1999 MRI Twelve Plus Study. B&W had placed "B Kool" advertisements in such magazines as *Vibe* and *Sport*, which had youth readership (readers between the ages of 12 and 17) above 35% based on the 1999 MRI Twelve Plus Study. Edmonson wrote that "[t]he placement of ads in magazines with a significant youth readership is especially problematic because the content of the B Kool ads has such high youth appeal." Attorney General Edmonson expressed concern that "the content of the B Kool ads has such a high youth appeal. Research over many years has shown that adolescents emulate youth adults who strongly desire to be seen as 'cool' in the eyes of their peers." He noted that "[s]ome of the ads include visual cues, e.g. tattoos which are currently in vogue among teens. This imagery is likely to appeal to male adolescents." Edmonson also stated that the "B Kool" slogan was more likely to "resonate" with young adolescents than with smokers 21 to 30 years old. In response to B&W's contention that the advertising campaign was intended to target 21 to 30 year olds, Edmonson stated "it is foreseeable and inevitable that a marketing strategy directed at young adults which employs

themes with particular appeal to adolescents (e.g. independence, desire to appear older, desire to be cool), . . . will, in fact, both appeal to and reach a large number of youth." B&W did not change the content of the B Kool campaign in response in response to the concerns expressed by NAAG. 282300205-0207 at 0205-0206 (US 20574) (A); Smith WD, 32:20-33:8.

4843. In March 2004, B&W issued a press release announcing the launch of the Kool Mixx campaign. As part of the campaign, a series of "Kool Mixx" advertisements appeared in the April 2004 edition of *Rolling Stone* magazine sent to subscribers over 21. The advertisements featured cartoon like images of DJs spinning CDs and young people dancing. The text of the advertisements included statements that "Kool recognizes DJs as the center of Hip Hop, inspired by the real feel and energy of the streets . . . DJ's are the Masters of the Hip Hop like Kool is the Master of Menthol. Kool Mixx special Edition Packs are our mark of respect for these Hip Hop Players." The special edition packs referenced in the advertisements featured the same images of DJs and young people dancing. Also included in the April 2004 edition of *Rolling Stone* was a Kool Mixx CD/CD-Rom, described in the advertisements as "Your way to experience the sights and sounds of the Soundtrack to the Streets." The CD-Rom contained, among other things, soundtracks by various hip-hip artists, interviews with DJs, and a link to the website www.houseofmenthol.com, which the press release described as a "comprehensive, age-verified website for adult smokers" created as part of the KOOL Mixx campaign. Ivey WD, 28:4- 29:27, 33:1-34:20; ADV1150001-0117 (US 88094) (A); Krugman WD, 116:3-122:7; USX5420003-0008 (US 89164) (A).

4844. Public heath organizations and Attorneys General of several states criticized B&W's Kool Mixx campaign for targeting youth. The African American Tobacco Prevention Network issued a statement "denounc[ing] a plan by Kool brand cigarettes to escalate its

targeting of black youth and urban hip-hop culture by sponsoring a nationwide Hip-Hop DJ Competition, and creating a special cigarette package to market that event which by design appeals to youth." G. Steven Rowe, Attorney General of Maine and the Chair of the Tobacco Enforcement Committee, in a March 25, 2004 letter to Neil Mellon, wrote, "[t]he advertising images used in this campaign [hip-hop artists, DJ's, art, and culture] appear to us to hold particular appeal for teenagers." In addition, it was brought to B&W's attention that individuals were able to gain access to www.houseofmenthol.com, its supposedly "age-verified" website, by providing false information. The Attorneys General of New York, Illinois, and Maryland filed lawsuits against B&W alleging that the Kool Mixx campaign violated the MSA's provision against youth targeting. An affidavit filed in the New York litigation by Dr. Michael Kamins, Associate Professor of marketing at the Marshall School of Business, concluded that "the Kool Mixx Campaign targets youth, particularly African/American youth." On October 5, 2004, B&W and RJR reached a settlement with the state Attorneys General resolving these lawsuits. As part of the settlement, B&W and RJR agreed to pay $1.46 million to the CDC Foundation, the National African American Tobacco Prevention Network, the American Lung Association of Metropolitan Chicago, and the Bobby E. Wright Community Health center to support youth smoking reduction and prevention programs. Ivey WD, 35:13-41:11; Ivey TT, 11/16/04, 6153:11-6168:1; TLT1050314-0316 (US 86683) (A); USX5430001-0004 (US 89167) (A); USX5430005-0006 (US 89168) (A); USX5430007-0008 (US 89169) (A); USX5560025-0026 (US 90057) (A); USX5560018-0024 (US 90056) (A); USX5560031-0034 (US 90059) (A); USX5560095-0114 (US 92037) (A); USX5560035-0050 (US 90061) (A).

(vii) B&W's Direct Mail Marketing

4845.

Ivey WD, 44:1-45:17; Ivey TT, 11/17/04, 6224:8-6225:25; 469100116-0136 (US 89166) (A) (Confidential); USX5560116-0119 (US 92039) (A).

4846.

Ivey WD, 45:9-46:8; Ivey TT, 11/17/04, 6233:20-6236:22; 469100116-0136 (US 89166) (A) (Confidential); USX5560116-0119 (US 92039) (A).

4847. Ivey testified that, although the company would send advertisements and coupons to individuals whose age had not been independently verified, third party age verification was required in order for individuals to receive premium items or cigarettes through the mail. Ivey WD, 44:1-45:17; Ivey TT, 11/17/04, 6224:8-6225:25. Contrary to Ivey's testimony that third party age verification was required in order for individuals to receive premium items or cigarettes through the mail, B&W in 2004 did send premium items to individuals whose age had not been verified either through government-issued identification or third party verification. B&W in 2004 also sent cigarettes through the mail to individuals whose age had not been verified through government-issued identification or third party verification. Ivey TT, 11/17/04, 6241:1-6243:11;

469100116-0136 (US 89166) (A) (Confidential)

(viii) RJR's Advertising

4848. Between the 1998 execution of the MSA and June 2000, RJR's print policy did not change. Beasley PD, United States v. Philip Morris, 6/25/02, 42:8-15. In the years preceding 2000, RJR's print placement policy reflected its interpretation of the Cigarette Advertising Code that prohibited cigarette advertising in any magazine that was primarily directed to underage people. RJR limited its advertising to magazines whose readership was at least 50% adult, adult being defined as 18 or 21 depending on whether it was before or after May 1992, if it had 18 plus readership data available. Id., 55:20-58:3.

4849. According to RJR's Media Director, Patti Ittermann, RJR did not look at data that measured youth readership under 18 years (or 12+ "teen data") in magazines until after January 2000, and the only reason it started to review the youth readership data for magazines was the concerns raised by the public and the government. Ittermann PD, United States v. Philip Morris, 5/17/01, 52:19-25, 53:1-14, 58:20-22.

4850. In June 2000, RJR revised its advertising policy from placing its advertisements in magazines that had at least 50% adult readership to advertising in magazines having at least two-thirds readership 18 years or older, if the magazine measured readership data among audiences 12 years old and older. The revised policy permitted the placement of advertisements in publications where no readership data was available. Id., 34:2-35:19, 43:9-44:15, 58:10-58:18, 81:1-82:18; 522040903-0903 (US 20907) (O); 522041398-1402 at 1399 (US 52796*) (O).

4851. Prior to the written June 2000 print placement policy, Itterman was not sure whether there was a written policy regarding advertising placement. She testified that she was

involved in formulating the prior policy, but could not specifically remember whether it was written. Itterman PD, United States v. Philip Morris, 5/17/01, 76:25-77:14.

4852. A June 19, 2000 memorandum from Itterman to various RJR employees demonstrates that RJR sought to take immediate advantage of Philip Morris's June 2000 magazine policy adjustment, as described above. RJR researched which magazines Philip Morris was no longer advertising in, with the intent of placing RJR advertisements where Philip Morris had previously advertised. The memorandum discussed obtaining magazine cover spaces that Philip Morris had previously occupied. 522765629-5634 (US 22141) (O); 522642421-2433 (US 88035) (O); Itterman PD, United States v. Philip Morris, 5/17/01, 95:21-102:23; 522041457-1460 (US 20908) (O).

4853. After RJR modified its magazine placement policy, its corporate website still contained the old policy. Rather than immediately changing the website to reflect the change in policy, RJR executives debated whether the shift had to be noted. Patricia Itterman sent an email to Jan Fulton Smith on June 21, 2000 inquiring: "[d]o we need to amend this (what is out there on the web site), given our 2/3 over 18 policy? Are we sending mixed signals? Seems that we need to be consistent . . ." Smith replied that "I've been waiting for the 'dust to settle' on [RJR's position on advertising issues]." 522041369-1369 (US 87865) (O).

4854. As of March 2001, RJR's stated new youth magazine policy was that 75% of the readership of a given magazine must be 18 years old or older, for publications in which audience measurement data existed for total readership ages 12 years and older. As of June 2002, this was still the current print placement policy. Beasley PD, United States v. Philip Morris, 6/25/02, 42:4-6, 44:9-15. RJR used both Simmons and MRI data to evaluate magazine placement. Additionally, it considered other factors, specifically editorial content, the other categories of

products advertised, and distribution. Blixt PD, United States v. Philip Morris, 10/31/02, 131:24-132:10, 137:7-15.

4855. Andrew Schindler, CEO of RJR, testified that he made the decision to shift from a two-thirds 18 plus standard to a "75% 18 plus standard" during the same time frame in which RJR was being sued by the State of California for MSA violations. Schindler testified that he did not consider the issue of "pass along" readership, whereby one reader passes the magazine to another, exposing additional adolescents to RJR's advertisements. Specifically, Schindler testified that, when RJR advertised in the 2003 swimsuit issue of *Sports Illustrated*, it did not occur to him that "the Swimsuit issue, might garner a very high absolute number of adolescent boys looking at it, even if the 25% threshold was not breached" or that "even if actual sales figures for this issues were not astronomically higher for adolescents, this is the one issue that has a huge potential for one 10th grade boy who did buy it to take it to school and share around with all of his pals." Schindler WD, 214:13-215:8.

4856. RJR asserts on its website that, "Reynolds Tobacco does not and will not advertise in publications for youth. And, that's why we adhere to a policy that restricts placement of our ads to publications that are predominately adult-oriented." ARU6432629-2633 (US 78283) (O) (http://www.rjrt.com /IN/COHowWeThink_smokinghealth.asp#Pageaddress).

4857. Despite all these policies discussed above, RJR magazine advertisements reached millions of young people ages 12 to 17. MRI and CMR data for the years 1993 to 2003 demonstrate that RJR advertised its cigarette brands in magazines with substantial youth readership, meaning that the magazines have on average either over two million teen readers ages 12 to 17 per issue or over 15% of total readership, per issue, ages 12 to 17 years old. Krugman WD, 116:3-122:7. In fact, in 1999, the first year after the enactment of the MSA, RJR increased

its media spending on advertising in such magazines. 524941712-1722 (US 87804) (A).

4858. As an example of the extraordinary number of youth reached by RJR advertising, according to CMR and MRI data, RJR advertised in *Rolling Stone* in 1993, during a year in which more than 20% of the readers of *Rolling Stone* were ages 12 to 17. From 1992 to 2002, RJR consistently advertised in *Rolling Stone*, during which time it had, on average, more than two million readers ages 12 to 17 years old per issue. Krugman WD, 116:3-122:7.

4859. RJR has continued to create advertisements directed at youth, including a1999 campaign, "Viewer Discretion Advised"; a 2001 campaign,"Pleasure to Burn;" and the 2001 campaign, "No Bull." Ittermann PD, United States v. Philip Morris, 5/17/01, 17:2-17:18, 28:8-28:14; 522678810-8810 (US 20008) (O); 520577527-7590 (US 87859) (O); 526196441-6512 (US 87860) (O); 524721458-1462 (US 87861) (O); 524723562-3564 (US 87862) (O).

4860. A document entitled "1999 Camel Media Recommendation Print Categories" recommended that Camel 'Core' magazines should include *Bikini*, *Jane*, and *Gear*, because of their younger reader profiles. 522694030-4038 at 4037 (US 20914) (A); 524726445-6455 (US 88161) (A); 524722990-3002 (US 87858) (A).

4861. The "Camel/Kamel 1999 vs 2000 Comparison" stated that the core "target" were "'cutting edge' trendsetters who are nightlife savvy and exhibit an attitude of 'urban hip and coolness.'" 522668813-8821 at 8816 (US 20910) (O).

4862. As recently as November 1999, internal RJR documents show that it advertised Camel in magazines with substantial 12 to 17 year old readership percentages. These magazines include: *Sports Illustrated* (22%), *Rolling Stone* (28%), *Spin* (34%), *Cosmopolitan* (13%), *Glamour* (20%), *Mademoiselle* (23%), *Car and Driver* (17%), *Hot Rod* (30%), *Motor Trend*

(21%), *Popular Mechanics* (17%), *Cycle World* (37%), *Four Wheel and Off Road* (32%), *Guns and Ammo* (23%), *Motorcyclist* (37%), *Road and Track* (22%), and *Sport* (39%). 520417937-7939 (US 20883) (A); 524723156-3167 (US 87866) (A); 524723279-3280 (US 87867) (A).

4863. As of May 17, 2001, RJR was still advertising in approximately 100 publications, many of which have significant youth readership, as shown by the MRI and Simmons' studies. Ittermann PD, United States v. Philip Morris, 5/17/01, 46:1-48:24.

4864. While RJR publicly states that its advertising it targeted at "adults," the company knows that its advertisements continue to have broad reach. In this case, Diane Burrows testified that if an advertisement is targeted to 18 to 20 year olds, it will likely do well among 21 to 24 year olds. She testified that the reverse is also true because there is only a few years' difference in the individuals' ages. Burrows PD, United States v. Philip Morris, 6/27/01, 31:5-32:9.

(ix) RJR's Direct Mail Marketing

4865. A June 29, 1998 internal RJR document entitled "Draft Response to Inquire Re: Salem Mailing List" indicated that "[a]s part of its test market of a Salem repositioning in New York City . . . RJR has been building a database of smokers of competitor's menthol brands and styles, so that we might mail information to them to convince them to try, and hopefully switch, to Salem." An unusually high number of individuals (1%) requested to be removed from the mailing list, and the document stated that RJR's "procedures in place . . . designed to ensure that only smokers 21+ who wanted to receive cigarette information ever got placed on the database" had not been followed. RJR5002724700034912-4914 at 4912 (US 54425) (O). RJR is aware that a large percentage of names on its direct mail marketing database are underage people claiming to be above 21, yet does not require age verification before mailing consumers.

4866. A January 25, 2002 RJR internal memorandum from Chris Gunzenhauser of Database Marketing to Peggy Carter of the Personal Relations department describes RJR's process of age verification for names on its database and states:

> We historically match about 41% of names we send for age verification. Our matching pattern looks for an exact match on names and address. **Approximately 90% of the underage names report to be between 21 and 24.** While we are requiring a signature and DOB, we are not currently requiring age verification before mailing to consumers. The underage status does not allow any verified underage smokers to be included in a mailfile.

RJR000000000800117870019055l-0551 (US 22140*) (O) (emphasis added).

(8) Defendants' Youth Smoking Prevention Efforts Are Ineffective

4867. Cigarette Company Defendants' "youth programs" and so-called youth smoking prevention efforts fall far short of what they could be. Biglan WD, 381:5-17.

4868. Evidence indicates four strategies that have proven effective in preventing adolescent smoking: a) increase the cost of cigarettes; b) eliminate marketing practices that make smoking appealing; c) implement empirically validated school-based prevention programs; and d) conduct media campaigns directed at youth, using spots that have been shown to influence adolescent smoking. Defendants have not effectively implemented any of these four strategies. Id., 386:7-398:16, 401:12-411:8; Chaloupka WD, 30:15-32:20.

4869. Cigarette Company Defendants could significantly reduce adolescent smoking by withdrawing their opposition to tax increases and stopping all price related marketing (i.e., discounting and value added offers of cigarettes), especially in convenience stores, where their offers are concentrated and where young people are more likely to purchase cigarettes. Chaloupka WD, 124:7-136:20; 250025505-5505 (US 25343) (A); 2041787758-7815 at 7795

(US 38236) (A).

4870. Indeed, when she was head of Philip Morris's Youth Smoking Prevention department, Carolyn Levy testified that she took the position that the company should not oppose taxes on cigarettes because tax increases reduced teenage smoking, due to of the price-sensitivity of teenagers. Further, Levy testified that although she "told Mike Szymanczyk [Philip Morris CEO] that [she] thought that Philip Morris should stop fighting excise tax increases or take a neutral position," she did not know if Philip Morris took "any action as a result of [her] recommendation." Levy WD, 96:1-97:23.

4871. Although Defendants have increased the list price of their cigarettes after the MSA, their enormous promotional expenses consistently decrease the real price of cigarettes to consumers. Moreover, Defendants continue to oppose cigarette taxes that would raise cigarette prices and deny that such increases will affect youth initiation. Chaloupka WD, 124:7-136:20. In fact, the tobacco companies have significantly **increased** expenditures on discounts and value added offers since the MSA. According to the FTC 2001 Report, in the year after the MSA was implemented, spending on retail value added offers (e.g., buy one, get one free) rose 64.6% to $2.56 billion. Chaloupka WD, 82-84.

4872. Cigarette Company Defendants continue to market to young people. According to their representatives' testimony in this case, Cigarette Company Defendants have not even considered the role of advertising in smoking initiation or the smoking behavior of teenagers. For example, in her deposition in this case, B&W's Claudia Newton described a meeting of those responsible for prevention from each company and indicated that "it was the agreed belief among all the task force members that cigarette advertising was not a significant factor in influencing kids to smoke." Newton PD, United States v. Philip Morris, 4/17/02, 147:20-23.

4873. By failing to identify marketing as a factor that influences the decision of young people to smoke and falsely stating to the public that marketing does not play a role in the decision of young people to smoke, the Cigarette Company Defendants imply that there is no need for them to modify their marketing practices, thereby deceiving the public. USX6400001-0527 at 0454-0456 (US 89561) (O) (Philip Morris Response to Interrogatory No. 3).

4874. Philip Morris continues to increase its marketing expenditures in grossly disproportionate amounts to its spending on youth smoking prevention.

PM3000172220-2256 at 2234-2235, 2242 (US 88646) (O) (Confidential). According to Philip Morris's 2004 Original Budget and 2004-2008 Five Year Plan Presentation dated December 2, 2003, Philip Morris's spending on youth smoking prevention advertising and corporate responsibility advertising alignment actually saved Philip Morris an estimated $30 million annually. Not surprisingly, in the "four critical drivers for our success," Philip Morris does not include preventing youth smoking. PM3000613782-3913 at 3788, 3789 (US 88647) (A) (emphasis added).

4875. Although Philip Morris and B&W have each supported the implementation of a school-based youth program, dissemination of an empirically-supported program does not guarantee that it will be effective because the program is often not implemented as carefully or completely as it was in the research study. While Philip Morris is studying the implementation of the school-based program it supports, the Philip Morris study as designed and implemented will not provide interpretable information about the effects of the program. Moreover, RJR has

promoted a school-based program for which there is no evidence and little reason to believe that it will be effective in preventing youth smoking. Lorillard's program, "Making it H.I.P. Not to Smoke" consists of scholarship programs and other cash awards. There is no empirical evidence that contests of this sort contribute to reducing the prevalence of adolescent smoking. Biglan WD, 382:18-396:17.

4876. Philip Morris, RJR, Lorillard, and B&W direct their youth smoking prevention efforts towards early adolescents and ignore older adolescents. The Philip Morris media campaign targeted youth 10 to 14 years old. Levy WD, 71:17-72:4. Lorillard targets 10 to 15 year olds. Watson PD, United States v. Philip Morris, 4/2/02, 160:22-162:11. RJR targets 12 to 15 year olds. 520877431-7484 (US 87873) (A) (www.rightdecisionsrightnow.com/facttex.htm). Several of B&W's activities target children and early adolescents. Biglan WD, 401:18-402:9.

4877. Gilpin, Choi, Berry, and Pierce estimate that each day, more than 1,600 young people ages 15 through 17 begin experimenting with cigarettes, and about 3,158 begin experimenting between the ages 11 and 14. Thus, about a third of experimentation begins during these later years. Id., 402:16-23.

4878. About 1,250 young people per day become established smokers (more than 100 cigarettes lifetime) at ages 15 through 17, while about 725 per day become established smokers at ages 11 through 14. Thus, nearly two thirds of adolescents who smoke become established smokers in the later age range. These numbers are far from insignificant. Id., 403:1-5.

4879. The Cigarette Company Defendants' failure to direct their youth smoking prevention programs and media campaigns to teenagers ages 15 to 17 misses a huge opportunity to prevent adolescent smoking. Id., 403:6-7.

4880. Lorillard and Philip Morris have run national youth smoking prevention media campaigns. Both Lorillard and Philip Morris's media campaigns promote the message that smoking is an adult decision. Emphasizing that smoking is an adult activity underscores the desirability of an adult behavior for adolescents who are particularly motivated to appear mature. Id., 409:20-21; 433:15-22.

4881. Cigarette Company Defendants have not evaluated whether their media campaigns are effective in reducing adolescent smoking and most of their youth smoking prevention advertisements do not promote the social disapproval of youthful smoking, which available evidence indicates is critical to their effectiveness. Id., 403:21-412:8.

4882. In its corporate principles promulgated pursuant to the MSA, Lorillard stated that Lorillard "strongly supports the efforts of the Foundation to be established pursuant to the MSA." Milstein TT, 1/7/05, 9378:13-9382:4. However, Lorillard sued the American Legacy Foundation in Wake County, North Carolina Superior Court on February 19, 2002, alleging that it has engaged in vilification and personal attack, and making misrepresentations to the public and the media. Milstein TT, 1/7/05 9368:16-9370:10.

4883. Lorillard's Watson admitted at his deposition in the American Legacy Foundation case that he was aware that Legacy ran advertisements to prevent youth from smoking and admitted that "there has been a continuous and steady decline in youth smoking rates . . . beginning back about 1996." However, when asked whether the decline in youth smoking rates could be attributed to Legacy's advertisements, Watson stated "I don't know." Watson PD, American Legacy Foundation v. Lorillard, 12/8/04, 59:3-6; 61:10-62:16, 66:8-21.

4884. On October 26, 1998, Fox Broadcasting Company reviewed Philip Morris's first round of YSP ads and concluded that they did not send a strong enough anti-smoking message to

children. Szymanczyk TT, 4/07/05, 18256:9-18258:20, 18262:3-19; 2069512311-2311 (JD-053821) (A).

4885. California Attorney General Lockyer wrote a letter to Denise Keane, Philip Morris Senior Vice President and General Counsel, on April 13, 2001, requesting immediate discontinuation of the "Think, Don't Smoke" campaign on the basis of research and on the grounds that this message was ineffective and diluted the effective anti-smoking messages of the states and the American Legacy Foundation. Philip Morris continued to air the "Think, Don't Smoke" advertisements for nine months after receiving this letter. Szymanczyk TT, 4/07/05, 18264:3-18272:17

4886. Lorillard utilized the slogan "Tobacco Is Whacko–If You're a Teen" in its youth smoking prevention media campaign. According to a February 2000 Lorillard report on the results of focus groups that were done with 10-15 year olds to get their reactions to Lorillard's youth smoking prevention advertisements:

> • Respondents remembered the tag line, but had negative responses to it.
>
> • They complained that it was very young (younger than they are) and 'cheesy.'
>
> • They particularly disliked the if you're a teen part of 'Tobacco is Whacko–If You're a Teen.' They complained that this singled them out and that they believe it should apply to all ages.

94691840-1858 (US 87874) (A); Biglan WD, 409:5-18.

4887. Despite these results, Lorillard continued to use this slogan. In addition, Victor Lindsley, Lorillard's group brand director who was involved in developing Lorillard's youth smoking prevention media campaign, by email dated April 4, 2000, indicated to Milstein that he was "very uncomfortable" about the tag line. In response, Milstein stated that Orlowsky,

Lorillard's president's "only comment to me [Milstein] was that he [Orlowsky] did not want to hear again about the tag line ever, and that I [Milstein] should not be influenced by the creative complainers." Lorillard did not remove this line until 2001. Lorillard's youth smoking prevention campaign was silent about the health risk of cigarettes or their addictive qualities. Milstein TT, 1/10/05, 9399:25-9410:6; 97011359-1359 (US 89287) (A); 99282955-2955 (US 89288) (A).

4888. Rather than using techniques to reduce youth smoking that might be effective, Defendants have chosen to direct most of their efforts and spending towards campaigns to reduce adolescent access to tobacco and to media campaigns aimed at parents. All of the companies support the We Card Program to reduce illegal sales of tobacco to young people at the retail level, but there is no evidence that such an education campaign can bring about reductions in illegal sales that might affect adolescent smoking prevalence, and recent evidence calls into question whether reducing sales will reduce adolescent smoking prevalence. In any case, no evidence could be found that the companies are evaluating the effectiveness of the program in reducing the sale of cigarettes at the retail level, or reducing the overall adolescent smoking prevalence rate. Biglan WD, 439:11-443:26.

4889. One of Lorillard's Corporate Principles provides that "Lorillard strongly supports the enforcement of laws which requires retailers to check the age of potential purchasers of cigarettes." Milstein TT, 1/7/05, 9382:5-10. Yet, Lorillard's expenditures for the We Card program decreased significantly in 1999 and 2000 over its pre-MSA funding levels. The expenditures went from 9.5 million in 1996 to just 6.1 million in 1997 and then 5.05 million in 1998. In 1999, the total program spending went down to 4.2 million. This is so despite warnings from Reed deButts that this funding budget would limit distribution of We Card materials and training sessions significantly. Id., 9327:6-9331:14; 2085092888-2894 (US 89180) (A).

4890. Research published in the *American Journal of Public Health* in November 2000 concluded that illegal sales at stores that displayed tobacco industry signs were no lower than at stores with no signs. Milstein TT, 1/7/05, 9322:4-9326:18; DXA0130196-0197 (US 77457) (O).

4891. According to the Philip Morris commissioned 2003 TABS (Teenage Attitude and Behavior Survey), almost 70% of adolescents 11 to 17 year old smokers who had bought cigarettes in the previous month purchased their cigarettes directly from the retail clerk where the clerk handed them the pack of cigarettes. Specifically, 43.8% of these 11 to 14 year-olds, and 72.9% of these 15 to 17 year-old smokers purchased their cigarettes from a retail clerk who handed them cigarettes. Howard Willard admitted that such figures are "very unacceptably high." Willard TT, 4/12/05, 18694:9-18697:7; UCX0280450-0807 (US 93349) (A).

4892. The Cigarette Company Defendants have directed a variety of communications concerning youth smoking prevention to parents, including television advertisements, brochures, and workshops. There is currently no evidence that these efforts will result in reduced rates of adolescent smoking and no evidence could be found that the Cigarette Company Defendants are evaluating the effectiveness of their youth smoking prevention efforts directed to parents. Biglan WD,412:9-436:3.

4893. Philip Morris has distributed youth smoking prevention brochures to approximately one million parents who were on the Philip Morris mailing list. Levy WD, 74:4-6; 87:10-89:20. The RJR website describes, and includes the text of, three youth smoking prevention brochures intended for parents. 520877431-7484 (US 87873) (A) (www.rightdecisionsrightnow.com/facttex.htm); Biglan WD, 433:1-434:6. Lorillard has placed youth smoking prevention print advertisements directed at parents in a number of magazines. The advertisements emphasize that by the teenage years, young people are alienated from their

parents and encourage parents to talk to their children. Id., 424:14-425:23. In fact, Lorillard's current YSP program is aimed exclusively at parents and not youth. Milstein TT, 1/10/05, 9435:16-21. Although premised on the idea that parents have influence on kids' behavior, Lorillard does not advise parents to quit smoking. Id., 9490:6-9491:5.

4894. No evidence currently exists to suggest that such efforts to mobilize parents actually affect adolescent smoking prevalence. For example, one study randomly assigned parents to receive or not receive a set of four messages designed to encourage parents to set rules about tobacco use. There was no evidence that the messages deterred smoking. Moreover, research has found that flooding a community with pamphlets urging parents to talk to their children about not using tobacco had no discernible effect. Thus, advertisements directed at parents are unlikely to prompt them to talk to their children about not smoking and should not be assumed to be effective in preventing smoking. Biglan WD, 412:9-413:19.

4895. Youth smoking prevention campaigns targeting parents should be routinely evaluated in terms of: (a) their efficacy in getting parents to talk to their children about not using tobacco or otherwise set limits around smoking; and (b) their actual impact on youth smoking. Defendants have not done so. Id., 434:19-435:5

4896. Defendants have not placed individuals with any experience or background in smoking prevention, prevention generally, or even youth issues, in charge of their various youth smoking prevention activities. For example, Carolyn Levy, former Director of Youth Smoking Prevention at Philip Morris, testified that she had no experience or background in prevention or youth smoking or youth issues and was unaware of even the basic prevention journals relied upon by prevention experts. Levy testified that when she left her employment with Philip Morris, her successor and the current Senior Vice President for Youth Smoking Prevention,

Howard Willard, also did not "have a background in youth smoking prevention," but had served previously as Senior Vice President of Quality and Compliance for Philip Morris. Levy WD, 55:16-19; 57:14-59:24; 63:13-64:19.

4897. Neither Claudia Newton, B&W Tobacco Corporation's Vice President, Corporate Responsibility and Youth Smoking Prevention, nor Theresa Burch, the head of B&W Tobacco Corporation's youth smoking prevention programs, had any background in youth smoking prevention. Newton PD, United States v. Philip Morris, 4/17/02, 70:23-71:2, 78:10-81:12, 192:24-193:9.

4898. Brennan Dawson had been B&W's Vice President for External Affairs and MSA Section III(1) designee, taking over from Newton. Dawson admitted in her modified written direct testimony that she does not have a college degree and has no formal educational background in science or medicine. Dawson WD, 4:10-20.

4899. Steven Watson, Vice President of External Affairs for Lorillard, testified in his deposition that prior to joining Lorillard in that position with responsibility for the oversight of Lorillard's Youth Smoking Prevention Program, he had never done any research on risk perception or any work that required him to develop programs for youth. Watson also testified that no one at Lorillard asked him if he had such experience when he was interviewing for the position at Lorillard. Watson PD, United States v. Philip Morris, 4/2/02, 24:18-26:1. Watson also testified that not only did he not apply for the position of Vice President of External Affairs, but he did not know anyone at Lorillard before Lorillard contacted him regarding the position. Id., 21:6-19. Lorillard's Ronald Milstein also lacked expertise in youth smoking prevention. Milstein TT, 1/7/05, 9349:2- 99351:22.

4900. Cigarette Company Defendants' youth smoking prevention efforts should be

evaluated in the context of their long history of extensive public relations efforts to convince the public that they do not market to young people. As internal documents show, Cigarette Company Defendants' supposed youth smoking prevention efforts and public statements that they do not market to youth enable them to give the appearance of being concerned about young people, improve their public images, and prevent the imposition of restrictions on their marketing practices. Biglan WD, 381:5-382:17; MNAT00280070-0070 (US 21724) (O).

4901. Defendants have long treated youth smoking as a public relations issue and have publicly disseminated materials boasting of their policies not to market to youth and their supposed concerns about youth smoking. Id.

4902. Brennan Dawson admitted in her modified written direct testimony that Defendants' supposed youth smoking prevention programs had the strategy of preventing restrictions on cigarette advertising; she testified that "part of the context was to prevent some of the legislative proposals we were seeing." Dawson WD, 91:11-13.

4903. A 1991 discussion paper from the Tobacco Institute explained why a "youth program" is important to the industry and described precisely the things that the tobacco company Defendants have been doing. According to this paper, a youth program will: "support the Institute's objective of discouraging unfair and counterproductive federal, state, and local restrictions on cigarette advertising, by: (1) providing on-going and persuasive evidence that the industry is actively discouraging youth smoking and independent verification that the industry's efforts are valid. (2) Reinforcing the belief that peer pressure–not advertising–is the cause of youth smoking [and] (3) Seizing the political center and forcing the anti-smokers to an extreme." TIMN0164421-4424 at 4423 (US 34445*) (A).

4904. The Tobacco Institute's 1991 discussion paper further stated that the strategy will

involve heavily promoting industry opposition to youth smoking and aligning the industry with a "broader, more sophisticated view of the problem, i.e., parental inability to offset peer pressure." The strategy also involved working "with and through credible child welfare professionals and educators . . ." The paper also recommended that the industry "bait anti-tobacco forces to criticize industry efforts" and "establish the sense of a growing, well-accepted program by encouraging a proliferation of small, local projects; and appropriate co-ventures with other TI allies." TIMN0164421-4424 at 4422 (US 34445*) (A).

4905. A 1995 Philip Morris document stated: "If we can frame proactive legislation or other kinds of action on the Youth Access issue. . . we will be protecting our industry on into the future." Additionally, the document stated: "if we don't do something fast to project that sense of industry responsibility regarding the youth access issue, we are going to be looking at severe marketing restrictions in a very short time. Those restrictions will pave the way for equally severe legislation or regulation on where adults are allowed to smoke." 2044046017-6022 at 6021-6022 (US 66716) (O).

4906. Defendants have done exactly what the 1991 Tobacco Institute document recommended. They are using youth prevention activities to give the appearance of concern about youth smoking in order to prevent further restrictions on their marketing activities. The strategy was not new in 1991. It could be seen in their creation of the advertising code in 1964 and it was clearly articulated in a Tobacco Institute strategy document created around 1981. Biglan WD, 381:5-382:17.

4907. The tobacco company youth smoking prevention activities since 1998 benefit the Cigarette Company Defendants in ways that have nothing to do with preventing youth smoking. Id.

4908. Cigarette Company Defendants' supposed youth smoking prevention efforts also serve to reposition the public perception of smoking as something less dangerous than it actually is. For example, despite the fact that most smokers want to quit, RJR advises parents who smoke that, "[i]f you are like most smokers, you smoke because you enjoy it." The B&W website advises, "[t]ell your children that laws exist to enforce smoking as a choice made by informed adults." Defendants never recommend that parents inform their children that smoking kills more than 400,000 people each year, involves an addiction that most smokers desire to end, and will harm those around the smoker. VXA1240104-0567 (US 64316) (A).

(9) Conclusion

4909. The actions of Defendants substantially contributed to widespread initiation of smoking behavior among children and adolescents and to the persistence of cigarette smoking among adolescents and adults in the United States. Defendants intend that their actions have this effect.

F. Suppression and Concealment of Information; Destruction of Documents

(1) Introduction

4910. From at least 1954 to the present, Defendants engaged in parallel efforts to destroy and conceal documents and information in furtherance of the Enterprise's goals of (1) preventing the public from learning the truth about smoking's adverse impact on health; (2) preventing the public from learning the truth about the addictiveness of nicotine; (3) avoiding or, at a minimum, limiting liability for smoking and health related claims in litigation; and (4) avoiding statutory and regulatory limitations on the cigarette industry, including limitations on advertising. These activities occurred despite the promises of the Cigarette Company Defendants that (a) they did not conceal, suppress or destroy evidence, and that (b) they shared with the American people all pertinent information regarding the true health effects of smoking, including research findings related to smoking and health.

(a) Promises To Share Smoking and Health Information With the American People

4911. As detailed in US FF § III.A(1), supra, for decades Defendants maintained that there was an "open question" as to whether smoking cigarettes caused disease and other adverse effects. Because of this alleged "open question," Defendants pledged an obligation to fund independent research on the issues of smoking and health and to share the results of that research with the public.

4912. As recently as 1996, Martin Broughton, Chief Executive of BAT Industries, the then ultimate parent company of BATCo and B&W, made a statement to the *Wall Street Journal* denying that BAT Industries and its subsidiaries had concealed research linking smoking and disease. Broughton stated: "We haven't concealed, we do not conceal and we will never conceal. We have no internal research which proves that smoking causes lung cancer or other diseases or,

indeed, that smoking is addictive." 321224327 (US 88680) (O); see also 322269293-9297 (US 88331*) (O) (JD-012603) (O); 321677122-7133 at 7124 (US 88332) (O); 700351757-1758 (US 88681) (O); 800113810-3812 (US 85343) (O).

(b) Ongoing Litigation

4913. Defendants' destruction of documents, and suppression and concealment of information, was driven, in part, by their objective to avoid disclosure of information in ongoing litigation and thereby avoid liability for smoking and health related claims.

4914. Litigation involving the Cigarette Company Defendants began in March 1954 when the smoking and health lawsuit, Lowe v. R.J. Reynolds, Docket No. 9673 (E.D. Mo. Mar. 10, 1954) was filed.

4915. In 1964, the first smoking and health lawsuit involving CTR and the Tobacco Institute as co-defendants, Fine v. Philip Morris, (M.D. Pa. Feb. 3, 1964), was filed.

4916. Since 1954, smoking and health litigation has been pending continuously against one or more of the Defendants. Such litigation has raised recurring factual and legal issues common to Defendants, including allegations of injury from smoking and the use of false statements in cigarette advertising, among others. 82406903-7158, 6905, 7098-7158 (US 86990) (A).

4917. In his testimony at trial, J. Kendrick Wells, B&W Assistant General Counsel for Product Litigation, confirmed that "[s]ince 1954 the tobacco companies have been in continual litigation; not just imminent, but actual pending product cases." Wells WD, 5:5-8.

(c) Statutory and Regulatory Oversight

4918. Defendants' destruction of documents, and suppression and concealment of information was also driven, in part, by their objective to avoid statutory and regulatory

limitations on the cigarette industry.

4919. In the 1950s, regulatory oversight (apart from continuing antitrust scrutiny) affecting the cigarette industry as a whole began to accelerate and have continued to the present on federal, state, local and international levels. This oversight has involved a wide variety of federal regulatory agencies including the Federal Trade Commission ("FTC"), the Federal Communications Commission ("FCC"), the Food and Drug Administration ("FDA"), the Civil Aeronautics Board ("CAB"), and the Environmental Protection Agency ("EPA"), among others. The oversight has covered a wide range of issues, including cigarette advertising; placement and use of health warning notices on cigarette packages and in cigarette advertising; placement and use of tar and nicotine yields on cigarette packages and in cigarette advertising; testing of cigarettes for tar, nicotine and carbon monoxide yields; reporting of ingredients used in cigarette manufacturing; restriction and prohibition of smoking aboard commercial aircraft, interstate buses and interstate trains; and smoking in public places, among others.

4920. Legislative activities on the federal level affecting Defendants began in at least 1957 with the "Blatnik hearings," which addressed the disclosure of tar and nicotine yields in advertising and raised issues of common interest to Defendants. Representatives of Defendants have attended and testified at hearings regarding a wide variety of proposed and existing legislation. (JD-011816) (A).

(2) Destruction, Suppression, and Concealment of Information

4921. Defendants RJR, Philip Morris, BATCo, B&W, Liggett, Lorillard, and CTR worked both collectively and individually to destroy, suppress, and conceal information to further the goals of the Enterprise of limiting liability in lawsuits, avoiding statutory and regulatory limitations, and suppressing evidence of the truth about the adverse health effects of smoking and

its addictiveness. Indeed, that conduct continues today. In this very lawsuit, BATCo, Liggett, Philip Morris, and Altria have all violated this Court's Orders in efforts to avoid discovery of sensitive information. Altria and Philip Morris have been found in contempt for spoliation of evidence. BATCo has twice been found in contempt, once for failure to produce documents and once for twice producing unprepared 30(b)(6) witnessed on the issue of document management and document destruction. Liggett was sanctioned for its deficient privilege logs. See US FF § V.A(4).

(a) Defendants' Collective Efforts to Destroy, Suppress, and Conceal Information

4922. On July 3, 1963, Addison Yeaman, B&W in-house counsel, sent a wire cable to A.D. McCormick, a lawyer for BATCo, regarding B&W's attempt to keep the results of legitimate research projects, Project Hippo and the Griffith Filter, from the Surgeon General despite Yeaman's knowledge that the Surgeon General was preparing the first comprehensive report on smoking and health. Yeaman informed McCormick that "Hoyt of TIRC agreed to withhold disclosure Battelle report to TIRC or SAB until further notice from me. Finch agrees submission Battelle or Griffith developments to Surgeon General undesirable and we agree continuance of Battelle work useful but disturbed at its implications re cardiovascular disorders. . . . We believe combination Battelle work and Griffith's developments have implication which increase desirability reevaluation TIRC and reassessment fundamental policy re health." 689033422-3422 (US 22734) (A); Brookes PD, United States v. Philip Morris, 05/02/02, 171:25-173:4.

4923. On May 23, 1964 Abe Kresh, a tobacco industry lawyer at what was then Arnold, Fortas & Porter, sent a letter to the members of the Committee of Counsel following up on the Committee's previous discussion regarding a possible survey to determine the level of public

awareness of the health issue related to smoking. In an attached memorandum prepared by Kresh's colleague, the law firm discussed the Committee's concern regarding adverse use of the results if the survey was not favorable:

> The question has been raised of possible use of a survey. Specifically, Mr. Austern [attorney with Covington & Burling] has suggested that should the results of the survey prove unfavorable, they may be subpoenaed or otherwise fall into the hands of the FTC, a Congressional Committee, or a plaintiff in pending cancer litigation. There is no question that some risk exists. We have been assured by both Elrich & Lavidge [the proposed survey firm] and by Professor Steiner [a University of Chicago marketing professor who was to lead the survey] that they would transmit to us every interview and every copy of the analysis. Thus, when it is completed, there will be nothing in the records of Elrich & Lavidge or Professor Steiner to subpoena. The danger of a successful subpoena would be reduced (though not entirely eliminated) if the survey were in an attorney's files. In any event, if the returns were unfavorable they could be destroyed and there would be no record in any office of the nature of the returns. The possibility of compelling oral testimony from Steiner, of course, always exists.

The lawyers at Arnold, Fortas & Porter also assured the Committee of Counsel members that "[t]he questionnaire [for the survey] has been revised to eliminate questions that might upset an otherwise favorable return." LG 2006318-6330 at 6323 (US 21203) (O).

4924. Notes of a November 5, 1975 CTR "group meeting" of a subcommittee of the Research Liaison Committee detail that Ed Jacobs of Jacobs & Medinger stated that "no further formal minutes be made - also all should remove notes and previous minutes from corporate files." 1003294811-4811 (US 20171) (O).

4925. In a February 9, 1978 letter to the Committee of Counsel, William W. Shinn of Shook, Hardy & Bacon wrote that he enclosed with the letter a memo and report regarding the funding of projects through Special Account No. 4, and that "[t]here is probably no need for you to retain those notes once you have satisfied yourself of the current situation." 503655086-5088

at 5086 (US 20720) (A).

4926. During a December 13, 1978 meeting at Chadbourne & Parke's offices in New York City of the Research Liaison Committee, the committee members discussed industry organization and the relationship of the industry to the CTR. In discussing the industry needs, it was determined to "send a few written ideas through lawyers to committee." "No titles/simply a piece of paper. Colorless & non attributable." 1000041870-1876 (US 35102) (O).

4927. The Defendants did indeed collectively work to suppress or otherwise conceal harmful documents and information from disclosure. In 1981, Robert Northrip, a Shook, Hardy & Bacon attorney who at various times represented Philip Morris and B&W, explained at a Committee of Counsel meeting that lawyers' special project funding was used to allow adverse research findings to be hidden from the public. In a 1981 memorandum Kendrick Wells, Assistant General Counsel for Defendant B&W, quotes Northrip as having said: "[i]f company testing began to show adverse results pertaining to a particular additive, the company control would enable the company to terminate the research, remove the additive, and destroy the data." 521038287-8291 at 8289 (US 30481) (A); 682764441-4461 at 4458 (US 21030) (A).

4928. On December 8, 1982, representatives from BAT, Philip Morris, and RJR attended a meeting of the VdC Scientific Commission in Hamburg, Germany. Among the issues discussed was research related to passive smoking. It was stated that "it is sometimes important to do projects 'under the table,' otherwise an uncontrollable situation like in the U.S. could occur." 503246354-6358 at 6357 (US 86993) (O).

4929. On November 22, 1988, the National Public Relations Subcommittee met to discuss "proactive" public relations projects that could be implemented. One project discussed was publicly refuting the claim that tobacco litigation was similar to asbestos litigation. A reason

given to explain the difference between tobacco and asbestos litigation was "there are no smoking guns in the [tobacco] documents." Allen Purvis, an attorney from Shook, Hardy & Bacon in attendance at this meeting, cautioned the group "about emphasizing the absence of a 'smoking gun' in the documents since the second wave of litigation may require the production of additional documents that might not be helpful." Purvis noted that "this topic was not pushed as one of the primary projects." 92347613-7621 at 7616 (US 88334) (A).

4930. A November 21, 1991 e-mail regarding the International Committee of Counsel demonstrates that the Cigarette Company Defendants sought to agree on a common position regarding the primary issue of whether smoking causes disease. The email inquires as to whether the companies would agree to take the position taken by BAT and Rothmans -- that there is a "statistical association" between smoking and disease, but that causation had not been established. The email also raises the concern that the companies are memorializing too much information, advocating "**the need for prudent document creation and retention procedures among all the companies.**" The email noted that "**people in the U.K. companies put too much on paper and then copy too many people.**" 2023237575-7575 (US 23048) (A) (emphasis added); Bible PD, United States v. Philip Morris, 8/22/02, 256:17-257:3, 260:17-268:4.

4931. Following a meeting with TI's counsel, Bill Adams, TI's controller, drafted a May 22, 1995 memorandum to the file noting that with respect to purging emails, "If you keep old Email files they are subject to discovery and therefore can get you into trouble." TI13801721-1721 (US 87020) (O).

4932. Shook, Hardy & Bacon attorney Donald Hoel testified that correspondence with "an institute or an individual" regarding special projects was not turned over to CTR, but was instead kept at the law firm. Hoel further testified that he believed that such correspondence was

never provided to CTR nor produced in any litigation. Donald Hoel PD, United States v. Philip Morris, 06/27/02, 81:10-82:9.

(b) R.J. Reynolds

(i) Document Destruction

4933. Defendant RJR destroyed documents, including scientific research documents, to prevent the disclosure of documents that it believed would likely be sought in litigation and in federal regulatory proceedings and would provide information to the public on the adverse impact of smoking on health.

4934. In 1969, RJR's research department confirmed to the legal department that it would destroy documents to protect the company's position in smoking and health litigation. The research department indicated that it did "not foresee any difficulty in the event a decision is reached to remove certain reports from Research files. Once it becomes clear that such action is necessary for the successful defense of our present and future suits, we will promptly remove all such reports from our files . . . ." 500284499-4499 (US 21677) (O).

4935. This RJR document also describes an alternative effort to "invalidate" harmful records. The document, entitled "Invalidation of Some Reports in the Research Department" states:

> As to reports which you are recommending be invalidated, we can cite misinterpreting of data as reason for invalidation. A further reason is that many of these are needless repetitions and are being removed to alleviate overcrowding of our files.
>
> As an alternative to invalidation, we can have the authors rewrite those sections of the reports which appear objectionable.

500284499-4499 (US 21677) (O).

4936. An August 14, 1979 memorandum notes that "RJR material which should be

shredded per A. Rodgman. 8/14/79: Quarterly Reports Performance Plans Drafts of RDR, RDM, CIM." 503558840-8840 (US 88336) (O).

4937. In 1991, at the same time or shortly before the FTC initiated proceedings against RJR's Joe Camel advertising campaign, RJR persuaded employees of the advertising agency of Young & Rubicam to destroy documents concerning the Joe Camel advertising campaign with the intent to prevent the documents from being available for use in the FTC's proceedings. This plan was confirmed in a November 1, 1991 facsimile cover sheet and letter sent from Young & Rubicam to RJR stating "[a]s we discussed . . . [t]his is what I'm going to destroy. . . . Also, under our current scrutiny, a wise move to rid ourselves of developmental work!!" The letter set forth a list of documents related to the Joe Camel campaign that were destroyed. 507647971-7975 at 7971 (US 51232*) (O).

(ii) Information Suppression and Concealment

4938. RJR suppressed scientific research pertaining to smoking and health and distribution of documents related to such research. Indeed, there was a "general, informal policy" at RJR against the "publication of anything that bears on the smoking and health issue." 515873805-3929 at 3907 (US 21922*) (O).

4939. A 1986 Reynolds draft training manual for marketing assistants stated that "Documents should be written as if, because the prospect is likely in many instances, they will be subpoenaed and reviewed by an opposing attorney." In his testimony in this case, Andrew Schindler, Executive Chairman of Reynolds American, agreed that this language meant that those in the marketing department should take care in drafting documents because they could fall into the hands of opposing attorneys. Schindler TT, 01/25/05, 10904:6-25; 515787126-7129 (US 20868) (A).

(c) Philip Morris

(i) Suppression and Concealment of Smoking and Health Research

4940. Defendant Philip Morris concealed documents, including scientific research documents, by secreting the documents at a foreign affiliate in order to prevent the disclosure of documents that it believed would likely be sought in litigation and in federal regulatory proceedings and would provide information to the public on the adverse impact of smoking on health.

4941. In 1970, Helmut Wakeham, Philip Morris's Vice President for Research & Development, recommended that Philip Morris purchase INBIFO, a research facility in Cologne Germany, arguing that Germany "is a locale where we might do some of the things which we are reluctant to do in this country." 2022244451-4453 at 4451 (US 20361) (O).

4942. Philip Morris did in fact purchase INBIFO to conduct its smoking and health research. A 1970 memorandum from Joseph Cullman, President of Philip Morris, discusses the benefits of conducting research overseas: "The possibility of getting answers to certain problems on a contractual basis in Europe appeals to me and I feel presents an opportunity that is relatively lacking in risk and unattractive repercussions in this country." 1000216742-6742 (US 20081) (A).

4943. One perceived value of INBIFO was that Philip Morris could control the results: "Experiments can be terminated at will as required without delay." 1003123055-3094 at 3058 (US 20154) (O).

4944. After acquiring INBIFO, Philip Morris tried to avoid any direct contact with the research results that emanated from this research facility. To prevent documents housed at INBIFO from being produced in litigation in the United States, Philip Morris attempted to

eliminate written contact between INBIFO and Philip Morris in the United States. Handwritten notes of Thomas Osdene, a senior Philip Morris research official who acted as a primary conduit for information from INBIFO, laid out the method for handling documents related to health and smoking, going as far as to direct that sensitive information be sent to his home where he would review and destroy it. His notes state as follows:

> (1) Ship all documents to Cologne . . .
> (2) Keep in Cologne.
> (3) OK to phone & telex (these will be destroyed).
> (4) Please make available file cabinet. Jim will put into shape by end of August or beginning of Sept.
> (5) We will monitor in person every 2-3 months.
> (6) If important letters have to be sent please send to home – I will act on them and destroy.

1000130803-0803 (US 34424) (A).

4945. William Farone, former Director of Applied Research at Philip Morris, testified at trial concerning Osdene's handwritten notes quoted immediately above. He confirmed that Philip Morris attempted to keep its relationship with INBIFO a secret; that Philip Morris imposed restrictions on the transfer of information between Philip Morris and INBIFO; and that Osdene received particularly sensitive documents (i.e., those that related to smoking and health and were unfavorable to the company) from INBIFO at his home and kept those documents in his home safe. At trial, Farone further confirmed that Osdene's handwritten notes concerning the treatment of unfavorable and sensitive documents and information comported with company policy. Farone further testified that Philip Morris restricted access to smoking and health research even within the company itself, allowing only very limited access to unfavorable research results. This policy was based upon Philip Morris's recognition that the unfavorable data itself was an admission of liability. The restrictions on access to the research results and data were imposed on advice of Philip Morris counsel. Farone WD, 21:16-22:9, 147:11-152:15;

Farone TT, 10/07/04, 1938:2-1939:16; see also 2023223372-3383 at 3376-3378 (US 22337) (A); 2023222878-2879 (US 20382) (A).

4946. In 1977, in a letter to Max Hausermann, a Philip Morris Research & Development Vice President in Switzerland, Robert Seligman, a Philip Morris Vice President of Research & Development in the United States, confirmed Philip Morris's company policy of prohibiting direct contact between INBIFO, Philip Morris's research center in Cologne, Germany, and Philip Morris in the United States. Seligman wrote:

> We have gone to great pains to eliminate any written contact with INBIFO and I would like to maintain that structure.
> . . .
> Therefore, I am advising Jerry Osmalov to continue sending samples to Neuchatel for transshipment to INBIFO. If this procedure is unacceptable to you, perhaps we should consider a "dummy" mailing address in Koln for the receipt of samples. The written analytical data will still have to be routed through FTR if we are to avoid direct contact with INBIFO and Philip Morris U.S.A.

2000512794-2795 (US 20295) (A).

4947. In the 1977, letter from Robert Seligman to Max Hausermann, Seligman discusses a letter that had breached the Philip Morris policy. Seligman suggested to Hausermann that he "retrieve [and presumably destroy] the March 24 letter Helmut Gaisch sent to Jerry, including all copies. My copy is returned herewith." 2000512794-2795 (US 20295) (A).

4948. At trial, William Farone, former Director of Applied Research at Philip Morris, testified that the 1977 Seligman letter "support[ed] my opinion about Philip Morris not wanting to have results of animal research in its domestic facilities – particularly research conducted at a Philip Morris-owned lab – lest that information get out and undercut Philip Morris' public position that cigarettes were not a health threat." Farone WD, 149:10-152:15.

4949. In a December 12, 1978 memorandum from J. M. Hartogh to A. E. Bellot

regarding Philip Morris's involvement in ICOSI, Hartogh stated that, with respect to the "very important" Social Acceptability Working Party, "the show is being run by Reynolds/Jacobs who, in my opinion, tend to steer a very dangerous course (see verbal explanation Social Acceptability 11 country study which has to be locked-up. Unusable, we have to hide). [sic]" 2501018326-8327 (US 21505) (O).

4950. In a February 12, 1981 memorandum from Robert B. Seligman, Philip Morris's Vice President of Research and Development, to Philip Morris's President, another Vice President, the Assistant General Counsel, and several high-level Philip Morris scientists, Seligman concludes that as a result of recent Surgeon Generals' reports, the tobacco industry needs to begin supporting and publishing studies that would "reverse the ground swell of public opinion which has emerged as a result of antismoking activity." Seligman suggests that it would be best to conduct the studies overseas away from the fray of American litigation:

> It is our opinion that Philip Morris (or the tobacco industry) take a more aggressive posture to counterattack the antismoking movement. We're suggesting funding studies (primarily outside the United States) with the intent to publish data which refutes specific assertions by the antismoking forces.

1000119926-9933 at 9926 (US 87226) (A).

4951. Victor DeNoble, former Associate Senior Scientist at Philip Morris, testified at trial concerning the great lengths to which Philip Morris went to prevent disclosure of unfavorable research results that it feared might jeopardize its positions that cigarette smoking was not injurious to health and that nicotine was not addictive. When research done by DeNoble and his fellow researcher, Paul Mele, performed research on rats that confirmed that nicotine was addictive, initially they received Philip Morris' approval to publish those research results. However, following DeNoble's presentation to Philip Morris senior management in New York

City concerning those results, the approval to publish abruptly was withdrawn. DeNoble testified that it was clear from a comment made to him at the presentation that Philip Morris senior management would not allow the research results to be disclosed. Ross Millhiser, a Philip Morris executive stated: "Why should I risk a billion-dollar industry on rats pressing a lever to get nicotine?". DeNoble WD, 13:20-15:7, 22:6-25:12; Mele WD, 14:2-14:14, 20:3-22:12.

4952. Other witnesses, both from within and outside of Philip Morris, confirmed at trial that Philip Morris prevented publication of DeNoble's and Mele's research results which were unfavorable to Philip Morris.

4953. William Farone, former Director of Applied Research at Philip Morris, testified that, in connection with Philip Morris' policy of suppressing research results that showed that its products were harmful, the company prevented publication of DeNoble's research that showed that nicotine was addictive and that it could be made even more addictive. Farone TT, 10/7/04, 1947:19-1950:20; Farone WD, 156:3-15.

4954. Peter Rowell, an expert witness testifying for the defendant tobacco companies, admitted that DeNoble and Mele were not allowed to publish their work concerning nicotine addiction. Rowell TT, 3/23/05, 16645:15-16646:1, 16654:12-16655:15.

4955. DeNoble and Mele initially submitted their research results for publication to Jack Henningfield, who believed the results were significant and should have been disclosed publicly. Henningfield confirmed that Philip Morris forced DeNoble and Mele to withdraw their paper from publication. Henningfield WD, 161:23-165:15.

4956. David Kessler, former Commissioner of the Food and Drug Administration, testified that, during the course of a two year investigation of the tobacco industry, the FDA learned that "on repeated occasions, Philip Morris company officials prevented DeNoble and

Mele from publishing their work," which demonstrated that rats self-administer nicotine when given the opportunity. "Demonstration of self-administration is one of the hallmark properties of addictive substances." Kessler WD, 40:8-23. This information was provided to the FDA directly by DeNoble and Mele, and the FDA was able to confirm the information. As Kessler testified:

> We [the FDA] were able to obtain information about the manuscripts that Drs. DeNoble and Mele submitted to the Journal of Psychopharmacology, from the Journal's editor, Dr. Herbet Barry. That information documents that it was Philip Morris that was having them withdraw the manuscripts before they were published. We subsequently obtained the manuscripts themselves.

Kessler WD, 41:9-41:15.

4957. On the other hand, when the research conducted by DeNoble and Mele yielded what Philip Morris considered to be favorable results, Philip Morris wanted those research results to be published. Mele WD, 15:6-15:16; DeNoble TT, 01/06/05, 9074:11-9075:24, 9076:10-9076:24.

4958. When Philip Morris became concerned that the research being conducted by DeNoble and Mele was yielding results that, if disclosed outside of Philip Morris, would hamper the company's efforts to defend itself against cigarette smoking and health claims, Philip Morris officials discussed moving DeNoble's research laboratory either to Switzerland or outside of Philip Morris property in Richmond. In the event that the second option was chosen, Philip Morris would "fire" the researchers, including DeNoble and Mele, and set up their group in an "independent" lab in Richmond. DeNoble WD, 35:23-36:20; Mele WD, 22:13-22:23.

4959. Ultimately, in 1983 Philip Morris did abruptly (and without any warning to DeNoble or Mele) shut down DeNoble's laboratory, ordering the researchers to terminate their research immediately and to kill the remaining rats that were the subjects of the ongoing

research. DeNoble was informed that the lab was closed because of the threat their work posed in litigation against Philip Morris. DeNoble WD, 25:2-25:12, 38:1-39:11. William Farone, former Director of Applied Research, testified that Fred Newman, Philip Morris' Assistant General Counsel, told him that the DeNoble laboratory was shut down because Philip Morris wanted to bury "any research that showed smoke caused disease or nicotine was addictive." Farone TT, 10/12/04, 2091:23-2092:14; Farone WD, 156:3-15.

4960. After DeNoble and Mele left Philip Morris in 1984, they continued to believe that it was important to make the public aware of certain of the research results that they had wanted to publish at Philip Morris but had been prohibited from publishing. Therefore, they renewed their attempts to publish their research results concerning nicotine addiction. In 1985, Philip Morris denied DeNoble the permission to publish. Notwithstanding that denial, and because he felt it was very important for his research results to be published (because the public was not otherwise aware of these research results), DeNoble and Mele submitted two papers concerning nicotine addiction for publication. After the first paper was published, DeNoble in April 1986 received a threatening letter from Philip Morris attorneys. This letter caused him to be fearful of retribution by Philip Morris. In August 1986, DeNoble and Mele spoke at an American Psychological Association convention concerning other work that they had done at Philip Morris. Thereafter, in September 1986, DeNoble received a second threatening letter from Altria in-house counsel Eric Tausig. Following the letter, DeNoble called Taussig who reacted very angrily to the call. The letters and the telephone call having increased DeNoble's fear of retribution by Philip Morris and Altria, he called the journal to which he had submitted two papers for publication and sought to have them withdrawn from publication. He was able to pull back only one of the papers. To the present day, his paper on nicotine self-administration in rats

has never been published in a scientific or medical journal. DeNoble WD, 39:12-45:19; DeNoble TT, 01/06/05, 9081:20-9082:14.

4961. According to Jack Henningfield, at the time that DeNoble and Mele were conducting and seeking to publish the results of their research on nicotine addiction, the National Institute on Drug Abuse (NIDA) could have benefitted greatly from access to the research results. The information was important because the tobacco companies were publicly denying that nicotine was addictive in contradiction to their internal knowledge. As Henningfield states, "[t]he [tobacco] industry was years ahead of NIDA in its understanding of nicotine and addiction." The research that DeNoble and Mele were conducting in 1982 and 1983 was significant and important research. It was not until 1989, seven years after DeNoble's rat study, that other researchers were able to successfully develop a rat model for nicotine intravenous self-administration. Henningfield WD, 102:21-104:22, 161:23-167:6.

4962. As recently as 1993, Philip Morris maintained a system whereby research documents were "sent to Richmond for a review and [ ] then returned to INBIFO" with all "[s]upporting data and documents . . . kept at INBIFO." 2043725390-5391 (US 20449) (A).

4963. As part of her research, Carolyn Levy, a Philip Morris scientist before she became Philip Morris's Senior Vice President of Youth Smoking Prevention, looked at whether individuals regulated the amount of nicotine they obtained from smoke, including how smokers inhaled smoke from cigarettes with varying tar and nicotine deliveries. Levy was able to gather evidence that some people change their smoking behavior in response to cigarettes with differing tar and nicotine deliveries. Yet when Levy requested that this research be published outside of PM, she was told "not to publish or was not given approval to publish by the manuscript review board." Levy WD, 10:16-11:15.

4964. In Minnesota v. Philip Morris, Judge Fitzpatrick ruled that these unusual arrangements for handling scientific research at INBIFO had an effect in thwarting the discovery proceedings in that case. The judge concluded that Philip Morris's failure to search the files of Philip Morris International, Inc. and other subsidiaries (which included INBIFO) was "an egregious attempt to hide information relevant to this action . . . ." Judge Fitzpatrick further stated that Philip Morris's "attempts at hiding documents in the morass of interlocking related organizations shall not be tolerated by this court." Order Granting Plaintiffs' Motion to Compel Regarding Philip Morris International, Minnesota v. Philip Morris, No. C1-94-8565, filed March 25, 1997, at 9 and 16.

(ii) Suppression and Concealment of Information

4965. To prevent potentially damaging information from becoming publicly available, Philip Morris also suppressed and concealed information by (1) limiting the number of copies of memoranda that discussed the destruction or concealment of documents or information, thereby enhancing Defendants' ability to destroy any incriminating evidence of destruction plans, and (2) instituting a company policy that encouraged employees not to create documents.

4966. Philip Morris limited the number and circulation of documents containing harmful information so they could be easily destroyed if necessary. In 1970, William Dunn, Philip Morris Principal Scientist, wrote to Thomas Osdene, Director of Research for Philip Morris, indicating that he had approved research by a subordinate named Carolyn Levy. Dunn wrote:

> I have given Carolyn approval to proceed with this study. If she is able to demonstrate, as she anticipates, no withdrawal effect of nicotine, we will want to pursue this avenue with some vigor. If, however, the results with nicotine are similar to those gotten with morphine and caffeine, **we will want to bury it. Accordingly, there are only two copies of this memo, the one attached and the original which I have**.

1003293588-3588 (US 20168) (O) (emphasis added); 1003293589-3591 (US 21421) (A).

4967. In 1991, Philip Morris further attempted to prevent the creation of any documentation that could be adverse to any position it took in litigation. Matthew Winokur, Philip Morris's Director of Regulatory Affairs, complained to Charles Wall, a Philip Morris Companies in-house attorney, that tobacco industry "people in the U.K. companies put too much on paper and then copy too many people." He suggested that Wall raise this issue at the International Committee of Counsel and "reiterate the need for prudent document creation and retention procedures among all the companies." Wall responded by confirming that he would raise the issue of document creation and retention at the next meeting, apparently in an attempt to convince the foreign corporations to alter their ways. 2023237575-7575 (US 23048) (A).

4968. As part of its efforts to prevent disclosure of potentially damaging documents, Philip Morris repeatedly preached to its employees that they should refrain from creating documents unless they really needed to do so. As part of this company-wide effort, Philip Morris instructed employees to "get rid of rough drafts after the final version in prepared." 2082451796-1797 (US 87002*) (O). Philip Morris employees were also instructed to "avoid excess distribution of documents." 2082451799-1813 at 1809 (US 87003) (O).

4969. In its oft-published "A Guide to Effective Information Management," Philip Morris implored its employees to recognize that "any communication other than a private face-to-face conversation may create a record." 2077609734-9756 at 9737 (US 87006*) (O).

4970. Philip Morris repeatedly instructed its employees not to create documents that could damage Philip Morris if disclosed during litigation. In its June 20, 1995 manual entitled "Documents: Creation and Retention," Philip Morris instructed its employees not to create documents that would be damaging to the company if shown to a newspaper or competitor, or if

later shown to the employee "while sitting in a witness chair in a court room in a lawsuit." 2082451799-1813 at 1805-1806 (US 87003) (O).

4971. In its document entitled "Why You Should Care About the 'Documents' You Create," Philip Morris cautioned its employees that "almost every bit of information you record on the job can become evidence in a legal proceeding," and that if careless, an employee could "expose the company to needless liability." Philip Morris therefore instructed its employees to ask, before sending a document, "would you be comfortable reading it in a courtroom from a witness chair." 2082451796-1797 (US 87002*) (O).

4972. Philip Morris instructed its employees that if documents had to be created, they should avoid discussing "potentially damaging statements of fact and exaggeration," "incriminating or adverse" opinions or conclusions, and legal matters or conclusions. 2082451799-1813 at 1807-1808, 1812 (US 87003) (O). Employees were also instructed to avoid drafting documents containing "an evil motive or intent," "damaging statements of fact," and "negative or incriminating conclusions or opinions." 2082451796-1797 (US 87002) (O).

4973. In a December 14, 1995 slide presentation entitled "Document Management: Document Retention, Document Creation," Philip Morris encouraged its employees to "think before writing - every document is fair game." 2070691815-1829 at 1817 (US 87010) (O).

(d) The BAT Group: BATCo, Brown & Williamson and Their Affiliates

4974. BAT Industries was the parent company of Defendant B&W in the United States and Defendant BATCo in the United Kingdom throughout the 1980s and most of the 1990s. BATCo is the former parent of B&W and until 2004 was a sister corporation. BATUS is also a former parent company of B&W. These companies along with numerous other operating companies owned by BAT Industries, including British American Tobacco Australia Services

Limited ("BATAS"), operated together to prevent documents from being discovered in litigation in the United States and in federal regulatory proceedings and from being disclosed to the American public.

4975. BATAS was formerly known as W.D. & H.O. Wills (Australia) Limited ("Wills"). "Prior to August 23, 1999, BATCo, through intermediate holding companies, held approximately 67% of the shares of W.D. & H.O. Wills Holdings Limited ("Wills"). The remaining shares were publicly traded." R &R #102 at 25 (citing to Affidavit of BATCo Assistant Company Secretary, Geoffrey C.W. Cunnington at ¶ 2). "In 1999, the British American Tobacco Group merged with Rothmans, another international cigarette manufacturer. . . . On or about August 23, 1999, . . . Wills in a 'buy back' acquired the shares held ultimately by BATCo (67%) and Rothmans Holdings Limited then acquired the 33% of the Wills shares that had been publicly traded." Id. at 26. "A subsidiary of Wills, WD & HO Wills (Australia) Limited was renamed British American Tobacco (Australia) Services Limited ("BATAS")." Id. "In the spring of 2001, a new intermediate holding company was created called British American Tobacco (Australasia Holdings) Pty Limited ('Australasia Holdings'), which acquired all outstanding shares of British American Tobacco Australasia Limited and thus became the Australasian resident holding company of BATAS. Australasia Holdings is owned 68.06% by BAT Holdings (Australia) BV (formerly known as Rothmans Australia BV) and 31.94% by BATCo through another holding company." Id.

(i) BATCo and B&W Were Motivated To Implement Suppressive Document Management Policies By Their Concern Over Production of Documents in Smoking and Health Litigation in The United States

4976. As the result of BATCo's and B&W's knowledge of the danger facing their industry from company documents, these Defendants pursued tactics to prevent the disclosure of

damaging information. As early as July 21, 1970, in a letter to DeBaun Bryant, B&W General Counsel, from outside counsel David R. Hardy of Shook, Hardy, & Bacon, Hardy discussed "our opinion with respect to health litigation risk exposure of British-American Tobacco Company Limited [(BATCo)] and Brown & Williamson Tobacco Corporation (B&W)." In that letter, Hardy wrote that "a plaintiff would be greatly benefitted by evidence which tended to establish actual knowledge on the part of the defendant that smoking is generally dangerous to health, that certain ingredients are dangerous and should removed, or that smoking causes a particular disease." Such evidence would not only entitle a plaintiff to compensatory damages, wrote Hardy, "but could well be considered as evidence of willfulness or recklessness sufficient to support a claim for punitive damages," and would have a "psychological effect . . . devastating to the defendant." Ultimately, Hardy concluded that "the effect of testimony or documentary evidence that cigarettes cause cancer or other diseases, coming from a cigarette company's own people **(or those of its parent corporation and research collaborator)** would likely be fatal to the defense." 681805313-5319 at 5314-5315, 5319 (US 30935) (O) (emphasis added). At the time of this document BATCo was B&W's parent corporation.

4977. BAT Group documents demonstrate that the document management policies throughout the BAT Group were motivated, in part, by this concern that BATCo and other BAT Group research might be attributed to B&W in smoking and health litigation in the United States. As early as 1970, attorneys at Shook, Hardy & Bacon wrote a seven page letter to B&W's general counsel expressing concern that BAT Group research documents would be subject to discovery and that these documents "constitute a real threat to the continued success in the defense of smoking and health litigation." 301097079-7085 at 7081 (US 46580) (A); see also Cannar TT, 06/17/04, 260:10-262:30, 263:4-15, 264:26-265:3.

4978. Kendrick Wells, B&W Assistant General Counsel for Product Litigation, testified that throughout his 30 year tenure at B&W, the company was concerned that documents created by other BAT Group companies and statements made by employees of other BAT Group companies could adversely affect B&W's position in litigation in the United States. Wells WD, 5:15-6:18.

4979. In an August 1980 memorandum, Wells listed numerous edits that would be required before Lionel Blackman, a BATCo scientists, could publish "Change of Stance on Public Smoking and Health," which Blackman had drafted. In justifying the edits, Wells wrote:

> The successful defense of product liability litigation and opposition to adverse legislation in the United States depends upon two essential arguments: (1) The scientific evidence does not prove a causal relationship between smoking and health and (2) the smoker voluntarily encounters the known risks of smoking.
>
> A concession by a cigarette manufacturer to the charge that cigarettes cause human disease or a statement which contradicts the concept of voluntary choice or smoking by the consumer could cripple or destroy B&W's defense to smoking and health lawsuits and opposition to legislative attacks. This would be true even though the statements were made by BAT.

680050985-1001 at 0986 (JD-053700) (A). Wells admitted at trial that "Change of Stance on Public Smoking and Health" as originally drafted by Blackman was never released to the public. Wells WD, 21:6-8.

4980. At the behest of B&W attorneys, Blackman also removed the statement that "cigarettes are harmful to health in proportion to delivery" from a document he authored in 1981 called "Basic Approach to Government and Medical Authorities." 680585041-4042 (US 21006) (A). Blackman removed the statement after Wells noted that such a statement would "abandon, in effect, all substantive arguments that the relationship of smoking and health is unproven." After speaking directly to Wells, Blackman removed that language based on the legal advice.

680585063-5064 (US 21007) (A); Read TT, 3/22/05, 16419:21-16420:2.

4981. Wells was often called upon to edit scientific documents to remove material that might be damaging to B&W in litigation. 680583045-3045 (US 85395) (A); 690128746-8921 (US 25461) (A); 680858743-8743 (US 21723) (A); 682000188-0188 (US 89376) (A); see also 680585135-5135 (US 22976) (A).

4982. Wells attempted to downplay his role in the editing of scientific documents, but his testimony seems strained given the overwhelming written evidence that he was closely involved the drafting and editing of scientific documents. Moreover, Wells was a 30 year veteran of B&W, he was a well paid corporate lawyer, and he admitted that his counsel was being paid for by B&W. Wells WD, 1:8-4:1.

4983. B&W became increasingly concerned in the mid-1980s that BAT Group research could be discovered in American litigation in which B&W might be a defendant, and that, once produced, the material in such research documents could be attributed to B&W. 680800858-0865 (US 30917) (A); Wells WD, 64:17-65:16.

4984. To address this concern, on May 29-30, 1984, Wells, Robert Northrip of Shook, Hardy & Bacon, David Schechter, BATUS General Counsel, BAT executives and in house attorneys, and trial counsel met in New York to discuss the United States product liability litigation. 521015673-5675 (US 52687) (A). The group noted that "developments have rendered products liability actions against tobacco manufacturers more difficult to defend in the 1980's and that adverse evidence which could be attributed to the defendants is a serious problem." 521015673-5675 at 5673 (US 52687) (A).

4985. At that meeting, trial counsel concluded that it "is likely that statements by a tobacco affiliate of B&W would be admitted and smoking and health research done in-house or

by contract by any company owned by the BAT certainly would be admissible." 521015673-5675 at 5673 (US 52687) (A); Schechter WD, 10:3-10:9.

4986. To lessen the potential consequences of such discovery, it was also decided that "[d]irect lawyer involvement is needed in all BAT activities pertaining to smoking and health from conception through every step of the activity." 521015673-5675 at 5674 (US 52687) (A); Schechter WD, 12:4-12:8.

4987. In February 1985, BAT Industries directed BATUS general counsel David Schechter to investigate the "attribution issue" - whether statements and positions of affiliates of B&W could be attributable to it in litigation. Schechter WD, 12:20-14:17; 680582454-2462 (US 54049*) (A); see also 516003172-3172 (US 21732) (O).

4988. Schechter retained the firm of Simpson, Thatcher & Bartlett, which explored at length the bases by which BAT Group research could be discovered in litigation in the United States against B&W, and by which knowledge of such research could be attributed to B&W. Schechter WD, 20:12-22:5; 301060827-0855 (US 28152) (A).

4989. Later that year, Schechter also asked the New York firm Paul Weiss to "consider hypothetically whether documents in the possession of B.A.T. Industries or its United Kingdom subsidiary, BATCo, could be discovered by a plaintiff in a lawsuit in the United States against Brown & Williamson." Schechter WD, 28:15-29:17; 521015579-5582 at 5579 (US 52686) (A); see also Wells WD, 6:19-8:4.

4990. Paul Weiss concluded in a memo that "[y]ou should act on the assumption that discovery of the documents would be available." Schechter WD, 29:18-30:2; 521015579-5582 at 5579 (US 52686) (A).

4991. By 1985, outside counsel from Paul Weiss and Simpson Thacher both concluded

that research reports in the possession of BAT Industries and BATCO could be discovered in litigation brought in the United States against B&W, and the same year the legal departments of BAT Industries, BATCo, and B&W were all made aware of these conclusions. Schechter WD, 30:18-32:5, 32:9-33:3, 33:14-20, 38:16-39:3; 521015578-5578 (US 52685) (A).

4992. In a February 26, 1986 document entitled "Litigation Against BAT Companies: Research," Schechter confirmed his understanding that one of the purposes behind BATCo's document management policies was to address the concern that documents would end up in the hands of a plaintiff in the United States. 109870594-0596 (US 34873) (O).

4993. Jeffrey Wigand, B&W's Vice President of Research and Development from 1989 to 1993, confirmed that avoidance of production of damaging information in litigation remained a concern in the 1990s. Wigand testified that "[t]he vetting of scientific documents by lawyers was to prevent or remove any reference to smoking and health issues from documents that might be discovered by adversaries during litigation." Wigand WD, 78:1-9. Documents were sanitized by B&W lawyers to remove "contentious" or "sensitive" issues including

> anything related to smoking and health, addiction, fire safe cigarettes, ETS, biological activity, additives (particularly those that dealt with liberating free nicotine from tobacco), compensation, free nicotine, elasticity, smoker behavior, and certainly safer cigarettes. In short, anything that could arguably suggest that nicotine or cigarettes were addictive, and anything related to the negative health consequences of smoking.

Wigand WD, 78:12-79:9; see also id., 26:3-17; 680277658-7659 (US 89371) (A); 100505210-5210 (US 78246) (A).

4994. Wigand also explained that, in addition to the concern over litigation, "[t]he company wanted to avoid any documents from becoming public that were contrary to the company's stated public positions on smoking and health and the addictiveness of nicotine."

Wigand WD, 80:24-81:5. Ray Pritchard, the B&W Chairman and Chief Executive Officer, and Tommie Sandefur, the Chief Operating Officer, fully supported the lawyer suppression and editing of scientific information. In fact, when Wigand complained, he was told by Sandefur that the lawyer suppression and editing of scientific information was necessary to protect B&W's position in litigation and its sales. Sandefur told Wigand that "if science affected sales, then science would take the back seat." Id., 81:12-20.

(ii) Document Destruction

4995. Defendants BATCo and B&W established and implemented policies to destroy documents to prevent the disclosure of information that they believed would likely be sought in smoking and health litigation and in federal regulatory proceedings, and would provide information to the public on the adverse impact of smoking on health.

4996. On May 15, 1986, at a meeting at its research facility in Millbank, England, BATCo legal personnel instructed the leadership of the Group Research & Development Centre ("GR&DC") to dispose of documents under the rubric of "spring cleaning" before the GR&DC files were copied for possible production in health and smoking litigation in the United States.

> [Nick Cannar of the BAT legal department] said that Mr. [Patrick] Sheehy [Chairman of BAT Industries] did not wish it to be seen that BATCO had instituted a destruction policy only when the possibility of their being involved in litigation became real and after they had instructed solicitors. Thus, it was decided that no destruction policy should be adopted, rather that R&DC [Research & Development Centre] would tidy up the loose papers held by individuals, which "spring clean" could involve the destruction of documents such as previous drafts.
> . . .
> It was agreed that such a "spring clean" of all of the loose papers held outside the official filing systems is essential to enable L.W.&K.'s [BATCo's lawyers Lovell, White & King] "task force" to carry out stages I and III (the listing and reviewing of the files).

107443680-3689 at 3682 (US 34839) (A).

4997. In a 1990 memorandum to Jeffrey Wigand, B&W's then Vice President of Research and Development, from Kendrick Wells, B&W's Assistant General Counsel for Product Litigation, Wells wrote, "Tommy asked me to collect this memo when read, so I would appreciate it if you returned it to me at your convenience. It should not be distributed. . . ." 682809346-9347 (US 89372) (A). When asked about this comment, Wigand indicated that it was an instruction from B&W Chief Operating Officer Tommy Sandefur and that:

> Well, this is one of the usual ways of circulating documents, retrieving them and sequestering them and/or destroying them, particularly if the attachment had anything about smoking and health in it. It was one way of managing documents so that internal company documents would not contain any information that was contradictory to what the company was saying publicly.

Wigand WD, 69:69:17-70:2. Wigand testified that being asked to return documents without copying so they could be destroyed was a common practice, particularly after a crackdown on scientific documents by company lawyers at a meeting in New York City in January 1990. Id., 70:3-5; see also 562401761-1761 (US 89361) (A) (a July 27, 1992 letter from Patrick Sheehy, BAT Industries Chairman, to Ray Pritchard, B&W Chairman, with notes from Earl Kohnhorst instructing Jeffrey Wigand to "Destroy" the document after reading it); Wigand WD, 21:12-20.

4998. At the January, 1990, meeting in New York City, which included representatives from various BAT Group components, including B&W and BATCo, the participants were encouraged to establish document retention policies that would purge company files of any documents not currently subject to a document request in ongoing litigation because of the "[d]ifficulties faced by author company in explaining documents in a foreign court. . . ." Each company was expected to "[t]ighten the document retention policy . . . to the extent permitted by current litigation/discovery requests." 202347085-7086 (US 22032)(A); see also Blackie WD, 145:2-146:1 (testifying that a July 1992 document she wrote to B&W attorney J. Kendrick Wells

enclosing a copy of "Smoking Issues Claim and Response" file and instructed Wells to "destroy any previous copies you may have"); 536489722-9722 (US 79172) (A).

4999. On June 29, 1992, Sharon Boyse, a BATCo scientist, sent a facsimile to Jorge Basso Dastugue, a manager at BATCo's Argentine company Nobleza-Piccardo. The facsimile included a price quote from Healthy Buildings International ("HBI") to prepare information and materials for a public relations program on Indoor Air Quality in Buenos Aires, which was intended to encourage continued smoking in office buildings. In the facsimile cover sheet, Boyse instructed Dastugue to keep HBI's involvement in the project quiet:

> Please also note, more importantly, that this an extremely sensitive document! HBI are currently under a considerable amount of investigation in the US about their connections with the industry. All references to companies in the quote has [sic] therefore been removed. **Please do not copy or circulate this in any way and please destroy this fax cover sheet after reading!** I know this sounds a little like James Bond, but this is an extremely serious issue for HBI.

304058260-8263 at 8260 (US 85632) (A) (emphasis in original).

5000. In the summer of 1992, Simon Potter, an attorney with the law firm Ogilvy Renault in Montreal, which represented BAT's Canadian affiliate, Imperial Tobacco Limited, sent a letter to Stuart Chalfen, Solicitor of BAT Industries [the equivalent of General Counsel]; David Schechter, General Counsel of BATUS; and John Meltzer, a lawyer at BAT's outside counsel Lovell, White, Durrant. The letter indicates that unless he received instructions to the contrary, Imperial Tobacco Limited planned to destroy 60 documents, including scientific studies. The letter includes a list of documents to be destroyed, including one document with the notation "not destroyed because never received by Imperial." Listing a document that the company never had received on a list of documents to be destroyed indicates that Imperial had been instructed to destroy specific documents. 202313423-3425 (US 20377) (A); Schechter WD,

60:9-62:14; 202313418-3421 (US 92072) (A).

5001. In an August 7, 1992 letter again to Chalfen, Schechter, and Meltzer, Simmon Potter confirmed that "the documents mentioned in my letter of July 30 have indeed been destroyed." 202313429-3429 (US 20378) (A); Schechter WD, 62:15-63:15.

5002. The destruction of the BATCo research reports by Imperial followed a similar attempt in 1990 by BATCo to have scientific documents sent back to Southampton from Imperial. 202313503-3503 (US 92071) (O); 202313504-3504 (US 92073) (O); 202313481-3481 (US 92075) (O); 202313468-3469 (US 92076) (O).

5003. David Schechter, BATUS General Counsel, believed that Imperial Tobacco Limited (B&W's sister company in Canada) destroyed scientific documents in part to protect B&W in litigation. 202313423-3425 (US 20377) (A); 202313429-3429 (US 20378) (A).

5004. Following the summer 1992 purge of scientific records at Imperial Tobacco Limited, Graham Read, Head of Research and Development at BATCo, reported to Peter Clarke, BATCo's Solicitor, on "Imperial's access to R&D reports." Read stated that "[w]hether a requested report is faxed or couriered [from BATCo to Imperial], we attach an accompanying form seeking confirmation that it has been destroyed after use." 600232153-2154 (US 53322) (O); Read PD, United States v. Philip Morris, 06/13/02, 59:14-67:11.

5005. On September 4, 1998, British-American Tobacco (Holdings) Limited held a management board meeting. The extract from that meeting was labeled "CONFIDENTIAL - PLEASE DESTROY BY 22ND OCTOBER 1998," and contained reference to scientific position papers "noted by the Board," including papers on "Smoking and Lung Cancer," "Environmental Tobacco Smoke," "Smoking and Addiction," "British American Tobacco Research and the 'Safer Cigarette,'" "Cigarette Tobacco Ingredients," "Smoking and Coronary Heart Disease," and

"Smoking and Respiratory Disease." 321144744-4746 (US 88342) (O); see also 321215567-5568 (US 88343) (O).

(iii) Early Attempts By BATCo and B&W To Suppress and Conceal Information

5006. Beginning in at least 1965, B&W and BATCo began their efforts to conceal information. One of the first maneuvers to conceal information relied on attempts to improperly cloak scientific research in the attorney client privilege. See US FF § F(3)(b), infra.

5007. BATCO and B&W, with the assistance of other BAT Group companies, also concealed documents, including scientific research documents, by secreting documents outside the United States at foreign affiliates to prevent the disclosure of the documents which they believed would likely be sought in the United States in litigation and in federal regulatory proceedings, and would provide information to the public on the adverse impact of smoking on health. The affiliates were also instructed to destroy or "spring clean" the documents to prevent the disclosure of the documents in the United States. 107443680-3689 at 3682 (US 34839) (A).

5008. In 1965, industry lawyers, including Addison Yeaman, general counsel at B&W, sought to "slant" the findings from BATCo's Harrogate laboratory, which performed mouse skin painting research. 680204115-4117 (US 20990) (A); 680204125-4125 (US 54022) (A) (B&W general counsel seeking to review Harrogate report before it was put in draft form, "on the basis that it is considerably easier to be of persuasive influence before such a report is crystallized in draft form"); 680204121-4122 (US 30825) (A) (discussion of a meeting between the Tobacco Research Council and members of the American tobacco industry, "on the very simple proposition that it would be far easier to influence the tone and even the context of the report (if a report must be published) before it is written, than it would be to rewrite a completed report").

5009. In a January 17, 1985 memorandum entitled, "Document Retention," Kendrick

Wells directed members of the Research & Development Center to collect certain documents he had identified on an attached list relating to the behavioral and biological studies area for shipment to BATCo once all such documents had been gathered. Wells directed Earl Kohnhorst, Vice President of Research, Development and Engineering, to tell the research personnel that the removal of the documents "was part of an effort to remove deadwood from the files and that **neither he nor anyone else in the department should make notes, memos, or lists**." Wells specifically explained to Kohnhorst that "the B series are 'Janus' series studies [a secret program of biological research on the effects of smoking, which showed tumor growth in animals] and should also be considered deadwood." 680530888-0890 at 0889 (US 21772) (A) (emphasis added); see also Wells WD, 40:1-41:15.

5010. On February 17, 1986, Wells again authored a memorandum related to the concealment of BATCo scientific information, this time to Ernest Pepples, the B&W General Counsel. The memorandum established procedures to limit records relating to health and science research conducted by B&W's sister companies from entering the country despite the fact that the BAT Group operating companies, including Defendants B&W and BATCo, were part of a cost-sharing agreement that funded the research. The established policy limited the documentation sent to the United States to "concise reports, estimated to be about one-half page in length, twice each year. . . . [T]he brevity of the reports will reduce the potential for receipt by B&W of information useful to a plaintiff. . . . " This memorandum indicated that the B&W lawyers did a detailed analysis of each of the projects and ultimately either approved or disapproved of receipt of information related to each project. Whenever the lawyers feared that the project might result in information that may be "helpful to plaintiffs" they either dissuaded or precluded Research, Development & Engineering from receiving information related to that project. 680582253-2257

at 2253 (US 21004) (A).

5011. At the same time that Wells was chronicling B&W's efforts to limit sensitive BAT research materials from coming to the United States, BATCo lawyers Anne Johnson and Nicholas Cannar were reporting the same sensitive issues to BATCo executive Eric Bruell. In a February 26, 1986 memorandum to Bruell, Johnson and Cannar stated that B&W was urging BATCo to adopt the position that "decisions to undertake research should be managerial decisions not scientific decisions;" that "smoking and health research should not be undertaken" (with an exception that is not written out); and that "**information/document management distribution should be kept to a minimum to avoid documents becoming available to [a] plaintiff in litigation.**" 109870594-0596 at 0594 (US 34873) (O) (emphasis added); see also 682003345-3360 (US 88344*) (A).

5012. On May 15, 1986, at a meeting at its research facility in Millbank, England, BATCo legal personnel instructed the leadership of the GR&DC to dispose of documents under the rubric of "spring clean[ing]" before the GR&DC files were copied for possible production in health and smoking litigation in the United States. 107443680-3689 at 3682 (US 34839) (A).

(iv) BAT Group Lawyers Undertake Concerted Effort To Control The Content of Scientific Documents and Files

5013. In September 1989 the Brown & Wiliamson Research Policy Group (RPG) met for several days in Vancouver British Columbia. Wigand WD, 35:21-23; see also 901096811-6811 (US 89367) (A) (memorandum from Jeffrey Wigand to Alan Heard listing recommended agenda items for the meeting); 620202422-2432 (US 89368) (A) (meeting agenda). The RPG was comprised of the top scientists from each of the BAT Group's Cigarette Affiliated Companies, including B&W, BATCo, Imperial Tobacco of Canada, W.D. & H.O. Wills of Australia and others. Wigand WD, 36:1-17.

5014. Jeffrey Wigand, Vice President of Research and Development for B&W from 1989 to 1993, testified that several "sensitive issues" were discussed at the Vancouver meeting including "nicotine analogues, biological assays and biological testing methodologies (including NTP protocal), environmental tobacco smoke (ETS), Y-1 genetically enhanced tobacco, how to reduce selectively the particular noxae that were in tobacco smoke, fire safe cigarettes, and FDA regulation." Wigand WD, 39:3-40:13; see also 620202422-2432 (US 89368) (A) (meeting agenda, which identifies the "sensitive issues"). Following the meeting, a BATCo scientist by the name of Ray Thornton prepared a detailed 12 page set of minutes, "which summarized the discussion and the actions of the meeting." Wigand WD, 41:9-18; 401034784-4796 (JD-011303) (A).

5015. Wigand circulated the draft minutes to Ray Pritchard, the Chairman and CEO of B&W, and Tommie Sandefur, the President and Chief Operating Officer of B&W. After circulating the draft minutes Wigand was summoned to a meeting with Pritchard and Sandefur, and B&W General Counsel Mick McGraw. Wigand WD, 41:22-42:13. As Wigand testified:

> When I arrived [at the meeting] it was immediately apparent that Tommie Sandefur was exercised. He was angry that I had been involved in conversations regarding things like addiction, reduced noxae, biological testing, and safer cigarettes. He indicated that the text of the minutes was full of "contentious material" that should never have been memorialized and that it represented a legal liability for Brown & Williamson if discovered.

Wigand WD, 42:14-19. Sandefur expressed specific concern

> with the information related to biological testing and the discussion of Y-1 genetically enhanced tobacco. But, more than anything, he was unhappy with the discussion of safer cigarettes and addiction. He said that if statements about safer cigarettes became public, then it would become clear that Brown & Williamson's current products were unsafe.

Id., 43:3-8.

5016. Sandefur then summoned Kendrick Wells, B&W's lead in-house products liability lawyer, to the meeting and told Wells to "re-write the minutes to 'get rid of all the controversial stuff that Wigand got involved with.'" Id., 43:9-18. The minutes were then re-written by Wells, a lawyer who did not attend the meeting, to eliminate references to the "controversial" material. Id., 43:19-44:22. The removal of the contentious material is confirmed by a comparison of the two versions of the minutes before and after being re-written by the company lawyer. See 401034784-4796 (JD-011303) (A) and AA0374-0374 (JD-011304) (A).

5017. After numerous evasive answers by Wells during his examination he finally admitted that he had, in fact, "produced an entirely different document" to take the place of the minutes drafted by the British scientist Ray Thornton. Wells TT, 02/02/05, 11963:20-11964:19. During Wells examination, in denying a defense motion, the Court noted "it seems difficult to get a clear and straight and fairly timely answer from this witness." Id., 11966:22-25; see also 682004630-4633 (US 89369) (A) (November 1989 memorandum from Wells to Wigand attaching the minutes as re-written by Wells); 401096400-6400 (US 90132) (A) (memorandum from Wells to Wigand a year later indicating that he had again reviewed and made changes to the minutes of the 1999 RPG meeting and that he was "pleased with the attention which the author has given the language in this draft."). The lack of clarity and evasiveness during Wells' testimony is in sharp contrast to the very clear and direct testimony provided by Wigand. Moreover, Wells, a high-paid corporate counsel claimed that in re-writing the minutes, he was acting as nothing more than a secretary to Wigand. At trial he testified as follows:

Q. So, if I understand it, then. You were providing secretarial services to Dr. Wigand?
A. Essentially, that's correct.
Q. That's your testimony to this court?
A. Yes.

Wells TT, 02/02/05, 11967:9-13. This testimony is not only farcical, but also does not mesh with the fact that he reviewed and edited the RPG minutes again the next year. Id., 11969:13-11971:12; 401096400-6400 (US 90132) (A). Wells' testimony is also inconsistent with the fact that lawyer review and vetting of minutes from scientific meetings was an agenda item in a BAT Group meeting held in New York City just months after Wells re-wrote the minutes from the Vancouver meeting. In addition, in notes Wells made of a meeting in the mid-1980s he identified minutes from "R&D No. 1's meetings" as a potential "problem area" in the context of smoking and health litigation. Wells WD, 35:4-37:7; 685092972-2974 (US 31031)(A).

5018. Among the "sensitive" material removed from the official minutes of the scientific meeting in Vancouver is a discussion of the development of a safer cigarette. The following specific language was removed from the minutes by Wells:

> Based upon lessons learned from the failure of Premier and Favor (both of which attempted to make a huge leap in product modifications) it was proposed that BAT pursue an evolutionary route to a Premier-like product by year 2000; our approach will be responsive to regulatory concern and will be founded upon delivery reduction, e.g. it will gradually reduce tar/nic, biological activity, "Other Noxa", CO and sidestream but avoiding overtly technological product designs. Paramount will be the requirement of retaining consumer satisfaction in organoleptic terms.
>
> Nicotine is seen as a key to our evolving products and the meeting agreed to taking steps to establish proposed further nicotine-related projects (SRG projects will reflect this).
>
> The broad aims of the Product Innovation Strategy were agreed and our current new product technology portfolio of (Greendot (I-III), Day, Coaxial, and Nova) was considered appropriate to realizing the aims of the proposed strategy. JW asked that ignition propensity be included in the overall Innovation Strategy.

Wigand WD, 48:12-49:16; cf. 401034784-4796 (JD-011303) (A) and AA0374-0374 (JD-011304) (A). The term noxae refers to "toxic substances and poisons." Wigand WD, 49:17-23.

5019. According to Wigand, the safer cigarette information in the original draft minutes

was removed because

> an admission that Brown & Williamson's cigarettes contained poison was certainly seen as potentially damaging to the company's position in product liability litigation and would be harmful to the company's public relations if it became public knowledge. The same was true for an admission of biological activity. Mr. Sandefur had expressed to me [Dr. Wigand] several times his concern that any discussion of safer cigarettes would imply that Brown & Williamson's cigarettes as sold at the time were not safe, and that would expose the company to liability. Any discussion that suggested that carcinogens and reproductive toxicants could be removed from tobacco smoke suggested that the products as produced caused disease and could be made safer.

Wigand WD, 49:24-50:3.

5020. In addition to material related to safer cigarettes, the lawyers removed information related to "biological assays and biological testing methodologies and selective reduction of noxae." Wigand WD, 53:15-22.

5021. The Vancouver minutes set off an "alarmed reaction" within the BAT Group of companies all the way up the chain of command to Sir Patrick Sheehy, the Chairman and CEO of BAT Industries, the number one executive in the entire BAT Group of companies. There was a growing concern that "the scientists would put the BAT Group in harm's way in litigation. There was concern that scientists' statements would contradict the public statements and legal positions being taken by the company." As a result, Patrick Sheehy ordered BAT Group lawyers to bring the scientists together for a meeting to "solidify a method by which records related to scientific meetings and scientific research would be handled in the future." Id., 54:2-55:16; 202347085-7086 (US 22032) (A).

5022. The meeting was convened by Stuart Chalfen, the Chief Solicitor of BAT Industries. The meeting was held in New York City in January 1990 (the "NYC meeting"). The NYC meeting was run by Nick Cannar, head of BATCo's legal department and a persistent

player in the BAT Group effort to control scientific documents around the world, including Australia. Indeed, the NYC meeting agenda indicates that it was prepared by Cannar. 202347085-7086 (US 22032) (A); Wigand WD, 55:8-21.

5023. The agenda identifies litigation concerns created by scientific documents as a primary focus of the meeting. The introduction lays the "concern" out very plainly: "Concern about volume of research documentation spread around the Group; Discovery; Difficulties faced by author company in explaining documents in a foreign court particularly if it is not even a party to the proceedings in which those documents are to be produced." 202347085-7086 (US 22032) (A).

5024. At trial Wigand confirmed that the "'concern' refers to the concern that scientific documents[,] containing potentially damaging information[,] were finding their way to the United States, and that might lead to the documents being produced in litigation." Wigand WD, 55:22-57:17. Wells confirmed that the NYC meeting included "a discussion oriented toward the scientists about the handling of scientific documents in the R&D Departments." Wells WD, 46:1-5.

5025. The NYC meeting agenda also set forth procedures to ensure that minutes from future scientific meetings would not contain "contentious" material. The agenda states:

> 2. Improve quality of [scientific] documents by:
>
> a) Educating scientists in each research centre about document writing/document creation.
>
> b) Regular **lawyer reviews** and audits of scientific documents produced in each company.
>
> c) Arrange a system to ensure that all research related conference minutes involving representatives of more than one Group company are **vetted by the lawyer** for the company issuing the minutes before the minutes are sent out.

202347085-7086 (US 22032) (A) (emphasis added).

5026. The education of scientists about document writing and creation – set forth in the agenda as item 2.(a) – was implemented as a series of mandatory training sessions for company scientists. "The sessions were called 'caution in writing' seminars and at Brown & Williamson they were presented by lawyers, predominantly from Shook, Hardy & Bacon." Wigand WD, 59:13-23. At the seminars, scientists were instructed by lawyers "on how to sanitize the documents they created." Id., 60:1-6. The scientists were told "how to avoid writing documents with contentious words and topics." The contentious words included words like "safer," "addictive," "disease," and "cancer." Id., 64:15-23.

5027. The "lawyers reviews" noted in the NYC meeting agenda at item 2.(b) refers "to a policy that was discussed at the meeting and subsequently implemented." Pursuant to the policy, company scientists could only send documents containing sensitive information to sister companies if the document was first "reviewed and approved by a company lawyer." Id., 60:7-14.

5028. Finally, NYC meeting agenda item 2.(c) is an exact replica of the procedure employed by B&W when it had Kendrick Wells re-write the minutes from the Vancouver meeting just months prior to the NYC meeting outlined in this agenda. The word vetting as used within the BAT Group of companies meant "[d]eliberately and consciously removing contentious and controversial information from company documents that would benefit an adversary in litigation." Wigand WD, 35:15-20. As Wigand testified:

> Nick Cannar told us that before meeting minutes could be circulated, they would be reviewed by the lawyers and, if necessary, the lawyers would remove contentious information before the minutes could be circulated.

Id., 61:3-6.

5029. The procedure of lawyers review of scientific documents after the NYC meeting

– particularly at B&W by chief products liability lawyer Kendrick Wells – is confirmed in a May memorandum from Wells to Mick McGraw, B&W General Counsel. In the memorandum Wells writes:

> Jeff believes that he now sends me a copy of all documents from BATCo in the nature of meeting reports and scientific memos. He also sends appropriate scientific research reports. I told him that it was important that we had an opportunity to review the BATCo. materials. As a case in point, I recommended that we should follow up with BATCo. on statements made in a set of studies done for BATCo. at Harwell. They include statements that means are available which will remove minute foreign materials from tobacco. B&W R&D looked at this question a year or so ago and decided that no such means existed. The question could be involved in a safer product claim. Thus, we should communicate with BATCo. to discuss their assertion that such means are available.

680901663-1665 at 1664 (US 79219) (A); see also Wigand WD, 76:25-77:28.

5030. Also, as a result of the NYC meeting, the BAT Group companies' cost-sharing agreements were to be re-written to "recognize [each] company's claim to ownership/confidentiality of its research reports" and to provide for the "return of all copies of these [research] documents upon demand." 202347085-7086 (US 22032) (A). "[T]he cost sharing agreement set forth an arrangement by which the various Cigarette Affiliated Companies (CAC) shared the cost for the Fundamental Research Center in Southampton, England." Wigand WD, 27:5-8, 27:9-18.

5031. Prior to the NYC meeting, information regarding the basic research done at Southampton was freely shared between all BAT's Cigarette Affiliated Companies. Wigand WD, 27:19-23.

5032. At the NYC meeting, however, lawyers Nick Cannar and Kendrick Wells:

> agreed that the cost sharing agreement would be revised to specifically state that BATCo owned the documents that it created

> and that it could demand them back at any time. So, for example, the thought was that if lawsuits in the United States were seeking documents created by the Fundamental Research Center, then BATCo could demand all copies of the documents back from the United States and Brown & Williamson would be saved from having to produce them in litigation.

Id., 28:14-29:4.

5033. Thus, following the NYC meeting the agreement was changed "so that now documents were the property of BATCo and BATCo could demand the return of the documents at any time." Id., 27:23-28:2. A comparison of the cost sharing agreement in place at the time of the NYC meeting and the cost sharing agreement as revised following the NYC meeting demonstrates that such revisions were, indeed, made to the agreement. Cf. 682000546-0547 (JD-011368) (A) to 800036654-6657 (US 56544) (A) (see language at item 5.(3), which states "B&W will upon request immediately return to BATCo all BATCo Documents").

5034. Wigand summarized the NYC meeting by stating that:

> Basically the meeting was to order that scientific documents be reviewed by lawyers, that creation of documents should be limited and done in a way so as to avoid including any damaging statements in documents, and to develop a distribution policy that would, to the greatest extent possible, keep documents that contain contentious language or that contradicted the public position of the company out of the United States.

Wigand WD, 61:25-62:5.

(v) The BAT Group Implements A Worldwide "Document Management Programme"

5035. Coinciding with the lawyer control of scientific documents at the Cigarette Affiliated Companies (CAC) in the late 1980s and early 1990s, the BAT Group, including B&W, BATCo and W.D.& H.O. Wills, began an elaborate plan of document management and control to prevent adverse scientific documents from coming to the United States or to otherwise control

the documents so as to prevent discovery of the documents in ongoing litigation. 202313482-3483 (US 92077) (O). The companies used the law firm of Lovell, White and King and Kay Comer (later Kinnard), a long-time BATCo addiction scientist, to catalogue BAT Group smoking and health documents located at BATCo's Southampton, England research and development facility.

5036. Beginning in the 1980s, Kay Kinnard (previously Kay Comer) became involved in the design and management of BATCo's worldwide document management programs, which were designed and continue to be used to destroy documents in countries in which BAT is operating, before the documents could be discovered in both domestic and international litigation. 325351561-1562 (US 29245)(O).

5037. Kinnard received input from individuals at B&W, including individuals in B&W's legal department, who assisted her in developing BATCo's document management program. Kinnard PD, United States v. Philip Morris, 05/31/02, 90:20-91:1.

5038. Then, also beginning in the late 1980s, the BAT Group added a series of document management policies in response to the concerns that BAT Group research might be used in litigation against BAT or B&W in the United States. 202347085-7086 (US 22032) (A); Schechter WD, 45:11-48:10; Kinnard PD, United States v. Philip Morris, 05/31/02, 81:14-82:10, 86:3-89:13.

5039. To implement the new policies, in the early 1990s David Schechter was directed by Stuart Chalfen, the General Counsel of BAT Industries, the then-ultimate parent company of B&W and BATCo, to devise a BATCo document management program and train BATCo operating company "record managers" to implement the program. Schechter WD, 45:11-46:46:6. To implement the document management program, Schechter taught a series of seminars at

various BAT companies around the world. Schechter WD, 46:7-17.

5040. The document management program taught employees that "retained documents could have an effect on litigation, potentially the outcome of the litigation." Schechter WD, 53:7-10.

5041. In fact, the thrust of this program was to "limit the creation of documents" and to "avoid retaining any document longer than was needed for the operation of the business." Schechter WD, 53:11-14.

5042. Schechter testified that the purpose of both the document management program, as well as the "mental copy rule" was to limit the documents that would end up in the hands of a plaintiff, or the public, or the news media. Schechter WD, 53:17-19. This purpose was taught as part of the document management training program. Schechter WD, 53:20-54:2; 1080-1187 (US 34350) (A); 402184157-4192 (US 67858) (A).

5043. A training manual used at the Kuala Lumpur training seminar in 1992 taught that a benefit of the program was "reduced potential for legal and PR problems." Schechter WD, 54:3-9; 1080-1187 at 1083 (US 34350) (A). It also advised that "[f]ewer records being kept for shorter periods reduces the potential for the type of problems which can arise if poorly written Company documents are made public, either in court or in the media." 1080-1187 at 1085 (US 34350) (A).

5044. In 1990, similar training sessions were also mandated at B&W. See 681000002-0002 (US 88651) (A) (a memorandum from B&W President Tommie Sandefur to all B&W employees telling the employees that "[d]uring the fourth quarter of 1990, employee meetings will be held to discuss records management in B&W and your role in the process."). "The dominant message [at these meetings] was don't write anything down that could be considered

contentious or controversial as it relates to smoking and health and that might make its way into the public domain through litigation or otherwise." Wigand WD, 66:29-67:3.

5045. The training materials used at the document handling sessions encouraged company employees to use oral rather than written communications. Wigand WD, 67:8-23; 503119213-9241 at 9216 (US 29646*) (A) ("Another aspect is the 'sensitivity' of what we need to communicate. This is not just a matter of sensitivity from a legal point of view but there's also a matter of commercial sensitivity. Only put it on paper if you really need to. If you are in doubt, verbal communication is likely to be best.").

(vi) The Mental Copy Rule Is Implemented As Part of The BAT Group Document Management Programme To Prevent Creation of Documents

5046. As part of its efforts to conceal information and reduce its litigation exposure, BATCo sought to reduce the amount of documents its employees generated. As described in its "Records Management: Creation Retention" manual, BATCo repeatedly preached to its employees to use the "mental copy" rule. The "mental copy" rule asks employees to "imagine that the memo, note or letter you are about to write will be seen by the person that you would least like to read it." The employee is then to "send a 'mental copy' of your document to a newspaper, one of your competitors, a government agency, or potential plaintiff. Now: would you still write the memo? If so - would you still write it in the same way?" 325274431-4448 at 4434 (US 87012) (A). That same document asked employees to "Think *before* you write," and to question "does it *really* need to be in writing to do the job?" 325274431-4448 at 4432 (US 87012) (A) (emphasis in original); see also 321667716-7716 (US 88345) (A). "Memos and notes can be barriers to effective communications and often need additional verbal explanation. Talking to someone face-to-face or on the phone is often the better way." 325274431-4448 at

4433 (US 87012) (A). "Remember that verbal communication is best if you are dealing with a sensitive subject." 325274431-4448 at 4435 (US 87012)(A); see also 503119213-9241 at 9230 (US 29646*) (A) ("In order to help your [sic] decided how to write something, having decided it really needs to be a writing, we suggest that you use what we call the 'mental copy rule.' Imagine that what you are about to write will be seen by the person you would least like to see it. Send a mental copy (not to the real one of course!) of your record to the newspaper, to Philip Morris, to the Government or to a potential opponent in a court case."); Wigand WD, 67:24-68:14.

5047. In a presentation to "No.1/Senior Executives," BATCo cautioned that employees should "think before you write," and that "oral communication is best if the subject is sensitive." Employees were also cautioned: "document creation - write less, talk more," because such a practice "reduce[s] potential for legal, pr problems." BATCo noted that there were "legal benefits" to such an approach, as an "opposing party in lawsuit obtains company documents through 'discovery' process," and the creation of documents could lead to "documents taken out of context," "potential adverse judgment," and "potential adverse precedent," and could also result in "damage to company reputation," and "governmental investigations." 402156731-6784 at 6750, 6762, 6765, 6767, 6771 (US 87013) (O).

5048. In response to the question whether BATCO wants its employees to "cut out all memos?" BATCo replied "of course not," but to "be careful." 325274392-4422 at 4393 (US 87014) (O). In extolling its employees to "write less, talk more," BATCo stated that a benefit from such an approach was to "reduce potential for legal, pr problems." 325274392-4422 at 4406 (US 87014) (O). BATCo noted that the "types of cases where documents can be a problem" include "product liability cases and governmental investigations." 325274392-4422 at 4412 (US 87014)(O).

5049. In a 1990 B&W records management video, Tommy Sandefur states that before writing a memo or letter, an employee should ask "is it necessary," "where will that piece of paper end up? Would you feel comfortable if a competitor, the government or the news media saw a copy of your document?" and "does it really need to be in writing? A phone call or face-to-face meting is usually more effective." "Verbal communication is also the best way to share sensitive or confidential information." 632150212-0222 at 0214-0215 (US 87019) (O).

5050. In its November 27, 1995 Records Management Programme Staff Handbook, BATCo wrote that benefits of the records program included "reductions in the quantity of long-term records and improvement in the quality of those produced will mean there is a lower risk that records, which may have to be produced during a court case or which may fall into the hands of the press, will cause problems for the Company." 325110343-0363 at 0347 (US 87017) (O). This document again asked employees to "Think before you write," "ask yourself if it really needs to be in writing to do the job," and "remember the mental copy rule. Always ask yourself if you would be happy to see your document copied to the news media, a competitor, the Government, or an opponent in a court case." 325110343-0363 at 0349 (US 87017)(O).

(vii) BAT Group Documents Are Destroyed in Australia to Protect BATCo and B&W

5051. In early 1985, BATCo's legal department became concerned that the circulation of documents from its Group Research and Development Centre ("GR&DC") to B&W, might expose those documents to production in United States litigation. B&W had expressed the concern that ". . . some of the broad-ranging research initiatives being pursued in [GR&DC] might be misinterpreted . . . in a way which would require [B&W] to explain why they didn't think that research was relevant" to litigation in the United States. As a result of this concern, Nicholas Cannar, testified that since early 1985, when he took over as head of the BATCo legal

department, the legal department had been considerably involved with the GR&DC. That involvement stemmed from this "... major issue that I was aware of . . . which was Brown & Williamson's concern that the group's research effort might be misinterpreted in the context of litigation in the United States." Cannar TT, 06/21/04, 386:40-387:2; 412:35-413:12; 415:27-416:34.

5052. Richard Baker, the BAT Industries Chief Solicitor asked Cannar to implement a document management policy for BAT Industries. As Fred Gulson testified, "Nick Cannar was responsible for document retention policies for BAT companies worldwide." Gulson WD, 22:22-24. Broadly speaking, the policy required that all BAT Group operating companies institute a records management policy requiring destruction of documents, including research and development documents, if they had already been retained for a certain period of time. Cannar TT, 06/21/04, 340:35-341:4, 356:77-358:27, 360:1-364:6.

5053. In the process of constructing the 1985 document management policy, Cannar concluded that BATCo research and development documents might be responsive to legal proceedings overseas. As a result, Cannar asked Lovell White and King ("Lovell") to undertake a review of all BATCo scientific documents. Id. The impact that sensitive documents might have on smoking and health litigation in the United States was a primary concern driving BAT Group document retention policies. As such, B&W actually paid for the massive document review at BATCo. 301156374-6374 (US 16004) (O); 301157557-7557 (US 16005) (O); 301156376-6376 (US 16006) (O).

5054. A March 1990 memorandum authored by Andrew Foyle, a solicitor at Lovell (the "Foyle Memorandum"), confirmed that, in fact, W.D. & H.O. Wills (Australia) Limited ("Wills"), now known as BATAS, a subsidiary of both BAT plc and BATCo, had adopted a

document retention policy in December 1985 after Cannar had issued his instructions to the BAT operating companies. Foyle wrote:

> Wills current document retention policy was introduced on the 30th December 1985 at a time when the tobacco companies in Australia anticipated the possibility of product liability litigation, although no case had actually been brought against any company. Clayton Utz [Wills' counsel] had previously been instructed to take steps to prepare the Industry, and Wills in particular, for litigation. One of their first actions was to review the document retention policy of the Company, hence the new policy.

(3/1990 Foyle Memorandum excerpted in McCabe v. British American Tobacco Australia (Services) Ltd., [2002] VSC 73 (Supr. Ct. of Victoria at Melbourne Mar. 22, 2002) (Austl.), reversed on appeal; subsequent history omitted at ¶ 23 ("McCabe (US 75779)").[1] Fred Gulson, Wills In-house Solicitor and Company Secretary from 1989-1990, was the original recipient of the Foyle Memorandum. At trial he testified that this statement from the Foyle Memorandum accords with his understanding of the genesis of the Wills document retention policy. Gulson WD, 14:14-21.

5055. Gulson first received a copy of the 1985 document management policy from either Wills chief executive Gordon Watson or from Foyle. When Gulson began as in-house Solicitor at Wills, Foyle "was in Australia at the time and gave [Gulson] an induction to smoking and health litigation and the document retention policy. Foyle had a great deal of experience with BAT-style document retention." Gulson WD, 16:9-14.

5056. Gulson explained that the Wills document retention policy was comprised of two

[1]The United States understands that the Court has ruled that the McCabe decision will not be admitted as an exhibit at trial, but that the Court can take notice of this decision by another court. Nonetheless, for ease of reference for the Court, the United States will include the exhibit citation each time the case is referenced and has included the McCabe decision on the compact discs that accompany these Findings of Fact.

components, the written policy and the un-written purpose and application of the policy which was not reduced to paper for fear of discovery. Regarding the two distinct components of the document management policy, Gulson testified:

> The written document's primary purpose was to provide cover for the actual document destruction enterprise, to ascribe an innocent housekeeping justification for the widespread destruction of sensitive documents. The Document Retention Policy wasn't simply the written policy itself, but the corporate knowledge of how the Policy was to be applied apart from the written language. My recollection of the Document Retention Policy comes not from the written document, but how it was explained to me by Nick Cannar, Andrew Foyle, Brian Wilson, a partner at Clayton Utz, and others, rather than from the document itself, since the written document was incomplete in terms of describing the actual workings and purpose of the Document Retention Policy.

Gulson WD, 16:21-17:7; 17:24-18:6.

5057. Foyle, in his memorandum, identified the Australian law firm of Clayton Utz as the legal force behind establishing the document management program in Australia in 1985. Foyle wrote that what was required from Clayton Utz was "a strategy for handling the documents issue in litigation." McCabe (US 75779) at ¶¶ 24, 20.

5058. Andrew Foyle, had become involved in tobacco industry document management issues long before drafting his infamous memorandum in March 1990. As part of Cannars' hiring of Lovell in 1985, Foyle supervised an extensive five stage discovery exercise on behalf of BATCo, which involved "... an evaluation of lawyers of the relevance of that file to the smoking and health issues..." and a resulting "... sensitivity rating." Foyle TT, 04/26/04, 12:8-20; 25:3-27:15. As Foyle testified, the discovery exercise was conducted at a time when BATCo was concerned about "... the litigation climate in the United States..." as well as a concern that BATCo documents could end up in litigation against B&W. Id., 38:4-20. Foyle's testimony was corroborated by Cannar. The concern led Cannar to further investigate whether litigation in the

United States would lead to potential or actual discovery orders, and to find a U.K. solicitor to conduct a document review to determine the contents of the documents at the Southampton GR&DC to understand possible claims that may be made and potential defences. The lawyer he retained was Andrew Foyle. Cannar TT, 06/17/04, 260:10-262:30, 263:4-15, 264:26-265:3.

5059. Again in 1988, Foyle appeared at the center of the BAT Group's document management. This time, he was offering advice to scientists regarding how to create attorney-client privilege for a document that was purely scientific. On March 21, 1988, Foyle wrote to Ray Thornton, head of research at BATCo, regarding a collection of scientific evidence related to Buerger's disease. In an attempt to create privilege, Foyle wrote that "[b]ecause correspondence on the subject of Buerger's disease exchanged between you and your colleagues in other companies might not be privileged, it is important that the contact between the scientists should be routed through the lawyers." 300517039-7040 (US 16025) (O); 300517039-7040 (US 16118) (O). Foyle admitted that, in fact, "...if Ray Thornton wanted information from another company, or if he wanted to approach or if he identified an expert, that he would tell us, and Lovells would make the necessary enquiries." Foyle TT, 04/27/04, 89:2-8, 100:8-105:7. Cannar again confirmed Foyle's testimony that the routing of BATCo scientific evidence relating to Buerger's disease through lawyers to cloak evidence with legal professional privilege at the request of Foyle "... seemed to me to be a perfectly normal way to gather evidence for a piece of litigation and to help prepare a defence to litigation." Cannar TT, 06/23/04, 526:20-527:23.

5060. Finally, on June 23, 1989, Foyle wrote to Steven Parrish, in-house counsel at Philip Morris regarding a memorandum prepared by Lovell. Foyle requested that since the memorandum "was produced in a hurry at a fairly early stage of the exercise I would appreciate it if you would destroy the note after you have read it and made notes on it." 2501474069-4069

(US 16015) (O); Foyle TT, 04/27/04, 53:17-54:2, 55:5-56:7.

5061. Indeed, as Cannar testified, between 1985 and 1989, he regularly sought advice from Foyle regarding document handling and product litigation issues. Cannar TT, 6/17/04, 218:46-220:10.

5062. When posed with more substantive and specific questions, Cannar, whose legal representation was paid for by the BAT Group, repeatedly could not remember or refused to answer on the grounds that the answer might incriminate him. Indeed, Justice Brownie, the Australian court official overseeing the Cannar testimony made specific findings regarding Cannar's credibility in the context of a motion to treat Cannar as a hostile witness. In general, with respect to Cannar's testimony, Justice Brownie stated:

> I think it is abundantly clear that Mr Cannar may reasonably be supposed to have knowledge about a wide range of matters . . . listed in the letter of request and that, generally speaking, **he has not been making a genuine attempt to give evidence** about them.
> ...
> He gave evidence, in a fragmented way, over four days last week . . . looking back now, and considering the transcript, **it is noteworthy that he really has not said very much at all**. . . .

Cannar TT, 06/21/04 order (US 16236),[2] 3:16-21, 4:9-14. With respect to Cannar's repeated assertions against self-incrimination, Justice Brownie found the assertions "spectacularly" suspect given that when the self-incrimination claim was overruled, Cannar would simply assert a lack of memory. In this regard, Justice Brownie stated:

> **some of the objections can scarcely be regarded as reasonably taken**. For example, he did not commence to work for any tobacco company until 1981, but he claimed privilege against

[2]The orders of the Australian Court were rendered in open court and are recorded as separate volumes of the Cannar Trial Transcript. For ease of reference for the Court, however, the United States has assigned them U.S. Exhibit numbers, will include the exhibit citation each time an order is referenced, and has included the orders decision on the compact discs that accompany these Findings of Fact.

> self-incrimination in respect of such matters as his graduating in law in 1969 and the details of his legal career before 1981. **These are merely the most spectacularly unimpressive claims for privilege.**
> . . .
> He repeatedly claimed privilege and then, upon being directed to answer, said that he could not remember. It was not just his asserted lack of memory that seemed to me to be significant, but rather the combination of the claim for privilege followed by a ruling that he should answer the question, followed immediately by an assertion of non-recollection.
> There was also the manner in which this happened repeatedly, as if he was fencing for time or delaying the inevitable or both.

Cannar TT, 06/21/04 order (US 16236), 5:1-7, 5:20-30.

5063. During his trial testimony in Australia, Cannar invoked the Australian self-incrimination statute (referred to in the Cannar transcript as "Section 128") to avoid answering over one hundred questions relevant to his role in document management polices of BAT Group companies, including BATCo, B&W, and Wills. Cannar invoked the self-incrimination statute when asked to comment on the accuracy of paragraphs cited in the McCabe decision. Independently of the facts and conclusions set forth in the McCabe decision, Cannar also asserted self-incrimination privilege to numerous questions concerning the importance of document retention policies to BATCo and the BAT Group, the purpose of Wills' document retention policy, the circumstances leading to the preparation of the Foyle Memorandum, as well as many other related topics. Among Mr. Cannar's refusals to answer are the following exchanges (italics in original):

> Q: May I next ask you this: in the second sentence of paragraph 128 of Justice Eames' judgment [in McCabe], he said this: *Cannar said to Nicholson, "Now is a good opportunity to dispose of the documents if we no longer need to keep them. That should be done outside the legal department."* What do you say about the accuracy of that comment?

* * *

A: Your Honour, I should make it clear that I object under Section 128.

Cannar TT, 06/16/04, 150:11-21, 151:14-15.

Q: Next, in paragraph 129 of Justice Eames' judgment, in the first sentence, his Honour states this factual finding: *The actual task of destruction was performed by an external service provider.* What do you say about the accuracy of that sentence?

A: I object on the same basis, your Honour.

Q: The same basis being privilege against self-incrimination?

A: The same basis being under Section 128.

Cannar TT, 06/16/04, 151:37-152: 1.

Q: Could I take you, please, back to what Justice Eames said in the McCabe judgment. In paragraph 140 of his Honour's judgment, in the first sentence, he said this: *Maher was concerned about the proposal to reinstate the document retention policy and he discussed the proposal with his superior, Cannar.* What is your view as to the accuracy of what is there stated by his Honour?

A: I object under section 128.

Cannar TT, 06/16/04 at 167:29-168:8.

Q: In paragraph 156, in the last sentence of that paragraph, Justice Eames says this: *Mr. Maher was instructed by Cannar that the document retention policy was to be implemented.* What was your view, as at the conclusion of the Harrison and Cremona proceedings, about the implementation of the document retention policy?

A: Your Honour, I object to that under Section 128.

* * *

Q: What steps, if any, Mr. Cannar, did you take at the conclusion of the Harrison and Cremona proceedings to reinstate the document retention policy?

A: Your Honour, I object under section 128.

Cannar TT, 06/17/04, 194:47-195:39.

Q: In the second sentence of paragraph 19, his Honour says that he is satisfied that the primary purpose of the development of the new policy in 1985 and subsequently was to provide a means of destroying documents under the cover of an apparently innocent housekeeping arrangement. What comments, if any, do you have on the accuracy of that statement?

A: Your Honour, I object under section 128.

* * *

Q: In the last sentence of paragraph 19 his Honour says: *It is clear that the post-1985 policy . . . reflects the acute consciousness of their authors that and explain their attempts to disguise the fact that the document retention policy was primarily directed towards the risks of litigation.* What comments do you have on the accuracy of that statement?

A: Your Honour, I object under section 128.

Cannar TT, 06/17/04, at 202:5-39.

Q: As a director of legal services while at BAT did you ever take a view regarding the importance of records management to the company overall?

A: Your Honour, I think we're in the area of privilege again.

Cannar TT, 06/24/04, 619:15-19.

5064. As the 1980s came to a close, the issue of document retention was again of central concern to the BAT Group companies around the world. In the United States, executives at B&W became concerned over statements being written by company scientists in minutes of scientific meetings. At the same time that the formal minutes of the Vancouver RPG meeting were being issued in November 1989, Andrew Foyle was again at the center of document handling issues. This time he was meeting with Wills' chief scientists Graham McGregor and

Tas Wilson in Australia to learn how the Wills 1985 document management policy had been implemented by the Wills Research Department. McCabe (US 75779) at ¶ 25.

5065. In his testimony, Foyle confirmed the meeting with Graham McGregor and Tas Wilson in November 1989. At the meeting, Wilson and McGregor informed Foyle that unpublished enclosures to letters distributed by BAT's Scientific Research Group had been destroyed and that "... the 1985 retention policy, had been applied and, consistent with that policy, documents would be destroyed when they reached the end of their retention period." Foyle TT, 04/28/04, 22:1-23:6, 24:9-25:11, 49:11-50:18, 57:9-20.

5066. Following the meeting in Australia and after being instructed by Nick Cannar, Foyle prepared the Foyle Memorandum, and sent it to Fred Gulson in Australia. Foyle TT, 04/28/04, 17:10-14, 18:7-19:4. The Foyle Memorandum included a review of Wills' Document Retention Policy in light of ongoing product liability litigation. McCabe (US 75779) at ¶ 22. While BATCo and BATAS have gone to great lengths to prevent the release of the Foyle Memorandum, many excerpts from the Memorandum have been quoted in an Australian smoking and health case. McCabe (US 75779). Fred Gulson, the original recipient of the Foyle Memorandum and the Wills Solicitor and Company Secretary from 1989-1990 testified – that with respect to the McCabe decision – "the facts relating to my tenure at Wills are set forth accurately." Gulson WD, 13:19-23, 26:5-11.

5067. At the same time in 1990, Foyle recalls numerous discussions regarding document retention issues as a result of discovery requests against B&W and the possibility that the document requests might be extended to BATCo's documents. Foyle TT, 04/27/04, 35:13-36:8.

5068. In his memorandum, Foyle expressed numerous problems with Wills' 1985 document retention policy in light of anticipated litigation. His first concern was that: "(a) The

wording of policy (coupled with timing of its introduction) might lead to the inference that the real purpose of the policy was to destroy sensitive smoking and health documents. McCabe (US 75779) at ¶ 27. Gulson confirmed this concern as "particularly pressing. . . since the real purpose of the Policy was, in fact to destroy sensitive smoking and health documents." Gulson WD, 27:2-9.

5069. Foyle next expressed the concern that:

> (b) Aspects of the implementation of the policy might support that inference, for example the immediate destruction of the unpublished enclosures to the SRG (Wills' Scientific Research Group) letters.
>
> (c) The retention of a set of the BATCO research reports means that a plaintiff will have access to much sensitive BATCO research. The information in the reports is enough to prompt searching questions about the underlying research policy and also questions about what follow up action was taken by BATCO in the light of the research results.
>
> (d) The retention of the BATCO reports might encourage a plaintiff to seek discovery of BATCO's documents, either by asserting that Wills has control over documents in the possession of BATCO, or by using the Hague Convention. The research reports might enable a plaintiff to frame a Hague Convention request for documents with the requisite degree of specificity and/or to identify the BATCO employee from whom oral testimony is required.
>
> (e) Wills access to the BATCO computer gives them the de facto right to details of results of BATCO's research. The summaries of the reports which are on the database are sufficiently informative to be of real interest to a plaintiff's lawyer.
>
> (f) The knowledge that Wills' senior scientists have of BATCO research could rule them out as a witness at any trial in Australia.

McCabe (US 75779) at ¶ 27. These additional concerns expressed by Foyle in his memorandum,

were also confirmed by Gulson, who testified that the computer link with Southampton was actually severed because of BATCo's concern that its scientific documents might be made available to plaintiffs in Australian litigation. Gulson WD, 27:3-28:15.

5070. As a result of the concerns he expressed, Foyle went on to lay the groundwork for tightening the Wills document management policy in light of anticipated litigation. In this context he made the following observations:

> 1. It is understood that the destruction of documents now or in the past by Wills contravenes no law or rule in Australia and that, in that sense, Wills can do what it likes with its documents. Presumably, if a court disapproved strongly of the destruction of the documents, then it might draw adverse inferences from that fact.
>
> 2. It should be assumed that Wills' documents (what is in them and what has happened to them) will be a matter of great interest to a plaintiff's lawyer in a product liability action. How Wills responds to questions about its documents will require careful thought, especially because of the implications which the answers may have for the BAT group as a whole. It would be sensible, therefore, to assess the nature and extent of any problems which the current document retention policy may pose and to take appropriate remedial action now, rather than wait for the litigation to begin. Generally, what is needed is a strategy for handling the documents issue in litigation.

McCabe (US 75779) at ¶ 28; Gulson WD, 28:17-19:9. Gulson explained in his testimony to the Court that when Foyle wrote in his Memorandum – that "Wills' documents (what is in them and what has happened to them) will be a matter of great interest to a plaintiff's lawyer in a product liability action" – he was referring to the fact that some documents would be harmful to the BAT Group, if produced in litigation, because the "documents may raise questions regarding what happened to the other, **destroyed** documents." Id., 29:1-9 (emphasis added). In short, "BATCo was concerned that the destruction of some scientific documents, accompanied by the retention of others, would enable a plaintiff or court to determine that Wills was selectively destroying documents." Id., 31:11-32:6. This testimony confirms both that documents had been destroyed by Wills and that Wills' legal team was attempting to find means to hide this fact in any future

litigation.

5071. When he received the Foyle Memorandum, Gulson sent it to Brian Wilson, a lawyer at the Australian law firm of Clayton Utz for answers to the questions raised by Foyle regarding the use and implementation of the Document Retention Policy. Gulson WD, 32:18-33:9; McCabe (US 75779) at ¶ 22.

5072. In the Memorandum, Foyle seeks advice from Clayton Utz on the issue of whether the destruction of documents by Wills could result in a finding of adverse inference if litigation did actually commence. In the Memorandum he wrote:

> 1. To what extent is there a risk that the destruction of documents in accordance with the 1985 retention policy will cause the Court to apply the adverse inference principle, taking into account:
>
> (a) the wording of the policy,
>
> (b) the circumstances prevailing at the time it was introduced (e.g. whether product liability actions had been threatened against Wills or the industry generally),
>
> (c) the extent to which Wills will need to claim privilege for documents produced in 1985 and later, on the grounds that the documents were produced in contemplation of anticipated proceedings.

McCabe (US 75779) at ¶ 29.

5073. Foyle was also concerned about BATCo research destroyed by Wills: "Might BATCO's documents be more at risk? For example might the Court order Wills to retrieve from BATCO copies of the BATCO documents destroyed by Wills?" McCabe (US 75779) at ¶ 31.

5074. Finally, Foyle posed the following numerous questions to Clayton Utz regarding the specifics of how a revised document management policy might be crafted and implemented:

> 3. Should changes be made to the way in which the policy is currently being applied, for example, in relation to the SRG documents?

> 4. What should be done about the copies of the BATCO research reports held by Wills? In this connection:
>
> (a) Would the continued retention of these reports compromise Wills position via a vis the destruction of its other documents? This question should be answered on the basis of the information given in this memorandum on the content of the reports. If more information is needed it can be supplied by LWD. It would be undesirable for Clayton UTZ to seek information from Wills about the reports.
>
> (b) Is there any reason why Wills should not now destroy its copies of most of the reports, if the motive for doing so were that the information in the reports is not relevant to Wills' Current "research mission"?
>
> (c) Would the termination, or the restriction, of Wills' access to the reports database on the BATCO computer cause any problems?
>
> (d) Does the Caudwell threat affect the position?
>
> 5. Would implementation of the proposed new retention policy hinder or help Will's position on the documents issue?

McCabe (US 75779) at ¶ 32; Gulson WD, 29:10-32:17.

5075. Gulson confirmed at trial that the Foyle Memorandum contains these questions and that both Foyle and Cannar wanted Gulson to direct the questions to Brian Wilson a lawyer at Clayton Utz. Gulson WD, 29:10-19, 33:2-9. Gulson further explained that Foyle was posing the questions because

> There were serious concerns at BATCo that Wills' Document Retention Policy might leave the BAT Group vulnerable. Foyle was trying to strike the proper balance between **destroying more documents**, thereby risking an adverse inference against the companies; and not destroying more documents, thereby risking their discovery and use against the companies in litigation.

Id., 29:20-30:5 (emphasis added).

5076. Foyle confirmed in his memorandum that most scientific documents received by Wills from BATCo had already been destroyed. Foyle wrote:

> For purposes of this exercise it can be assumed that, over the years, Wills has received copies of most of the sensitive documents generated by BATCO **but that most of these** (with the exception of the research reports) **will have been destroyed as a result of the [1985] retention policy**. It should also be assumed that a number of Wills employees have a detailed knowledge of the subjects to which many of the sensitive documents referred.

McCabe (US 75779) at ¶ 98.

5077. In a March 29, 1990 letter responding to the questions raised in the Foyle Memorandum, Clayton Utz attorney Brian Wilson wrote to Gulson. He confirmed that document destruction had occurred at Wills, but that because no litigation was pending (but was anticipated) and because an alternative explanation for the destruction could be created, Wills might be able to avoid an adverse inference. Wilson wrote:

> **Wills' destruction of documents** has not occurred during litigation in relation to which those documents might be relevant. If it had, that would be extremely strong evidence of an intention "to do something likely to interfere with the course of justice": Lane's case above.
>
> The destruction has occurred, instead, in a situation where litigation has been, and still is, contemplated. But it can be said that it has not occurred only because of that fact and in order adversely to affect the litigation. This is where the wording of the 1985 retention policy statement [for which Clayton Utz had been the architect] becomes very important.

McCabe (US 75779) at ¶ 38 (excerpted 3/29/90 Wilson Letter); see also Gulson WD, 33:10-20 (indicating that the text of the Wilson letter was accurately reproduced in the McCabe decision). Wilson followed this statement with a list of benign excuses from the 1985 document management policy – cost efficiency, litigation support, and sabotage prevention – which he suggested could be offered as "clear evidence of an intention which is the complete opposite of an intention 'to do something likely to interfere with the course of justice.' This positive intention cancels out the negative impression created by destruction per se." Id. The thrust of Wilson's

advice was that as long as an excuse for destruction could be found, then they could destroy documents without fear of an adverse inference in future litigation. Gulson WD, 33:25-34:2. In reality, Gulson confirmed that the documents were actually being destroyed "due to litigation concerns." Id., 34:3-6.

5078. In early April 1990, Gulson arranged a meeting with Brian Wilson, John Oxland, and other lawyers from Clayton Utz to discuss their advice. "Because of the importance of the issue Nick Cannar himself came from London to attend." Gulson WD, 34:7-20; 501582007-2008 (US 89419) (A). In a letter pre-dating the meeting, Nick Cannar wrote to Gulson with a list of items to discuss during his visit including the following item: "2. Document retention policy – We have developed a draft research document retention policy for the B.A.T. Industries Group and a copy is enclosed. I would like to discuss this proposed policy with you and how it might be applied in Australia." 501582007-2008 (US 89419) (A).

5079. At the meeting, Cannar, Wilson, Oxland and Gulson discussed Wills' Document Retention Policy in the context "of a larger, BAT Group wide review of the document retention policy. All of the BAT Group companies' document retention polices were kept in lock step as much as possible, to ensure that no company would leave an opening through which damaging documents could be discovered and used against the rest of the BAT Group." Gulson WD, 35:11-22.

5080. John Oxland took minutes of the April 1990 meeting, where he reports that Wilson advised Wills and BATCo that Wills should "[k]eep all research docs which became part of the public domain and discover them. As to other documents, get rid of them, and let the other side rely on verbal evidence of people who used to handle such documents. McCabe (US 75779) at ¶ 42 (excerpted 4/1990 Oxland minutes). Gulson recalls Wilson offering the advice chronicled

in Oxland's minutes at the meeting: "to keep research documents that were in the public domain, and to destroy adverse research documents that the public or plaintiff's counsel would not be aware of." Gulson WD, 36:7-16.

5081. Wilson's recommendation was accepted and implemented by Wills. Id., 36:16-18. In short, it was determined that the existing "Wills Document Retention Policy should be continued, that potentially **damaging documents should continue to be destroyed**, and that an innocent explanation should be provided for destruction." Id., 36:18-23 (emphasis added).

5082. Another meeting between Cannar, Gulson and the Clayton Utz lawyers took place later that same day in April 1990. At the meeting, the lawyers discussed the ability of potential plaintiffs to discover a database maintained by Clayton Utz for the Tobacco Institute of Australia, which included "scientific documents from [TIA] member companies, profiles of likely witnesses, [and] information on judges." It was determined that because this database was maintained by a law firm the documents could be withheld on grounds of privilege and that the member companies could destroy their copies to avoid production in litigation. Id., 38:3-43:23; 304003742-3742 (US89400) (A); 304003686-3690 (US 89418) (A).

5083. Following the meetings in April 1990 with Clayton Utz, Gulson wrote to S.J. Walker, a lawyer at the Australian law firm of Allen Allen & Hemsley, to seek a second opinion. Gulson sought the second opinion "[b]ecause the Document Retention Policy was a ruse." Gulson WD, 44:10-20, 32:20-24.

5084. Gulson was particularly concerned that the selective destruction of documents, which had occurred, could ultimately provide a roadmap to Wills destruction of documents for future plaintiffs. Gulson expressed this concern in a May 16, 1990 letter to Walker: "The retention by Wills on a selective basis of certain reports may highlight the fact that other

documents have been destroyed and could well compromise the position of Wills with respect to the practice and operation of the Document Retention Policy." McCabe (US 75779) at ¶ 46 (excerpted 5/16/90 Gulson letter); see also Gulson WD, 45:14-46:2.

5085. The discussion of document destruction at Wills continued long after Gulson left the company in 1990. For example, in February 1992, Foyle participated in a telephone conference with Robyn Chalmers of Mallesons, Bob Northrip of Shook Hardy & Bacon, Stuart Chalfen, head of BAT Industries Legal, and David Schechter, in which the participants discussed the subject of destruction of documents, and "... what are the nature of the obligations imposed on a party to proceedings in relation to the retention of its documents." Foyle TT, 04/28/04, 61:4-66:19.

5086. The clear purpose of the Wills Document Retention Policy was to destroy sensitive documents under the guise of good business practices. As Wills' in-house counsel, Frederick Gulson states: "When I arrived at Wills the Document Retention Policy had been to destroy damaging documents while keeping those that were beneficial to the company, and that remained the Policy at the time I departed Wills." Gulson WD, 47:15-17. "The Policy was a program to ensure that all sensitive documents, all documents that if made public or discovered in litigation could potentially damage Wills, or Wills' affiliate companies in the BAT group, were sanitized." Gulson WD, 9:18-21.

5087. To "sanitize" Wills' documents meant to destroy them or otherwise make them undiscoverable. Id., 9:22-23.

5088. When questioned very directly on the subject of the document retention policy, Gulson confirmed that pursuant to its Document Retention Policy, "Wills was in fact destroying potentially damaging reports, while retaining favorable ones." Gulson WD, 45:24-46:2.

5089. While the intent of the Wills' Document Retention Policy was to destroy documents to prevent their production in litigation a more benign excuse was required to prevent adverse findings in litigation. Thus, "[t]he Document Retention Policy was a contrivance designed to eliminate potentially damaging documents while claiming an innocent 'housekeeping' intent." Gulson WD, 19:18-19.

5090. Indeed, after the flurry of advice received by Gulson in 1990 regarding the Wills Document Retention Policy from Foyle, Wilson, and Allen Allen & Hemsley, the written Document Retention Policy at Wills was only revised slightly "to ensure that from the outside the Document Retention Policy appeared to be an innocuous housekeeping process . . . ." Gulson WD, 47:3-18.

5091. A primary focus of Wills Document Retention Policy, and the related policies at other BAT Group operating companies was to prevent any weak links in terms of the production of scientific documents in litigation by one BAT Group company that would come back to haunt another BAT Group company. The concern was explained by Wills in-house counsel, Frederick Gulson as follows:

> The central research facility for the various BAT Group operating companies around the world was located at Southampton in England. Research from Southampton would be distributed to the other BAT Group companies around the world, including Wills. In addition, other BAT operating companies had their own research departments and facilities of varying sizes. The facility at Wills was not particularly big, but there were more significant research facilities at some of the larger operating companies, including Brown & Williamson in the United States, and BAT Germany's operating company in Hamburg. The companies all shared research. If incriminating smoking and health research documents were discovered by the public or a plaintiff in Australia, not only would the documents have been shared with the rest of the BAT Group companies, it probably came from one of the other BAT Group companies. As a result, a failure by Wills to safeguard sensitive documents in Australia, would threaten BAT operating

> companies across the globe. It was for this reason that the Document Retention Policy received such attention.

Gulson WD, 6:4-24; see also Id., 9:24-10:16.

5092. Andrew Foyle explained this concern to Gulson in both conversations and in the Foyle Memorandum. Foyle told Gulson that

> the importance of having and strictly adhering to the Document Retention Policy was to prevent potentially damaging documents from being discovered that could damage not only Wills, but also its parent and sister companies, in light of Will's possession and access to documents from Southampton and elsewhere in the BAT Group. There was a particular concern that Brown & Williamson would be vulnerable in litigation in the United States, and that the documents could be very damaging for it.

Gulson WD, 26:12-17:1.

5093. This concern was echoed in a contemporaneous letter prepared by Gulson and sent to S.J. Walker a lawyer at the Allen Allen & Hemsley. At the time Gulson wrote:

> The potential and substantial problem that would face our major shareholder in the event that any discovery made in Australia of BATCo's research could be used by future plaintiff in other jurisdictions especially in the USA.

Gulson WD, 44:23-45:5.

5094. Because scientific documents were shared throughout the BAT Group of companies, Cannar and Foyle had a "grave concern" that "if a document were discovered from Wills it could be used against BATCo or Brown & Williamson or another operating company." Id., 45:5-13.

5095. The flurry of activity to sanitize the research files within the BAT Group of companies in 1990 was not limited to Wills in Australia. Also in 1990, Cannar instructed Kay Kinnard (previously Kay Comer) to put together a program to administer document management policies at BATCo. Though he was uncertain about the destruction of documents resulting from

this program, Cannar stated that it probably occurred because "... that was the path we went down." Cannar TT, 06/21/04, 340:35-341:4, 356:77-358:27, 360:1-364:6.

5096. Also in January 1990, the heads of all research facilities throughout the BAT Group were called together in New York City to implement policies designed to prevent the creation of sensitive research documents by inserting legal approval over the issuance of minutes from scientific minutes as well as other research documents.

5097. Cannar followed this meeting on March 7, 1990, with a new proposed policy specifically for "research document retention." 202313484-3487 (JD-039222) (A).

5098. Also, beginning in 1991 and lasting until his retirement, David Schechter, General Counsel of BATUS, was sent to Australia at the request of BAT Industries' general counsel to manage document issues in Australia. Schechter WD, 39:9-43:4. The trips were paid for by BATCo, and BATCo also paid for lawyers from Shook, Hardy & Bacon to accompany Schechter to Australia. Id.

5099. As part of his role managing Australia litigation, Schechter had discussions with Wills' general counsel regarding whether Wills' documents - including smoking and health documents Wills received from other BAT Group companies - could be destroyed during or after trial. Schechter WD, 42:15-43:4.

5100. Gulson confirms that David Schechter, counsel for B&W's immediate holding company, BATUS, played an important role in monitoring Wills's document retention policy on behalf of B&W and other BAT Group entities. Indeed, a letter from Schechter to Sir Patrick Sheehy, the Chairman of BAT Industries, indicates with respect to document management issues, Schechter has access to the highest ranking official in the entire BAT Group of companies. Gulson WD, 49:23-4, 50:17-51:15; 202215750-5750 (US 89404) (A).

5101. John Welch, chief executive officer of the Tobacco Institute of Australia - the Australian corollary to the Tobacco Institute - from 1991 to 1992, confirms Gulson's recollection of document destruction in Australia in the early 1990s. Speaking of a policy required of TIA by its member companies, Welch states:

> The primary purpose of the Document Retention Policy was to keep documents that were potentially damaging to the member companies or the TIA [Tobacco Institute Australia] out of litigation and out of the hands of those that could use the information to attack the industry. The view was, why leave a loaded gun on the table that could be used against you? The Document Retention Policy was primarily a document destruction policy designed to make sure that potential "guns" were destroyed. The name "Document Retention Policy" was a misnomer. It's purpose was to minimise the TIA library.

Welch WD, 2:20-2:21; 3:1-3:5; 9:3-9:14; see also, 7:18-7:23. The TIA "member companies" included the Australian affiliates of BATCo, B&W, Reynolds and Philip Morris. Welch WD, 4:10-4:14.

5102. In applying the TIA Document Retention Policy, Welch testified that the primary factor in determining whether a document should be destroyed was "[w]hether the document would be damaging in litigation positions, legislative positions, or public affairs positions." The policy was implemented through a number of steps:

> Some documents from the member companies would explicitly say "read and destroy" . . . . In [more difficult] instances, one would consult with the government and public affairs officers of the member companies or others such as [the lawyers from] Clayton Utz. . . . There also would be occasions where I would get instructions from a member company to determine whether the TIA possessed a certain document, and if so, to destroy it. . . . [S]ometimes whether a document should or shouldn't be destroyed would be put on the agenda for meetings with the member companies, then raised at meetings, where the potential danger of the document would be discussed and a decision made on whether or not the document should be destroyed. At the conclusion of the meeting, the agenda that mentioned the document would be

destroyed.

Welch WD, 10:3-10:16, 11:5-11:12; see also 20:15-20:21.

5103. Welch confirmed that the same lawyers involved in devising document destruction practices for BATCo and B&W were closely involved with TIA and its legal and document management issues, including the Clayton Utz law firm in Australia, and Don Hoel and Robert Northrip from Shook, Hardy & Bacon in St. Louis. Welch WD, 6:15-6:18; 11:2-4; 17:22-18:15; 25:22-26:4; see also, 26:10-26:17. Indeed, the Document Retention Policy "was a constant subject with Clayton Utz [because] there was great concern that the TIA was a 'weak link' and that discovery at the TIA could become a problem for the member companies." Welch WD, 20:2-20:5, see also, 19:17-19:20.

5104. The document handling policies applied at TIA were similar to the document handling policies at the TIA member companies; "[t]he purpose of each of the policies was the same, to prevent potentially damaging documents from being discovered. . . ." Welch WD, 20:9-20:14. The importance of a unified policy between TIA and its member companies – because the "same concerns that motivated the companies motivated the TIA" – was confirmed by Frederick Gulson, in-house solicitor for W.D. & H.O. Wills from 1989-1990. Gulson WD, 15:20-16:6.

5105. Welch further disclosed that "the largest class of documents destroyed under the Policy were scientific documents considered potentially harmful to the member companies." This included scientific reports addressing whether smoking causes disease, whether passive smoking causes disease, and whether nicotine is addictive. Welch WD 11:13-12:3. "Most of the scientific documents came from the member companies' overseas affiliate or parent companies," including U.S. affiliates. Welch WD, 12:17-21, 13:2-4

(viii) BATAS's Efforts To Purge Its Files of Potentially Damaging Documents Led To The Destruction of A Database of Thousands of Documents

5106. From 1990 to 1996, a number of plaintiffs brought proceedings against Wills, the last being Phyllis Cremona in 1996. In conjunction with this litigation, Wills undertook a review of its scientific documents in 1995 that lead to the creation of a database of scientific documents known as the "Cremona database." McCabe (US 75779) at ¶¶ 59, 116. In 1996, Graham Maher, an attorney with the Australian law firm Mallesons, began "to review documents which might become relevant in any future litigation… . Together with others, he summarized documents and had them scanned." Id., ¶ 109; (US 16226) (O) (Affidavit of Graham Franklin Maher, 01/28/02, at ¶ 2) ("Maher Affidavit"). As part of the effort to create the Cremona database, virtually all of the 30,000 documents identified by Wills as being potentially responsive to the Cremona litigation were imaged on computer discs, indexed, and summarized. McCabe (US 75779) at ¶ 112; (US 16226) (O) (Maher Affidavit at ¶ 11). The document review also entailed attorneys rating each document on a scale of 1 to 5, according to how damaging each was likely to be to the company in any litigation, with a rating of 5 meaning the document was a "knockout" blow against the company. McCabe (US 75779) at ¶ 114.

5107. After Cremona and Harrison (another pending case) were discontinued in March 1998, an existing litigation hold order requiring the preservation of documents was revoked. Id., at ¶ 128; see also 1226-1249 (US 16217) (O); 1066-1066 (US 16218) (O); 1294-1294 (US 16219) (O); 1296-1296 (US 16220)(O). Following the revocation of the hold order, Cannar concluded that "now is a good opportunity to dispose of documents if we no longer need to keep them. That should be done outside the legal department." McCabe (US 75779) at ¶ 128; (US 16225) (O) (Affidavit of Malcolm Nicholas Nicholson, 01/29/02, at ¶ 36) ("Nicholson

Affidavit"). Cannar instructed longtime Wills employee Mal Nicholson to take the position of Records Manager and entrusted him with responsibility for implementation of the policy. McCabe (US 75779) at ¶ 128; (US 16225) (O) ("Nicholson Affidavit at ¶ 36). "For the next three months, Nicholson was engaged in the implementation process. The process did, in fact, involve lawyers, but they were lawyers from Mallesons, who reviewed all documents which had been collected for Cremona and Harrison, and once they confirmed that documents had passed the retention dates then they were destroyed." McCabe (US 75779) at ¶ 129.

5108. During this time, Robyn Chalmers, outside counsel for Wills with the firm Mallesons, advised Wills:

> I confirm that there is no specific obligation of you to retain documents for the purposes of legal proceedings where no such proceedings have been commenced. You are entitled to destroy any documents subject to the legislative requirements but as you have been advised previously, the court may draw an adverse inference from the destruction of such documents, depending on the circumstances of the destruction. Moreover, you may be required to produce any copies retained where originals are destroyed or to give oral evidence regarding the nature and content of the original documents. Arguments in your defence where records have been destroyed would include compliance with the legislative retention periods and a necessity to maintain your archives within responsible limits, given the administrative and storage costs of keeping a large quantity of data."

McCabe (US 75779) at ¶ 137; PMV0010213-0214 (US 88753) (O). Despite Chalmers's advice, the document destruction went forward. McCabe (US 75779) at ¶ 139.

5109. Testifying in McCabe, Maher admitted that the effect of the policy was not only to get rid of the documents but to obliterate knowledge of the fact of the existence of the documents. McCabe (US 75779) at ¶ 160. Maher's testimony confirmed that "[t]here was a sense of urgency" and that "the department managers were told they had to confirm compliance with the policy by 15 April 1998." McCabe (US 75779) at ¶ 154; 1066-1066 (US 16218) (O);

1296-1296 (US 16220) (O). "The process of destruction of documents in which the defendant engaged included destruction of CD Roms on which they were all imaged." McCabe (US 75779) at ¶ 160. Chalmers confirmed that the only copies of the Cremona database (one held at Wills and one at Mallesons) were destroyed." McCabe (US 75779) at ¶ 163.

5110. As a result of this document destruction, thousands of potentially relevant smoking and health documents were kept from the courts and the public. By way of example, one document indicates that a search of the Cremona database for "Wills knowledge of the risks of lung cancer" during the period from 1962 to 1988 identified 949 relevant documents. McCabe (US 75779) at ¶ 121.

5111. Consistent with BATCo's attempts to protect documents from its Australian subsidiary BATAS from being made available for litigation in the United States, on August 30, 2000, Kristina Whiteman a BATAS lawyer sent a memorandum to Mal Nicholson, BATAS Audit Services Manager, and copied the note to Kay Kinnard of BATCo who was responsible for directing BATCo's worldwide document destruction program. The memorandum indicates that BATAS was waiting for litigation to cease so that "we can apply the Document Retention Policy." 325351264-1267 at 1267 (US 29241) (O).

(ix) B&W Continues To Instruct Affiliate Companies To Keep Scientific Research Documents Out of The United States

5112. In 1992, while B&W was a party to a BAT Group cost-sharing agreement that funded BAT Group research, B&W telegraphed to other BAT Group companies that it did not want to receive any research documentation that might be damaging in ongoing litigation. B&W only accepted scientific research documents from other BAT Group companies "to the extent [it was] able to do so consistent with the status of pending litigation in the United States." 682508295-8295 (JE-21689) (A).

5113. Indeed, in the few instances when "sensitive" scientific reports were sent to Jeffrey Wigand, Vice President of Research and Development at B&W, from other BAT research facilities they were first reviewed by chief products liability lawyer Kendrick Wells.

> If [the document] contained contentious information. . . Ray Thornton would travel to the United States and meet with Kendrick Wells. During those meetings Mr. Wells would review documents that Thornton had brought. Wells would either approve a document for delivery to the scientists, edit the document and then allow it to be delivered to the scientists, or send the document back to the U.K. because it contained information that was too contentious.

Wigand WD, 62:20-63:2. Ultimately, some scientists at the BAT research facility in Southampton resorted to faxing reports to Wigand at his home to try to circumvent the company's attempt to control scientific work by lawyers. Wigand WD, 63:19-64:12.

5114. In 1994 and 1995, at the direction of B&W CEO Tommy Sandefur, B&W again directed BATCo and other BAT Group companies not to send documents to B&W so that B&W could avoid being called upon to explain the documents in court, in Congressional testimony, or otherwise. In a September 15, 1994 memorandum summarizing a meeting of the BAT Group research heads in Rio de Janeiro, Graham Read, head of BATCo research, recorded that "B&W have instructed Group members not to undertake written communication with them until further notice. Alternative communication vehicles are being considered." When asked about this instruction Read explained as follows:

> Q. Who instructed the group members on behalf of B&W?
>
> Mr. Browdy: Objection.
>
> A. Well, it's clearly with the summary points that I created, as a consequence it could only have come from Tilford Real [sic] who's the only member of B&W to the best of my knowledge who was in attendance at this meeting, the head of R&D for B&W at that time. . . .

Q. In what context did he give this instruction?

Mr. Browdy: Objection.

A. Again, my best recall, Tilford was an excellent scientist, and certainly was not giving legal opinion, **it would have been somewhere in the consideration of production of documents into some litigation**, and simply suggesting here that a written communication would fall into that category but still requiring to find some means of communication such that they are kept informed of group activities. That's the best guess I can overlay on that.

Read PD, United States v. Philip Morris, 05/01/02, 178:5-16, 179:2-181:4 (emphasis added); 403680929-0930 (US 47616) (A); Read PD, United States v. Philip Morris, 05/1/02, 178:5-16, 179:2-181:4; Read TT, 03/22/05, 16437:22-16441:12.

5115. On September 21, 1994, BATCo attorney H.A. Morini sent a note to Lionel Blackman, Director of Research at BATCo, regarding a conversation with Ernest Pepples about the procedure for communications between B&W and the BATCo research department. Morini instructed Blackman that "'[c]ontentious' items emanating from GR&DC, particularly in regard to biological activity should be given legal clearance before dissemination" and that "transmission to B&W should be through me to Pepples thus maintaining the legal privilege - 'attorney work product.'" Morini also advised that "'[n]on contentious' issues can be sent direct from GR&DC to B&W care of Gil Esterle." Esterle was a B&W scientist. 503114322-4322 (US 21695) (A).

(x) Scientific Efforts Driven By Legal Concerns and Controlled By Company Lawyers

5116. In 1984 Kendrick Wells, a B&W in-house lawyer, wrote to H.A. Morini, BATCo's corporate counsel, regarding an article proposed by BATCo scientist Lionel Blackman. Wells's letter instructed that all references or citations to scientists who had concluded that smoking caused disease, including lung cancer and heart disease, or articles that referred to

cigarettes as a drug, be removed from the article. The references to be removed included references to a publication by Doll and Peto, who Wells admits were "two of the most highly respected and widely published and widely regarded researchers on the cause of smoking and health. . . ." Wells WD, 26:18-28:1; 680582499-2507 at 2500 (US 86881) (A); see also 107317952-7953 (US 20249) (O).

5117. Graham Read, head of research and development at BATCo from 1992 to 1998 and employed by BATCo in its research area since 1976, testified that, at least twice during his tenure with the company, scientists were required to clear their documents through the legal function before the documents could be circulated or distributed. According to Read, the reason for the clearance process was the "clearly very substantial legal environment, legal issues occurring in the US." Read PD, United States v. Philip Morris, 07/25/03, 82:19-88:2, 93:21-95:1, 103:9-106:4, 107:20-108:10; 109870722-0723 (US 34874) (A); 516003171-3171 (US 20872) (A); 516003172-3172 (US 21,732) (O); 516003173-3174 (US 22076) (A).

5118. Read's careful parsing of words in his frequent testimony on behalf of BATCo belies his long history and allegiance to the company. He is BATCo's Global Head of R&D, and is a long-time tobacco industry employee, having been employed at BATCo for nearly thirty years. Read WD, 3:20-22; Read TT, 03/21/05, 16281:19-16282:1. While documents may refer to him as "Dr. Read," he is not a doctor. He did not obtain his Ph.D. because his thesis advisor "found it very, very difficult to accept that [Read's] findings were valid." Read TT, 03/21/05, 16322:4-16324:4. Read has testified on numerous occasions on behalf of BATCo, and his abilities as a witness in cases such as this have been evaluated as part of his performance review as a BATCo employee. Id., 16301:9-16303:12, 16306:1-18.

5119. This process of legal clearance of scientific documents was confirmed in a March

5, 1985 memorandum from Anne Johnson, a BATCo in-house lawyer, to Eric Bruell and Ray Pritchard, two of the top executives at BATCo at the time. 503128498-8499 (US 50315) (A); Read PD, United States v. Philip Morris, 07/25/03, 146:16-152:13, 154:4-157:2.

5120. At trial, Cannar confirmed the legal clearance of scientific documents. Anne Johnson, an attorney who reported to Cannar at the legal department, reviewed the language of BATCo scientific documents prior to disseminating them to other companies, because lawyers review documents "[i]n circumstances where [they] know documents are potentially likely to be looked at in litigation, then it is always helpful if the document is clear and unambiguous in the way it expresses itself." Cannar TT, 06/21/04, 383:41-384:4; Cannar TT, 06/23/04, 541:26-32, 548:11-550:26, 562:9-563:23, 578:42-579:5, 580:28-36.

5121. Indeed, Richard Binns, the former Manager of BATCo's Group Research & Development Centre at Southampton, complained of the expansive role of lawyers in BATCO's science, writing that:

> I am being asked to make significant and sometimes swingeing changes in documents produced recently by R&D staff. It is suggested that this must be done by finding a "managerial explanation" for the changes, without reference to the involvement of Legal Department. I will find this impossible to do. Senior R&D staff will not be so easily deceived. Personally, I am not prepared to lie to staff for very doubtful reasons. Therefore, the current lack of clarity about the relationship between R&D and Legal Dept. has raised questions which for me are ethically disturbing, particularly if extended beyond the present localized situation.

109878083-8089 at 8089 (US 21767) (A); Read PD, United States v. Philip Morris, 07/25/03, 157:20-159:3.

5122. As discussed earlier, Wigand has provided testimony related to a specific instance of lawyer control of scientific activity and reporting emanating from a meeting in the fall of 1989

of the leading scientists for all of the BAT companies, including B&W and BATCo, in Vancouver, British Columbia. Wigand WD, 27:5-28:2, 28:14-29:4, 35:15-20, 61:3-6, 61:25-62:5, 76:25-77:28.

5123. When asked whether lawyers involved themselves in the scientific work at B&W, Jeffrey Wigand, Vice President of Research and Development for B&W from 1989 to 1993, responded that the lawyers "were more than just involved; they really played a significant role in boxing-in the scientific process and the sharing of scientific information." Wigand WD, 29:27-30:3.

5124. Wigand further testified that shortly after joining B&W as Vice President of Research and Development in 1989, as part of his orientation, he was required to go to Kansas City, Missouri to meet for three days with lawyers from the law firm of Shook Hardy & Bacon. Id., 30:16-31:2. The background scientific reading that Wigand was expected to complete for the orientation session was not provided by a fellow company scientist, but by Kendrick Wells, the chief B&W in-house products liability lawyer. Id. 31:9-32:4; 682627640-7640 (US 89366) (A).

5125. At the orientation session Wigand was "coached by lawyers regarding the company line on smoking and health, and addiction." The company line was "[t]hat causation had not been proven and that nicotine had not been shown to be addictive." Id., 30:10-30:15. Wigand described the orientation session as follows:

> Lawyers were instructing me, a scientist, how to interpret epidemiological studies. In every instance, I was instructed that the evidence in the public health domain had not satisfactorily proven causation. I was told that studies that demonstrated a link between smoking and cancer were fraught with errors. Moreover, I was told that epidemiology could not be relied upon because it was just statisticians doing guess work.

Id., 32:5-33:6.

5126. Scott Appleton, a scientist who specialized in toxicology and was hired by Wigand while he was head of Research and Development at B&W, was also required to attend a lawyer training session at Shook Hardy & Bacon. Wigand WD, 34:11-35:10; 680901663-1665 (US 79219) (A).

5127. On September 18, 1991, Sharon Boyse, a senior scientist at BATCo, wrote to G. Symmes of W.D. & H.O. Wills in Australia instructing him that, until he made changes to the scientific content of a document prepared by the Tobacco Institute of Australia, the document was "NOT acceptable to BAT until those changes are made!" The letter demonstrates BATCo's control over public statements and document production by its sister companies, and that it suppressed knowledge related to the true health effects of cigarette smoke from being made available to the public. In the letter, Boyse instructed scientists at W.D. & H.O. Wills to remove any suggestion from a document that scientific articles had "claimed a statistical association between ETS exposure and the development of lung cancer." The letter went on to require removal of any suggestion that tobacco smoke contained carcinogens because the studies that suggested that tobacco smoked contained carcinogens "are animal studies . . ." 750075351-5352 (US 16182) (O); 304002839-2840 (US16183) (O); 304002839-2840 (US 79027) (O).

(xi) Efforts By B&W To Obstruct The 1994-1996 Investigation of The Tobacco Industry By The Food and Drug Administration

5128. David Kessler, former Commissioner of the Food and Drug Administration, testified that B&W lied to the FDA during its investigation of the tobacco industry from 1994 to 1996. Kessler testified that during a discussion with representatives of B&W in May 1994, they denied that B&W was or had been involved in researching or breeding tobacco with high nicotine content:

> We [the FDA] specifically asked whether the company had engaged in any breeding of tobacco to control nicotine levels. Brown & Williamson representatives told us the answer was no, they had not. . . . We also asked them whether it was feasible to do that, and they said that it wasn't feasible to increase nicotine levels in tobacco because of certain voluntary agreements the industry had entered into that would not allow them to grow or sell higher nicotine tobaccos in the United States.

Kessler WD, 28:10-28:19. Kessler further testified that B&W lawyer J. Kendrick Wells further attempted to obfuscate the truth by saying only that "they might have provided some money for university studies." Id.

5129. In actuality in May 1994, when B&W representatives made these statements to the FDA, B&W had already obtained a patent in Brazil for "Y-1 high-nicotine tobacco plant" and had filed an application for a patent for Y-1in the United States. Kessler WD, 26:17-27:18, 27:19-28:9; 2072566619-6619 (US 88087) (A); 682515783-5803 (US 88089) (A).

5130. When confronted with evidence of the existence and use of Y-1 in B&W products, the company admitted that they had previously provided false information. As Kessler testified:

> When confronted with evidence that we [the FDA] knew that Y-1 high nicotine tobacco was grown in Brazil and shipped into the Untied States, company representatives admitted in a meeting at FDA headquarters in June 1994, that they had engaged in growing, breeding and genetic testing of high nicotine tobacco plants. Furthermore, they told us that they were specifically interested in maintaining the nicotine levels in tobacco while lowering tar levels. They admitted to manipulating nicotine levels in Y-1.

Kessler WD, 28:22-29:3.

5131. In fact, the FDA learned that "Brown & Williamson had an inventory of between 3.5 and 4 million pounds of Y-1 tobacco [in the United States] with more Y-1 tobacco in inventory in Brazil. We also learned that it was used in some five varieties of American

cigarettes that were sold commercially." Kessler WD, 29:4-12.

5132. Information related to Y-1 had already been removed from the official minutes of the 1989 RPG meeting in Vancouver. As Wigand testified, the following information related to Y-1 was removed from the minutes by B&W products liability lawyer J. Kendrick Wells:

> Brown & Williamson's programme for introducing new varieties of nicotiana were described. Both genetic breeding and the use of molecular biology had been used: there were advantages and disadvantages with both techniques, although molecular biology, with the possibility for specific gene identification, showed the greater potential. So far the programme had produced Y-1, a high nicotine flue-cured tobacco, which was now being grown in commercial quantities. However, there were some problems in producing in the U.S.A. and it was necessary to grow off-shore to maintain proprietary control. Regulatory problems might occur with genetically altered material.

401034784-4796 (JD-011303) (A); Wigand WD, 47:5-48:8.

5133. Despite requests to B&W by the FDA for documents related to the manipulation of nicotine in cigarettes, B&W failed to provide to the FDA a July 16, 1985 memorandum from one B&W scientist, B.B. Chakraborty to another B&W scientist, M.L. Reynolds, which was titled: "Status of High Nicotine Tobacco Evaluation/377." Kessler WD, 30:7-14; 510003880-3882 (US 20831) (A).

5134. Based upon this and other interactions with the tobacco companies during the course of the FDA investigation, Kessler concluded that "it is fair to say that some in the industry, at times, were not forthcoming with the Agency. Beyond that, there were times, through the course of our investigation, where we felt that we were misled by statements of cigarette company officials about significant issues that we were investigating." Kessler WD, 65:20-66:2.

(e) Lorillard

5135. In 1977, Alexander Spears of Lorillard advised a scientist who was to deliver a research paper that he must delete data from a study related to human smoking habits or he would not be permitted to deliver the paper. 01416267-6267 (US 20287) (O); Spears PD, Texas v. American Tobacco, 07/24/97, 216:11-218:23.

(3) Improper Use of Attorney-Client Privilege

5136. One method by which the Defendants, through their lawyers, concealed research was through maneuvers intended to artificially and improperly "create" privileges and other legal protections. These maneuvers were intended to and did further the enterprise's goals of (1) avoiding or, at a minimum, limiting liability for smoking and health related claims in litigation; (2) avoiding statutory and regulatory limitations on the cigarette industry, including limitations on advertising; and (3) preventing the public from learning the truth about smoking's adverse impact on health.

5137. In this and other litigation, Defendants have claimed attorney-client privilege for, and refused to produce, thousands of documents that appear to be scientific in nature and specifically relate to health issues.

5138. During the period in which litigation and federal regulatory activities were pending, Defendants destroyed and sequestered documents and improperly sought to conceal research material behind the attorney-client privilege and the work product doctrine so as to avoid discovery. An element of the Defendants' scheme to "create" attorney-client privilege or work product protection was the near complete control that Defendants' lawyers exerted over joint industry and individual company scientific research. See US FF § III.B, supra.

(a) Findings of Abuse of "Privilege"

5139. Several courts, including the Special Master in this case, have ruled that Defendants have attempted to designate documents as privileged despite a complete lack of a valid basis for privilege, that the claimed privilege is inapplicable due to the crime-fraud exception, or that the claimed privilege has been lost as a result of abuse of the privilege.

5140. In United States v. Philip Morris, in Report & Recommendation #114, Special Master Richard Levie found that the United States had proven a prima facie case of crime fraud against BATCo sufficient to warrant an in camera review of documents and ultimately recommended that the Court apply the crime fraud exception to the attorney-client privilege. While the Court ultimately overruled the Special Master's finding that the "documents were created in furtherance of the fraud alleged," the Court implicitly accepted that there was a prima facie showing of crime fraud by progressing from the prima facie showing, which is the first prong of the crime-fraud test, to the second prong: the question of whether the challenged document was in furtherance of a crime, fraud, or other misconduct. Order #397, Mem. Op at 8, R&R #114.

5141. Also, in United States v. Philip Morris, the Court adopted in its entirety the findings of Report & Recommendation #146, in which the Special Master found that "Brown & Williamson made efforts not to physically receive smoking and health research of which it was otherwise aware in order not to have to disclose such information and threaten its litigation." Order #499. The Special Master further noted BATCo's participation in this fraud by routing documents to B&W through outside attorneys rather than to B&W itself. R&R #146 at 79, adopted by Order #449.

5142. Finally, in United States v. Philip Morris, the Special Master, in Report &

Recommendation #155, again concluded that there was a prima facie showing of crime-fraud with respect to the Foyle Memorandum. The Special Master concluded that:

> legal advice was sought ("Foyle . . . wrote a memorandum about the Document Retention Policy describing what he found, and effectively inviting Clayton Utz to go back to the drawing board and destroy more documents"), legal advice was given ("Wilson . . . proposed a strategy for handling the documents issue . . . its purpose was to get rid of all the sensitive documents, but do so under the guise of an innocent house keeping arrangement . . ."), and legal advice was followed ("Cannar ordered that Wills adopt the strategy proposed by Wilson").

R&R #155 at 40-41 (quoting Gulson Aff. at ¶¶ 20, 21, 27). The Special Master further concluded that there was "credible evidence to show that counsel was consulted with the intent 'to destroy, create privilege over, or remove from the company's control, documents belonging to [Wills'] overseas affiliates' in order 'to get rid of everything that was damaging in a way that would not rebound on the company or the BAT group as a whole.'" Id., 41 (quoting Gulson Aff. at ¶¶ 24, 25).

5143. The Special Master recommended in Report & Recommendation #155 that BATCo's assertions of privilege be overturned for both procedural reasons and under the crime-fraud exception to the attorney-client privilege; all quotes herein are from the crime-fraud portion of R&R #155. The procedural recommendations in R&R #155 were adopted in Order #557, (published as United States v. Philip Morris, 321 F. Supp.2d 87 (D.D.C. 2004), which was later reversed and remanded by United States v. British American Tobacco (Investments) Ltd., 387 F.3d 884 (D.C. Cir. 2004)). Following remand, in Order #879, the Court ordered further briefing and expedited consideration on the crime-fraud recommendations of R&R #155; to date, the recommendations quoted in the previous paragraph have not been further reviewed by the Court.

5144. Other courts have repeatedly found that B&W's and BATCo's conduct regarding

smoking and health research documents was designed to suppress information from the American public including cigarette consumers. In adopting the Report and Recommendation of the Minnesota Special Master, Judge Kenneth J. Fitzpatrick ruled that BATCo and B&W (among other defendants) "have been found to have committed numerous abuses of privilege and certain violations of Court Orders and the Rules of Court. . . . The record supports the factual findings of the Special Master. Application of the law of privilege, and the crime-fraud exception were properly applied by the Special Master." State of Minnesota v. Philip Morris, No. C1-94-8565, 1998 WL 257214, at *9 (Minn. Dist. Ct. Mar. 7, 1998), mandamus denied sub nom., State by Humphrey v. Philip Morris, No. CX-98-414 (Minn. App. Mar. 17, 1998), petitions for further review denied sub nom., State v. Philip Morris, Nos. CX-98-414, CX-98-431, 1998 WL 154543 (Minn. Mar. 27, 1998), stay denied, 523 U.S. 1056 (1998) ("Minnesota v. Philip Morris"). Similarly, in the Florida litigation, in findings adopted by the trial court and affirmed on appeal, "[t]he special master found that there was evidence that the defendants [including B&W] **hid from and misrepresented to the public the health risks of smoking and that their conduct constituted fraud on the public**." American Tobacco v. Florida, 697 So. 2d 1249, 1257 (Fla. Dist. Ct. App. 1997) (emphasis added).

5145. In Minnesota v. Philip Morris, the court found that Defendants Philip Morris, RJR, B&W, BATCo, American, Lorillard, CTR, and the Tobacco Institute "claimed privilege for documents which are clearly and inarguably not entitled to protections of privilege;" "that many documents examined contained nothing of a privileged nature, establishing a pattern of abuse;" and that these Defendants "have been found to have committed numerous abuses of privilege." Based upon the "intentional and repeated misuse of claims of privilege [which are] intolerable in a court of law," the court found that "an appropriate sanction for such abuse is release of all

documents for which privilege is improperly claimed." The court also adopted the special master's findings that for several categories of documents, including scientific reports, the crime-fraud exception to the attorney-client privilege applied. Minnesota v. Philip Morris, at *9.

5146. In April 1997, the Florida Circuit Court upheld a special master's ruling that lawyers for Defendants American, Reynolds, B&W, BATCo, Philip Morris, Liggett, Lorillard, CTR, and the Tobacco Institute "undertook to misuse the attorney/client relationship to keep secret research and other activities related to the true health dangers of smoking." Florida v. American Tobacco, Civ. Action No. CL 95-1466 AH (Palm Beach Cty., Fla., filed Feb. 21, 1995).

5147. In Minnesota v. Philip Morris, the court struck claims of attorney-client privilege as a result of continued and blatant disregard of court orders, the authority of the court, and the judicial process by B&W and American. Minnesota v. Philip Morris, No. C1-94-8565 (Minn. Dist. Ct. Dec. 30, 1997).

5148. In Washington v. American Tobacco, the court issued several rulings in which it determined that numerous documents for which Defendants American, B&W, Liggett, Lorillard, Philip Morris, Reynolds, CTR, and the Tobacco Institute had asserted privilege were subject to the crime/fraud exception and were therefore "de-privileged." The bases for the findings included "that defendants attempted to misuse legal privileges to hide research documents;" "that attorneys controlled corporate research and/or supported the results of research regarding smoking and health;" "that the industry, contrary to its public statements, was suppressing information about smoking and health;" "that CTR was neither created nor used to discover and disseminate the 'truth,' contrary to defendants' representations to the public;" "that Special Account #4 was used to conceal problematic research;" and "that CTR and the SAB [Scientific

Advisory Board] were not independent and that the industry's use of CTR was misleading to the public." Washington v. American Tobacco, No. 96-2-15056-8 SEA (King Cty. Sup. Ct. 1998).

5149. In Sackman v. Liggett Group, the court found that attempts by Liggett, Philip Morris, B&W, Reynolds, Lorillard, and CTR to designate CTR Special Project documents as privileged was inappropriate. 173 F.R.D. 358, 362-364 (E.D.N.Y. 1997). The court concluded that, despite lawyer involvement in Special Projects, the documents were not privileged because they were prepared to further the public relations position of the tobacco manufacturers and that any usefulness in litigation "was merely an incidental benefit." 173 F.R.D. 358, 363.

5150. The court in Burton v. R.J.Reynolds, found that plaintiffs had made a prima facie showing that the crime-fraud exception applied to documents withheld by Reynolds and American. 167 F.R.D. 134, 142 (D. Kan. 1996). In a separate later opinion, the court found that numerous documents identified as privileged by Reynolds and American were in fact not privileged, including memoranda relating to research and development, letters from outside counsel on scientific research, literature reviews prepared by scientists at the direction of counsel, minutes of research-related meeting, and notes made by employees at industry meetings on smoking and health research. 170 F.R.D. 481, 490 (D. Kan. 1997). Burton v. R.J. Reynolds Tobacco, 167 F.R.D. 134, 142 (D. Kan. 1996); Burton v. R.J.Reynolds Tobacco, 170 F.R.D. 481, 490 (D. Kan. 1997).

5151. In Carter v. Brown & Williamson, the court found that even if a privilege existed, an issue that the court did not reach, the crime-fraud exception applied to certain B&W documents (the Merrell Williams documents). Carter v. Brown & Williamson, Case No. 95-00934 CA (Duval Cty. Cir. Ct., Fla., Transcript July 26, 1996, at 1329-1332).

5152. In Haines v. Liggett Group, 140 F.R.D. 681, 689 (D.N.J. 1992), vacated on

procedural grounds, 975 F.2d 81 (3rd Cir. 1992), the court, following an in camera review of 1,500 documents, confirmed "plaintiff's contentions of the explicit and pervasive nature of the alleged fraud by defendants [Liggett, Lorillard, Reynolds, Philip Morris, and the Tobacco Institute] and defendants' abuse of the attorney-client privilege as a means of effectuating that fraud." Specifically, the court found "that the attorney-client privilege was intentionally employed to guard against . . . unwanted disclosure." 140 F.R.D. 681, 684. Finally, the court stated that defendants and their lawyers "abused the attorney-client privilege in their efforts to effectuate their allegedly fraudulent schemes." 140 F.R.D. 681, 695.

(b) B&W and BATCo

5153. Defendants B&W and BATCo, jointly and individually, created mechanisms by which improper and false attorney-client privilege or work product protection were invoked for non-privileged documents not created in anticipation of litigation, including scientific and research documents, in order to prevent the disclosure of documents which they believed would likely be sought in litigation and in federal regulatory proceedings, and would provide information to the public on the adverse impact of smoking on health.

5154. B&W and BATCo attempted to create the improper attorney-client privilege or work product protection over documents through various means, including routing them through lawyers, maintaining scientific materials in lawyers' files, and indiscriminately marking them as "privileged and confidential" or other such similar designations.

5155. In 1975, BATCo Secretary P.J. Ricketts issued a document encouraging employees to give documents and information to attorneys in an attempt to create privilege where none exists. Ricketts advised:

> In most cases information which has been given and papers and documents which have been physically handed over to the

> Company Solicitor will be privileged: a result of which he will not be forced to disclose any documents etc., to these authorities unless in exceptional circumstances, he is required to do so by Court Order. Privilege extends only to the documents, papers etc., actually in the possession of the Solicitor and not to any copies.
> . . .
> Legal Department should, therefore, be informed and all relevant papers handed over to the Company Solicitor immediately if interest is shown by an outside authority in any matter which has been the subject of these special procedures.

Documents subject to these "special procedures" included "questions of product liability." 107468159-8160 (US 34847) (O).

5156. In the late 1970s, B&W developed a mechanism to prevent smoking and health documents from its research facility in Southampton, England from becoming discoverable in litigation in the United States. The mechanism involved utilizing a blanket designation that all scientific documents were created "for defense of potential litigation"; maintaining control of the documents by the legal department; and disseminating the documents to scientists only after prior approval by the legal department. In a June 1979 memorandum, B&W Assistant General Counsel for Product Litigation Kendrick Wells stated that "[c]ontinued Law Department control is essential for the best argument for privilege. . . . The general policy should be clearly stated that access to the documents and storage of the documents is under control of the Law Department and access is granted only upon approval of request." 680585391-5392 (US 21526)(A).

5157. At the time this memorandum was written a scientist at B&W by the name of Jim Rosene was already holding "sensitive" materials in his office rather than sharing them with other scientists at B&W. Among the materials sequestered by Rosene were the Janus materials. Kendrick Wells testified at trial that the Janus studies demonstrated tumor growth in animals as a result of exposure to cigarette condensate. Id.; Wells WD, 8:18-10:13.

5158. At trial Wells admitted authoring the June 1979 memorandum as well as a second memorandum outlining a plan to "afford protection against discovery" of scientific documents that demonstrated a link between smoking and health problems by falsely designating them as work product prepared in anticipation of litigation. In the November 1979 memorandum to Ernest Pepples, B&W's Vice President of Law, Wells outlined a plan for routing all scientific documents from BATCo through a B&W scientist designated as an agent of the general counsel. The scientist would "separate reports which were relevant to smoking and health, or otherwise sensitive for special handling" and the documents "designated as sensitive" would be "sequestered." Moreover, the plan specifically provided that "in the operational context BAT would send documents without attempting to distinguish which were and which were not litigation documents." 521016231-6232 (US 20886) (A), 680585389-5392 (US 21008) (A). Ernest Pepples, B&W Vice President for Law, responded to Wells' memorandum by writing the word "agreed" on the memorandum along with his initials ("E.P.") and the date ("11-19-79"). 521016231-6232 (US 20886) (A); Wells WD 13:15-14:4.

5159. In September 1984, BATCo personnel were instructed to route "contentious" items from the research department through counsel "thus maintaining the legal privilege – 'attorney work product'." 503114322-4322 (US 21695)(A).

5160. In January 1985, at the request of Pepples, BATCo instituted a new policy that incorporated the use of external lawyers in an attempt to further enhance the attempt to "create" privilege protection for sensitive scientific documents. The policy required that BATCo send "contentious" research and development reports to Robert Maddox, an attorney in private practice in Louisville, Kentucky, where B&W's headquarters is located, rather than to scientists at B&W. The instructions stated that "[t]he recipient list must not contain the name of any B&W

person, not that of Maddox or of his company." The process was instituted to attempt to have attorney-client or work product privilege improperly attach to documents that were prepared in the normal course of BATCo's research and development activities, not in anticipation of litigation. 107444869-4869 (US 34840) (A); 107444871-4871 (US 20002) (A); 107620309-0310 (US 34853) (A); 503128498-8499 (US 50315) (A); 109745204-5206 at 5206 (US 26342) (O); 109745207-5207 (US 26343) (O); 109745208-5208 (US 26344) (A); 109745211-5212 (US 26345) (O); 109745213-5213 (US 26346) (O); 109745214-5215 (US 26347) (O); Brookes PD, United States v. Philip Morris, 05/02/02, 120:12-121:7; Wells WD, 38:10-39:22; 685092972-2974 (US 31031) (A); 521015673-5675 (US 52687) (A).

5161. This procedure – designed to keep scientific evidence and information away from the public and out of the courts – has also been confirmed by a document released by BATCo for the first time in this case and only after the Untied States filed its Third Motion to Compel BATCo to Produce Documents Withheld Based on Assertions of Privilege or Protection. One of the previously withheld documents was part of a handwritten letter attributed to Richard Binns, the former Manager of BATCo's Group Research & Development Centre at Southampton. The letter discusses BATCo's practice of routing scientific research to B&W through attorney Robert Maddox: "Report – stopped sending direct to B&W in Jan. Maddox farce. B&W withdrawn from circulation lists (but get 2 copies)." 109878083-8089 (US 21767) (A); Read PD, United States v. Philip Morris, 07/25/03, 181:22-184:11, 186:8-189:21; Read WD, 57:3-11; Read TT, 03/22/05, 16442:22-16443:17, 16445:13-16447:2, 16448:11-16453:1. Another document – from a Research & Development file used by Binns at the Southampton facility – addresses document circulation and states that:

> 2) Circulation of documents
> . . .

> B&W – Specific
> . . .
> Generally, during the Barclay investigation some years age we sent all correspondence to E. Pepples marked "attorney privileged" Today, we seem to have a "mail drop" which is only slightly less obvious than Russians leaving microdots in matchboxes on Hampstead Heath. Why not continue the "Attorney privileged" route.

102880241-0259 at 0253, 0255-0259 (US 26242) (O).

(c) RJR

5162. Defendant RJ. created mechanisms by which improper and false attorney-client privilege or work product protection were invoked for non-privileged documents not created in anticipation of litigation, including scientific and research documents, to prevent the disclosure of documents that it believed would likely be sought in litigation and in federal regulatory proceedings, and would provide information to the public on the adverse impact of smoking on health.

5163. In an attempt to create attorney-client privilege over records received by RJR from CTR in the normal course of its business, in 1983, RJR decided to "remove CTR related smoking and health materials from our premises for legal reasons." They were sent to the law firm of Jacob, Medinger & Finnegan via a former RJR scientist Frank Colby, who was leaving the company to work at the law firm. Horrigan PD, United States v. Philip Morris, 10/25/01, 36:11-40:13; Long PD, United States v. Philip Morris, 10/18/01, 46:6-47:19; 506050931-0935 (US 77438) (O).

5164. RJR lawyers also concealed unfavorable scientific research. A "fact memorandum" from RJR's outside counsel, Jones, Day, Reavis & Pogue, described RJR's research and development activities. The Law Department and R&D Management exerted "control" to "prevent the distribution or production of certain reports," including a 1953 literature

survey by Claude Teague that "indicted" cigarette smoking. 515873805-3929 at 3896-3897 (US 21922) (O). Another company scientist, Jim Fredrickson, who was working on identifying nitrosamines (carcinogens) in smoke in approximately 1965-67, was told "not to prepare a final report on his research but merely to record the work in his laboratory notebook." 515873805-3929 at 3898-3899 (US 21922) (O).

(d) Liggett

5165. Liggett created mechanisms by which improper and false attorney-client privilege or work product protection were invoked for non-privileged documents not created in anticipation of litigation, including scientific and research documents, to prevent the disclosure of documents that it believed would likely be sought in litigation and in federal regulatory proceedings and would provide information to the public on the adverse impact of smoking on health.

5166. In 1978, Liggett first began its efforts to hide documents, including scientific documents, related to Project XA behind the attorney-client privilege. Project XA was an important less hazardous scientific research project. Despite the scientific nature of the project Joseph H. Greer, Liggett's General Counsel, ordered that all documents regarding the project be sent to him or a legal department staff member. To enhance the potential for hiding the documents behind the attorney-client privilege, the project was put under the control of the Legal Department. In 1979, Liggett's attempt to hide documents related to the XA project behind the attorney-client privilege became clear when a Liggett Vice President, R.B. Seidensticker, followed up on Greer's earlier directive related to Project XA. By this time the project had become formally known as the "Law Department's XA Project." Seidensticker asked Greer to "please issue a memorandum to those concerned requesting that any materials which have not

already been turned over to the Law Department related to XA, be it financial, scientific, production or marketing, should be transferred to the Law Department no later than Thursday, June 28." LG2005942-5942 (US 21527) (O).

5167. During the 1990s, Liggett scientists were directed to label their work as privileged and confidential in order to prevent its discovery in civil litigation. As stated by Liggett's Manager of Science Issues, "we had become sensitized to labeling a lot of documents privileged and confidence [sic] without thinking[,] it was kind of just a matter of fact thing to do. . . . [M]ost of the documents that we put out, I think, are always subject to discovery. And not knowing exactly where – where this was gonna go, it was just considered almost standard practice to do that." Dietz PD, United States v. Philip Morris, 07/01/02, 150:3-155:12. See, e.g., LWDOJ9290576-0582 at 0576 (US 21217) (O); see also Dietz PD, United States v. Philip Morris, 05/29/03, 96:24-107:16.

5168. Dennis Dietz was formerly Manager of Scientific Issues for Liggett from 1990-1999. Dietz testified that in one of his first meetings with Liggett's outside counsel, Francis Decker and James Kearney of Webster & Sheffield, the focus of the meeting was the protection of Liggett's documents in the context of product liability litigation because Liggett was intimately involved in the "real world of product liability litigation" and subject to "the negative pressures that [are] currently focused on tobacco products by outside interests." Dietz, TT, 171157:8-17160:18.

5169. Despite Dietz's testimony that the labeling of Liggett's documents was because of the need to protect trade secret or proprietary information, the minutes of the meeting drafted by Dietz memorializing this meeting do not reference proprietary or trade secret information at all. Dietz, TT, 17161:8-17163:3; LWDOJ 00002067-2070 (US 93217) (A). Dietz could not explain

why no similar memorandum existed providing guidance regarding the protection of trade secret or proprietary information if that was, in fact, the primary reason he was alerted to the idea of labeling documents privileged and confidential as a new Liggett employee. Dietz, TT 17163:4-10.

5170. Bennett S. LeBow testified that after his attorneys had reviewed internal tobacco industry documents and had discussed them with him, he generally agreed with his attorneys' conclusions that the documents contained issues regarding the addictive nature of smoking and adverse health consequences as well as issues of crime and fraud. The documents were "devastating" and LeBow concluded that he had to release the documents because the documents showed that the truth had not been told, and that the addictive nature and adverse health consequences of smoking was known by the industry for all those years. LeBow, TT, 12251:13-12253:13.

5171. However, contrary to Liggett's claims that it has waived attorney-client privilege and work-product protection with respect to internal Liggett-only privileged documents relevant to smoking and health, and that Liggett was a "whistle blower" and the only tobacco company to break with the culture of the tobacco industry, LeBow testified that he was unaware that Liggett has continued to assert privileges over internal Liggett-only privileged documents relevant to smoking and health in this litigation. LeBow, TT, 17561:16-1569:22.

(e) Lawyer Involvement in Science to Improperly and Falsely Attempt to Create Privilege

5172. Attorneys for the tobacco industry, not scientists, directed the scientific research and other scientific matters of the industry. Defendants' lawyers were the driving force behind both the direction and suppression of scientific research. Lawyer control was used in large part in an improper attempt to "create" attorney-client privilege or work product protection for

scientific documents and information where no such privilege or protection existed.

5173. In 1964, after an extensive examination of the United States tobacco industry regarding the issue of smoking and health, a group of British scientists reported that a committee of lawyers (the Committee of Counsel) was given the authority for "clearing papers (e.g. Little's annual report)." Clarence Cook Little was the first Scientific Director of TIRC/CTR. Thus, lawyers had the responsibility for "clearing" CTR's annual reports on scientific research. For a discussion of TIRC/CTR Annual Reports, see US FF § I., supra; 1003119099-9135 (US 20152) (A).

5174. In a letter dated March 5, 1975, from David Hardy, a lawyer at the firm Shook, Hardy & Bacon, to Cyril F. Hetsko, Vice President and General Counsel for American Brands, Hardy explains that Hetsko hasn't received written annual reports related to Gary Huber's work at Harvard because the Committee of Counsel had instructed scientists to forgo written reports that are discoverable and instead had been scheduled to meet with industry representatives to provide oral presentations. Hardy explained that the Committee of Counsel agreed to avoid having "the independent scientists" submit written reports, in part because:

> As you know, it is our constant concern in grants such as this that the cigarette industry exercise no control over the work of the independent scientists. . . . Likewise, if there are undesirable results, we would be free to have them checked by others and to raise any legitimate questions that might exist as to their authenticity.
>
> As you also know, quite often **the scientist who has no legal training and who does not fully understand some of our problems and concerns, exercises little care in his form of expression in written communications.** For this reason, it was decided by counsel that **site visits and oral reports at such site visits** would be preferable to written reports in satisfying the requirement of an annual report. It was felt that such site visits would be more informative and **would involve far fewer problems.**

961016507-6508 (US 25854) (O) (emphasis added).

5175. The research jointly funded by the Defendants through CTR Special Projects and lawyers' special accounts was admittedly not intended to get to the truth about smoking and health. As explained by Lorillard's Research Director in a 1974 memorandum to Curtis H. Judge, Lorillard's Chief Executive Officer:

> Historically, the joint industry funded smoking and health research programs have not been selected against specific scientific goals, but rather for purposes such as public relations, political relations, **position for litigation**, etc. . . . In general, these programs have provided some buffer to public and political attack of the industry, as well as **background for litigious strategy** (emphasis added).

01421596-1600 at 1598 (US 20049)(A).

5176. As explained in notes of a Committee of Counsel meeting in 1981, Special Projects were used to allow Defendants' lawyers to categorize research depending on whether the outcome was or might be adverse to the Defendants, allowing the lawyers to prevent publication of adverse scientific findings. The minutes of this meeting discuss the distinction between CTR Special Projects and Lawyers' Special Projects. The later were intended to further Defendants' improper attempts to hide adverse findings behind the attorney-client privilege when the lawyers "were afraid of discovery." The notes reflect a discussion at the meeting between Arthur Stevens, Lorillard General Counsel, and Ed Jacob, outside counsel to the industry:

Stevens:	I need to know what the historical reasons were for the difference between the criteria for lawyers' special projects and CTR special projects. . . .
Jacob:	When we started the CTR Special Projects, the idea was that the scientific director of CTR would review a project. If he liked it, it was a CTR Special Project. If he did not like it, then it became a lawyers' special project.
Stevens:	He took offense re scientific embarrassment to us, but not to CTR.
Jacobs:	With Spielberger, we were afraid of discovery for

> FTC and Aviado, we wanted to protect it under the lawyers. We did not want it out in the open.

LG 2000741-0750 at 0745-0746 (US 36269) (A).

5177. Defendants' lawyers had exclusive control over funding decisions related to the Special Projects. See US FF §§ I.D and III.B, supra, for a discussion of evidence showing the control that Defendants' lawyers had regarding the funding decisions regarding CTR Special Projects.

5178. One important reason for the existence of Special Projects was Defendants' belief that such projects could be protected through the attorney-client privilege and work product doctrine. Special Projects were sponsored and approved by the Defendants' attorneys. Attorneys would approve the Defendants' funding of specific Special Projects, monitor the project, and request that CTR assign each project a number. As explained by one internal document discussing a lawsuit in which "Special Projects" were "at issue," "[l]awyer involvement cannot be denied or minimized, it was simply too pervasive." 515772203-2211 at 2210 (US 87024) (A).

5179. On July 20, 1987, Arthur Stevens, Senior Vice President and General Counsel for Lorillard, wrote to the generals counsel of B&W, Philip Morris, RJR, Liggett and lawyers at Shook, Hardy & Bacon advising them that Burson-Marsteller, a public relations firm, "is to be engaged for PM, RJR, B&W and Lorillard" for litigation public relations. . . . [D]iscretion by Burston-Marsteller is of the essence and they are not to announce or otherwise allow to be published or known that they are acting for us. That may have to change, but I see no purpose in them disclosing themselves at this time as our agents. I have also told them that they are being hired, not by a company, but by litigating counsel and that they have a dual reporting responsibility. . . . [I] believe that we ought to get Burson-Marsteller coached and humming well before the Horton and Cipollone trials are upon us." 92347154-7157 (US 87037) (A).

(4) Intentional Discovery Avoidance and Delay

5180. Defendants have long engaged in obstructive and "dump truck" discovery tactics to thwart discovery. As J. Michael Jordan, an attorney who successfully represented RJR during the 1980s, wrote, "The aggressive posture we have taken regarding depositions and discovery in general continues to make these cases extremely burdensome and expensive for plaintiffs' lawyers. ... To paraphrase General Patton, the way we won these cases was not by spending all of [RJR's] money, but by making that other son a bitch spend all of his." Haines v. Liggett Group, 814 F. Supp. 414, 421 (D.N.J. 1993) (internal quotation marks and citation omitted).

5181. These tactics are confirmed by a March 20, 1985 memorandum written by Charles Wall, who is now Altria's General Counsel and Senior Vice President, and previously was an attorney at Shook Hardy & Bacon for 20 years. Shook Hardy & Bacon has represented all Defendants in this action other than CTR and possibly Liggett. Northrip WD, 5-1:17 to 6-1:11. The memorandum shows that Defendants deliberately engaged in "dump truck" litigation tactics: **"We have long since recognized that the strategy behind our document production should be to place as big a burden on the plaintiffs as possible** and yet make sure that we do not isolate any particularly harmful or bad documents." Wall acknowledged that the tobacco industry deliberately designated **all** documents not previously in the public domain as "confidential" without making any attempt "to determine whether in fact the documents were treated as confidential or could be defined as confidential by the federal rules and case law," but his assertion that this was done to speed making documents available for review is belied by his delight, just pages later, at describing how many hundreds of thousands of pages behind the plaintiff's lawyer was falling in reviewing the documents. 503140888-0907 at 0899, 0902-03 (US 29670) (O) (emphasis added).

5182. BATCo's practice of delaying production of scientific documents was further developed in May 1986. As BATCo was becoming increasingly involved in health and smoking litigation in the United States, BATCo in-house counsel requested that lawyers at the British law firm Lovell, White & King provide guidance on "delaying tactics." BATCo counsel specifically requested a memorandum on "how BATCo may be able to delay or deny" production of documents. 107443680-3689 at 3686 (US 34839) (A).

5183. In 1989, B&W corporate counsel authored a memorandum to Ray Pritchard, Director of BATCo, discussing the "import[ance] to avoid production of documents as long as possible" and citing B&W's success in avoiding document production in litigation thus far. 682004589-4590 (US 54116) (A).

(5) Lawyer Control of Scientific Affairs

(a) Lawyer Control of Domestic and International Research Efforts

5184. On February 14, 1967, A.W.H. Stewart-Moore – managing director of Gallaher Ltd. and a member of the U.K.'s Tobacco Research Council's (TRC) Executive Committee – sent a letter to Virgil D. Heger, executive vice president of American Tobacco, notifying him that the following month the TRC would be sending a delegation of scientists to the United States to discuss nicotine with scientists designated by CTR. Despite the purely scientific nature of the meetings, Stewart-Moore indicated that the meetings would include "the lawyers from the major American tobacco manufacturers." ATC2680863-0863 (US 85326) (O).

5185. In the summer of 1973, Ragnar Rylander, a German researcher who oversaw the biological laboratory work at INBIFO through a contract with Philip Morris, sought to hold a "Workshop on Effects of Tobacco Smoke on Nonsmokers." Approval for the scientific workshop was controlled by industry lawyers, particularly David Hardy, a long time industry

lawyer with Shook, Hardy & Bacon. In a letter on August 10, 1973, Helmut Wakeham, Philip Morris's Vice President and Director of Research, reported to Rylander that Hardy had concluded "that there were sufficient publications to support the industry position that smoking is harmless to nonsmokers. He argued that there was no need for additional support, so why should the industry run the risk of sponsoring a workshop which might find that there is a hazard to the nonsmoker. Not everyone agrees with this position so there is hope of convincing Hardy, as an influential advocate among the industry lawyers, of the potential benefits from holding the workshop as you proposed. That is what we will try to do on the 29th." 1000259790-9790 (US 87036) (O).

5186. Rylander organized a symposium on the effects of tobacco smoke on non-smokers in Bermuda from March, 27 to 29, 1974. Prior to the symposium, Rylander met with a lawyer who represented the tobacco industry in lawsuits dealing with smoking and health. Rylander was of the opinion that there were sufficient elements to support the view that smoke was harmless to non-smokers; the lawyer was worried that the proposed conference might present a risk to the tobacco industry. As required by the industry, in September 1973, Rylander submitted a preliminary list of participants to Donald Hoel, a long-time industry lawyer at Shook, Hardy & Bacon, for his comments and proposals concerning new participants. Finally, in an October 5, 1973 letter, Rylander asked Hoel whether a Dublin would be a suitable participant, stating however that although the person in question appeared to be somewhat biased, it was advisable to balance the list of participants so as not to be accused of having selected only one category of people. TLT1050091-0101 (US 88744) (A).

5187. Following the Bermuda symposium, on April 1, 1974 Ragnar Rylander wrote to Donald Hoel, submitting the table of contents, the conclusions and recommendations, and a draft

report on the criteria determining the effects of environmental tobacco smoke for discussion and approval. TLT1050091-0101 (US 88744) (A).

5188. In 1981 Ragnar Rylander was put in charge of organizing a second conference on environmental tobacco smoke. In an August 31, 1981 memorandum, Donald Hoel reported on a discussion with Rylander who was of the opinion that the seminar would not be able to give environmental tobacco smoke "a clean bill of health." Rylander had prepared a memorandum strictly for internal use, but was going to work on it further in order to provide a global overview of the subject that could be used as the introduction to the conference. The prospective sponsor proposed by him was the Council for Tobacco Research (CTR), which could not be suspected of having made prior arrangements relating to any research proposals resulting from the symposium. On January 27, 1982 Hoel wrote to Thomas Osdene, director of Research for Philip Morris, informing him of his meeting with Rylander two weeks previously. On May 25 and again on August 13, 1982, Rylander wrote to Osdene regarding the conference. In the first letter he submitted the list of topics to be discussed at the symposium, mentioning that he had already sent them to Donald Hoel and was awaiting his comments. In the second, he explained that he had established the plans for the conference and received the **go-ahead from Donald Hoel**. The symposium was held in Geneva from March 15 to 17, 1983. Rylander later met with Donald Hoel on several occasions to discuss the conference proceedings. TLT1050091-0101 (US 88744) (A).

5189. On January 15, 2003, in an appeal from a criminal defamation conviction, a Swiss court sustained two allegations of fraud against Ragnar Rylander, based upon the above facts and concluded that he was a covert consultant for Philip Morris and that he had suppressed research findings that were adverse to the tobacco industry. In its findings, the court stated:

Concerning the allegation that the respondent was "secretly employed by Philip Morris", exhibits show that he had entered into a consulting agreement with Philip Morris in 1972 and that he had not made this fact public. Indeed, the "Thorn" episode, which took place in 1977, shows that the respondent did everything not to let his ties to Philip Morris become publicly known in order to, in his own words, "retain as far as possible the image as an independent scientist". In addition, following the publication of an article in the "European Journal of Public Health", he attempted to conceal the existence of a formal contract with Philip Morris, and this led the journal's Committee on Publication Ethics to take an unfavourable decision in his regard.

The Tribunal de Police therefore rightly considered this fact as proven.

As regards the allegation that the respondent was "one of Philip Morris's most highly paid consultants", it should not be forgotten that the work he carried out in connection with smoking represented only 10% of his research and publications; this is important in determining whether the amounts he received from the tobacco industry are high. Several documents show the respondent to be among Philip Morris's most highly paid consultants, not counting FTR, a subsidiary of Philip Morris, the American Health Foundation and HRW Associates, none of them physical persons. It is therefore true that the respondent was one of Philip Morris's most highly paid consultants. The sums he received – fees amounting sometimes to USD 85,000 a year, plus the funds received for various research activities – were substantial, especially in view of the fact that the respondent devoted no more than 10% of his activities to research dealing with the effects of smoking.

The fact that the respondent was one of Philip Morris's most highly paid consultants has therefore been proven.

Finally, as regards the allegation that the respondent is responsible for an "unprecedented scientific fraud", the Court wishes to point out first of all that the press release at issue does not use the term "responsibility" as such. It merely highlights the respondent's conduct as being part of the unprecedented scientific fraud described by the appellants.

The respondent has had frequent contacts with Philip Morris for many years. These contacts are troubling for several reasons. In 1991, within the framework of a study on respiratory diseases in children, the respondent modified a data base so that no link could be made between passive smoking and the frequency of respiratory

> infections. At an international conference in May 1992 he affirmed that no relation had been found between respiratory infections in children and their exposure to smoke but that there was a strong negative correlation with the consumption of eggs and chicken meat; two months earlier, however, he had agreed to have his name on a document distributed to participants in a meeting of epidemiologists and indicating that a correlation had been found between passive smoking and the frequency of bronchitis in children. In 1997, the respondent expressed his unease about meeting a scientist together with FTR representatives, for until then he had made every effort not to be seen by people from outside Philip Morris in the presence of the latter's executives so as to "retain as far as possible the image as an independent scientist"; such a remark implies that the respondent was precisely not an independent scientist. Moreover, the correspondence exchanged by Philip Morris representatives and the respondent before and after the conferences he organised, notably on the subject of invitations, reports to be submitted to participants and summaries to be published, seriously calls into question his independence vis-à- vis Philip Morris. In this respect, the testimony of Richard Carchman, vice-president of the Philip Morris research centre in Richmond, should be treated with circumspection, given his ties with the tobacco industry. Finally, the conviction expressed by the president of Reynolds Tobacco in 1984 that the "Rylander symposium" was a useful tool for combating the recognition of the harmfulness of passive smoking, is troubling to say the least; indeed, it implies that the "Rylander symposium" was favourable to the tobacco industry.

TLT1050091-0101 at 0099-0100 (US 88744) (A).

5190. At the July 28, 1976 meeting of the Research Liaison Committee, in connection with a discussion of whether to approve studies relating to the benefits of smoking, it was noted that the "[d]ecision for action [on the study] should be made by lawyers, not CTR or Organizing Committee," and it was suggested that "Dr. Gardner present his program for review by all the lawyers. No records of such a review are to be kept." 1000255997-6001 at 6000 (US 20086) (O).

5191. Philip Morris's lawyers exerted control over research into nicotine. William L. Dunn, a Philip Morris scientist, wrote in a 1980 document entitled "The Nicotine Receptor

Program" that, while the "psychopharmacology of nicotine" is "where the action is for those doing fundamental research on smoking," and where "most likely will come significant scientific developments profoundly influencing the industry," "it is where our attorneys least want us to be." According to Dunn, there were two reasons why Philip Morris's lawyers did not want nicotine research conducted. The first reason was so the tobacco companies could claim ignorance "of any relationship between smoking and disease." Such an approach was "implicit in the legal strategy employed over the years in defending corporations within the industry from the claims of heirs and estates of deceased smokers." The second reason for not engaging in nicotine research was that any action by the tobacco industry, including research, that treated nicotine as a drug "could well be viewed as a tacit acknowledgment that nicotine is a drug," which could impact any future regulation of tobacco by the government. 1000127789-7790 at 7789 (US 34422) (A). While nicotine research was permitted, "we must not be visible about it." 1000127789-7790 at 7789 (US 34422) (A). Because of the commercial necessity of research into nicotine, Dunn acknowledged that "our attorneys ... will likely continue to insist upon a clandestine effort in order to keep nicotine the drug in low profile." 1000127789-7790 at 7790 (US 34422) (A).

5192. While his laboratory was in operation at Philip Morris in Richmond, Victor DeNoble, former Associate Senior Scientist, was visited by Shep Pollack, Philip Morris' President, and Fred Newman, a top attorney at Philip Morris. DeNoble and his staff set up a demonstration for them, showing them how rats in a controlled experiment would press a lever to self-administer nicotine. Pollack thereupon asked DeNoble, "Does this mean that it's addicting?" Before DeNoble could answer, Newman told him "Don't answer that question." Newman asked if DeNoble's test procedure was the same as the government was using to demonstrate addiction

and, when he was told that it was, he became very upset, he stated to DeNoble that "you've made us into a pharmaceutical company!", and pulled Pollack from the lab. DeNoble WD, 36:21-37:23.

5193. In 1984, Philip Morris attorneys shut down its Nicotine Program. Patrick Sirridge of Shook, Hardy & Bacon wrote to Philip Morris's Assistant General Counsel Fredric Newman transmitting an analysis of DeNoble's published literature, unpublished manuscripts, and in-press manuscripts. DeNoble researched nicotine and nicotine analogues at Philip Morris. The analysis concluded that "research engaged in, as well as some possibly under consideration, by Philip Morris has undesirable and dangerous implications for litigation positions the industry takes in regards to smoking behavior . . . In the final analysis, the performing and publishing of nicotine related research seems ill-advised from a litigation point of view. . . ." 2021423403-3461 at 3422 (US 87038*) (A). The Nicotine Program was discontinued and DeNoble was terminated. DeNoble WD, 25:2-25:12, 38:1-39:11.

5194. In December 1982, RJR attorneys (both those within the company and outside) became very concerned about positions taken and statements made by Robert DiMarco, the head of RJR's Research Department. Those concerns are discussed in detail in a December 13, 1982 memorandum from Wayne Juchatz, who later would become RJR's General Counsel, to Sam Witt, who was then RJR's General Counsel. The memorandum discusses a lengthy meeting between Juchatz and DiMarco in which DiMarco stated that it was "essential" that RJR try to develop a "less mutagenic cigarette," but said that he had been told by Ed Jacob, an outside counsel, that he could not do that. When Juchatz explained to DiMarco his concerns from a product liability standpoint, DiMarco "refused to accept it as a rationale for not doing what he felt [RJR] had an obligation to do (as a responsible manufacturer)." Juchatz stressed the need for

"close cooperation" between the R&D Department and counsel. 505741150-1153 at 1150 (US 23009) (A).

5195. At that meeting, DiMarco, readily acknowledging that his scientific views were in "direct[ ] contradiction" to RJR's legal positions and stated that over the prior 20 years knowledge about "cancer causation . . . had developed to the point where . . . [RJR's] legal defense [that there was no causation] had been rendered (or was perilously close to being rendered) obsolete." DiMarco further told Juchatz that RJR's medical/scientific witnesses "lacked credibility and integrity. 505741150-1153 at 1151 (US 23009) (A).

5196. DiMarco also told Juchatz that he was so concerned about the "rigid legal positions" taken by RJR outside legal counsel – "which had restricted the proper functioning of the R&D Department" – he would seek "'second opinions' [either from RJR's Legal Department or, if necessary, from outside counsel of his own choosing] on past legal advice restricting R&D activities." 505741150-1153 at 1151 (US 23009) (A).

5197. Finally, at the meeting DiMarco advised Juchatz that [contrary to RJR's official legal position] he would not oppose FDA regulation of the tobacco industry. Juchatz, in his memorandum, concluded that "This statement reflected an insensitivity to the legal and political issues inherent in FDA regulation of our business." DiMarco also contested the Legal Department's efforts to remove ammonia from the list of ingredients supplied to the Department of Health and Human Services. After further pressure from the Legal Department, DiMarco "reluctantly" agreed to the proposed removal. 505741150-1153 at 1151 (US 23009) (A).

5198. Following the December 1982 meeting between DiMarco and Juchatz, RJR attorneys, principally its outside counsel, became so concerned about DiMarco and the possibility that his views, if made known outside of RJR, would create great litigation risk for RJR, that the

lawyers discussed the possibility of terminating DiMarco. The Legal Department met for a full day with outside counsel to discuss how to handle DiMarco. The lawyers concluded that "We [counsel] will, therefore, be required to maintain close surveillance of [DiMarco's] R&D work in order to minimize the risk that [DiMarco's] 'beliefs' find their way into documents or projects which create unnecessary legal risks." 50574 1143-1147 at 1146 (US 20747) (A); Juchatz TT, 11/18/04, 6611:12-6611:22. In a subsequent memorandum on the same issue, the lawyers reiterated that DiMarco's beliefs created legal risks for RJR:

> **we have advised management based upon our own and outside counsel's opinion that there are substantial litigative risks associated with having an individual as head of R&d who believes that smoking causes disease. . . . We have further advised management that while this risk can be reduced, it cannot be eliminated.**

They reiterated that they would be required to "closely [monitor] what is in fact going on in the R&D department." 50574 5988-5992 at 5991 (US 20748) (A) (emphasis added).

5199. When he testified at trial, Juchatz sought, unsuccessfully, to downplay the significance of the clearly-stated revelations in the above-cited documents: (i) RJR's attorneys – both the Legal Department and, especially, outside counsel – exerted substantial control over RJR's Research & Development. Indeed, Juchatz was forced to concede that outside counsel Ed Jacob had advised RJR and its Research & Development Department that RJR could not make a "safer" cigarette, as that would create substantial legal concerns; (ii) Research & Development would have to work closely with the Legal Department if RJR were to allow Research & Development to try to develop a safer cigarette; and (iii) One of the serious legal concerns that RJR had was that any work on a safer cigarette would amount to an implicit admission that existing RJR products are unsafe. Juchatz TT, 11/18/04, 6575:18-6576:25, 6583:4-6584:14, 6585:4-6586:5, 6590:19-6591:20, 6592:23-6593:21, 6594:25-6595:23, 6597:6-6598:1, 6599:8-

6599:19.

5200. A December 31, 1985 memo from Jones Day Womble Carlyle, RJR's outside legal counsel, describes the extent to which RJR's lawyers – both inside and outside – influenced research conducted by that company. First, the memorandum makes clear that "[a]fter the 1964 Surgeon General's report came out, the Law Department, according to Ralph Rowland, did influence research objectives to a degree, because the lawyers did not want anyone performing research that would appear to acknowledge that cigarettes or cigarette smoke contained harmful constituents or posed a health problem." Second, "the Law Department did participate in setting the guidelines for testing of additives." Third, "[s]ince Sam Witt became General Counsel of RJRT in 1981, the Company lawyers played a major role in reviewing research protocols relating to smoking and health and drafting R&D mission statements. ... it was understood that the lawyers controlled things in this area." Fourth, "the Law Department through the years has had a great deal of influence over RJRT-sponsored outside research." Fifth, "Jacob, Medinger has played a major role in reviewing and choosing foreign research projects to be funded by RJRT." Sixth, "Peter Van Every, an attorney in the Law Department, had a 'New York Times principle,' by which he meant that 'things should not be written that could not be published in the New York Times.'" 515873805-3929 at 3870, 3875, 3878, 3879, 3886, 3893 (US 21922) (O).

5201. B&W intervened to edit adverse references to addiction out of a BAT report, entitled "The Controversy on Smoking and Health - Some Facts and Anomalies" by BAT scientist Lionel Blackman. By letter dated October 25, 1984, B&W attorney J. Kendrick Wells wrote BAT counsel Alec Morini that "review" of BAT publications by B&W was necessary in light of ongoing smoking and health litigation; Wells went on to provide 45 paragraphs of revisions to Blackman's draft report and a marked-up report, including:

> 2. Delete Donald Gould reference. The article identifies cigarettes as a drug.
> 3. Delete reference to Dr. W.S. Cain. The article identifies short terms and longer term pharmacological and physiological factors as important in the derivation of "habitual cigarette smoking" ...
> 5. Delete. The point made here might be said to run counter to arguments that cigarette smoking is not addictive ...

680582499-2507 at 2500 (US 54052) (A).

5202. Wells attached a marked-up copy of Blackman's report to his October 25 cover letter, where he indicated his edits and the corresponding paragraph numbers from his letter. The marked-up report was produced by BATCo in this litigation, with additional comments and markings from BATCo showing that BATCo acted on Wells's letter. Specifically, the three paragraphs quoted above bearing adversely on the company's position on addiction were ultimately stricken from the report. 680582512-2512 (US 85396) (A).

5203. On May 29 and 30, 1984, attorneys from B&W and BATCo held a conference on U.S. products liability litigation. During the course of that conference, "Project Rio," a biological testing program to develop cigarettes with less "biological activity," was discussed. According to a memo authored by Kendrick Wells, in-house counsel for B&W, the attorneys "were able to hold significant discussions about implications for U.S. products liability litigation ... regarding Project Rio. BAT Legal acknowledged the needs for lawyer involvement in the project and for possible restructuring, but there was not enough time to plot a course of action." Wells considered follow-up and further summarized the meetings in a June 12, 1984 file note:

> we should arrange a meeting in London with BAT Legal ... to delineate more specific counsel to the BAT, including proposals for the structure and organization of BAT programs and statements which would hold to the minimum feasible level their potential impact upon U.S. products liability litigation. Topics would include proposals for organizing programs already on the table and general procedural guides for lawyer counseling of ongoing and future programs. For example, if Project Rio must continue,

> restructuring probably will be required to control the risk of generating adverse evidence admissible in U.S. lawsuits.
> ...
> Direct lawyer involvement is needed on all BAT activities pertaining to smoking and health from conception through every step of the activity.
>
> The problem posed by BAT scientists and frequently used consultants, who believe cause is proven [i.e., that smoking causes disease] is difficult.

685092972-2974 at 2973 (US 31031) (A).

5204. In his capacity as a tobacco industry attorney at Shook, Hardy & Bacon, Robert Northrip reviewed scientific documents prior to their circulation or dissemination. In reviewing those document, he does not recall "ever being assisted by an independent or a company scientist." Northrip WD, 40-1:11-40-2:23. Kendrick Wells, B&W Assistant General Counsel for Product Litigation, also testified that the Legal Department at B&W generally reviewed scientists statements on smoking and health before they were made public. The review was conducted in part so that the Law Department could tell the scientists that these sorts of statements could have averse consequences for the company in product litigation. Wells WD, 16:4-19.

5205. From October 23 to 25, 1986, the German Society of Occupational Medicine hosted a scientific symposium in Essen, Germany, run by Professor Karl Norpoth of the Institute of Hygiene and Occupational Medicine at the University of Essen (the "Essen symposium"). Researchers for Philip Morris sought approval to present research findings regarding environmental tobacco smoke at the Essen symposium, but ultimately lawyer review and opposition prevented their attempts to publicly present their findings. A leading board of German physicians, the German Society for Smoking and Health, ultimately concluded that the Essen symposium was so attached to the tobacco manufacturers that the proceedings were

irretrievably tainted. In a formal statement, the German Society stated: "Apparently the symposium in Essen will once again serve as an organ for marketing manipulation by the tobacco industry. This conclusion is in no way minimized by the fact that a handful of eminent, independent scientists have also been invited to participate; In public they shall serve as an alibi." 2025989595-9596 at 9595 (US 22833) (A).

5206. Beginning in February, 1986, prior to the Essen symposium, scientists at INBIFO, Philip Morris's research facility in Cologne Germany, requested approval from Philip Morris to present three studies at the Essen symposium related to environmental tobacco smoke. 2501666835-6837 at 6835 (US 87027) (O). On May 6, 1986, at least one of the studies was forwarded by Phillip Morris scientist Robert Pages to Donald Hoel, an industry lawyer at Shook, Hardy & Bacon for review and approval to present the paper. 2021654043-4045 at 4045 (US 87032) (O). On May 20, 1986, Thomas Osdene, Director of Research for Philip Morris, sought approval from Philip Morris management to present the three studies at the Essen symposium. 2001225907-5908 at 5907 (US 87033)(A). On May 28, 1986, Robert Pages reported back to the INBIFO scientists that, despite his efforts and the efforts of Osdene to gain approval, Philip Morris management would not allow the studies to be presented because a Philip Morris in-house lawyer, Frederic Newman, "said no." According to Pages, "that was the end of that." 2501459823-9823 (US 87034)(A); see also 2501459834-9834 (US 87035) (A).

5207. When Scott Appleton started as a toxicologist at B&W, B&W attorney J. Kendrick Wells wrote to B&W General Counsel Mick McGraw that "because of [Appleton's] credentials, any unfortunate statements he makes on key issues have the potential to be particularly troublesome in the hands of an adversary." For that reason, Wells wrote that "Scott should work especially closely with me for some time and that Jeff [Wigand] should be wary in

how he manages Scott in terms of areas and types of assignments and authority given to Scott." Appleton TT, 3/24/05, 16899:14-16900:9; 680901663-1665 at 1663 (US 79219) (A).

5208. Wells counseled Appleton on issues related to additives and new scientific research prior to his attending Scientific Research Group meetings. Appleton TT, 3/24/05, 16901:9-16902:2; 681100149-0151 at 0150 (US 93214) (A).

5209. Jeffrey Wigand, the B&W Vice President of Research and Development from 1989-1993, confirmed that company lawyers, particularly Wells, closely monitored and controlled Appleton from the time he was hired in 1991. Wigand WD, 71:21-72:4. Appleton is a toxicologist. As such, the law Department was concerned because "[i]n 1991, every toxicologist knew that nicotine was addictive and that smoking caused disease and death; so Kendrick [Wells] had a great concern regarding what any toxicologist would say that might contradict the position that the company was taking publicly and in litigation." Id., 75:20-76:10. Indeed, the law department was so concerned that it demanded the right to approve the candidate for the toxicologist position before Wigand could make an offer of employment. Id., 75:7-9.

5210. Unbeknownst to Appleton, Wells on at least one occasion edited an article drafted by Appleton. When confronted with those edits at trial, Appleton testified that "I apparently wasn't in the loop." Appleton TT, 03/24/05, 16936:16-16937:19; 16938:20-16939:2; 536200200-0210 at 0200-0201 (US 90150) (A).

5211. In 1991, the Board of INFOTAB and CECCM, European cigarette trade associations, retained Lovell, White, Durrant to provide legal clearance for all documents related to "smoking and health matters." Chadbourne & Parke was also retained to review the documents with an eye toward making sure that "due consideration is given to the legal position in the United States," even though these trade associations allegedly had no connection to the

United States, thus demonstrating the broad reach of Defendants' enterprise. 2023237649-7650 at 7649 (US 87025) (O).

(b) Admissions and Internal Complaints Regarding Lawyer Involvement in and Manipulation of Research

5212. During the 1970s, an Industry Research Committee – comprised of attorneys and public relations employees of the Cigarette Company Defendants – considered what type of research CTR should conduct and helped develop these projects. A memorandum dated November 4, 1978, from Janet C. Brown, an attorney for American Tobacco, explained "the industry thus moved closer to becoming the arbiter of the amount of CTR research done (by reason of its control of CTR's budget) and the type of research done (by reason of the changes in scope and direction of research, as dictated by Yeaman's [a lawyer's] letter)." BWX0007531-7548 at 7545 (US 36238) (O).

5213. As early as 1969, Defendants' scientists began complaining that Defendant-funded science had become compromised because of the use of science to support litigation. In a Philip Morris memorandum, Helmut Wakeham, Philip Morris's Vice President and Director of Research, lamented the fact that despite the scientific expertise of the tobacco industry to conduct smoking and health research, this expertise was not being utilized because of the legal situation: "Unfortunately . . . the scientific expertise of the industry, because of the liability suit situation, has not been permitted to make a contribution to the problem, a contribution which I believe was and is vital . . . ." 1001609594-9595 (US 21437) (O); (US 76162) (O).

5214. In a meeting in 1970, Wakeham, again complaining about the litigation and lawyer control of science, told D.G. Felton, BATCo's then Manager of Research Planning and later Manager of Smoking & Health Issues, "that the replacement for Dr. Little as Scientific Director of CTR is being sought by the lawyers committee and the Tobacco Institute without

reference to the scientists." 110315968-5971 at 5969 (US 26378) (A).

5215. In the same 1970 document, Felton noted how he explained to Wakeham that lawyer control of science was the reason why TRC, the British counterpart to CTR, was unwilling to cooperate with and include among its ranks American scientists. Felton stated that TRC members feared "scientific co-operation [with American scientists] as the thin end of a wedge which might lead to undue influence in TRC affairs by American lawyers." 110315968-5971 at 5968 (US 26378) (A).

5216. A June 24, 1974 Lorillard memorandum explained how CTR was used by lawyers not for scientific research but for litigation ends:

> Historically, the joint industry funded smoking and health research programs have not been selected against specific scientific goals, but rather for various purposes such as public relations, political relations, position for litigation, etc. Thus, it seems obvious that reviews of such programs for scientific relevance and merit in the smoking and health field are not likely to produce high ratings. In general, these programs have provided some buffer to public and political attack of the industry, as well as background for litigious strategy.

01421596-1600 at 1598 (US 20049) (A).

5217. In 1978, Sheldon Sommers, Chairman of the CTR Scientific Advisory Board, complained to William Gardner, the Scientific Director of CTR, that he (Sommers) was unable to understand the legal counsel he was being given. The clear import of Sommers' letter was that the CTR lawyers were controlling tobacco research by CTR based upon legal considerations. Sommers stated: "I think CTR should be renamed Council for Legally Permitted Tobacco Research, CLIPT for short." Indeed, the lawyer control of CTR had become so pervasive that Sommers concluded that "[m]y considered opinion is that the time for me to sever connections with CTR is near." 11319256-9256 (US 20281) (A).

5218. Sommers's sentiment that CTR was being used to further the legal interests of the company is confirmed by the B&W general counsel who explained in 1978 that "CTR helps protect the industry from potential 'smoking pistol(s) in a lawsuit' should research go wrong," and a later analysis of Defendants' documents by their lawyers in which they concluded that numerous internal company documents discussed "ways in which CTR can be used to protect the industry through defensive research." 680260940-0941 (US 20995) (A); 682764441-4461 (US 21030) (A).

5219. Richard Binns, the Manager of BATCo's Group Research & Development Centre at Southampton, complained of the expansive role of lawyers in BATCO's science when he wrote in the late 1980s that he "was being asked to make significant and sometimes swingeing changes in documents produced recently by R&D staff. . . Therefore, the current lack of clarity about the relationship between R&D and legal Dept. has raised questions which for me are extremely disturbing, particularly if extended beyond the present localized situation." 109878083-8089 at 8089 (US 21767) (A). As Jeffrey Wigand testified at trial, Binns' "written words capture very well what he told me during conversations that followed the implementation of the policies [requiring legal review of scientific documents] established at the New York City meeting." Wigand WD, 83:4-84:3.

5220. In a May 11, 1993 letter from K. Wells, B&W's associate general counsel, to S.P. Chalfen, BAT Industries solicitor, Peter L. Clarke, BATCO general counsel, and Andrew Foyle of Lovell, White, Durrant, Wells stated that while the "CTR story, including SP [special project] grants, is a positive story which can be told and defended," "it should not be told to the public during the pendency of litigation in the U.S. involving assertions of fraud in connection with CTR's operations." 536300013-0014 (US 53132) (A).

5221. In a 1978 handwritten note related to the industry's Scientific Liaison Research Committee, Curtis Judge, Lorillard's Chief Executive Officer, complained that "[w]e have again abdicated the scientific research directional management of the Industry to the 'lawyers' with virtually no involvement on the part of the scientific or business management side of the business" (emphasis in original). The note further argued that a reconstituted scientific and policy leadership committee should not "report to the Committee of Counsel." 01346204-6205 (US 34532) (A).

IV

DEFENDANTS CAUSED THE CHARGED MAILINGS AND WIRE TRANSMISSIONS IN FURTHERANCE OF THE SCHEME TO DEFRAUD

A. The Charged Defendants Caused the Mailings and Wire Transmissions

1. The Court finds that, consistent with the allegations set forth in the descriptions of the Racketeering Acts below, the charged Defendants performed or caused the mailings or wire transmissions described in each of those respective Racketeering Acts to be sent, delivered, or received by the requisite means of transmission consistent with 18 U.S.C. §§ 1341 and 1343.

2. B&W has stipulated that the requirements of 18 U.S.C. § 1341 or § 1343 have been met for the following Racketeering Acts: 8, 17, 31-32, 38, 44-45, 50-52, 54, 57, 60, 63, 66-67, 77, 88, 98, 103, 106, 115-116, 118, 124-125, 127, 129, and 144.

3. BATCo has stipulated that the requirements of 18 U.S.C. § 1341 or § 1343 have been met for the following Racketeering Acts: 11, 30, 50, 51, 53, 54, 57, 60, 63, 103, and 108.

4. In their responses to Requests for Admission, various Defendants have admitted that certain of the Racketeering Acts were transmitted by the requisite means of transmission (mail or wire), including the following Racketeering Acts: 11, 26, 30, 32, 38, 44-46, 50-55, 57, 60, 63, 66-67, 70, 73, 77, 79, 81-82, 86, 88-90, 94, 96, 98-99, 103-106, 108-110, 114, and 116. USX6390001-0400 at 0062-0098 (US 89555) (O) (B&W Responses); ARU0892192-2230 (US 86709) (A) (Philip Morris Responses); WAX0022020-2135 (US 77413) (A) (Reynolds Responses); USX6390001-0400 at 0330-0367 (US 89555) (O) (Tobacco Institute Responses).

5. In their Opposition to the United States' Motion For Partial Summary Judgment On Element That Defendants Have Caused Mailings And Wire Transmissions, Defendants admitted that the mailings and wire transmissions underlying Racketeering Acts 3-7, 10, 12, 18,

21, 23-25, 27, 33-35, 46, 49, 79, 81, 117, 121-122, 132-133, 143, and 145-146 have been established. See JD Rule 7.1/56.1 Statement Mailings ¶¶ 120-124, 127, 129, 135, 138, 140-142, 144, 150-152, 163, 166, 194, 196, 231, 235-236, 246-247, 257 and 259-260.

6. Thirty-three of the forty-one Racketeering Acts that Defendants challenged in their Opposition involve correspondence mailed from one city to another. They are Racketeering Acts 2-3, 6-7, 9-10, 12-16, 19-22, 27, 33, 40-41, 58, 62, 69, 71-72, 74-75, 79-81, 85, 117 and 132-133.

7. Twenty of the forty-one Racketeering Acts that Defendants challenged in their Opposition involve mailings prior to September 14, 1974, during the period that the United States Mails were virtually the only authorized means of mailing. They are Racketeering Acts 2-3, 6-7, 9-10, 12-16, 19-22, 27-29, 33, and 117. Based upon the aforementioned mailings from one city to another, and the aforementioned mailings that preceded September 14, 1974, the Court finds that such mailings more likely than not occurred via the United States Mails.

8. Prior to 1974, private carrier mailing was permissible only by "opinion letter" permission of the Postal Department. In 1974, the United States Postal Service (previously Postal Department) set forth most of 39 C.F.R. Part 310, which dealt with enforcement of the Private Express statutes (39 U.S.C. § 601 et seq.). Section 310.3 of 39 C.F.R., promulgated September 14, 1974, set forth certain exceptions, but the largest exception, which listed various suspensions of the Private Express statute, occurred in 1979. That exception included, on October 24, 1979, the "extremely urgent letter" suspension (39 C.F.R. § 320.6), under which most courier services now operate. 18 U.S.C. §§ 1341, 1343; 39 C.F.R. Part 310 and Part 320; 39 U.S.C. § 601 et seq.

9. No Defendant has indicated in written or documentary discovery, or otherwise

indicated to the Court, that it possessed such "opinion letter" permission. Therefore, because of the virtual "Postal monopoly" that existed prior to October 1979, Racketeering Acts 1 through 43 were almost certainly sent by the United States Mails.

10. The Court takes judicial notice that since 1954, the following newspapers have been routinely sent to subscribers via the United States Mails, and that this practice was reasonably foreseeable to each Defendant: *Atlanta Constitution; Atlanta Journal; Boston Globe; Charlotte Observer; Chicago Tribune; Los Angeles Times; Miami Herald; New York Times; San Diego Union-Tribune; Washington Post.* Order #616.

11. The Court takes judicial notice that the following newspapers have been routinely sent to subscribers via the United States Mails since the following years, and that this practice was reasonably foreseeable to each Defendant: *Atlanta Journal-Constitution - 2001; New York Post - 1993; Philadelphia Inquirer - 1970; Village Voice* - 1959. Order #616.

12. The Court takes judicial notice that since 1954, the following magazines have been routinely sent to subscribers via the United States Mails, and that this practice was reasonably foreseeable to each Defendant: *Car Craft; 4-Wheel & Off-Road; Glamour; Hot Rod; Mademoiselle* (through 2001); *Motorcyclist; Playboy; Vogue.* Order #616.

13. The Court takes judicial notice that the following magazines have been routinely sent to subscribers via the United States Mails since the following years, and that this practice was reasonably foreseeable to each Defendant: *Allure* - 1991; *ESPN The Magazine* - 1998; *GQ-Gentlemen's Quarterly* - 1957; *Maxim* - 1997. Order #616.

14. The Court finds the following carrier services to be "private or commercial interstate carriers": Fedex (formerly Federal Express); DHL; United Parcel Service; and Airborne Express.

15. Certain documents, on their face, indicate that they have been transmitted by the United States Mails. For instance, in Racketeering Act 74, Altria's in-house counsel, Eric A. Taussig, sent a letter to Paul Mele, which alleged that Mele had violated his confidentiality agreement with Philip Morris and stated that "The Company cannot tolerate this kind of conduct. . . . Any further breach of your agreement will result in action being taken." Racketeering Act 75 is an identical letter to Victor DeNoble from Taussig. Across the top of the letter is the legend "CERTIFIED MAIL RETURN RECEIPT REQUESTED," indicating Post Office delivery. 2043724074-4075 (US 21916) (A).

16. Similarly, where a letter or other mailing has been sent to a post office box, such indication provides sufficient evidence that the mailing was sent by United States Mails, as private courier services cannot deliver to post office boxes. See, e.g., Racketeering Acts 11, 30, 41, 50- 51, 55, 57, 60, and 63. 680204115-4117 (US 20990) (A); 680248768-8769 (US 20993) (A); 2000512794-2795 (US 20295) (A); 680585135-5135 (US 22976) (A); 680584974-4985 (US 21382) (A); 680583674-3674 (US 21383) (A); 103498901-8902 (US 21384) (O); 521016787-6788 (US 22129) (A).

17. Certain Racketeering Acts, on their face, have been transmitted by wires and radio and television signals. For instance, various statements from Defendants' internet websites are or were published on the worldwide web, a global network of computers which employ telephone, fiberoptic, and other wire and wireless infrastructures. Similarly, telephone communications, telexes, cable letters, telegrams, e-mails, facsimile transmissions, and television and radio involve the use of wire and radio/television signals in interstate and/or foreign commerce. Therefore, Racketeering Acts 103-116, 130, 134, 137, and 143-147 were transmitted by use of the wires, radio, and television signals in interstate and/or foreign commerce. 689033421-3421

(US 31045) (O); 508293416-3416 (US 21514) (O); 1002605545-5564 (US 35622) (A); 680273641-3643 (US 20998) (A); 504331775-1776 (US 22738) (O); 301030943-0944 (US 46577) (A); 2029200293-0294 (US 21537) (O); 450010016-0019 (US 21539) (O); 690149518-9531 at 9520 (US 21046) (A); 690149518-9531 (US 78732) (A); TLT0770044-0049 (US 86656) (A); TLT0770095-0128 (US 72410) (A).

18. Furthermore, various Defendants' routine business practices demonstrate sufficient use of the mails and/or wires. For instance, on January 12, 2005, Brennan Dawson, former Senior Vice President for Public Affairs of the Tobacco Institute, testified at trial in this case that on behalf of the Tobacco Institute she made public statements intended for millions of American television viewers to believe concerning smoking and health, on television programs that included CNN's Newsmaker Sunday, CNN's Crossfire, Good Morning America, and CBS News Night Watch. Dawson TT, 1/12/05, 9925:17-9930:16. CTR provided funding to Special Projects recipients via checks processed through the interstate banking system, and delivered via the United States Mail. McAllister PD, United States v. Philip Morris, 5/24/02, 98:3-99:2, 102:13-22, 103:7-19.

19. In 1986, as part of a "targeted mass-mailing outreach campaign," the Tobacco Institute began circulating *Tobacco Update*, a one sheet, double-sided summary of Tobacco Institute positions. The Tobacco Merchant's Association originally published a newsletter called *Tobacco Update* which was a lengthier summary of issues facing tobacco. The Tobacco Institute sent copies of *Tobacco Update* to op-ed page managers, columnists, and business editors of every daily newspaper with a circulation of 10,000 or more. TIMN 339121-9128 at 9121 (US 86127) (O).

20. Certain of the mail fraud Racketeering Acts involve mailings sent by Defendants

themselves. For those Racketeering Acts that were not directly sent by Defendants or their employees, the Court finds that those Defendants nevertheless "caused" the transmissions. See, e.g., Racketeering Acts 2, 5, 6-7, 10, 13-15, 31, 38, 44, 47-48, 66-67, 70, 73, 77, 88, 98, 117-118, and 120. It was reasonably foreseeable that such transmissions would occur by the requisite means of transmission. For instance, where Hill & Knowlton, a public relations firm working for and on behalf of the Defendants, issued a press release, and that press release was then sent via the mails, the charged Defendants "caused" that mailing. 11313243-3244 (US 20280) (O); TIMN0127723-7724 (US 21318) (O); TIMN0098597-8598 (US 21270) (A); (US 77055) (O); TPRE0000159-0162 (US 85511) (O); 2015059690-9697 (US 20309) (O); 1005154472-4479 (US 20229) (O); 1005083882-3882 (US 20204) (O); 521030439-0441 (US 23019) (O); 1005118752-8753 (US 21805) (O); 1002325022-5022 (US 21510) (A); 2015047161-7163 (US 21809) (A); 507876416-6417 (US 21810) (A); (US 21709) (O); 507875961-5962 (US 20796) (A); 2015006928-6929 (US 21811) (A); 521100179-0180 (US 21812) (A); 512678470-8473 (US 22979 (A); MNAT00280070-0070 (US 21724) (O); 2025345360-5362 (US 20414) (A); 500015901-5905 (US 47778) (A).

21. As described above, certain Defendants created, controlled, and funded Defendants CTR and the Tobacco Institute, in large part for the purpose of having those entities disseminate false and fraudulent information. Accordingly, when the Tobacco Institute and CTR perform a mailing or wire communication, the other charged Defendants, along with the Tobacco Institute and CTR, have "caused" the transmissions by mail or wire. See, e.g., Racketeering Acts 3, 5-7, 10, 12, 18, 21, 23-24, 27, 29, 33-35, 42-43, 46, 49, 56, 79, 81, 87, 91, 93, 117, 118, 130, 132, and 133. TIMN0110091-0091 (US 21319) (A); TIMN0127723-7724 (US 21318) (O); TIMN0098597-8598 (US 21270) (A); TIMN0118245-8246 (US 77055) (O); TPRE0000159-

0162 (US 85511) (O); TIMN462375-2380 (US 21660) (O); 680264942-4943 (US 22978) (O); TIMN0120574-0575 (US 21678) (O); TIMN0100469-0470 (US 21687) (O); TIMN0120596-0597 (US 21321) (O); TIMN0120638-0639 (US 21698) (O); 680263421-3422 (US 22345) (A); (US 78780) (A); TIFL0522279-2280 (US 21424) (O); TIMN0074006-4006 (US 21303) (O); TIMN0133740-3798 (US 21280) (A); TIMN0102493-2494 (US 21271) (O); TNWL0019638-9640 (US 21703) (O); TIMN0125189-5189 (US 77065) (A); TIMN0020530-0531 (US 62795) (O); TIMN0015615-5617 (US 21265) (A); TIMN0019059-9060 (US 21266) (A); TIMN0019059-9060 (US 62790) (O); MNAT00280070-0070 (US 21724) (O); 2025345360-5362 (US 20414) (A); 690149518-9531 at 9520 (US 21046) (A); 690149518-9531 (US 78732) (A); TIMN0019963-9963 (US 21239) (A); TIMN0019963-9963 (US 22727) (A).

22. Similarly, where a Defendant issues a public statement, and that public statement is then carried by a news agency, wire service, newspaper, television broadcast or other method of dissemination, such transmission by mail or wire is "caused" by the charged Defendant or Defendants. See, e.g., Racketeering Acts 1-3, 5-8, 10, 12, 18, 21, 23-24, 27, 29, 33-37, 39, 42-43, 46-49, 56, 61, 64, 70, 76, 79, 81, 83-84, 87, 93, 97, 100-102, 105, 109-113, 117-118, 120, 130, 132-133, 135-142, and 147-148. For example, when the Tobacco Institute issued a press release, it was reasonably foreseeable (and probably intended) that such press release was disseminated by news outlets and other media. Therefore, the Tobacco Institute (and the other Defendants charged in said acts) have "caused" such dissemination. 11313243-3244 (US 20280) (O); TIMN0110091-0091 (US 21319) (A); TIMN0127723-7724 (US 21318) (O); TIMN0098597-8598 (US 21270) (A); TIMN0118245-8246 (US 77055) (O); 508775085-5088 (US 20815) (O); TPRE0000159-0162 (US 85511) (O); TPRE0000163-0164 (US 21551) (O); TIMN462375-2380 (US 21660) (O); 680264942-4943 (US 22978) (O); TIMN0120574-0575

(US 21678) (O); TIMN0100469-0470 (US 21687) (O); TIMN0120596-0597 (US 21321) (O); TIMN0120638-0639 (US 21698) (O); 680263421-3422 (US 22345) (A); 680263421-3422 (US 78780) (A); 500713769-3769 (US 48351) (O); 03061394-1394 (US 21700) (A); 500713420-3420 (US 48350) (O); TIFL0522279-2280 (US 21424) (O); TIMN0074006-4006 (US 21303) (O); TIMN0133740-3798 (US 21280) (A); 1002325022-5022 (US 21510) (A); TIMN0102493-2494 (US 21271) (O); TNWL0019638-9640 (US 21703) (O); 505302573-2573 (US 21627) (O); 513943434-3434 (US 50268) (A); 507731656-1656 (US 21709) (O); 509131846-1847 (US 20823) (O); TIMN0125189-5189 (US 77065) (A); 509131376-1378 (US 20822) (O); 506876715-6718 (US 21712) (O); TIMN0020530-0531 (US 62795) (O); TIMN0019059-9060 (US 21266) (A); TIMN0019059-9060 (US 62790) (O); 509131534-1534 (US 21717) (O); 2500050140-0141 (US 21804) (A); IRA0011362-1362 (US 33060) (O); 1002605545-5564 (US 35622) (A); MNAT00280070-0070 (US 21724) (O); 2025345360-5362 (US 20414) (A); 500015901-5905 (US 47778) (A); 690149518-9531 at 9520 (US 21046) (A); 690149518-9531 (US 78732) (A); TIMN0019963-9963 (US 21239) (A); TIMN0019963-9963 (US 22727) (A); 98402886-2888 (US 57307) (O); 524649701-9712 (US 21750) (O); 517509202-9211 (US 21752) (O).

23. For instance, Racketeering Act 1, Defendants' "A Frank Statement to Smokers," was carried by various newspapers and other journals throughout the United States, including the *Washington Post* and the *New York Times*. Those publications were and are carried not only by newspaper delivery services (for home delivery), periodical outlets, and newspaper machines, but also to subscribers by means of the United States Mail. Similarly, where a press release or other public statement was carried by *Time* magazine, *Newsweek*, or another such publication, as the periodicals themselves indicate, those periodicals were also sent to subscribers by the United

States Mails. As with mailings sent by third parties, as described in this Section, such mailings are "caused" by Defendants, as charged. 86017454 (US 21418) (A).

B. Defendants Control the Content of Their Respective Websites

24. Defendants Philip Morris USA (with Altria), Reynolds, B&W, and Lorillard control the content of their respective websites. Szymanczyk WD, 51:1-53:7; Beasley WD, 63:16-64:9, 65:15-21; Orlowsky WD, 16:12-17:7, 110:19-113:1.

C. Defendants Control the Content of Their Cigarette Advertising

25. Defendants Philip Morris USA (with Altria), Reynolds, B&W, Lorillard and Liggett control the content of their advertising. Szymanczyk WD, 98:8-100:21; Beasley WD, 97:17-98:5, 98:19-100:2; Orlowsky WD, 23:6-30:13; LeBow WD, 63:10-12.

D. The 145 Alleged Racketeering Acts Were Undertaken for the Purpose of Executing the Scheme to Defraud

26. The Court finds that all of the mailings and wire transmissions alleged in the charged 145 Racketeering Acts were undertaken for the purpose of executing the scheme to defraud found by the Court.

27. In Section III above, the Court determined that Defendants devised a scheme to defraud that was executed through seven principal means involving the mailing and/or wire transmission of numerous material false, deceptive, misleading, or otherwise fraudulent statements, representations, or promises, half-truths, and omissions of material facts, as well as other statements which, although not false or misleading (such as internal communications which admitted that smoking causes cancer) were nonetheless in furtherance of Defendants' scheme to defraud. The Court finds that all of the alleged 145 Racketeering Acts were undertaken for the purpose of executing the scheme to defraud because they furthered Defendants' continuing efforts to deceive consumers and potential consumers into starting and continuing to smoke cigarettes by

attempting to misrepresent and conceal the adverse health effects caused by smoking cigarettes and exposure to cigarette smoke and other related matters, and by maintaining that there was an "open question" as to whether smoking cigarettes, or exposure to cigarette smoke, causes disease and other adverse effects. Such false statements, misrepresentations, and concealments had a natural tendency to influence the decisions of consumers and potential consumers to initiate, continue, or quit smoking, and to influence the decisions of others to initiate, forgo, or otherwise affect efforts to address smoking and health issues, including youth smoking. Moreover, each Racketeering Act[2] was undertaken to execute the scheme to defraud on additional grounds, including, but not limited to, the grounds set forth below:

28. **Racketeering Act No. 1:** On or about January 4, 1954, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, AMERICAN, and co-conspirators caused to be placed in numerous newspapers nationwide, including *The Washington Post*, a daily newspaper, an advertisement entitled "A Frank Statement To Smokers," which newspaper was then sent and delivered by the United States Mails to subscribers and others. In this advertisement, defendants promised to safeguard the health of smokers, support disinterested research into smoking and health, and reveal to the public the results of research into the effects of smoking on smokers' health.

29. This communication contained false promises and misrepresentations regarding: safeguarding the health of smokers; fraudulent promises regarding Defendants' support of independent, disinterested research into smoking and health; and fraudulent promises to reveal to the public the results of research into the effects of smoking on smokers' health. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud.

---

[2]Racketeering Acts 8, 13-15, 44, 73, 98, 100, 134, and 140 have been modified to conform to the evidence.

86017454 (US 21418) (A).

30. Defendants Philip Morris, RJR, B&W, Lorillard, American, and co-conspirators, caused Racketeering Act 1, the 1954 "Frank Statement To Smokers," to be transmitted by the United States Mails. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

31. **Racketeering Act No. 2:** On or about July 15, 1957, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through the TOBACCO INDUSTRY RESEARCH COMMITTEE (predecessor to defendant COUNCIL FOR TOBACCO RESEARCH), did knowingly cause a press release entitled "Scientist Comments on Benzypyrene Report" to be sent and delivered by the United States Mails to newspapers and news outlets. This press release disputed the United States Surgeon General's report that Benzypyrene had been identified in cigarette smoke, and stated that scientists had "generally concluded" that Benzypyrene in cigarette smoke cannot be a cause of cancer in smokers.

32. This communication contained the misrepresentation that scientists had generally concluded that Benzypyrene in cigarette smoke could not cause cancer. Moreover, this communication sought to discredit the Surgeon General's Report with false and misleading statements. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 11313243-3244 (US 20280) (O); TLT0681330-*1330* (US 65226) (O) (*Pittsburgh Press*, July 16, 1957 (UP article)); TLT 0370075-0075 (US 76446) (A) (*Washington Post,* July 16, 1957).

33. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through the TIRC (predecessor to Defendant CTR), caused Racketeering Act 2, a press release to be transmitted by wire, on or about July 15, 1957. McAllister PD, Philip Morris, 5/24/02, 80:7-18; Order #616.

34. **Racketeering Act No. 3:** On or about November 27, 1959, defendants PHILIP

MORRIS, R.J. REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements attacking an article written by then-United States Surgeon General Leroy Burney about the hazards of smoking.

35. This communication misrepresented and concealed the link between smoking and disease. Moreover, this communication sought to discredit the Surgeon General's Report with false and misleading statements. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0110091-0091 (US 21319) (A).

36. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 3, a press release, to be transmitted by wire on or about November 27, 1959. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

37. **Racketeering Act No. 4:** On or about December 9, 1959, defendant REYNOLDS did knowingly receive from the mails a letter addressed to W.A. Sugg, R.J. Reynolds Tobacco Company, Winston-Salem, North Carolina, from George McGovern of William Esty Company, 100 East 42nd Street, New York, New York. The letter included a marketing study of the smoking habits of high school and college students.

38. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' efforts to target the youth market, which they publicly denied. 501113723-3730 (US 22366) (A).

39. Defendant RJR caused Racketeering Act 4, a letter addressed to W.A. Sugg, to be transmitted by mail from New York, New York to Winston-Salem, North Carolina, on or about December 9, 1959.

40. **Racketeering Act No. 5:** On or about July 6, 1961, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and

AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release was titled "Allen Gives Tobacco Institute Position on 'Health Scares'" and stated that "[t]he tobacco industry itself is more interested than anyone else in finding out and making public the true facts about tobacco and health" and that "research in recent years has produced findings that weaken rather than support the claim that smoking is a major contributor to lung cancer."

41. This communication falsely promised and misrepresented that Defendants wanted to and would conduct independent, disinterested research regarding smoking and disease and make the results of such research public, and misrepresented and concealed the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0127723-7724 (US 21318) (O); ARU5770395-0395 (US 75862) (O) (*Ft. Lauderdale News*, July 7, 1961).

42. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 5, a press release, to be transmitted by mail on or about July 6, 1961. USX6390001-0400 at 0395 (US 89555) (O) (Amended Supplemental Response Number 279 of Tobacco Institute to United States' First Set of Requests for Admission); Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

43. **Racketeering Act No. 6:** On or about July 9, 1963, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release stated "the tobacco industry's position that smoking is a custom for adults and that it is not the intent of the industry to promote or encourage smoking among youth" and "[t]he industry wants to make it demonstrably clear that it does not wish to promote or encourage smoking among youth."

44. This communication falsely stated and misrepresented that Defendants did not promote or encourage smoking among youth when, in fact, they did. This communication was

for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0098597-8598 (US 21270) (A); TIMN280366 (US 21559) (O) (*The Wall Street Journal*, July 10, 1963); TIMN280367 (US 21560) (O) (*Washington Post*, July 10, 1963); CW000526989 (US 87228) (O) (AP article published July 10, 1963 in *Times-Union, Humboldt Times, Tribune, Express,* and *Call*).

45. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 6, a press release, to be transmitted by mail on or about July 9, 1963. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

46. **Racketeering Act No. 7:** On or about November 3, 1963, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. Through this press release, defendants stated that they were on a "crusade" to find answers to the "questions about smoking and health," and that it "should be a crusade neither for nor against tobacco. It is a crusade for research . . . ." Defendants asserted the position that the question of causation was still unresolved.

47. This communication falsely promised and misrepresented that Defendants wanted to and would conduct independent, disinterested research regarding smoking and disease and would make the results of such research public, and misrepresented and concealed the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0118245-8246 (US 77055) (O); ATC2493739-3739 (US 87229) (O) (AP article published November 3, 1963 in *News and Observer*, *Durham Morning Herald,*

Journal & Sentinel).

48. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 7, a press release, to be transmitted by mail on or about November 3, 1963. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

49. **Racketeering Act No. 8:** On or about March 6, 1964, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release announced the reorganization of the Tobacco Industry Research Committee into the Council for Tobacco Research and represented that CTR's research policy would be set by doctors and scientists independent of the tobacco industry.

50. This communication falsely misrepresented that CTR's research would be independent and disinterested, and concealed that CTR's research policy would be controlled by Defendants. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 508775085-5088 (US 20815) (O); CTRMN010781-0783 (US 85514) (O); TLT0370112-0113 (US 88639) (O) (*The New York Times*, March 11, 1964).

51. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through Defendant CTR, caused Racketeering Act 8, a press release, to be transmitted by mail on or about March 6, 1964. See ARU6460266-0268 (US 86699) (O) (B&W Stipulation at ¶ 1).

52. **Racketeering Act No. 9:** On or about November 23, 1965, defendant COUNCIL FOR TOBACCO RESEARCH did knowingly receive from the mails a letter addressed to Edwin J. Jacob, Esq., Cabell Medinger Forsyth & Decker, 51 West 51st Street, Rockefeller Center, New York, New York, counsel to CTR, from Alvan R. Feinstein, Associate Professor of Medicine, Yale School of Medicine, New Haven, Connecticut, requesting funding for research on data indicating that the clinical effects of cancers were no worse in smokers than in nonsmokers.

53. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' fraudulent efforts regarding self-interested research and their fraudulent denials regarding smoking and health issues, including the issue of whether the link between smoking and disease was an open question. 01124436-4437 (US 21491) (O).

54. Defendant CTR caused Racketeering Act 9, a letter, to be transmitted by mail on or about November 23, 1965. McAllister PD, Philip Morris, 5/24/02, 57:10-22; 69:9-19.

55. **Racketeering Act No. 10:** On or about December 29, 1965, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. Through this press release, defendants stated that research had not established whether smoking causes disease and this was still an "open question." "If there is something in tobacco that is causally related to cancer or any other disease, the tobacco industry wants to find out what it is, and the sooner the better."

56. This communication misrepresented that smoking was not causally related to cancer or any other disease; concealed that these Defendants' own research suggested that smoking was causally related to cancer and other diseases; and misrepresented that Defendants wanted to and would conduct independent, disinterested research regarding the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TPRE0000159-0162 (US 85511) (O); 1003042646-2646B (US 87230) (O) (AP article published December 29, 1965 in *Easton Express* and *The Baltimore Sun*); 1003042648A-2648 (US 21647) (O) (AP article published December 29, 1965 in *Cincinnati Inquirer*).

57. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 10, a press release, to be transmitted by mail on or about December 29, 1965. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

58. **Racketeering Act No. 11:** On or about February 28, 1966, defendants BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails, and BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) thereafter received, a letter addressed to A. D. McCormick, Esq., BAT Co., P.O. Box 482, 7 Millbank, London, SW1, England, from Addison Yeaman, Esq., General Counsel of Brown & Williamson, promoting cooperation among defendants in resisting regulation by Congress and by the Federal Trade Commission by attacking existing scientific studies linking smoking to disease, by making representations to governmental regulators that defendants were engaged in accelerated research, and by suppressing information unfavorable to defendants.

59. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 680204115-4117 (US 20990) (A).

60. Defendant B&W caused Racketeering Act 11, a letter, to be transmitted by mail on or about February 28, 1966. USX6390001-0400 (US 89555) (O) (B&W Response to Request No. 285); USX6390001-0400 at 0053 (US 89555) (O) (BATCo Response to Request No. 285); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶1, citing Exhibit A); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A).

61. **Racketeering Act No. 12:** On or about October 21, 1966, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers

and news outlets. Through this press release, defendants stated that they knew "of no valid scientific evidence demonstrating that either 'tar' or nicotine is responsible for any human illness."

62. This communication misrepresented that there was no valid scientific evidence demonstrating that tar or nicotine was responsible for human illnesses, and concealed that Defendants knew of valid scientific evidence demonstrating that tar or nicotine was responsible for human illnesses. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TPRE0000163-0164 (US 21551) (O); ATC3061484-1487 (US 86701) (O) (*The New York Times*, October 22, 1966).

63. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 12, a press release, to be transmitted by mail on or about October 21, 1966. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

64. **Racketeering Act No. 13**: On or about January 12, 1967, defendants PHILIP MORRIS, R.J. REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, AMERICAN, and COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters addressed separately to each member of Ad Hoc Committee: Miss Janet Brown, Esq., Chadbourne Park, Whiteside & Wolff, 25 Broadway, New York, New York 10004, counsel to American; Kevin L. Carroll, Esq., Donald J. Cohn, Esq., and Francis K. Decker, Esq., Webster Sheffield Fleischmann Hitchcock & Chrystie, 1 Rockefeller Plaza, New York, New York 10020, counsel to Liggett; Edward J. Cooke, Jr., Esq., Davis, Polk, Wardwell, Sunderland, & Kiendl, 1 Chase Manhattan Plaza, New York, New York 10005, counsel to Reynolds; Alexander Holtzman, Esq., Conboy, Hewitt, O'Brien & Boardman, 20 Exchange Place, New York, New York 10005, counsel to Philip Morris; Edwin J. Jacob, Esq., Cabell Medinger Forsyth & Decker, 51 W. 51st Street, New York, NY 10019, counsel to CTR; William W. Shinn, Esq., Shook, Hardy, Ottman, Mitchell & Bacon, 915 Grand Avenue, Kansas City, MS 64106; and Edward DeHart, Hill & Knowlton, 1735 K Street, NW, Washington, DC 20006, each of which was from David R. Hardy, Esq., counsel to Ad Hoc Committee, requesting the recipients to recommend persons who could act as witnesses before Congressional hearings to perpetuate defendants' "open question" position, and assigning the members of the

Ad Hoc Committee oversight of CTR "special projects" designed to be of "practical use" for defendants during congressional hearings.

65. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2015059690-9697 (US 20309) (O).

66. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, American, and CTR, caused Racketeering Act 13, letters, to be transmitted by mail interstate on or about January 12, 1967.

67. **Racketeering Act No. 14:** On or about February 2, 1967, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN did knowingly cause to be sent and delivered by the United States Mails a letter addressed to David R. Hardy, Esq., counsel to Ad Hoc Committee, from William W. Shinn, Esq., Shook, Hardy, Ottman, Mitchell & Bacon, 915 Grand Avenue, Kansas City, Missouri 64106, a member of Ad Hoc Committee, and copied the Ad Hoc Committee and Ed DeHart of Hill & Knowlton. The letter responded to Hardy's request for recommendations of persons who could act as witnesses before congressional hearings to perpetuate defendants' "open question" position.

68. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 1005154472-4479 (US 20229) (O).

69. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American caused Racketeering Act 14, a letter, a copy of which was sent from Kansas City, Missouri to Ed DeHart

of Hill & Knowlton, New York, New York, to be transmitted by mail on or about February 2, 1967. McAllister PD, Philip Morris, 5/24/02, 57:10-22; 69:9-19.

70. **Racketeering Act No. 15:** On or about May 19, 1967, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Alexander Holtzman, Esq., Conboy, Hewitt, O' Brien & Boardman, 20 Exchange Place, New York, New York 10005, counsel to Philip Morris, from William W. Shinn, Esq., regarding CTR Special Projects, outlining a proposal to support and publicize research advancing the theory of smoking as beneficial to health as a stress reducer, even for "coronary prone" persons; representing that stress (rather than nicotine addiction), explains why smoking clinics fail; and proposing to publicize the "image of smoking as 'right' for many people . . . as a scientifically approved 'diversion' to avoid disease causing stress."

71. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and to deny the addictiveness of nicotine, and Defendants' fraudulent promise to conduct independent, disinterested research. 1005083882-3882 (US 20204) (O).

72. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American caused Racketeering Act 15, a letter, to be transmitted by mail from Kansas City, Missouri, to New York, New York, on or about May 19, 1967. McAllister PD, Philip Morris, 5/24/02, 57:10-22; 69:9-19.

73. **Racketeering Act No. 16:** On or about October 3, 1968, defendant PHILIP MORRIS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to David R. Hardy, Esq., Shook, Hardy, Ottman, Mitchell, and Bacon, 915 Grand Avenue, Kansas City, Missouri from Philip Morris Assistant General Counsel Alexander Holtzman, proposing "Special Project" funding for a scientist whose application to CTR for funding was

previously turned down but who was likely to produce data useful to defendants.

74. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 1005084784-4786 (US 22988) (O).

75. Defendant Philip Morris caused Racketeering Act 16, a letter, to be transmitted by mail from New York, New York, to Kansas City, Missouri, on or about October 3, 1968.

76. **Racketeering Act No. 17**: On or about October 21, 1968, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters separately addressed to Liggett General Counsel Frederick P. Haas, Esq.; American General Counsel Cyril Hetsko, Esq.; Reynolds General Counsel H. Henry Ramm, Esq.; Philip Morris General Counsel Paul D. Smith, Esq.; and Brown & Williamson General Counsel Addison Yeaman, Esq., from David R. Hardy, Esq., Shook, Hardy & Bacon, 915 Grand Avenue, Kansas City, Missouri, counsel to CTR' s Committee of Counsel. The letter proposed "Special Project" funding for a scientist whose application to CTR for funding was previously turned down but who was likely to produce data useful to defendants.

77. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 1005084799-4800 (US 20206) (O).

78. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 17, letters, to be transmitted by mail on or about

October 21, 1968. See ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

79. **Racketeering Act No. 18:** In or about 1968, the exact date being unknown, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, AMERICAN, and co-conspirators, through defendant TOBACCO INSTITUTE, did knowingly distribute reprints of an article written by Stanley Frank and originally published in True magazine, and caused copies of said document to be sent and delivered by the United States Mails, addressed to various physicians and civic leaders. This article disputed the link between smoking and disease, and was distributed anonymously.

80. This communication misrepresented and concealed the link between smoking and disease; concealed the relationship between the author of the article and Defendants; and concealed that Defendants caused the article to be reprinted and distributed. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN462375-2380 (US 21660) (O); 85872281-2281 (US 21618) (O); 2017002404-2410 (US 21619) (O); 85872282-2282 (US 21622) (O); 85872283-2283 (US 21624) (O); 85872284-2286 (US 21626) (O); TIMN0123336-3336 (US 21628) (O).

81. Defendants Philip Morris, RJR, B&W, Lorillard, American, and co-conspirators, through defendant Tobacco Institute, caused Racketeering Act 18, an article, to be transmitted by mail in or about 1968. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3,¶ 10); Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

82. **Racketeering Act No. 19:** On or about May 27, 1969, defendant PHILIP MORRIS did knowingly cause to be sent by the United States Mails a letter from Philip Morris Vice President for Corporate Research and Development, Helmut Wakeham, to defendant Dr. M. Hausermann, Director of Research and Quality Control, Fabriques de Tabacs, Reunies S.A., Neuchatel-Serrieres, Switzerland. The letter communicated the approval of Paul Smith,

Philip Morris' General Counsel, for the publication by Dr. Hausermann of a paper describing the Smoke Exposure Machine developed at Philip Morris' Cologne, Germany, Institute for Biological Research, known as INBIFO. The letter clarified the scope of the article, and stated that "[t]he paper should not include any statements with regard to the effect of smoke on the rats in terms of initiation of disease, etc."

83. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, Defendants' fraudulent promise to conduct independent, disinterested research, and to their concealment and suppression of material information relating to the link between smoking and disease. 1000321560-1560 (US 21884) (A).

84. Defendant Philip Morris caused Racketeering Act 19, a letter, to be transmitted by air mail to Switzerland on or about May 27, 1969. 1000321560-1560 (US 21884) (A).

85. **Racketeering Act No. 20:** On or about September 10, 1969, defendant PHILIP MORRIS did receive from the United States Mails a letter from M. Hausermann, Fabriques de Tabacs, Reunies S.A., Neuchatel Switzerland, addressed to Philip Morris Vice President for Corporate Research and Development, Dr. Helmut Wakeham, in which Dr. Hausermann reported that he had, following consultation with Alex Holtzman, Esq., in-house counsel at Philip Morris, decided not to submit for presentation a paper entitled "Cigarette Consumption Related to Cigarette 'Strength.'" Dr. Hausermann reported that Mr. Holtzman felt "that this paper should not be presented, because it might be used as an argument for tar-and-nicotine delivery indication on the pack and in ads."

86. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, Defendants' manipulation of nicotine

and nicotine delivery, Defendants' fraudulent promise to conduct independent, disinterested research, and their concealment and suppression of material information relating to the link between smoking and disease. 1001807341-7343 (US 22729) (A).

87. Defendant Philip Morris caused Racketeering Act 20, a letter, to be transmitted by mail from Switzerland to Richmond, Virginia, on or about September 10, 1969. 1001807341-7343 (US 22729) (A).

88. **Racketeering Act No. 21:** On or about April 30, 1970, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release falsely stated that the American Cancer Society had refused to release experimental data underlying the Auerbach/ Hammond "smoking beagles" study.

89. This communication contained the false statement that the American Cancer Society had refused to release experimental data underlying the Auerbach/Hammond "smoking beagles" study, when in fact, the American Cancer Society had offered to release it. This communication was in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and health was an open question, and attempted to discredit the American Cancer Society. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 680264942-4943 (US 22978) (O); 1005124927-4927 (US 87219) (O) (*The Wall Street Journal*, May 1, 1970).

90. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 21, a press release, to be transmitted by mail, on or about April 30, 1970. Declaration of Patricia A. Tobin, United States v. Philip

Morris, October 2, 2003 at 3 ¶ 10 (US 75490) (O); Order #616; Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

91. **Racketeering Act No. 22:** On or about July 22, 1970, defendants REYNOLDS, PHILIP MORRIS, BROWN & WILLIAMSON, AMERICAN, LIGGETT, and LORILLARD did knowingly cause to be sent and delivered by the United States Mails, and defendant COUNCIL FOR TOBACCO RESEARCH thereafter received, a letter from H.H. Ramm, Esq., General Counsel for R.J. REYNOLDS, addressed to Dr. Robert C. Hockett, Associate Scientific Director, CTR, 110 E. 59th Street, New York, New York. The letter states that "counsel representing Philip Morris, Brown & Williamson, American Brands, Liggett & Myers and Lorillard which companies together with R.J. REYNOLDS participate in Special Projects have advised that if the Scientific Advisory Board does not approve this project the same can be treated as an approved Special Project."

92. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. CTRSP-FILES009810-09810 (US 21696) (O).

93. Defendants RJR, Philip Morris, B&W, American, Liggett, and Lorillard, through defendant Counsel For Tobacco Research, caused Racketeering Act 22, a letter, to be transmitted by mail, on or about July 22, 1970. McAllister PD, Philip Morris, 5/24/02, 95:14-96:10.

94. **Racketeering Act No. 23:** On or about December 1, 1970, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause to be placed in *The Washington Post*, a daily newspaper, an advertisement entitled "The question about smoking and health is still a question," which newspaper was then sent and delivered by the United States Mails to subscribers and others. In this advertisement, the Tobacco Institute discredited the causal link between smoking and disease, stated that "in the interest of absolute objectivity" defendants "ha[ve] supported totally

independent research efforts with completely non-restrictive funding," and deliberately created the false impression that all research results have been freely published.

95. This communication misrepresented that the link between smoking and health was still an open question; misrepresented that there was no evidence supporting a causal link between smoking and disease; misrepresented that Defendants had supported independent, disinterested research efforts with non-restrictive funding; and misrepresented that all research results had been freely published. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0081352-1352 (US 21305) (A) *(Washington Post*, December 1, 1970).

96. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 23, an advertisement, to be transmitted by mail, on or about December 1, 1970. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

97. **Racketeering Act No. 24:** On or about May 25, 1971, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements indicating that "many eminent scientists" believe that "the question of smoking and health is still very much a question."

98. This communication concealed that many of the scientists who believed that the question of smoking and health was still an open question were conducting research that was funded, controlled, and managed by the Defendants; misrepresented the link between smoking and disease; and furthered Defendants' fraudulent position that the link between smoking and

disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0120574-0575 (US 21678) (O).

99. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 24, a press release, to be transmitted by mail, on or about May 25, 1971. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

100. **Racketeering Act No. 25:** On or about July 1, 1971, defendant COUNCIL FOR TOBACCO RESEARCH did knowingly cause to be sent and delivered by the United States Mails a letter from CTR Associate Scientific Director Robert C. Hockett, to REYNOLDS Vice President and General Counsel Henry H. Ramm, Esq., in which Hockett endorsed and passed along to Ramm a suggestion from two employees of Philip Morris that CTR sponsor a scientific conference on the "benefits" of smoking, in the wake of a private conference on the effects of nicotine and smoking on the central nervous system. Dr. Hockett also requested that the Committee of General Counsel guarantee the financing of the conference.

101. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, Defendants' false claim that nicotine was not addictive, and Defendants' fraudulent promise to conduct independent, disinterested research. 503654893-4894 (US 20719) (O).

102. Defendant CTR caused Racketeering Act 25, a letter, to be transmitted by mail, on or about July 1, 1971. USX6390001-0400 at 0020 (US 89555) (O) (CTR Response to Request No. 299); McAllister PD, Philip Morris, 5/24/02, 96:12-97:6.

103. **Racketeering Act No. 26:** On or about August 20, 1971, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails, and defendant PHILIP MORRIS did receive, a letter addressed to Joseph F. Cullman, III,

Chairman of the Board, Philip Morris Inc., 100 Park Avenue, New York, New York 10017, from Alexander H. Galloway, Chairman, R.J. Reynolds Industries, Inc., Winston-Salem, North Carolina, discussing defendants' joint position with respect to smoking and health research.

104. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2015023268-3268 (US 21727) (O).

105. Defendant RJR caused Racketeering Act 26, a letter, to be transmitted by mail on or about August 20, 1971. USX6390215-0329 at 0308 (US 77413) (A) (RJR Response to Request No. 300).

106. **Racketeering Act No. 27:** On or about November 15, 1971, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements suggesting that smoking is not harmful to pregnant women or their babies and indicating that many doctors and scientists believe that "the question of smoking and health is an open one."

107. This communication falsely stated that smoking was not harmful to pregnant women or their babies, and concealed that many of the doctors and scientists who believed that the question of smoking and health was still an open question were conducting research that was funded, controlled, and managed by Defendants; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0100469-

0470 (US 21687) (O).

108. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 27, a press release, to be transmitted by mail on or about November 15, 1971. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

109. **Racketeering Act No. 28:** On or about December 22, 1971, defendant PHILIP MORRIS did knowingly cause to be sent and delivered by the United States Mails, and defendants LIGGETT, LORILLARD, REYNOLDS, and BROWN & WILLIAMSON did thereafter receive, copies of a memorandum separately addressed to Liggett employee Dr. W.W. Bates, Reynolds employee Dr. Murray Senkus, Lorillard employee Dr. Alexander W. Spears, and Brown & Williamson employee Dr. Iver W. Hughes, from Philip Morris employee Dr. Helmut Wakeham, describing a research proposal of Drs. Auerbach and Hammond concerning the effects of smoking on health, indicating that the National Cancer Institute's likely funding of the research "is a matter of considerable concern to the tobacco industry," and discussing defendants' plan to have lawyers and scientists meet with [the National Cancer Institute ("NCI")] to discourage NCI from funding the research.

110. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, Defendants' fraudulent promise to conduct independent, disinterested research, and to their concealment and suppression of material information relating to the link between smoking and disease. 1000299103-9104 (US 21735) (O).

111. Defendant Philip Morris caused Racketeering Act 28, a memorandum, to be transmitted by mail on or about December 22, 1971.

112. **Racketeering Act No. 29:** On or about February 1, 1972, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press

release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained the statement that "[t]he cigarette industry is as vitally concerned or more so than any other group in determining whether cigarette smoking causes human disease, whether there is some ingredient as found in cigarette smoke that can be shown to be responsible, and if so, what it is," and that "despite this effort the answers to the critical questions about smoking and health are still unknown."

113. This communication misrepresented and concealed the link between smoking and disease; misrepresented that Defendants were vitally concerned or more so than any other group about determining whether cigarette smoking caused human disease; and misrepresented that Defendants supported independent, disinterested research efforts with non-restrictive funding. This communication also furthered Defendants' fraudulent efforts to exploit smokers' desire for less hazardous cigarettes. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0120596-0597 (US 21321) (O).

114. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 29, a press release, to be transmitted by mail, on or about February 1, 1972. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

115. **Racketeering Act No. 30:** On or about May 19, 1972, defendant BROWN & WILLIAMSON did knowingly cause to be sent by the United States Mails, and defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) thereafter received, a letter addressed to A.D. McCormick, Esq., BAT Co., P.O. Box 482, 7 Millbank, London SW1P 3JE, England, from Addison Yeaman, Esq., General Counsel, Brown & Williamson, in which Yeaman provided comments on a statement BAT Co. proposed to make in response to a statement anticipated from a British government minister. Yeaman referred to a cablegram sent to him by McCormick on May 17, 1972, and to a telephone conversation in which McCormick and Yeaman had participated on May 18, 1972. Yeaman commented that BATCo.'s

> proposed statement concerning the causal relationship between cigarette smoking and disease "is somewhat less affirmative in tone than would be welcome on this side." He gave his approval to alternative versions that described the controversy on this issue. Finally, Yeaman stated in a postscript, "In the penultimate sentence of the B.A.T. draft statement would you object to changing the word 'habit' to 'practice?'"

116. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 680248768-8769 (US 20993) (A).

117. Defendant B&W caused Racketeering Act 30, a letter, to be transmitted by mail, on or about May 19, 1972. USX6390001-0400 at 0084 (US 89555) (O) (B&W Response to Request No. 304); USX6390001-0400 at 0054 (US 89555) (O) (BATCo Response to Request No. 304); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

118. **Racketeering Act No. 31:** On or about November 7, 1973, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters separately addressed to Thomas F. Ahrensfeld, Esq., Philip Morris; DeBaun Bryant, Esq., Brown & Williamson; Frederick P. Haas, Esq., Liggett; Cyril F. Hetsko, Esq., American; Henry C. Roemer, Esq., Reynolds, and Arthur J. Stevens, Esq., Lorillard, from Donald K. Hoel, Esq., Shook, Hardy & Bacon, 915 Grand Avenue, Kansas City, Missouri. The letter recommends approval to fund research by Dr. Richard J. Hickey as a CTR Special Project for two years, beginning September 1973, and cites Hickey's efforts to show that air pollution is primarily responsible for many chronic diseases attributed to smoking.

119. This communication was for the purpose of executing the scheme to defraud

because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 521030439-0441 (US 23019) (O).

120. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 31, letters, to be transmitted by mail, on or about November 7, 1973. USX6390215-0329 at 0308 (US 77413) (A) (RJR Response to Request No. 305); see also ARU6460266-0288 (US 86699) (O) (B&W Stipulation ¶ 1, citing Exhibit A).

121. **Racketeering Act No. 32:** On or about November 26, 1973, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails a letter from DeBaun Bryant, Esq., counsel to Brown & Williamson, addressed to Donald K. Hoel, Esq., Shook, Hardy & Bacon, 915 Grand Avenue, Kansas City, Missouri. The letter conveys Brown & Williamson's approval to fund research by Dr. Richard J. Hickey as a CTR Special Project, beginning September 1973, while noting that "[a]s is usual our support is contingent upon the participation in this project by the other companies."

122. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 521030438-0438 (US 21504) (O).

123. Defendant B&W caused Racketeering Act 32, a letter, to be transmitted by mail, on or about November 26, 1973. USX6390001-0400 at 0084-0085 (US 89555) (O) (B&W Response to Request No. 306); see also ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

124. **Racketeering Act No. 33:** On or about January 11, 1974,

defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release attacked the 1964 U. S. Surgeon General's Report on smoking and health and dismissed scientific research linking smoking to lung cancer, emphysema, and low birth weight in babies born to women who smoked during pregnancy.

125. This communication misrepresented and concealed the link between smoking and disease. Moreover, this communication sought to discredit the Surgeon General's Report with false and misleading statements. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2016004923-4929 (US 36676) (O).

126. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 33, a press release, to be transmitted by mail, on or about January 11, 1974. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

127. **Racketeering Act No. 34:** On or about January 14, 1975, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained the statement that "domestic tobacco companies . . . have committed some $50 million to help support researchers who are seeking the truth."

128. This communication misrepresented and concealed the link between smoking and disease; concealed the fact that Defendants were funding, controlling, and managing research that they maintained was independent and disinterested; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for

the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0120638-0639 (US 21698) (O).

129. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 34, a press release, to be transmitted by mail, on or about January 14, 1975. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

130. **Racketeering Act No. 35:** In or about September 1975, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements noting that, as early as 1963, the Tobacco Institute had issued statements denying that the Cigarette Companies targeted youth smokers. The press release also noted that in July 1969, the Chairman of the Tobacco Institute, Joseph F. Cullman, III, testified before a Senate Commerce subcommittee that the Cigarette Companies intended to avoid advertising representing cigarette smoking as essential to social prominence, success, or sexual attraction or depicting smokers engaged in sports or other activities requiring exceptional stamina or conditioning.

131. This communication contained false statements and misrepresentations denying that Defendants targeted youth, and false promises and misrepresentations that Defendants avoided advertising representing cigarette smoking as essential to social prominence, success, or sexual attraction. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 680263421-3422 (US 22345) (A); 680263421-3422 (US 78780) (A).

132. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 35, a press release, to be transmitted by

mail, in or about September 1975. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

133. **Racketeering Act No. 36:** During 1975, the exact dates being unknown, defendant REYNOLDS caused to be placed in various print media, including Newsweek, a weekly magazine, an advertisement for Vantage cigarettes, which magazine was then sent and delivered by the United States Mails to subscribers and others. This text included the language, "If you're like a lot of smokers these days, it probably isn't smoking that you want to give up. It's some of that 'tar' and nicotine you've been hearing about."

134. This communication concealed the Defendants' knowledge that smokers compensate by changing how they smoke to obtain sufficient delivery of nicotine and that "low tar/low nicotine" cigarettes such as Vantage were designed so that smokers could obtain variable levels of tar and nicotine; and falsely implied that "low tar/low nicotine" cigarettes such as Vantage were less hazardous. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 500713769-3769 (US 48351) (O).

135. Defendant RJR caused Racketeering Act 36, an advertisement, to be transmitted by mail during 1975. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

136. **Racketeering Act No. 37:** During 1975, the exact dates being unknown, defendant LORILLARD caused to be placed in various print media, including Family Circle magazine, an advertisement for True cigarettes, which magazine was then sent and delivered by the United States Mails to subscribers and others. This advertisement depicted a young woman and contained text stating, "I thought about all I'd read and said to myself, either quit or smoke True. I smoke True."

137. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts

to deny that there was a link between smoking and disease, and Defendants' false claims that nicotine was not addictive. This communication also furthered Defendants' fraudulent efforts to exploit smokers' desire for less hazardous cigarettes. 03061394-1394 (US 21700) (A).

138. Defendant Lorillard caused Racketeering Act 37, an advertisement, to be transmitted by mail during 1975. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

139. **Racketeering Act No. 38:** On or about January 4, 1976, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters separately addressed to Thomas F. Ahrensfeld, Esq., Philip Morris, Joseph Greer, Esq., Liggett, Cyril F. Hetsko, Esq., American, Ernest Pepples, Esq., Brown & Williamson, Henry C. Roemer, Esq., Reynolds, and Arthur J. Stevens, Esq., Lorillard, from Donald K. Hoel, Esq., Shook, Hardy & Bacon, Mercantile Bank Tower, 1101 Walnut, Kansas City, Missouri. The letter recommends funding Dr. Richard J. Hickey as a CTR Special Project during 1977, noting a report of Dr. Hickey that states, "Our findings for lung cancer appear to raise doubt concerning claims . . . that cigarette smoking is the primary cause of lung cancer, particularly in males."

140. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 1005118752-8753 (US 21805) (O).

141. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 38, letters, to be transmitted by mail on or about January 4, 1976. USX6390001-0400 at 0085 (US 89555) (O) (B&W Response to Request No. 312); see also ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

142. **Racketeering Act No. 39:** During 1976, the exact dates being unknown, defendant REYNOLDS caused to be placed in various print media an advertisement for Vantage cigarettes, which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. The advertisement included text stating, "Vantage cuts down substantially on the 'tar' and nicotine you may have become concerned about."

143. This communication concealed Defendants' knowledge that smokers compensate by changing how they smoke to obtain sufficient delivery of nicotine and that"low tar/low nicotine" cigarettes like Vantage were designed so that smokers could obtain variable levels of tar and nicotine, and falsely implied that "low tar/low nicotine" cigarettes like Vantage were less hazardous. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute principal gravamen of the scheme to defraud. 500713420-3420 (US 48350) (O).

144. Defendant RJR caused Racketeering Act 39, an advertisement, to be transmitted by mail during 1976. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

145. **Racketeering Act No. 40:** On or about January 13, 1977, defendant PHILIP MORRIS did knowingly cause to be sent and delivered by the United States Mails a letter from Alexander Holtzman, Esq., counsel to Philip Morris addressed to Donald K. Hoel, Esq., Shook, Hardy & Bacon, Mercantile Bank Tower, 1101 Walnut, Kansas City, Missouri, approving Philip Morris' participation in a grant to fund Dr. Richard J. Hickey's CTR Special Project during 1977.

146. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 1005118751-8751 (US 21923) (O).

147. Defendant Philip Morris caused Racketeering Act 40, a letter, to be transmitted by mail on or about January 13, 1977.

148. **Racketeering Act No. 41:** On or about March 31, 1977, defendant PHILIP MORRIS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to: Dr. Max Hausermann, Philip Morris Europe S.A., P.O. Box 11, 2003 Neuchatel, Switzerland, from Robert B. Seligman, Vice President for Research and Development, suggesting that the recipient comply with company policy of avoiding direct mail contact with Philip Morris' Cologne, Germany research facility by sending materials to a "dummy" mail address.

149. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' fraudulent promise to conduct independent, disinterested research; Defendants' fraudulent efforts to suppress development and marketing of a less hazardous cigarette; and Defendants' fraudulent efforts to conceal and suppress material information relating to smoking and health. 2000512794-2795 (US 20295) (A).

150. Defendant Philip Morris caused Racketeering Act 41, a letter, to be transmitted by air mail to Switzerland on or about March 31, 1977. 2000512794-2795 (US 20295) (A).

151. **Racketeering Act No. 42:** On or about December 29, 1977, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements suggesting that the contribution of smoking to disease was still an "open question" and that tobacco smoke does not harm nonsmokers.

152. This communication misrepresented and concealed the link between smoking and

disease; concealed that Defendants were funding, controlling, and managing research that Defendants maintained was disinterested and independent; furthered Defendants' fraudulent position that the link between smoking and disease was an open question; and falsely stated that tobacco smoke does not harm nonsmokers. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIFL0522279-2280 (US 21424) (O).

153. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 42, a press release, to be transmitted by mail on or about December 29, 1977. USX6390001-0400 at 0395-0396 (US 89555) (O) (Amended Supplemental Response Number 316 of Tobacco Institute to United States' First Set of Requests for Admission); Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

154. **Racketeering Act No. 43:** On or about January 17, 1979, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements that defendants had spent 75 million dollars on research over 20 years to learn whether smoking is harmful but that "the case against cigarettes is not satisfactorily demonstrated."

155. This communication misrepresented and concealed the link between smoking and disease; misrepresented and concealed that the tobacco industry was funding, controlling, and managing research that Defendants maintained was independent and disinterested; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0074006-4006 (US 21303) (O).

156. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 43, a press release, to be transmitted by mail on or about January 17, 1979. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

157. **Racketeering Act No. 44:** On or about November 20, 1979, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN did knowingly cause to be sent and delivered by the United States Mails letters separately addressed to Thomas F. Ahrensfeld, Esq., Philip Morris; Max Crohn, Esq., Reynolds; Joseph Greer, Esq., Liggett; Arnold Henson, Esq., American; Ernest Pepples, Esq., Brown & Williamson; Arthur J. Stevens, Esq., Lorillard; and William Shinn, Esq., Shook, Hardy & Bacon, Kansas City, Missouri, from CTR counsel Edwin J. Jacob, Jacob & Medinger, New York, New York. The memorandum described a proposal to research the relationship between stress and cardiac disorder, and stated, "I have discussed this with Bill Shinn, who agrees with me that this study is well worth doing and that we should recommend it to you for approval, financing to be handled through Special Account #4."

158. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 517004087-4090 (US 20874) (A).

159. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American caused Racketeering Act 44, letters, to be transmitted by mail on or about November 20, 1979. USX6390001-0400 at 0085 (US 89555) (O) (B&W Response to Request No. 318); see also ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

160. **Racketeering Act No. 45:** On or about November 27, 1979, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails a letter from Ernest

Pepples, Esq., Brown & Williamson Vice President and General Counsel, addressed to CTR counsel Edwin J. Jacob, Esq., Jacob & Medinger, 1270 Avenue of the Americas, New York, New York 10020, regarding a proposal to fund a study on the relationship between stress and cardiac disorder, and agreeing that the study should be financed through Special Account #4.

161. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research.

162. Defendant B&W caused Racketeering Act 45, a letter, to be transmitted by mail on or about November 27, 1979. USX6390001-0400 at 0086 (US 89555) (O) (B&W Response to Request No. 319); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

163. **Racketeering Act No. 46:** In or about 1979, the exact date being unknown, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly publish a document entitled "Fact or Fancy?" and caused copies of said document to be sent and delivered by the United States Mails to newspapers and news outlets. This publication contained statements asserting that smoking does not contribute to low birth weight in babies and suggesting that cigarette smoking is not harmful to women.

164. This communication misrepresented and concealed link between smoking and disease; misrepresented and concealed that smoking did not contribute to low birth weight in babies; and misrepresented and concealed that cigarette smoking is not harmful to women. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud.

TIMN0133740-3798 (US 21280) (A).

165. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 46, a publication, to be transmitted by mail in or about 1979. USX6390001-0400 at 0344 (US 89555) (O) (Response of Tobacco Institute to Request No. 179); Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

166. **Racketeering Act No. 47:** During 1979, the exact dates being unknown, defendant PHILIP MORRIS caused to be placed in various national magazines an advertisement for Merit cigarettes entitled "Best Move Yet," which magazines were then sent and delivered by the United States Mails to subscribers and others. The advertisement stated that Merit's "ability to satisfy over long periods of time could be the most important evidence to date that MERIT science has produced what it claims: The first real alternative for high tar smokers."

167. This communication concealed knowledge that smokers compensate by changing how they smoke to obtain sufficient delivery of nicotine and that "low tar/low nicotine" cigarettes like MERIT were designed so that smokers could obtain variable levels of tar and nicotine, and falsely implied that "low tar/low nicotine" cigarettes like MERIT are less hazardous. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud.

168. Defendant Philip Morris caused Racketeering Act 47, an advertisement, to be transmitted by mail during 1979. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; ADV0180463-0465 (US 5951) (O).

169. **Racketeering Act No. 48:** During 1979, the exact dates being unknown, defendant PHILIP MORRIS caused to be placed in various national magazines an advertisement for Merit cigarettes entitled "Merit Taste Eases Low Tar Decision," which magazines were then sent and delivered by the United States Mails to subscribers and others. The advertisement stated that Merit's "ability to satisfy over long periods of time could be the most important evidence to date that MERIT is what it claims to be:

The first real alternative for high tar smokers."

170. This communication concealed the Defendants' knowledge that smokers compensate by changing how they smoke to obtain sufficient delivery of nicotine and that "low tar/low nicotine" cigarettes like MERIT were designed so that smokers could obtain variable levels of tar and nicotine; and falsely implied that "low tar/low nicotine" cigarettes like MERIT are less hazardous. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 1002325022-5022 (US 21510) (A).

171. Defendant Philip Morris caused Racketeering Act 48, an advertisement, to be transmitted by mail during 1979. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

172. **Racketeering Act No. 49:** On or about May 13, 1981, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements that members of the Tobacco Institute had a "long-standing policy" of discouraging smoking by children and suggested that smoking is a free choice when done by adults.

173. This communication misrepresented that members of the Tobacco Institute discouraged smoking by children; misrepresented and concealed that members of the Tobacco Institute marketed to youth; and misrepresented that smoking is a free choice when done by adults. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0102493-2494 (US 21271) (O).

174. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through

defendant Tobacco Institute, caused Racketeering Act 49, a press release, to be transmitted by mail on or about May 13, 1981. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

175. **Racketeering Act No. 50:** On or about November 9, 1981, defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did knowingly cause a letter to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to Mr. J. Kendrick Wells III, Esq., Brown & Williamson, 1600 West Hill Street, P.O. Box 35090, Louisville, Kentucky 40232, and signed by Sarah Mash, Secretary to M.J. Leach, BAT Co. The letter referenced an enclosed "copy of the Parliamentary Brief in order that you can see how the B & W amendments have been incorporated into the text," and sought Wells ' approval of the revised document. Brown & Williamson's amendments intended to ensure that the Brief did not contain anything that could be construed as an admission regarding the health effects of smoking.

176. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 680585135-5135 (US 22976) (A).

177. Defendant British-American Tobacco Company (predecessor to BAT Investments) caused Racketeering Act 50, a letter, to be transmitted by mail on or about November 9, 1981. USX6390001-0400 at 0086 (US 89555) (O) (B&W Response to Request No. 324); USX6390001-0400 0054-0055 (US 89555) (O) (BATCo Response to Request No. 324); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

178. **Racketeering Act No. 51:** On or about December 17, 1981, defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did knowingly cause to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to J. Kendrick Wells III, Esq., Brown & Williamson, 1600 West Hill Street, P.O. Box 35090, Louisville, Kentucky 40232, and copied to

Don Hoel, Esq., Shook, Hardy & Bacon, Kansas City, Missouri, from M.J. Leach, BAT Co. The letter enclosed, for review by Wells and Ernest Pepples, another Brown & Williamson attorney, a draft "UK Parliamentary Brief" in which BAT Co.'s position on smoking and health incorporates "open controversy" language urged by Brown & Williamson.

179. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 680584974-4985 (US 21382) (A).

180. Defendant British-American Tobacco Company caused Racketeering Act 51, a letter, to be transmitted by mail on or about December 17, 1981. USX6390001-0400 at 0086-0087 (US 89555) (O) (B&W Response to Request No. 325); USX6390001-0400 at 0055 (US 89555) (O) (BATCo Response to Request No. 325); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

181. **Racketeering Act No. 52:** On or about February 12, 1982, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails a letter from Ernest Pepples, Esq., Brown & Williamson General Counsel, addressed to Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, 20th Floor, Mercantile Tower, 1101 Walnut, Kansas City, Missouri. The letter concurs in the recommendation to renew an annual grant to Dr. Arthur Furst to be paid from Special Fund 4.

182. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 521029995-0008 (US 20887) (A).

183. Defendant B&W caused Racketeering Act 52, a letter, to be transmitted by mail on or about February 12, 1982. USX6390001-0400 at 0087 (US 89555) (O) (B&W Response to Request No. 326); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

184. **Racketeering Act No. 53:** On or about April 7, 1982, defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did knowingly cause to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to W.L. Telling, Esq., Brown & Williamson International Tobacco, 1600 West Hill Street, Louisville, Kentucky 40232, from G.O. Brooks, BAT Co. The letter replied to a request from Telling for a report on a Smoker Compensation Study that examined how a cigarette smoker's method of smoking alters tar and nicotine delivery, and enclosed "a paper from one of our recent Product Knowledge Seminars [entitled "Human Smoking Behaviour"] which contains a summary of the work and a number of the tables from the report."

185. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery. 660913609-3633 (US 22763) (O).

186. Defendant British-American Tobacco Company caused Racketeering Act 53, a letter, to be transmitted by mail on or about April 7, 1982. USX6390001-0400 at 0087 (US 89555) (O) (B&W Response to Request No. 327); USX6390001-0400 at 0055-0056 (US 89555) (O) (BATCo Response to Request No. 327); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

187. **Racketeering Act No. 54:** On or about April 8, 1982, defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did knowingly cause to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to J. Kendrick Wells III, Esq., Corporate Counsel, Brown & Williamson, 1600 West Hill Street, Louisville, Kentucky 40232, from L.C.F. Blackman, BAT Co., in which Blackman informed Wells that "[w]e have acted on the various points you have made" regarding a BAT Co. position paper relating to smoking and health.

188. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 680585743-5743 (US 21723) (A).

189. Defendant British-American Tobacco Company caused Racketeering Act 54, a letter, to be transmitted by mail on or about April 8, 1982. USX6390001-0400 at 0088 (US 89555) (O) (B&W Response to Request No. 328); USX6390001-0400 at 0056 (US 89555) (O) (BATCo Response to Request No. 328); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

190. **Racketeering Act No. 55:** On or about April 14, 1982, defendant BAT INDUSTRIES (predecessor to BAT P.L.C.) did knowingly cause to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to Dr. I.W. Hughes, Brown & Williamson, 1600 West Hill Street, P.O. Box 35090, Louisville, Kentucky 40232, from T.J. Walker, BAT Industries, Windsor House, 50 Victoria Street, London SW1H ONL, England. The letter referenced materials regarding the "BAT Board Guidelines" on public affairs matters, and referred to enclosed "secret" papers entitled "Assumptions and Strategies of the Smoking Issues."

[Stricken]

191. **Racketeering Act No. 56:** On or about March 17, 1983,

defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements disputing the addictiveness of cigarette smoking.

192. This communication misrepresented and concealed link between smoking and disease; misrepresented and concealed evidence of the addictiveness of cigarettes; and falsely promised and misrepresented that Defendants wanted to and would conduct independent and disinterested research regarding smoking and disease and make the results of such research public. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TNWL0019638-9640 (US 21703) (O).

193. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 56, a press release, to be transmitted by mail on or about March 17, 1983. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

194. **Racketeering Act No. 57:** On or about July 20, 1983, defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did knowingly cause to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to K. Wells, Esq., Brown & Williamson, 1600 West Hill Street, P.O. Box 35090, Louisville, Kentucky 40202, from Miss A. Johnson, BAT Co. The mailing included "the T.I.' s Australian booklet on the Waxman Hearings" and a note that Johnson had written "to Public Affairs Department about the way in which they can use Dr. Colby's article and the Waxman Hearings' summary in relation to the overseas companies." Johnson also informed Wells that BAT Co. intended to make the smoking and health "controversy" a "central issue" in future presentations to members of the British Parliament.

195. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts

to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 680583674-3674 (US 21383) (A).

196. Defendant British-American Tobacco Company caused Racketeering Act 57, a letter marked "air express," to be transmitted by mail on or about July 20, 1983. 680583674-3674 (US 21383) (A); see also ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

197. **Racketeering Act No. 58:** On or about July 27, 1983, defendant PHILIP MORRIS, did receive from the United States Mails a letter addressed to Frederic S. Newman, Esq., Philip Morris International, 120 Park Avenue, New York, New York 10017, from Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, Kansas City, Missouri, enclosing a memorandum summarizing research on the addictive features of nicotine conducted by Philip Morris and recommending suppression of such research.

198. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny the addictiveness of nicotine; Defendants' fraudulent efforts to suppress and conceal material information regarding the link between smoking and health; and Defendants' fraudulent efforts to misrepresent and conceal evidence of the addictiveness of cigarettes. 2046754720-4731 (US 20476) (A).

199. Defendant Philip Morris caused Racketeering Act 58, a letter, to be transmitted by mail from Kansas City, Missouri, to New York, New York, on or about July 27, 1983. 2046754720-4731 (US 20476) (A).

200. **Racketeering Act No. 59:** On or about September 9, 1983, defendant BAT INDUSTRIES (predecessor to BAT P.L.C.) did knowingly cause to be delivered by the United States Mails, and defendant PHILIP MORRIS did thereafter receive, a letter from P. Sheehy, Chairman of BAT Industries, addressed to George

Weissman, Philip Morris, Inc., 120 Park Avenue, New York, New York, 10017. The letter discussed an advertisement of Philip Morris' Holland affiliate, and stated: "I find it incomprehensible that Philip Morris would weigh so heavily the short-term commercial advantage from deprecating a competitor's brand while weighing so lightly the long-term adverse impact from an on-going anti-smoking programme. . . . In doing so, Philip Morris . . . makes a mockery of Industry co-operation on smoking and health issues. . . ."

[Stricken]

201. **Racketeering Act No. 60:** On or about January 23, 1984, defendant BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did knowingly cause to be delivered by the United States Mails, and defendant BROWN & WILLIAMSON did thereafter receive, a letter addressed to Mr. E.E. Kohnhorst, Brown & Williamson, P.O. Box 35090, Louisville, Kentucky 40232, from C.I. Ayres, Group Research & Development Centre, BAT Co., Southampton, England, in which Ayres discussed and sought Kohnhorst's comments concerning an upcoming conference on nicotine to be held in Southampton on June 6-8, 1984. Ayres acknowledged the existence of articles in the scientific literature linking nicotine with various diseases and predicted that the Cigarette Companies would be "under pressure to reduce the delivery of nicotine. My translation is that, in the future, we have to evolve ways and means of ensuring that smaller amounts of nicotine continue to give a satisfactory 'reward' to the smoker."

202. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts relating to nicotine manipulation and delivery, and Defendants' fraudulent denials that nicotine is not addictive. 103498901-8902 (US 21384) (O).

203. Defendant British-American Tobacco Company caused Racketeering Act 60, a letter, to be transmitted by mail on or about January 23, 1984. USX6390001-0400 at 0088-0089 (US 89555) (O) (B&W Response to Request No. 334); USX6390001-0400 at 0058 (US 89555) (O) (BATCo Response to Request No. 334); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

204. **Racketeering Act No. 61:** In or about April 1984, the exact date being unknown, defendant REYNOLDS did knowingly cause to be placed in numerous publications nationwide, including *U.S. News and World Report*, a weekly magazine, an advertisement entitled "We don't advertise to children," which magazine was then sent and delivered by the United States Mails to subscribers and others. This advertisement contained the statement "we don't want young people to smoke," and further stated, "Kids don't pay attention to cigarette ads, and that's exactly as it should be."

205. This communication misrepresented that Reynolds did not target the youth market; concealed that Reynolds did target the youth market; and falsely stated that young people do not pay attention to cigarette advertising. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 505302573-2573 (US 21627) (O).

206. Defendant RJR caused Racketeering Act 61, an advertisement, to be transmitted by mail in or about April 1984. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

207. **Racketeering Act No. 62:** In or about July 1984, the exact dates being unknown, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails letters from Reynolds' employee Ann Griffin, addressed to various children who wrote to Reynolds. In the letter, Reynolds claimed to be engaged in an effort to determine the harmful effects of smoking for the benefit of smokers, promised to support disinterested research into smoking and health, and claimed that research had not revealed any "conclusive" evidence linking smoking to disease.

208. This communication contained false statements and misrepresentations that RJR was engaged in an effort to determine the harmful effects of smoking for the benefit of smokers; Reynolds's false promise to support independent, disinterested research into smoking and health; and false claim that research had not revealed any "conclusive" evidence linking smoking to disease; fraudulently concealed that the tobacco industry was funding, controlling, and managing

research that Defendants maintained was independent and disinterested; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 505465919-5919 (US 20741) (A).

209. Defendant RJR caused Racketeering Act 62, letters, to be transmitted by mail in or about July 1984.

210. **Racketeering Act No. 63:** On or about August 28, 1984, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails, and defendant BRITISH-AMERICAN TOBACCO CO., LTD. (predecessor to BAT INVESTMENTS) did thereafter receive, a letter addressed to Mr. Ray Pritchard, Deputy Chairman, BAT Co., P.O. Box 482, Westminster House, 7 Millbank, London, England, from Ernest Pepples, Esq., Senior Vice President and General Counsel of Brown & Williamson, enlisting the recipient's help in suppressing a BAT employee's conclusions regarding the addictiveness of nicotine because the conclusion contradicted the position taken by Brown & Williamson in ongoing litigation.

211. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery. 521016787-6788 (US 22129) (A).

212. Defendant B&W caused Racketeering Act 63, a letter, to be transmitted by mail on or about August 28, 1984. USX6390001-0400 at 0089 (US 89555) (O) (B&W Response to Request No. 337); USX6390001-0400 at 0058-0059 (US 89555) (O) (BATCo Response to Request No. 337); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit

A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

213. **Racketeering Act No. 64:** In or about 1984, the exact date being unknown, defendant REYNOLDS did knowingly cause to be placed in daily newspapers an advertisement entitled "Can we have an open debate about smoking?" which newspapers were then sent and delivered by the United States Mails to subscribers and others. In this advertisement Reynolds claimed that "studies which conclude that smoking causes disease have regularly ignored significant evidence to the contrary," that this "significant evidence" comes from research "completely independent of the tobacco industry," and that "reasonable people" would consider the link between smoking and disease to be an "open controversy."

214. This communication misrepresented and concealed the link between smoking and health; concealed that many of the doctors and scientists who believed that the question of smoking and health was still an open question were conducting research that was funded, controlled, and managed by Defendants, while Defendants maintained that such research was disinterested and independent; falsely claimed that reasonable people would consider the link between smoking and disease to be an "open controversy"; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 513943434-3434 (US 50268) (A).

215. Defendant RJR caused Racketeering Act 64, an advertisement, to be transmitted by mail in or about 1984. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

216. **Racketeering Act No. 65:** In or about 1984, the exact date being unknown, defendant REYNOLDS did knowingly cause to be placed in numerous newspapers and magazines nationwide, including *The New York Times*, a daily newspaper, an advertisement entitled "Smoking and health: Some facts you've never heard about," which newspapers and magazines were then

sent and delivered by the United States Mails to subscribers and others. This advertisement contained the statement, "You hear a lot these days about reports that link smoking to certain diseases. This evidence has led many scientists and other people to conclude that smoking causes these diseases. But there is significant evidence on the other side of this issue. It is regularly ignored by the critics of smoking. And you rarely hear about it in the public media. But, it has helped persuade many scientists that the case against smoking is far from closed." Further, the advertisement contained the statement, "No one wants to know the real answers more than R.J. Reynolds. That is why we are providing major funding for scientific research. The funds are given at arms length to independent scientists who are free to publish whatever they find. We don't know where such research may lead. But this much we can promise: when we find the answers, you'll hear about it."

217. This communication misrepresented and concealed the link between smoking and disease; concealed that many of the scientists who believed that the case against smoking was far from closed were conducting research that was funded, controlled, and managed by the Defendants; falsely claimed that no one wanted to know the real answers more than RJR; misrepresented that Defendants were funding independent, disinterested research; falsely claimed that funding for scientific research was given at arms length to independent scientists who were free to publish whatever they found; falsely claimed that the public would be told about the answers to the smoking and health questions; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud.

218. Defendant RJR caused Racketeering Act 65, an advertisement, to be transmitted by mail from in or about 1984.

219. **Racketeering Act No. 66:** On or about February 18, 1986, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did

knowingly cause to be sent and delivered by the United States Mails letters addressed separately to Alexander Holtzman, Esq., Philip Morris; Wayne W. Juchatz, Esq., Reynolds; Josiah Murray III, Esq., Liggett; Ernest Pepples, Esq., Brown & Williamson; Paul Randour, Esq., American; and Arthur J. Stevens, Esq., Lorillard, from Donald K. Hoel, Esq., Shook, Hardy & Bacon, Mercantile Bank Tower, 1101 Walnut, Kansas City, Missouri. The letter recommends funding the work of Dr. Theodor Sterling for the years 1986-1988 as a CTR Special Project.

220. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2015047161-7163 (US 21809) (A).

221. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 66, letters, to be transmitted by mail on or about February 18, 1986. USX6390001-0400 at 0089 (US 89555) (O) (B&W Response to Request No. 340); USX6390215-0329 at 0314 (US 77413) (A) (RJR Response to Request No. 340); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 1, citing Exhibit A); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

222. **Racketeering Act No. 67:** On or about February 25, 1986, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters addressed separately to Alexander Holtzman, Esq., Philip Morris; Wayne W. Juchatz, Esq., Reynolds; Josiah S. Murray III, Esq., Liggett; Ernest Pepples, Esq., Brown & Williamson; Paul A. Randour, Esq., American; and Arthur J. Stevens, Esq., Lorillard, from Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, 1101 Walnut, Kansas City, Missouri, counsel to CTR. The letter advised the Cigarette Companies to continue funding through CTR research by a "Special Fund" scientist.

223. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 507876416-6417 (US 21810) (A).

224. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 67, letters, to be transmitted by mail on or about February 25, 1986. USX6390001-0400 at 0089-0090 (US 89555) (O) (B&W Response to Request No. 341); USX6390215-0329 at 0314 (US 77413) (A) (RJR Response to Request No. 341); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

225. **Racketeering Act No. 68:** On or about March 11, 1986, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter from Reynolds counsel Wayne W. Juchatz, Esq., and addressed to Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, 1101 Walnut, Kansas City, Missouri, counsel to CTR, in which Reynolds approved payment through CTR to a scientist conducting "Special Fund" research.

226. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 507876414-6414 (US 22765) (A).

227. Defendant RJR caused Racketeering Act 68, a letter, to be transmitted by mail on or about March 11, 1986. WAX0022020-2135 at 2120 (US 77413) (A) (RJR Response to Request No. 342).

228. **Racketeering Act No. 69:** On or about March 13, 1986, defendant PHILIP MORRIS COMPANIES did knowingly cause to

be sent and delivered by the United States Mails a letter from Philip Morris Companies employee Helen Frustace addressed to Donald K. Hoel, Esq., Shook, Hardy & Bacon, Mercantile Bank Tower, 1101 Walnut, Kansas City, Missouri, indicating approval of request to support Dr. Theodore Sterling's research project "provided it is also approved by four other companies."

229. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2025819186-9186 (US 37284) (O).

230. Defendant Altria Group caused Racketeering Act 69, a letter, to be transmitted by mail from New York, New York, to Kansas City, Missouri, on or about March 13, 1986.

231. **Racketeering Act No. 70:** On or about April 1, 1986, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters addressed separately to Alexander Holtzman, Esq., Philip Morris; Wayne W. Juchatz, Esq., Reynolds; Josiah S. Murray III, Liggett; Ernest Pepples, Esq., Brown & Williamson; Paul A. Randour, Esq., American; and Arthur J. Stevens, Esq., Lorillard, from Donald K. Hoel, Esq., Shook, Hardy & Bacon, 1101 Walnut, Kansas City, Missouri, counsel to CTR. The letter advised the Cigarette Companies to continue funding through CTR research by a "Special Project" scientist.

232. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 507731656-1656 (US 21709) (O).

233. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through

Defendant CTR, caused Racketeering Act 70, a letter, to be transmitted by mail on or about April 1, 1986. USX6390001-0400 at 0090 (US 89555) (O) (B&W Response to Request No. 344).

234. **Racketeering Act No. 71:** On or about April 23, 1986, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Eric A. Taussig, Esq., Assistant General Counsel, Philip Morris Companies, addressed to Dr. Paul C. Mele, 3205 Whispering Pines Drive, Silver Spring, Maryland. The letter alleged that Dr. Mele had violated a confidentiality agreement with Philip Morris and warned that "[i]n the future, you are expected to comply" with the agreement.

235. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery; Defendants' fraudulent promise to conduct independent, disinterested research; and their efforts to suppress and conceal material information regarding the link between smoking and adverse health effects. 2047340350-0350 (US 22772) (A).

236. Defendant Altria Group caused Racketeering Act 71, a letter, to be transmitted by mail from New York, New York, to Silver Spring, Maryland, on or about April 23, 1986. 2047340350-0350 (US 22772) (A).

237. **Racketeering Act No. 72:** On or about April 23, 1986, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Eric A. Taussig, Esq., Assistant General Counsel, Philip Morris Companies, addressed to Dr. Victor J. DeNoble, 5603 Fox Run Drive, Plainsboro, New Jersey. The letter alleged that Dr. DeNoble had violated a confidentiality agreement with Philip Morris and warned that "[i]n the future, you are expected to comply" with the agreement.

238. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery; Defendants' fraudulent promise to conduct independent, disinterested research; and their efforts to suppress and conceal material information regarding the link between smoking and adverse health effects. 2077541354-1354 (US 44603) (A).

239. Defendant Altria caused Racketeering Act 72, a letter, to be transmitted by mail from New York, New York to Plainsboro, New Jersey, on or about April 23, 1986. 2077541354 (US 44603) (A).

240. **Racketeering Act No. 73:** On or about September 4, 1986, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN did knowingly cause to be sent and delivered by the United States Mails letters addressed separately to Alexander Holtzman, Esq., Philip Morris; Wayne W. Juchatz, Esq., Reynolds; Josiah S. Murray III, Liggett; Ernest Pepples, Esq., Brown & Williamson; Paul A. Randour, Esq., American; and Arthur J. Stevens, Esq., Lorillard, from Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, 1101 Walnut, Kansas City, Missouri, advising the companies to continue funding research by a former "Special Project" scientist through the "Shook, Hardy & Bacon Special Account."

241. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' fraudulent promise to conduct independent, disinterested research; and their efforts to suppress and conceal material information regarding the link between smoking and adverse health effects. 507875961-5962

(US 20796) (A).

242. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American caused Racketeering Act 73, letters, to be transmitted by mail, on or about September 4, 1986. WAX0022020-2135 at 2121 (US 77413) (A) (RJR Response to Request No. 347); USX6390001-0400 at 0090 (US 89555) (O) (B&W Response to Request No. 347).

243. **Racketeering Act No. 74:** On or about September 10, 1986, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Eric A. Taussig, Esq., Assistant General Counsel, Philip Morris Companies, addressed to Dr. Paul C. Mele, 3205 Whispering Pines Drive, Silver Spring, Maryland. The letter alleged that Dr. Mele and Dr. DeNoble had violated their respective confidentiality agreements with Philip Morris and stated that "The Company cannot tolerate this kind of conduct. . . . Any further breach of your agreement will result in action being taken."

244. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery; Defendants' fraudulent promise to conduct independent, disinterested research; and their efforts to suppress and conceal material information regarding the link between smoking and adverse health effects. 2043724074-4075 (US 21916) (A).

245. Defendant Altria Group caused Racketeering Act 74, a letter, to be transmitted by mail from New York, New York to Plainsboro, New Jersey and Silver Spring, Maryland, on or about September 10, 1986. 2043724074-4075 (US 21916) (A).

246. **Racketeering Act No. 75:** On or about September 10, 1986, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Eric

A. Taussig, Esq., Assistant General Counsel, Philip Morris Companies, addressed to Dr. Victor J. DeNoble, 5603 Fox Run Drive, Plainsboro, New Jersey. The letter alleged that Dr. DeNoble and Dr. Mele had violated their respective confidentiality agreements with Philip Morris and stated that "The Company cannot tolerate this kind of conduct. . . . Any further breach of your agreement will result in action being taken."

247. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery; Defendants' fraudulent promise to conduct independent, disinterested research; and their efforts to suppress and conceal material information regarding the link between smoking and adverse health effects. 2043724074-4075 (US 21916) (A).

248. Defendant Altria Group caused Racketeering Act 75, a letter, to be transmitted by mail from New York, New York to Plainsboro, New Jersey and Silver Spring, Maryland, on or about September 10, 1986. 2043724074-4075 (US 21916) (A).

249. **Racketeering Act No. 76:** From about April 1, 1988, through about June 30, 1988, defendant REYNOLDS caused an advertisement for Camel cigarettes to be placed in various print media, including the "Sporting News and other Jumbo Jr. Size Magazines," which magazines were then sent and delivered by the United States Mails to subscribers and others. This advertisement was captioned "Get On Track With Camel's 75th Birthday!" and depicted the Joe Camel character in a Formula One-type automobile racing suit, opening a bottle of champagne, with racing cars whizzing by in the background.

250. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 509131846-1847 (US 20823) (O).

251. Defendant RJR caused Racketeering Act 76, an advertisement, to be transmitted by mail, from about April 1, 1988, through about June 30, 1988. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); Order #616; TLT0430001-0002 (US 76783) (A) (*Car Craft,* 1988).

252. **Racketeering Act No. 77:** On or about April 19, 1988, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters separately addressed to Alexander Holtzman, Esq., Philip Morris; Wayne W. Juchatz, Esq., Reynolds; Josiah Murray III, Esq., Liggett; Ernest Pepples, Esq., Brown & Williamson; Paul Randour, Esq., American; and Arthur J. Stevens, Esq., Lorillard, from Bernard V. O'Neill, Jr., Esq., Shook, Hardy & Bacon, One Kansas City Place, 1200 Main Street, Kansas City, Missouri. The letter recommended funding Dr. Alvan Feinstein's work in clinical epidemiology as a CTR Special Project for two years.

253. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2015006928-6929 (US 21811) (A).

254. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 77, letters, to be transmitted by mail on or about April 19, 1988. USX6390001-0400 at 0091 (US 89555) (O) (B&W Response to Request No. 351); USX6390001-0400 at 0316 (US 89555) (O) (RJR Response to Request No. 351); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

255. **Racketeering Act No. 78:** On or about May 9, 1988, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Philip Morris Companies employee Helen Frustace addressed to Bernard

V. O'Neill, Jr., Esq., Shook, Hardy & Bacon, One Kansas City Place, 1200 Main Street, Kansas City, Missouri, indicating approval Dr. Rodger L. Bick's request for a one-year extension of the funding for his CTR Special Project.

256. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2015006925-6925 (US 20310) (O).

257. Defendant Altria caused Racketeering Act 78, a letter, to be transmitted by mail from New York, New York to Kansas City, Missouri, on or about May 9, 1988. 2015006925-6925 (US 20310) (O).

258. **Racketeering Act No. 79:** On or about May 16, 1988, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements disputing the addictiveness of cigarette smoking.

259. This communication contained false and misleading statements disputing the addictiveness of cigarette smoking. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN371572-1573 (US 87438) (A) (*The New York Times*, May 17, 1988).

260. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 79, a press release, to be transmitted by mail on or about May 16, 1988. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

261. **Racketeering Act No. 80:** On or about May 16, 1988, defendant

PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Philip Morris Companies employee Helen Frustace addressed to Donald K. Hoel, Esq., Shook, Hardy & Bacon, One Kansas City Place, 1200 Main Street, Kansas City, Missouri 64105. The letter indicated the approval of Alexander Holtzman, Esq., Philip Morris Companies, to renew Dr. Carl Seltzer's CTR Special Project funding.

262. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2015006923-6923 (US 23047) (O).

263. Defendant Altria caused Racketeering Act 80, a letter, to be transmitted by mail, on or about May 16, 1988. 2015006923-6923 (US 23047) (O).

264. **Racketeering Act No. 81:** On or about July 1, 1988, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements disputing the addictiveness of cigarette smoking.

265. This communication contained false and misleading statements disputing the addictiveness of cigarette smoking. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0125189-5189 (US 77065) (A).

266. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 81, a press release, to be transmitted by mail on or about July 1, 1988. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

267. **Racketeering Act No. 82:** On or about August 18, 1988,

defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter from Reynolds employee Jo F. Spach addressed to Mr. Anthony A. Christina, 815 188th Street, Court E, Spanaway, WA 98387. The letter denied any causal link between smoking and disease.

268. This communication misrepresented and concealed the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 515792869-2869 (US 20869) (A).

269. Defendant RJR caused Racketeering Act 82, a letter, to be transmitted by mail on or about August 18, 1988. WAX0022020-2135 at 2123 (US 77413) (A) (RJR Response to Request No. 356).

270. **Racketeering Act No. 83:** During 1988, the exact dates being unknown, defendant REYNOLDS caused a multi-page advertisement for Camel cigarettes to be placed in various print media, including Sports Illustrated, which magazines were then sent and delivered by the United States Mails to subscribers and others. The second page of the advertisement, which was captioned, "Some have it. Most don't," stated, "You can have it free!" and contained a coupon for a free pack of Camels. The advertisement depicted Joe Camel in the foreground, with a beautiful woman sitting on the hood of a convertible automobile in the background.

271. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 509131376-1378 (US 20822) (O).

272. Defendant Reynolds caused Racketeering Act 83, an advertisement, to be transmitted by mail during 1988. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); TLT0430003-0007 (US 76784) (A) (*Sports Illustrated,* 1988).

273. **Racketeering Act No. 84:** During 1989, the exact dates being unknown, defendant REYNOLDS caused advertisements for

Camel cigarettes, to be placed in various print media, including magazines, which magazines were then sent and delivered by the United States Mails to subscribers and others. The advertisements were part of Program No. 900162, which involved "buy one, get one free coupons" and included the following advertisements:

a. An advertisement with the words "Bored? Lonely? Restless? What you need is . . . ." This advertisement featured the face of a beautiful woman gazing at the reader.

b. An advertisement captioned "Camel Smooth Moves." One such advertisement offered "Smooth Move #325 - Foolproof Dating Advice," and "Smooth Move #334 - How to impress someone at the beach." The "Foolproof dating advice" concluded with "[a]lways break the ice by offering her a Camel." The "advice" concerning the beach facetiously suggested that the reader "[r]un into the water, grab someone and drag her back to the shore, as if you 've saved her from drowning. The more she screams, the better" and "[a]lways have plenty of Camels ready when the beach party begins."

c. An advertisement captioned "Smooth Move #437 - How to get a FREE pack even if you don't like to redeem coupons."

274. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 506876715-6718 (US 21712) (O).

275. Defendant RJR caused Racketeering Act 84, an advertisement, to be transmitted by mail during 1989. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); TLT0430008-0014 (US 76785) (A) (*Car Craft,* May 1989).

276. **Racketeering Act No. 85:** On or about January 11, 1990, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Principal, Willow Ridge School, Amherst, New York, from Jo F. Sprach, Manager, Public Relations Department, Reynolds, claiming that defendants, in a sincere attempt to determine what harmful effects, if any, smoking might have on human health, established CTR, claiming that scientists do not know the causes of the chronic diseases reported to be associated with smoking, and stating that Reynolds intends to continue to support scientific research in a

continuing search for answers. The letter asked the recipient to pass this information along to her students.

277. This communication misrepresented and concealed link between smoking and disease; concealed that through CTR, RJR and the other Defendants were conducting research that was funded, controlled, and managed by Defendants while Defendants maintained that such research was independent and disinterested; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 508466199-6200 (US 20813) (A).

278. Defendant RJR caused Racketeering Act 85, a letter, to be transmitted by mail, interstate, on or about January 11, 1990.

279. **Racketeering Act No. 86:** On or about March 5, 1990, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Mark Green, New York City Commissioner of Consumer Affairs, from James W. Johnston, Chairman and CEO of Reynolds. In response to a letter sent by Green to Louis V. Gerstner, Jr., Chairman and CEO of RJR Nabisco (predecessor to RJR Tobacco Holdings), in which Green had complained about the design of the "Joe Camel" advertising campaign in such a manner as to appeal to youths, Johnston stated that it "has long been an R.J. Reynolds policy not to induce youths to smoke," further stating that, as CEO of Reynolds, "I have reinforced this policy," and "I see no basis to conclude that R.J. Reynolds has conducted itself in an unethical, illegal or misleading manner."

280. This communication falsely stated and misrepresented that Reynolds did not market to youths, and concealed Reynolds's fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 515796367-6367 (US 22718) (O).

281. Defendant RJR caused Racketeering Act 86, a letter, to be transmitted by mail on or about March 5, 2000. WAX0022020-2135 at 2125 (US 77413) (A) (RJR Response to Request No. 360).

282. **Racketeering Act No. 87:** On or about May 24, 1990, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements suggesting that Cigarette Companies actively discourage smoking by young people.

283. This communication falsely stated and misrepresented that cigarette companies actively discouraged smoking by young people, and concealed Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute principal gravamen of the scheme to defraud. TIMN0020530-0531 (US 62795) (O).

284. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 87, a press release, to be transmitted by mail on or about May 24, 1990. USX6390001-0400 at 0396-0397 (US 89555) (O) (Tobacco Institute Response to Request No. 361); Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

285. **Racketeering Act No. 88:** On or about August 31, 1990, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause to be sent and delivered by the United States Mails letters addressed separately to Wayne W. Juchatz, Esq., Reynolds; Josiah S. Murray III, Esq., Liggett; Ernest Pepples, Esq., Brown & Williamson; Paul A. Randour, Esq., American; Arthur J. Stevens, Esq., Lorillard; Charles R. Wall, Esq., Philip Morris Companies, from Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, 1200 Main Street, Kansas City, Missouri 64105, advising

that the Companies fund research to be conducted by a scientist who generated favorable results for defendants.

286. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 521100179-0180 (US 21812) (A).

287. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through Defendant CTR, caused Racketeering Act 88, letters, to be transmitted by mail on or about August 31, 1990. WAX0022020-2135 at 2125 (US 77413) (A) (RJR Response to Request No. 362); USX6390001-0400 at 0091(US 89555) (O) (B&W Response to Request No. 362); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

288. **Racketeering Act No. 89:** On or about September 18, 1990, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Joanna Brown, from Joan F. Cockerham of the Reynolds Public Relations Department. Responding to concerns expressed by Ms. Brown about the "Joe Camel" ad campaign appealing to youth, the letter stated, "Our intention with this campaign, as with all of our advertising, is to appeal only to adult smokers. We would not have launched the current Camel campaign if we thought its appeal was to anyone other than this group."

289. This communication falsely claimed that Reynolds's intention in designing the "Joe Camel" ad campaign, and other campaigns, was to appeal only to adult smokers; falsely claimed that Reynolds would not have launched the campaign if it thought it appealed to anyone other than adult smokers; and concealed Reynolds's fraudulent efforts to market to youth. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud.

507706384-6384 (US 20782) (O).

290. Defendant RJR caused Racketeering Act 89, a letter, to be transmitted by mail on or about September 18, 1990. WAX0022020-2135 at 2126 (US 77413) (A) (RJR Response to Request No. 363).

291. **Racketeering Act No. 90:** On or about October 2, 1990, defendant AMERICAN did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Patrick M. Sirridge, Esq., Shook, Hardy & Bacon, 1200 Main Street, Kansas City, Missouri 64105, from Paul A. Randour, Esq., American Vice President and General Counsel, approving payment to a "Special Project" researcher.

292. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. ATX300004098-4098 (US 58613) (O).

293. Defendant American caused Racketeering Act 90, a letter, to be transmitted by mail on or about October 2, 1990. USX6390001-0400 at 0091-0092 (US 89555) (O) (B&W Response to Request No. 364).

294. **Racketeering Act No. 91:** On or about October 11, 1990, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release entitled "Major New Initiatives to Discourage Youth Smoking Announced" to be sent and delivered by the United States Mails to newspapers and news outlets. This press release contained statements suggesting that defendants had a "longstanding policy" of discouraging and preventing smoking by youth.

295. This communication falsely stated and misrepresented that Defendants discouraged youth smoking; and concealed Defendants' fraudulent efforts to target the youth

market. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0015615-5617 (US 21265) (A).

296. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 91, a press release, to be transmitted by mail on or about October 11, 1990. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

297. **Racketeering Act No. 92:** On or about June 4, 1991, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Philip Morris Companies' Charles R. Wall, Esq., Vice President and Associate General Counsel, in New York, to: Philippa J. Casingena, Esq., British American Tobacco Company Ltd., England; John Evans, Esq., Ashurst Morris Crisp, England; Marion Funck, Esq., Reemtsma Cigaretten Fabriken GmbH, Germany; Alan D. Porter, Esq., Imperial Tobacco Limited, England; and James W. Seddon, Esq., Rothmans International Limited, in which Mr. Wall enclosed "a brief statement and a somewhat longer statement discussing the 'risk factor' language" relating defendants' position on the health effects of smoking.

298. This communication misrepresented and concealed the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute principal gravamen of the scheme to defraud. 2023235511-5512 (US 22725) (A).

299. Defendant Altria Group caused Racketeering Act 92, a letter, to be transmitted by mail to England and Germany on or about June 4, 1991. 2023235511-5512 (US 22725) (A).

300. **Racketeering Act No. 93:** On or about December 11, 1991, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails addressed to newspapers and news outlets. This press release

contained statements suggesting that the majority of smokers in the United States are of legal age when they begin smoking and that defendants have discouraged youth smoking.

301. This communication falsely claimed and misrepresented that the majority of smokers in the United States are of legal age when they begin smoking; falsely claimed that Defendants have discouraged youth smoking; and concealed Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. TIMN0019059-9060 (US 21266) (A); TIMN0019059-9060 (US 62790) (O).

302. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 93, a press release, to be transmitted by mail on or about December 11, 1991. Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

303. **Racketeering Act No. 94:** On or about January 28, 1992, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to James Harrison, President of the Vermont Retail Grocers Association, from Yancey W. Ford, Jr., Executive Vice President for Sales of Reynolds, stating "R.J. Reynolds Tobacco Co. does not want youth to smoke" and denying in substance that the "Joe Camel" advertising campaign was directed at youth.

304. This communication misrepresented and concealed link between cigarette advertising and youth smoking; falsely claimed that Reynolds discouraged youth smoking; and misrepresented that Reynolds did not target youths. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 515011420-1422 (US 51932) (O).

305. Defendant RJR caused Racketeering Act 94, a letter, to be transmitted by mail on

or about January 28, 1992. WAX0022020-2135 at 2126 (US 77413) (A) (RJR Response to Request No. 368).

306. **Racketeering Act No. 95:** On or about May 18, 1992, defendant PHILIP MORRIS COMPANIES did knowingly cause to be sent and delivered by the United States Mails a letter from Charles R. Wall, Esq., Vice President and Associate General Counsel, Philip Morris Companies, addressed to Bernard O'Neill, Esq., Shook, Hardy & Bacon, 1200 Main Street, Kansas City, Missouri. The letter accompanied a check representing Philip Morris' contribution to the research efforts of Theodor D. Sterling.

307. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 2023230770-0770 (US 20384) (A).

308. New Defendant Altria caused Racketeering Act 95, a letter, to be transmitted by mail from New York, New York, to Kansas City, Missouri, on or about May 18, 1992. 2023230770-0770 (US 20384) (A).

309. **Racketeering Act No. 96:** On or about August 28, 1992, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Dr. Francis A. Neelon, Editor of the North Carolina Medical Journal, purporting to be from Dr. Robert G. Fletcher, Medical Director of Reynolds, but bearing a handwritten notation on the copy retained by Reynolds stating that it was "written by SWM for Dr. Fletcher," complaining about an article in the North Carolina Medical Journal, and stating about the author of the article, "He claims the tobacco industry spends huge amounts of money promoting its products to youth. This is blatantly false. None of Reynolds Tobacco's product advertising or promotions are directed toward anyone under the legal age to smoke."

310. This communication misrepresented and concealed the link between cigarette advertising and youth smoking; falsely claimed that Reynolds discouraged youth smoking and

did not target the youth market. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 512024008-4011 (US 22994) (O); 512024008-4011 (US 76095) (O).

311. Defendant RJR caused Racketeering Act 96, a letter, to be transmitted by mail on or about August 28, 1992. WAX0022020-2135 at 2127 (US 77413) (A) (RJR Response to Request No. 370).

312. **Racketeering Act No. 97:** During 1992, the exact dates being unknown, defendant REYNOLDS caused an advertisement captioned "Camel Lights" to be placed in various print media, including Sports Illustrated, a magazine, which magazines were then sent and delivered by the United States Mails to subscribers and others. The advertisement depicted Joe Camel wearing sunglasses, a tee shirt, and blue jeans, with a pack of cigarettes rolled up in his sleeve and a lit cigarette hanging from his mouth, and casually leaning against a convertible automobile.

313. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 509131534-1534 (US 21717) (O).

314. Defendant RJR caused Racketeering Act 97, an advertisement, to be transmitted by mail during 1992. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); TLT 0430015-0016 (US 76786) (A) (*Sports Illustrated,* 1993).

315. **Racketeering Act No. 98:** On or about March 11, 1993, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN did knowingly cause to be sent and delivered by the United States Mails letters addressed separately to Wayne W. Juchatz, Esq., Reynolds; Ernest Pepples, Esq., Brown & Williamson; Gilbert L. Klemann, II, Esq., American; Arthur J. Stevens, Esq., Lorillard; and Charles R. Wall, Esq., Philip Morris Companies, from Bernard V. O'Neill, Jr., Esq., Shook, Hardy & Bacon, 1200 Main Street, Kansas City, Missouri 64105, advising that the Cigarette Companies continue to fund research to be conducted by a scientist who generated favorable results for defendants and seeking financial contributions in proportion to each

Cigarette Company's "market share" to support such research.

316. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question, and Defendants' fraudulent promise to conduct independent, disinterested research. 512678470-8473 (US 22979) (A).

317. Defendants Philip Morris, RJR, B&W, Lorillard, and American caused Racketeering Act 98, letters, to be transmitted by mail on or about March 11, 1993. USX6390001-0400 at 0092 (US 89555) (O) (B&W Response to Request No. 372); USX6390215-0329 at 0322 (US 89555) (O) (RJR Response to Request No. 372); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

318. **Racketeering Act No. 99:** On or about November 12, 1993, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails a letter addressed to Mr. Mark E. Smith, 26582 Mocine Avenue, Hayward, California 94544, from Reynolds employee Catherine Clinton. The letter denied the existence of any proof that smoking causes lung cancer, heart disease, or emphysema, and asserted that "a cause and effect relationship between smoking and disease has not been established."

319. This communication misrepresented and concealed the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 513601091-1091 (US 21815) (O).

320. Defendant RJR caused Racketeering Act 99, a letter, to be transmitted by mail on or about November 12, 1993. USX6390215-0329 at 0322 (US 77413) (A) (Reynolds Response to Request No. 373).

321. **Racketeering Act No. 100:** In or about December 1994, the exact date being unknown, defendant PHILIP MORRIS did knowingly cause a draft press release to be prepared, which was released in a final version in June 1995 and disseminated to the public through United States Mails. This press release stated that "Philip Morris is taking aggressive steps to keep cigarettes out of the hands of young people" and that the company sought to eliminate access to cigarettes by minors.

322. This communication misrepresented that the Defendants discouraged youth smoking; misrepresented that the Defendants did not target the youth market; and concealed that Defendants market to youth. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2500050140-0141 (US 21804) (A).

323. Defendant Philip Morris caused Racketeering Act 100, a press release, to be transmitted by mail in or about June 1995. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

324. **Racketeering Act No. 101:** On or about October 31, 1996, defendant BAT INDUSTRIES (predecessor to BAT P.L.C.) did knowingly cause to be transmitted in interstate commerce by means of the mails comments for publication in the Wall Street Journal, which newspaper was then sent and delivered by the United States Mails to subscribers and others. The Chief Executive of BAT Industries, Martin Broughton, denied charges that BAT Industries, including its Brown & Williamson subsidiary, concealed research linking smoking and disease. He stated: "We haven't concealed, we do not conceal and we will never conceal. We have no internal research which proves that smoking causes lung cancer or other diseases or, indeed, that smoking is addictive."

[Stricken]

325. **Racketeering Act No. 102:** During 1996, the exact dates being unknown, defendant REYNOLDS caused multi-page advertisements captioned "Take a Rockin' Road Trip" and "Go ahead, it's on me," to be placed in various print media, including magazines which were then sent and delivered by the United States Mails to subscribers and others. The advertisements depicted Joe Camel and offered gift certificates in the amount of $25 to purchase tickets "to just about any Ticketmaster event," in

exchange for 100 Camel Cash C-Notes.

326. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. IRA0011362-1362 (US 33060) (O).

327. Defendant RJR caused Racketeering Act 102, advertisements, to be transmitted by mail during 1996. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); 509136305-6306 (US 76788) (A) (*Glamour*, April 1996).

328. **Racketeering Act No. 103:** On or about July 3, 1963, defendant BROWN & WILLIAMSON did knowingly cause to be sent by cable, and BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) received, a message from Addison Yeaman, Esq., Brown & Williamson General Counsel, to A.D. McCormick, Esq., BAT Co., in London, England, with copies to Messrs. Finch, Wade, and Griffith, reporting that W.T. Hoyt, Executive Director of the TIRC had agreed to withhold a Battelle report from TIRC members or the Scientific Advisory Board, and further agreed that submitting certain information to the Surgeon General would be "undesirable."

329. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery; and Defendants' fraudulent promise to conduct independent, disinterested research. 689033421-3421 (US 31045) (O).

330. Defendant B&W caused Racketeering Act 103, a letter, to be transmitted by cable, on or about July 3, 1963. USX6390001-0400 at 0059-0060 (US 89555) (O) (BATCo Response to Request No. 377); USX6390001-0400 at 0092 (US 89555) (O) (B&W Response to Request No. 377); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 2, citing Exhibit B);

ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 2, citing Exhibit B).

331. **Racketeering Act No. 104:** On or about July 22, 1970, defendant LORILLARD did knowingly cause to be sent by telegram, and defendant REYNOLDS did receive, a message from Arthur J. Stevens, Esq., Lorillard General Counsel, to Henry Ramm, Esq., Reynolds Vice President and General Counsel, transmitting Lorillard's agreement to participate in a CTR Special Project that involved sponsoring a conference on the benefits of smoking.

332. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' false and misleading statements regarding nicotine addiction, manipulation, and delivery; and Defendants' fraudulent promise to conduct independent, disinterested research. 508293416-3416 (US 21514) (O).

333. Defendant Lorillard caused Racketeering Act 104, correspondence, to be transmitted by telegram on or about July 22, 1970. USX6390215-0329 at 0323 (US 77413) (A) (RJR Response to Request No. 378).

334. **Racketeering Act No. 105:** On or about January 3, 1971, defendant PHILIP MORRIS did knowingly cause to be transmitted on the nationally televised CBS program *Face the Nation*, air date January 3, 1971, statements before a live television and radio audience by Joseph Cullman III, President and CEO of Philip Morris, that misrepresented Philip Morris' funding of independent research and denied that cigarettes are hazardous or pose a hazard to pregnant women or their infants.

335. This communication misrepresented and concealed the link between smoking and disease; falsely promised and misrepresented that Defendants wanted to and would conduct independent, disinterested research regarding smoking and disease; concealed that Philip Morris and the other Defendants were funding, controlling, and managing research that Defendants maintained was independent and disinterested; falsely denied that cigarettes are hazardous or

pose a hazard to pregnant women or their infants; and furthered Defendants' fraudulent position that the link between smoking and disease was an open question. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 1002605545-5564 (US 35622) (A).

336. Defendant Philip Morris caused Racketeering Act 105, statements, to be transmitted live on national television and radio, on or about January 3, 1971. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

337. **Racketeering Act No. 106:** On or about September 16, 1976, defendants BROWN & WILLIAMSON did knowingly cause to be transmitted, and BRITISH-AMERICAN TOBACCO COMPANY (predecessor to BAT INVESTMENTS) did receive, a letter cable addressed to G.C. Hargrove, BAT Co., London, England, from Ernest Pepples, Esq., Brown & Williamson, counseling BAT to maintain the same position in England as Brown & Williamson maintained in America that the use of tobacco is not unduly dangerous.

338. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 680273641-3643 (US 20998) (A).

339. Defendant B&W caused Racketeering Act 106, a letter, to be transmitted by cable, on or about September 16, 1976. USX6390001-0400 at 0093 (US 89555) (O) (B&W Response to Request No. 380); ARU1290012-0022 (US 86700) (O) (BATCo Stipulation at ¶ 3, citing Exhibit C); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 2, citing Exhibit B).

340. **Racketeering Act No. 107:** On or about February 25, 1981, defendant REYNOLDS did knowingly cause to be sent by telex a message from Reynolds's employee Frank Colby addressed to Wilfried Dembach, Cologne, Germany, discussing the disciplining

of a company employee who admitted publicly that smoking plays a significant role in causing cancer.

341. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 504331775-1776 (US 22738) (O).

342. Defendant RJR caused Racketeering Act 107, a message, to be transmitted by telex, on or about February 25, 1981. 504331775-1776 (US 22738) (O).

343. **Racketeering Act No. 108:** On or about October 26, 1983, defendants BAT INDUSTRIES (predecessor to BAT P.L.C.) and PHILIP MORRIS did knowingly cause to be transmitted a telephone conversation between BAT Industries employee Eric Alfred Albert Bruell, Esq., and Philip Morris Vice President Hugh Cullman, in which the participants agreed to continue the Cigarette Companies' internal agreement not to compete with one another on issues relating to smoking and health.

344. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question; Defendants' fraudulent promise to conduct independent, disinterested research; Defendants' fraudulent efforts to suppress development and marketing of a less hazardous cigarette; and Defendants' fraudulent efforts to conceal and suppress material information relating to the link between smoking and adverse health effects. 301030943-0944 (US 46577) (A).

345. Defendant Philip Morris caused Racketeering Act 108, a conversation, to be transmitted by telephone, on or about October 26, 1983. 301030943-0944 (US 46577) (A).

346. **Racketeering Act No. 109**: On or about April 14, 1994, defendant PHILIP MORRIS did knowingly cause to be transmitted the

testimony of the President and Chief Executive Officer of Philip Morris, William I. Campbell, which was presented at a nationally televised hearing of the House Subcommittee on Health and the Environment. During this hearing, Mr. Campbell denied that nicotine is addictive, denied that Philip Morris research establishes that smoking is addictive, and denied that Philip Morris manipulates the amount of nicotine contained in cigarettes.

347. This communication falsely denied that nicotine was addictive; falsely denied that Philip Morris research established that smoking was addictive; and falsely denied that Philip Morris manipulated the amount of nicotine delivered to smokers. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2023195738-5892 (US 21990) (A).

348. Defendant Philip Morris caused Racketeering Act 109, statements, to be transmitted by television, on or about April 14, 1994. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; 2023195738-5892 (US 21990) (A).

349. **Racketeering Act No. 110:** On or about April 14, 1994, defendant REYNOLDS did knowingly cause to be transmitted the testimony of the Chairman and Chief Executive Officer of Reynolds, James Johnston, which was presented at a nationally televised hearing of the House Subcommittee on Health and the Environment. During this hearing, Mr. Johnston denied that nicotine is addictive and denied that Reynolds manipulates the amount of nicotine contained in cigarettes.

350. This communication falsely denied that nicotine is addictive; misrepresented that RJR did not manipulate the amount of nicotine delivered to smokers; and concealed that Reynolds manipulated the amount of nicotine delivered to smokers. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2023195738-5892 (US 21990) (A).

351. Defendant RJR caused Racketeering Act 110, statements, to be transmitted by television, on or about April 14, 1994. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; 2023195738-5892 (US 21990) (A).

352. **Racketeering Act No. 111:** On or about April 14, 1994, defendant LORILLARD did knowingly cause to be transmitted the testimony of the Chief Executive Officer of Lorillard, Andrew H. Tisch, which was presented at a nationally televised hearing of the House Subcommittee on Health and the Environment. During this hearing, Mr. Tisch denied that Lorillard manipulates the amount of nicotine contained in cigarettes.

353. This communication misrepresented that Lorillard did not manipulate the amount of nicotine delivered to smokers. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2023195738-5892 (US 21990) (A).

354. Defendant Lorillard caused Racketeering Act 111, statements, to be transmitted by television, on or about April 14, 1994. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; 2023195738-5892 (US 21990) (A).

355. **Racketeering Act No. 112:** On or about April 14, 1994, defendant LIGGETT did knowingly cause to be transmitted the testimony of the Chairman and Chief Executive Officer of Liggett, Edward A. Horrigan, Jr., which was presented at a nationally televised hearing of the House Subcommittee on Health and the Environment. During this hearing, Mr. Horrigan denied that Liggett manipulates the amount of nicotine contained in cigarettes.

356. This communication misrepresented that Liggett did not manipulate the amount of nicotine delivered to smokers. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2023195738-5892 (US 21990) (A).

357. Defendant Liggett caused Racketeering Act 112, statements, to be transmitted by

television, on or about April 14, 1994. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; 2023195738-5892 (US 21990) (A).

358. **Racketeering Act No. 113:** On or about April 14, 1994, defendant AMERICAN did knowingly cause to be transmitted the testimony of the Chief Executive Officer of American, Donald S. Johnston, which was presented at a nationally televised hearing of the House Subcommittee on Health and the Environment. During this hearing, Mr. Johnston denied that American manipulates the amount of nicotine contained in cigarettes.

359. This communication misrepresented that American did not manipulate the amount of nicotine delivered to smokers. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2023195738-5892 (US 21990) (A).

360. Defendant American caused Racketeering Act 113, statements, to be transmitted by television, on or about April 14, 1994. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616; 2023195738-5892 (US 21990) (A).

361. **Racketeering Act No. 114:** On or about May 9, 1994, defendant PHILIP MORRIS did knowingly cause to be transmitted a telefax letter addressed to The Honorable Henry Waxman, Chairman, Subcommittee on Health and the Environment, Committee on Energy and Commerce, 2415 Rayburn House Office Building, Washington, D.C. 20515-6118, from Dr. Cathy Ellis, Director of Research, Philip Morris. The letter denied that nicotine causes addiction, based on a definition of addiction overwhelmingly rejected by public and mental health professionals: "intoxication, pharmacological tolerance, and physical dependence in a manner that would impair the smokers' ability to exercise a free choice to continue or to quit smoking."

362. This communication falsely denied that nicotine causes addiction. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 2029200293-0294 (US 21537) (O).

363. Defendant Philip Morris caused Racketeering Act 114, a letter, to be transmitted by telefax on or about May 9, 1994. ARU0892192-2230 at 2226 (US 86709) (A) (Philip Morris Responses to Request No. 388).

364. **Racketeering Act No. 115:** On or about April 27, 1995, defendant BROWN & WILLIAMSON did transmit and cause to be transmitted a telephone call placed by Brown & Williamson employee Melanie Gnadinger to Brown & Williamson Japan employee Hiromi Mikami in furtherance of defendants' public assertions that smoking does not cause disease.

365. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the link between smoking and disease was an open question. 450010016-0019 (US 21539) (O).

366. Defendant B&W caused Racketeering Act 115, a conversation, to be transmitted by telephone, on or about April 27, 1995. 450010016-0019 (US 21539) (O); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 2).

367. **Racketeering Act No. 116:** During 1999, the exact dates being unknown, defendant BROWN & WILLIAMSON did knowingly cause to be posted on the Brown & Williamson Internet web site a document entitled "Hot Topics: Smoking and Health Issues. The company stated:

> Brown & Williamson believes that the relevant issue should not be how or whether one chooses to define cigarette smoking as addictive based on an analysis of all definitions available. Rather, the issue should be whether consumers are aware that smoking may be difficult to quit (which they are) and whether there is anything in cigarette smoke that impairs smokers from reaching and implementing a decision to quit (which we believe there is not).

368. This communication falsely denied that smoking is addictive. This

communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 280400081-0082 (US 76600) (A).

369. Defendant B&W caused Racketeering Act 116, a statement, to be transmitted by its web site during 1999. USX6390001-0400 at 0094 (US 89555) (O) (B&W Response to Request No. 390); ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 2).

370. **Racketeering Act No. 117:** On or about November 20, 1962, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails addressed to newspapers and news outlets. This press release was entitled "TOBACCO INSTITUTE HEAD CALLS N.A.B. PRESIDENT'S CHARGES INCORRECT" and was issued in response to a comment by LeRoy Collins, President of the National Association of Broadcasters, that cigarette advertising is designed primarily to influence high school children.

371. This communication falsely denied that Defendants targeted their products to the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. MNAT00280070-0070 (US 21724) (O).

372. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 117, a press release, to be transmitted by mail on or about November 20, 1962. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

373. **Racketeering Act No. 118:** On or about April 27, 1964, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, LIGGETT, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails addressed to newspapers and news outlets. This press release was

entitled "CIGARETTE MANUFACTURERS ANNOUNCE ADVERTISING CODE" and was issued to announce a so-called Cigarette Advertising Code establishing "uniform standards for cigarette advertising" to include standards relating to youth advertising, and other marketing activities, and the provision that "cigarette advertising shall not represent that cigarette smoking is essential to social prominence, distinction, success, or sexual attraction."

374. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied, and to deceive the public by fraudulently representing that they did not and would not market to youths. 2025345360-5362 (US 20414) (A); (*The New York Times*, April 28, 1964 (US 21608) (O)); HT0033177-3177 (US 21620) (O) (*The Wall Street Journal*, April 28, 1964); HT0033181-3182 (US 21621) (O) (AP article published on April 28, 1964 in *Chicago Tribune* and *Chicago Daily News*).

375. Defendants Philip Morris, RJR, B&W, Lorillard, Liggett, and American, through defendant Tobacco Institute, caused Racketeering Act 118, a press release, to be transmitted by mail on or about April 27, 1964. See ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1).

376. **Racketeering Act No. 119:** On or about November 15, 1967, defendant AMERICAN, did knowingly cause an advertisement to be sent and delivered by the United States Mails as an attachment to a letter of Nov 15, 1967 of that same date. The advertisement states that Carlton filter cigarettes delivers "70% less 'tar' than the average filter king."

377. This communication is relevant to and was in furtherance of Defendants' fraudulent efforts to exploit smokers' desire for less hazardous cigarettes, and Defendants' fraudulent and misleading representations regarding low tar and "light" cigarettes. This communication was for the purpose of executing the scheme to defraud because it constitutes the

principal gravamen of the scheme to defraud.

378. Defendant American caused Racketeering Act 119, an advertisement, to be transmitted by mail on or about November 15, 1967. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

379. **Racketeering Act No. 120:** On or about April 22, 1970, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant COUNCIL FOR TOBACCO RESEARCH, did knowingly cause a press release to be sent and delivered by the United States Mails addressed to newspapers and news outlets. This press release was entitled "STUDIES RAISE QUESTIONS ABOUT SMOKING AS HEALTH HAZARD," and was issued to identify studies supported by the Council for Tobacco Research that call into question whether "smoking has actually been shown to be a health hazard," or that there is a link between smoking and diseases such as lung cancer and emphysema.

380. This communication misrepresented and concealed the link between smoking and disease, and contained false promises and misrepresentations that the Defendants supported independent, disinterested research into the link between smoking and disease. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute the principal gravamen of the scheme to defraud. 500015901-5905 (US 47778) (A).

381. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through Defendant CTR, caused Racketeering Act 120, a press release, to be transmitted by mail on or about April 22, 1970. McAllister PD, Philip Morris, 5/24/02, 57:10-22.

382. **Racketeering Act No. 121:** On or about March 15, 1974 defendant REYNOLDS, did knowingly cause to be sent and delivered by the United States Mails a letter to National Family Opinion, 711 S. St. Clair Street, Toledo, Ohio 43691. The purpose of the letter is a request by Reynolds that, when National Family Opinion conducts its consumer surveys, it continue to question 14 through 17 year olds as well as 18 year olds.

383. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 500487414-7416 (US 21865) (A).

384. Defendant RJR caused Racketeering Act 121, a letter, to be transmitted by mail from Winston-Salem, North Carolina, to Toledo, Ohio, on or about March 15, 1974.

385. **Racketeering Act No. 122:** On or about September 24, 1974, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States Mails, a letter and attachments regarding "Salem Back-Up Advertising and Creative Development Statement" to Mr. A. M. Allen, William Esty Company, Inc., 100 East 42nd Street, New York, New York. The purpose of the letter and attachments is to review Salem's advertising strategy and the effect it has on "young adults." The attachment statement refers to reviewing the Brand's image in the following manner: "This Brand 'personality' positioning will also provide, as a secondary benefit, an image which will improve Salem's attractiveness to . . . current Kool smokers . . . as well as to the majority of young adult smokers entering the cigarette market for the first time."

386. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 501721136-1140 (US 21868) (O).

387. Defendant RJR caused Racketeering Act 122, a letter and attachments, to be transmitted by mail on or about September 24, 1974.

388. **Racketeering Act No. 123:** On or about March 1, 1976, defendant COUNCIL FOR TOBACCO RESEARCH did knowingly cause to be sent and delivered by the United States Mails a letter and manuscript from Theodor D. Sterling, Director, Simon Fraser University, to Dr. William U. Gardner, Scientific Director, Council for Tobacco Research, that attributed the health effects of smoking to occupation. The letter, referring to the manuscript, states that "Smokers turn out to come from mostly blue collar occupations

where they are exposed with high probability to toxic dust, fumes, and chemicals."

389. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to Defendants' fraudulent efforts to misrepresent and conceal information relating to the link between smoking and disease. 11011805-1805 (US 34576) (O).

390. Defendant CTR caused Racketeering Act 123, a letter and manuscript, to be transmitted by mail on or about March 1, 1976. McAllister PD, Philip Morris, 5/24/02, 106:13-23.

391. **Racketeering Act No. 124:** On or about June 21, 1977, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails, a letter addressed to Mr. Andy Miller, McCann-Erickson, 485 Lexington Avenue, New York, New York, from D.A. Litwin, a letter discussing a project on marketing opportunities, and segmenting the cigarette market into the following flavor categories: "Taste," "Taste with implicit health benefit," "Taste with contemporaneous health benefit," and "Explicit health benefit."

392. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease and Defendants' fraudulent efforts to exploit smokers' desires for less hazardous cigarettes. 660041050-1051 (US 20952) (O).

393. Defendant B&W caused Racketeering Act 124, a letter, to be transmitted by mail from Louisville, Kentucky, to New York, New York on or about June 21, 1977. 660041050-1051 (US 20952) (O). See ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

394. **Racketeering Act No. 125:** On or about May 4, 1979, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails, a letter addressed to Mr. Joseph A. Califano, Jr., Secretary of Health, Education, and Welfare, Washington, DC 20201, from C.I. McCarty, Chairman, responding to letter of April 26, 1979 from Mr. Califano that urged Brown & Williamson to dedicate a percentage of its advertising budget to youth smoking prevention efforts. McCarty stated B&W's "policy against advertising or promoting the sale of cigarettes to persons under 21," and stated that it "does not have at hand the research data and other information necessary to a responsible analysis of the suggestion made in [the April 26 letter]."

395. This communication falsely denied that Defendants targeted their products to the youth market, and concealed material information relating to Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. 521038912-8912 (US 20890) (A).

396. Defendant B&W caused Racketeering Act 125, a letter, to be transmitted by mail from Louisville, Kentucky, to Washington, D.C., on or about May 4, 1979. 521038912-8912 (US 20890) (A). See ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

397. **Racketeering Act No. 126:** On or about May 18, 1979, defendant LIGGETT did knowingly cause to be sent and delivered by the United States Mails, a letter addressed to Mr. Joseph A. Califano, Jr., Secretary of Health, Education, and Welfare, Washington, DC 20201, from Raymond J. Mulligan, President, responding to a letter of April 26, 1979 from Mr. Califano, identifying that millions of children are regular cigarette smokers, and urging Liggett to dedicate a percentage of its advertising budget to youth smoking prevention efforts. Mulligan stated that "this Company does not promote or advertise its cigarette products to children or young people under twenty-one years of age, nor are our promotional

activities and advertising aimed at encouraging such children and young people to begin smoking or even continue smoking." The letter further stated that "Cigarette smoking is an adult pleasure and custom" and referred to industry policies aimed at "limiting the pleasure of smoking to adults."

398. This communication falsely denied that Defendants targeted their products to the youth market, and concealed material information relating to Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. 1003058023-8024 (US 20149) (A).

399. Defendant Liggett caused Racketeering Act 126, a letter, to be transmitted by mail from Durham, North Carolina, to Washington, D.C., on or about May 18, 1979. 1003058023-8024 (US 20149) (A).

400. **Racketeering Act No. 127:** On or about June 1, 1979, defendant BROWN & WILLIAMSON did knowingly cause to be sent and delivered by the United States Mails, a letter addressed to Mr. Joseph A. Califano, Jr., Secretary of Health, Education, and Welfare, Washington, DC 20201, from C.I. McCarty, Chairman, responding to a letter of April 26, 1979 from Mr. Califano, identifying that millions of children are regular cigarette smokers, and urging Liggett to dedicate a percentage of its advertising budget to youth smoking prevention efforts. McCarty stated: "We do not want children to smoke not because we agree with your oft-repeated slogan that smoking is 'slow-motion suicide' but because the decision whether to smoke, we think, is a decision which should be made by adults, not children. . . . I have serious doubts about the effectiveness of any campaign directed toward children advising them to postpone making the decision to smoke until they are adults. Such a campaign could backfire. Children might elect to smoke as a rebellion against authority or in an attempt to show adult behavior."

401. This communication falsely denied that Defendants targeted their products to the

youth market; concealed material information relating to Defendants' fraudulent efforts to target the youth market; and fraudulently denied the link between smoking and adverse health effects. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. 660008960-8961 (US 21524) (A).

402. Defendant B&W caused Racketeering Act 127, a letter, to be transmitted by mail from Louisville, Kentucky, to Washington, D.C., on or about June 1, 1979. 660008960-8961 (US 21524) (A). See ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

403. **Racketeering Act No. 128:** On or about May 4, 1981, defendant REYNOLDS did knowingly cause to be sent and delivered by the United States mail, a letter from Warren Cowan, President, Rogers & Cowan, Inc., to Mr. Gerald Long, Executive Vice President, Reynolds, discussing Rogers & Cowan's past and continuing efforts on behalf of Reynolds to have smoking featured favorably "in a prominent way" in movies, with celebrities, on television, and in other arenas.

404. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 503579240-9244 (US 20718) (O).

405. Defendant RJR caused Racketeering Act 128, a letter, to be transmitted by mail from Beverly Hills, California, to Winston-Salem, North Carolina or about May 4, 1981.

406. **Racketeering Act No. 129:** On or about April 13, 1983, defendant BROWN & WILLIAMSON did knowingly cause a contract to be placed in the United States mail from Artistry Limited, Pinewood Studios, Iver Health, Bucks, England, to Brown & Williamson, through N.V. Domantay, Vice President, Brand Management, memorializing the agreement to place Barclay outdoor advertising displays in the film "Supergirl."

407. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 675048039-8042 (US 20976) (O).

408. Defendant B&W caused Racketeering Act 129, a contract, to be transmitted by mail from Bucks, England, to Louisville, Kentucky, on or about April 13, 1983. 675048039-8042 (US 20976) (O). See ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 1, citing Exhibit A).

409. **Racketeering Act No. 130:** On or about October 20, 1983, defendants PHILIP MORRIS INC., REYNOLDS, BROWN & WILLIAMSON, AND LORILLARD, through defendant TOBACCO INSTITUTE, did knowingly cause to be transmitted on the nationally televised ABC program *20/20*, air date October 20, 1983, before a live television audience, statements by Anne Browder of the Tobacco Institute that include "We feel very strongly that cigarette smoking is an adult custom that one should not even consider until they've reached the age of maturity," "We do everything possible to discourage teenage smoking," and "age of maturity is 21."

410. This communication contained false and misleading statements regarding Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. 690149518-9531 at 9520 (US 21046) (A); 690149518-9531 (US 78732) (A).

411. Defendants Philip Morris Inc., RJR, B&W, and Lorillard, through defendant Tobacco Institute, caused Racketeering Act 130, statements, to be transmitted by television, on or about October 20 1983. 690149518-9531 (US 21046) (A); 690149518-9531 (US 78732) (A).

412. **Racketeering Act No. 131:** On or about January 14, 1986, defendant PHILIP MORRIS did knowingly cause to be sent and delivered by the United States Mails, an advertising contract

addressed to the Los Angeles Dodgers, Inc., Advertising and Novelty Department, 1000 Elysian Park Ave., Los Angeles, California, for the purpose of placing Marlboro advertising in the 1986 Dodger scorecard and magazine available at Dodger major league baseball games.

413. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 2041595387-5387 (US 38212) (O).

414. Defendant Philip Morris caused Racketeering Act 131, an advertising contract, to be transmitted by mail from Los Angeles, California to New York, New York, on or about January 14, 1986. 2041595387-5387 (US 38212) (O).

415. **Racketeering Act No. 132:** On or about May 16, 1988, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails addressed to newspapers and news outlets. This press release was entitled "CLAIMS THAT CIGARETTES ARE ADDICTIVE CONTRADICT COMMON SENSE" and was issued in response to the Surgeon General's Report on nicotine addiction.

416. This communication contained false and misleading statements that nicotine was not addictive and that discredited the evidence that nicotine is addictive. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. TIMN0019963-9963 (US 21239) (A).

417. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 132, a press release, to be transmitted by mail on or about May 16, 1988. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

418. **Racketeering Act No. 133:** On or about July 29, 1988, defendants PHILIP MORRIS, REYNOLDS, BROWN & WILLIAMSON, LORILLARD, and AMERICAN, through defendant TOBACCO INSTITUTE, did knowingly cause a press release to be sent and delivered by the United States Mails addressed to newspapers and news outlets. This press release quoted Mr. Charles O. Whitley of the Institute as stating "that the Surgeon General's Report 'undermines efforts to combat drug abuse,' " and that the Report calling cigarette smoking an addiction was "without medical or scientific foundation."

419. This communication contained false and misleading statements that nicotine was not addictive and that discredited the evidence that nicotine is addictive. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. TIMN0125189-5189 (US 77065) (A).

420. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Racketeering Act 133, a press release, to be transmitted by mail on or about July 29, 1988. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

421. **Racketeering Act No. 134:** On or about April 5, 1990, defendant REYNOLDS did knowingly cause to be sent by wire and mail a memorandum from R.G. Warlick, Division Manager, to all area sales representatives instructions to list in their "Y.A.S. accounts" "[a]ll package action calls located across from, adjacent to [or] in the General vicinity of High Schools or College Campus. (under 30 years of age)."

422. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 507834615-4616 (US Ex. 21540*) (O).

423. Defendant RJR caused Racketeering Act 134, a memorandum, to be transmitted

by wire and mail on or about April 5, 1990. 507834615-4616 at 4615 (US Ex. 21540*) (O).

424. **Racketeering Act No. 135:** In or about 1999, the exact dates being unknown, defendant BROWN & WILLIAMSON did knowingly cause to be placed in newspapers and magazines nationwide an advertising campaign for KOOL cigarettes captioned "B Kool," which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, "B Kool" advertising depicted attractive young women gazing longingly back at a man in the foreground holding a lighted cigarette and a pack of Kools. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. (US 14557) (O).

425. Defendant B&W caused Racketeering Act 135, an advertisement, to be transmitted by mail in or about 1999. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo).

426. **Racketeering Act No. 136:** In or about 1999, the exact dates being unknown, defendant REYNOLDS did knowingly cause to be placed in newspapers and magazines a nationwide advertising campaign for Camel cigarettes captioned "Viewer Discretion Advised," which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, advertisements depicted a "farmer's daughter" scene that included a young man being run off by the irate father of an attractive blonde female. The caption reads, "VIEWER DISCRETION ADVISED. This ad contains: SS... Satisfied Smoking FV... Farm Violence AN ... Animal Nudity. *Mighty Tasty!*"

427. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 98402886-2888 (US 57307) (O).

428. Defendant RJR caused Racketeering Act 136, an advertisement, to be transmitted

by mail in or about 1999. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); TLT0430033-0035 (US 76795) (A).

429. **Racketeering Act No. 137:** In or about 2000, the exact dates being unknown, defendant PHILIP MORRIS did knowingly cause a nationwide advertising campaign for Marlboro cigarettes captioned "Marlboro Country," to be placed in radio and television broadcasts, newspapers, which broadcasts and newspapers and magazines were then sent and delivered by the United States Mails or by wire transfer to subscribers and others. Among several treatments, advertisements often depicted a cowboy smoking or handling cigarettes in a western setting.

430. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. ADV0810166-0168 (US 14325) (A) .

431. Defendant Philip Morris caused Racketeering Act 137, an advertisement, to be transmitted by mail in or about 2000. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); Order #616.

432. **Racketeering Act No. 138:** In or about 2000, the exact dates being unknown, defendant PHILIP MORRIS did knowingly cause a nationwide advertising campaign for Virginia Slims cigarettes, to be placed in newspapers and magazines, which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, advertisements often depicted slim, independent, well-dressed attractive women smoking cigarettes.

433. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. ADV0810242-0244 (US 14345) (A).

434. Defendant Philip Morris caused Racketeering Act 138, an advertisement, to be

transmitted by mail in or about 2000. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); Order #616.

435. **Racketeering Act No. 139:** In or about 2001, the exact dates being unknown, defendant REYNOLDS did knowingly cause to be placed in newspapers and magazines a nationwide advertising campaign for Camel cigarettes captioned "Pleasure to Burn," which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, "Pleasure to Burn" advertising depicted attractive young men and young women smoking cigarettes or offering cigarettes, including series that are entitled, "7 Pleasures of the Casbah," "Turkish Gold," "Flavors of the Exotic," and "Turkish Jade."

436. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 524649701-9712 (US 21750) (O).

437. Defendant RJR caused Racketeering Act 139, an advertisement, to be transmitted by mail in or about 2001. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo).

438. **Racketeering Act No. 140:** In or about 2001, the exact dates being unknown, defendant REYNOLDS did knowingly cause to be placed in newspapers and magazines nationwide an advertising campaign for Winston cigarettes captioned "No Bull," which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, "No Bull" advertising depicted attractive young men and young women smoking cigarettes or offering cigarettes often in circumstances involving irreverent humor or sporting events, and touted that the Winston brand cigarettes had "100% Tobacco" and "No Additives".

439. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease, including the issue of whether the

link between smoking and disease was an open question. Moreover, this communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. 517509202-9211 (US 21752) (O).

440. Defendant RJR caused Racketeering Act 140, an advertisement, to be transmitted by mail in or about 2001. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo).

441. **Racketeering Act No. 141:** In or about 2001, the exact dates being unknown, defendant BROWN & WILLIAMSON did knowingly cause to be placed in newspapers and magazines a nationwide advertising campaign for KOOL cigarettes captioned "House of Menthol," which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others.

442. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. ADV0830349-0351 (US 14472) (A).

443. Defendants B&W caused Racketeering Act 141, an advertisement, to be transmitted by mail in or about 2001. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo); Order #616.

444. **Racketeering Act No. 142:** In or about 2001, the exact dates being unknown, defendant LORILLARD did knowingly cause to be placed in newspapers and magazines a nationwide advertising campaign for Newport cigarettes captioned "Pleasure! Fire It Up!," which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, "Pleasure! Fire It Up!" advertising depicted attractive young men and young women smoking cigarettes or offering cigarettes often in circumstances involving sports and other physical activities.

445. This communication was for the purpose of executing the scheme to defraud

because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease. Moreover, this communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. ADV0100745-0747 (US 2702) (A); ADV0100475-0477 (US 2616) (A).

446. Defendant Lorillard caused Racketeering Act 142, an advertisement, to be transmitted by mail in or about 2001. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo).

447. **Racketeering Act No. 143:** During June 2001, the exact dates being unknown, defendant LORILLARD did knowingly cause to be posted on the Lorillard Internet web site a document entitled "Marketing and Promotion." The section of the website entitled "Marketing and Promotion" represents that "Lorillard does not and will not design or implement any marketing or promotional program intended to encourage youth to smoke cigarettes, and will continue to utilize only those advertising, promotional and marketing materials that do not, directly or indirectly, target youth."

448. This communication contained false and misleading statements denying Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. VXA0104165-4166 (US 72746) (O) (Lorillard.website).

449. Defendant Lorillard caused Racketeering Act 143, a statement, to be transmitted over its Internet web site during June 2001. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 11).

450. **Racketeering Act No. 144:** During 1999 and through June 2001, the exact dates being unknown, defendant BROWN &

> WILLIAMSON did knowingly cause to be posted on the Brown & Williamson Internet web site a document entitled "Hot Topics: Corporate Responsibility." The section of the document entitled "Marketing Principles and Practices: Advertising," represents that "the intended audience for all B&W marketing programs is adults 21 and over."

451. This communication contained false and misleading statements denying Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. TLT0770044-0049 (US 86656) (A) (B&W website).

452. Defendant B&W caused Racketeering Act 144, a statement, to be transmitted over its Internet web site during 1999 and through June 2001. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 11); see ARU6460266-0288 (US 86699) (O) (B&W Stipulation at ¶ 2, citing Exhibit B).

> 453. **Racketeering Act No. 145:** During June 2001, the exact dates being unknown, defendant PHILIP MORRIS did knowingly cause to be posted on the Philip Morris Internet web site a document entitled "Philip Morris U.S.A. Marketing Policies." The section of the website entitled "Philip Morris U.S.A. Marketing Policies" represents that "All of our brand advertising and promotions are intended for adults who choose to smoke. They serve to enhance brand awareness, recognition and loyalty among adult smokers."

454. This communication contained false and misleading statements denying Defendants' fraudulent efforts to target the youth market. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. Defendant Philip Morris caused Racketeering Act 145, a statement, to be transmitted over its Internet web site during June 2001. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 11); 2085287818-7820 (US 87440) (A) (Philip Morris

U.S.A. Web Site page dated February 2, 2001).

455. **Racketeering Act No. 146:** During June 2001, the exact dates being unknown, defendant R.J. REYNOLDS did knowingly cause to be posted on the R.J. Reynolds Internet web site a document entitled "Marketing Philosophy." The section of the website entitled "Marketing Philosophy" represents that "Reynolds Tobacco is not interested in, and does nothing aimed at, trying to persuade any nonsmokers to begin smoking."

456. This communication contained false and misleading statements regarding Defendants' fraudulent efforts to market to youth. This communication was for the purpose of executing the scheme to defraud because it constitutes the principal gravamen of the scheme to defraud. TLT0770095-0128 (US 72410) (A) (RJR website).

457. Defendant RJR caused Racketeering Act 146, a statement, to be transmitted over the Internet web site during June 2001. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 11); TLT0370600-0603 (US 76633) (A).

458. **Racketeering Act No. 147:** In or about 2001, the exact dates being unknown, defendant PHILIP MORRIS did knowingly cause a nationwide advertising campaign for Marlboro cigarettes captioned "Marlboro Country," to be placed in radio and television broadcasts, newspapers, which broadcasts and newspapers and magazines, were then sent and delivered by the United States Mails or by wire transfer to subscribers and others. Among several treatments, advertisements often depicted a cowboy smoking or handling cigarettes in a western setting.

459. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. ADV0900513-0515 (US 15245) (A).

460. Defendant Philip Morris caused Racketeering Act 147, an advertisement, to be transmitted over the radio and by mail, in or about 2001. ARU6450762-0791 (US 75941) (O)

(Declaration of Carlotta Figliulo at 2, ¶ 4); Order #616.

461. **Racketeering Act No. 148:** In or about 2001, the exact dates being unknown, defendant PHILIP MORRIS INC. did knowingly cause a nationwide advertising campaign for Virginia Slims cigarettes, to be placed in newspapers and magazines, which newspapers and magazines were then sent and delivered by the United States Mails to subscribers and others. Among several treatments, advertisements often depicted slim, independent, well-dressed attractive women smoking cigarettes.

462. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied. ADV0440004-0006 (US 11200) (A).

463. Defendant Philip Morris caused Racketeering Act 148, an advertisement, to be transmitted over the radio and by mail, in or about 2001. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo at 2, ¶ 4).

E. <u>Additional Instances of Mail and Wire Fraud Violations</u>

464. Defendants Philip Morris, RJR, B&W, and Lorillard caused their respective advertisements listed within Instances #149 - #577 to be transmitted by mail from 1998 to 2003. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo and Ex. B attached thereto).

465. These communications were for the purpose of executing the scheme to defraud because they transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied.

466. Defendants Philip Morris, RJR, B&W, and Lorillard caused their respective advertisements listed within Instances #578 - #734 to be transmitted by mail during 2000.

ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo).

467. These communications were for the purpose of executing the scheme to defraud because they transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied.

468. Defendants Philip Morris, RJR, B&W, and Lorillard caused their respective light/low tar advertisements listed within Instances #750 - #788 to be transmitted by mail from 1998 to 2003. ARU6450762-0791 (US 75941) (O) (Declaration of Carlotta Figliulo).

469. These communications are relevant to and were in furtherance of Defendants' fraudulent efforts to exploit smokers' desires for less hazardous cigarettes, and Defendants' fraudulent and misleading representations regarding low tar and "light" cigarettes. These communications were for the purpose of executing the scheme to defraud, as they constitute the principal gravamen of the scheme to defraud.

470. Defendant Philip Morris mailed sixteen issues of its Marlboro Unlimited magazine, from the spring 1997 premier issue to the winter 2000 issue. 3000100738-0871 (US 47298) (A); Dudreck PD, United States v. Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

471. Defendant Philip Morris caused Instance 735, a magazine, to be transmitted by mail during spring 1997. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

472. Defendant Philip Morris caused Instance 736, a magazine, to be transmitted by mail during summer 1997. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

473. Defendant Philip Morris caused Instance 737, a magazine, to be transmitted by mail during winter 1997. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

474. Defendant Philip Morris caused Instance 738, a magazine, to be transmitted by mail during spring 1998. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

475. Defendant Philip Morris caused Instance 739, a magazine, to be transmitted by mail during summer 1998. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

476. Defendant Philip Morris caused Instance 740, a magazine, to be transmitted by mail during fall 1998. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

477. Defendant Philip Morris caused Instance 741, a magazine, to be transmitted by mail during winter 1998. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

478. Defendant Philip Morris caused Instance 742, a magazine, to be transmitted by mail during spring 1999. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

479. Defendant Philip Morris caused Instance 743, a magazine, to be transmitted by mail during summer 1999. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

480. Defendant Philip Morris caused Instance 744, a magazine, to be transmitted by

mail during fall 1999. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

481. Defendant Philip Morris caused Instance 745, a magazine, to be transmitted by mail during winter 1999. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

482. Defendant Philip Morris caused Instance 746, a magazine, to be transmitted by mail during spring 2000. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

483. Defendant Philip Morris caused Instance 747, a magazine, to be transmitted by mail during summer 2000. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

484. Defendant Philip Morris caused Instance 748, a magazine, to be transmitted by mail during fall 2000. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

485. Defendant Philip Morris caused Instance 749, a magazine, to be transmitted by mail during winter 2000. 3000100738-0871 (US 47298) (A); Dudreck PD, Philip Morris, 8/26/03, 454:5-13, 455:16-456:25, 457:9-458:20, 458:21-460:2.

486. Defendant Philip Morris's Marlboro Unlimited communications were for the purpose of executing the scheme to defraud because they transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to target the youth market, which they publicly denied.

487. Defendant RJR caused Instance 789, a statement, to be transmitted over the

Internet web site during August 2003. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12)

488. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking, i.e., second-hand smoke, and disease.

489. Defendant B&W caused Instance 790, a statement, to be transmitted over the Internet web site during August 2003. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12).

490. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny there was a link between smoking, i.e. second-hand smoke, and disease.

491. Defendant Liggett caused Instance 791, an advertisement, to be transmitted by mail in November 2001. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12); Order #616.

492. This communication is relevant to and was in furtherance of Defendants' fraudulent efforts to exploit smokers' desires for "safer" cigarettes.

493. Defendant Liggett caused Instance 792, a press release, to be transmitted by mail on or about February 2001. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12; Order #616.

494. This communication is relevant to and was in furtherance of Defendants' fraudulent efforts to exploit smokers' desires for "safer" cigarettes.

495. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through

defendant Tobacco Institute, caused Instance 793, a press release, to be transmitted by mail in January 1993. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 3, ¶ 10); Order #616.

496. This communication was for the purpose of executing the scheme to defraud because it transmitted information relevant to and in furtherance of Defendants' fraudulent efforts to deny there was a link between smoking, i.e. second-hand smoke, and disease.

497. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Instance 794, an advertisement, to be transmitted by mail in May 1970. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12); Order #616; Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4. .

498. This communication contained the false statement that Defendant Tobacco Institute "believes the American public is entitled to complete, authenticated information about cigarette smoking and health." This communication was for the purpose of executing the scheme to defraud as it is a misrepresentation, constituting the principal gravamen of the scheme to defraud.

499. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Instance 795, an advertisement, to be transmitted by mail in November 1969. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12); Order #616; Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

500. This communication, attacking American Cancer Society and American Heart Association commercials which informed the public that cigarette smoking reduces a smoker's life by 8.3 years, furthered Defendants' fraudulent position that the link between smoking and

disease was an open question.

501. Defendants Philip Morris, RJR, B&W, Lorillard, and American, through defendant Tobacco Institute, caused Instance 796, a press release, to be transmitted by mail in October 1966. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12); Order #616; Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4.

502. This communication that Defendants know of "no valid scientific evidence demonstrating that either 'tar' or nicotine is responsible for any human illness" is relevant and to and was in furtherance of Defendants' fraudulent efforts to deny that there was a link between smoking and disease.

503. Defendants Philip Morris, RJR, B&W, Liggett, Lorillard, and American, through defendant Tobacco Institute, caused Instance 797, a press release, to be transmitted by mail in July 1963. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12); Order #616; Dawson TT, 1/12/05, 9928:19-9929:10; Dawson WD, 36:1-4. .

504. This communication falsely stated and misrepresented that Defendants did not promote or encourage smoking among youth when, in fact, they did. This communication was for the purpose of executing the scheme to defraud because its false statements and misrepresentations constitute principal gravamen of the scheme to defraud.

505. Defendant Philip Morris caused Instance 798, a public statement, to be transmitted by mail in March 1954. ARU6450056-0079 (US 75940) (O) (Declaration of Patricia A. Tobin, at 4, ¶ 12); Order #616.

506. This communication from Defendant Philip Morris that it would cease from selling cigarettes if it had any knowledge of the product's harmfulness, was made falsely and for

the purpose of executing the scheme to defraud because its falsity constitutes a principal gravamen of the scheme to defraud.

V

REMEDIES

A. Overview

1. Defendants' fraudulent conduct and RICO violations are reasonably likely to continue unless this Court imposes comprehensive equitable remedies to prevent and restrain such conduct.

2. On June 27, 2005, the United States submitted a detailed proposed order setting out a package of comprehensive equitable relief. Defendants have not submitted an alternative remedial scheme, nor did they put on any evidence that would support alternative remedies short of those the United States has requested.

(1) Defendants' Fraudulent Conduct Has a Very Real Human Toll

3. Dr. Timothy Wyant analyzed the smoking attributable adverse health effects among smokers who became addicted as youth (the "Youth Addicted Population," as calculated by Dr. Jonathan Gruber). The staggering magnitude of smoking attributable adverse health effects for the Youth Addicted Population demonstrates some of the immense suffering and human toll that Defendants' fraudulent conduct inflicts upon the American people. (But only some; the Youth Addicted Population does not include all smokers within the time period encompassed by this case.)

4. The Youth Addicted Population is defined as all people who smoked more than five cigarettes a day by the time they were twenty-one years old (regardless of whether or how long they continued smoking beyond age 21). Wyant WD, 10:3-9. From 1954 to 2000, 57 million adult smokers became addicted as youths. Id., 11:7-10.

5. By 2050, 13.4 million of the 57 million adults who became addicted as youth

between 1954 and 2000 will die of smoking. In addition, these 13.4 million smokers who die of smoking will collectively lose 173.5 million years of life due to their premature deaths, thus losing on average 12.9 years of life per smoker. By 2050, the 57 million adults in the Youth Addicted Population will suffer an additional 107.6 million disease treatment years for major smoking caused diseases beyond the number of such years that never-smokers will experience. Wyant WD, 13:1-23; TW001-W001 (US 17406) (A). None of these figures include deaths or treatment years attributable to secondhand smoke or conditions related to pregnancy or pregnancy outcomes. Wyant WD, 14:1-16.

6. The financial toll is also enormous. Recent studies demonstrate the enormous annual economic impact of smoking on the national economy; the financial cost of lost productivity due to death and disease is even higher than the cost of medical care. In 2004, the Surgeon General reported that smoking is responsible for $81 billion per year in lost productivity, on top of $75 billion per year for medical care expenses, for a total smoking-related cost of approximately $157 billion per year. TLT0930001-0949, ch. 7 at 869 (US 88621) (A).

7. Within the 57 million current adult smokers in the Youth Addicted Population alone, the elevated annual health care costs associated with these additional disease treatment years by 2050 will accumulate to $839.8 billion (in 2001 dollars). Wyant WD, 14:1-16; US 17406 (A). When the cost of treating smoking-attributable diminished health in this population is included, the total health care costs by 2050 due to smoking in this population is over one trillion dollars. Wyant WD, 133:3-7; TW019C-019C (US 17740) (A).

8. As Dr. Richard Carmona, the U.S. Surgeon General, testified, "approximately 440,000 people a year in the United States die prematurely from smoking, and smoking remains the largest preventable cause of death in the United States." The Surgeon General further

testified, referring to the 2004 Surgeon General's Report, that "every day nearly 5,000 people under 18 years of age try their first cigarette, and in 2001, an estimated 46.2 million American adults smoked." As the Surgeon General stated, "these numbers represent an enormous emotional and financial burden for their families and for our health care system." Carmona WD, 1:19-1:21, 11:24-11:26; TLT0930001-0949 at 0006 (US 88621) (A). The Surgeon General also concluded, in the 2004 Surgeon General's Report, that "[t]here have been more than 12 million premature deaths attributable to smoking since the first published Surgeon General's report on smoking and health in 1964." TLT0930001-0949 at 0861 (US 88621) (A).

9. As the 2000 Surgeon General's report states, "what may be the foremost obstacle to changing the social norm of smoking [is] the multifaceted actions of the industry in preventing prevention. . . . . Taken together, and backed by the enormous resources of the industry, these efforts have considerable impact in promoting tobacco use and retarding efforts to reduce or prevent it." VXA1240104-0567 at 0156 (US 64316) (A).

10. Defendants' consistent denigration over the past half-century of the toll its product has on human health amply demonstrates its status as a deviant and rogue industry. Brandt TT, 9/28/04, 973:22-974:12.

(2) Basic Injunctive Relief Will Not Be Sufficient on Its Own

11. An order comprised solely of basic injunctive relief directed at Defendants, i.e., commanding or preventing an action, would be insufficient to prevent and restrain Defendants from future RICO violations. It is reasonably likely that Defendants would find ways to evade, undermine, or circumvent any Court order that solely imposed basic injunctive relief. Therefore, additional forms of injunctive relief are required to prevent and restrain Defendants from future RICO violations. These additional forms include the smoking cessation program proposed by

the United States (discussed in § V.B., infra), the youth smoking reduction remedy proposed by the United States' expert Jonathan Gruber (discussed in § V.D., infra), the requirement of corrective statements (discussed in § V.E, infra), the disclosure of documents, disaggregated marketing data, and health and safety risks (discussed in § V.F., infra), comprehensive review of defendants' business practices (discussed in § V.G., infra), and separate Court-appointed officials to investigate and adjudicate compliance with this Court's Orders.

12. For decades, Defendants have evaded, undermined, circumvented, and violated past prohibitions and commands. Their responses to past commands and prohibitions concerning youth marketing illustrate why several portions of this Court's Order are necessarily broad (such as the portion of the Court's order that prohibits Defendants from engaging in any marketing activities which a Court-appointed officer finds have the effect of marketing cigarettes in a manner appealing to youth). Such broad wording is necessary to prevent and restrain future unlawful conduct that these Defendants have demonstrated a propensity to engage in by evading, sidestepping, undermining and circumventing past specifically-worded prohibitions and past generally-worded prohibitions that lack adequate enforcement mechanisms.

13. As summarized below, Defendants claimed that their 1964 Advertising Code prohibited youth marketing, but they swiftly evaded its force by eliminating its Code Administrator enforcement mechanism. When the Broadcast Ban prohibited television and radio advertisements, they circumvented it by turning to event sponsorships and billboard advertising. When the MSA prohibited billboard advertising and limited event sponsorships, they circumvented it by turning to price promotions and evading its event sponsorship limits. Although this Court is obliged to impose appropriate basic injunctions – for example, by restricting price promotions on the top youth brands and by prohibiting motor sport sponsorships

– Defendants' past conduct demonstrates why the Court must also impose a broadly-worded prohibition on all youth-appealing marketing and go beyond basic injunctions to institute a reliable Court-appointed enforcement mechanism.

(a) Advertising Code of 1964

14. Through Defendants' voluntary Advertising Code of 1964, Defendants subjected themselves to self-imposed prohibitions on youth-oriented advertisements (as well as advertisements that made health claims). The Advertising Code was thus of the same form as a basic injunction, commanding or preventing particular actions. Specifically, key aspects of the Code prohibited: (1) advertising in television or radio programs or in publications primarily directed to persons under twenty-one years of age; (2) advertising that represents cigarette smoking as essential to social prominence, distinction, success, or sexual attraction; (3) advertising using models or other characterizations who appear under twenty-five years of age; (4) advertising suggesting that healthy-looking models derive their attractiveness from smoking or that good health is due to smoking; (5) using sports celebrities that have special appeal to persons under twenty-one years of age; (6) sampling to persons under twenty-one; (7) advertising depicting a smoker as participating in, or obviously having just participated in, a physical activity requiring stamina or athletic conditioning beyond normal recreation; and (8) advertising making health claims. MNAT00608606-8614 (US 21228) (A).

15. Defendants publicly highlighted that their 1964 Advertising Code created a Code Administrator to enforce its provisions. Indeed, the second sentence of their April 27, 1964 press release announcing the Code trumpeted, "An independent Administrator will enforce the Code." 2025345360-5362 at 5360 (US 20414) (A).

16. The Advertising Code commanded Defendants to submit all cigarette

advertisements to the Code Administrator for pre-publication review and clearance to ensure that they complied with the Code's prohibitions on youth marketing. MNAT00608606-8614 at 8608 (US 21228) (A); 1964 Advertising Code at 3 (JD 011171) (A). However, by 1967, several tobacco companies had already backed out of the Code Administrator enforcement provision. For example, Lorillard's CEO, Manuel Yellen, withdrew Lorillard's participation in the Code Administrator provision in a March 25, 1966 letter, stating:

> The Code was essentially the cigarette industry's response to a recognized need for industry self-regulation during a time of uncertainty over the course of future legislative and regulatory action.
>
> It is our belief that the circumstances which led to the establishment of the Code administration have now significantly changed. . . .
>
> Accordingly, we now wish to advise you of our resignation

03595414-5415 (US 21385) (O).

17. By 1970, there was no Code Administrator at all, because Defendants had decided to abandon the office of the Code Administrator. Defendants' own expert, Dr. Langenfeld, acknowledged on cross-examination that the Advertising Code provisions that commanded Defendants to submit all cigarette advertisements for the Code Administrator's pre-publication review and approval lost all force, and the Advertising Code's youth marketing restrictions have had no enforcement mechanism since 1970. Langenfeld TT, 3/10/05, 15191:3-15193:13; see also US FF § III.E(3)(a), supra. Within half a decade, in other words, Defendants removed themselves from the Advertising Code's command to submit all advertisements to the Code Administrator for pre-publication review by the simple expedient of removing the Code Administrator.

18. Even though Defendants eliminated the Advertising Code's enforcement mechanism, they repeatedly referred to the Advertising Code over the following decades as

preventing them from marketing to young people. ATX040294056-4056 (US 58599) (A); 2021183859-3862 at 3859 (US 36717) (A). Specifically, Defendants have repeatedly publicly stated that the Advertising Code prohibits them from marketing to persons under twenty-one. Krugman WD, 166:3-167:12.

19. Nonetheless, Defendants have not adhered to these promises. Although the Advertising Code has numerous generally-worded prohibitions concerning various kinds of youth marketing, it has not stopped Defendants from marketing and advertising to individuals under twenty-one, and their marketing practices have been contrary to the letter and spirit of the Code. Id. at 179:5-9; see generally US FF § III.E(3)(a), supra.

20. Defendants' internal documents are quite candid that they do not comply with the Advertising Code and that, in fact, they believe that re-instituting a Code Administrator would be an "extreme and radical form[] of self-regulation," to be resumed only if absolutely necessary to avoid **legally binding** prohibitions or commands. An April 1991 R.J. Reynolds's executive summary stated that R.J. Reynolds was not following the Advertising Code, but that "RJR and the industry" might consider "re-institution of the Code with a Code Administrator" as "the most extreme instance" of several possible "extreme and radical forms of self-regulation [which might be] deemed necessary and effective to avoid extraordinary restrictions or an outright advertising ban." 507755082-5094 at 5093 (US 20787) (O); see also US FF § III.E(3)(b), supra.

21. Defendants' adoption of the Code and subsequent public statements regarding the Code were in fact a public relations gambit designed to assuage the public's concerns about Defendants' cigarette marketing to youth. Although Defendants made numerous public statements that the Code prevented them from marketing to youth, these statements were in fact false and misleading. Defendants wrote the Code with loopholes that would permit them to

continue to market to youth. 1967 FTC Report at 24-27 (US 22148) (A); see generally US FF §§ III.E(3)(a) & (b), supra.

(b) Broadcast Ban of 1971

22. The Broadcast Ban of 1971 prohibited Defendants from broadcasting cigarette advertisements by radio or television. It was thus of the same form as a basic injunction, commanding or preventing particular action.

23. Joseph F. Cullman III, Chairman both of Philip Morris and of TI's Executive Committee, testified in 1969 that the tobacco industry would comply with a federal broadcast ban under certain conditions. He justified this with the curious phrase that **"it takes an affirmative act** on the part of the viewer or listener to avoid broadcast advertising. By contrast . . . an affirmative act **is** required by the reader to see and comprehend such advertising" in newspapers and magazines. 680263421-3422 at 3421 (US 22345) (A) (emphases added).

24. Nonetheless, Defendants have undermined the Broadcast Ban for decades by sponsoring sporting and music events that result in widespread television coverage of cigarette brand names and imagery, such as the Virginia Slims professional women's tennis tournament, Virginia Slims "Fashion Spree," Benson & Hedges Blues Festival, Marlboro Music Tour, Marlboro "Mini Grand Prix," NASCAR Winston Cup auto races, and Marlboro professional racing events. Krugman WD, 103:9-19, 107:21-112:23. Defendants thus responded to and sidestepped the Broadcast Ban's command by shifting resources from the now-prohibited television and radio broadcasts of cigarette **advertisements,** to sponsoring sporting and music events so that cigarette **marketing** would be broadcast by television and radio – broadcasts which Cullman of Philip Morris and TI's Executive Committee acknowledged "it takes an affirmative act . . . to avoid." 680263421-3422 at 3421 (US 22345) (A)

25. In addition, Defendants further intentionally circumvented the purpose of the 1971 Broadcast Ban – to reduce youth exposure to cigarette marketing – by immediately and massively increasing their expenditures on billboard advertisements visible to youth and adults alike, as well as by immediately increasing their spending on newspaper and magazine advertising two-and-a-half-fold, from $64 million in 1970 to $158 million in 1971. FTCDOCS-0049-1753 to 1821 at 1780 (JD 003567) (O).

26. Defendants increased their spending on outdoor advertising – mostly billboards – even more stupendously immediately after the 1971 Broadcast Ban, increasing their outdoor marketing **five-fold** from under $12 million in 1970 to over $60 million in 1971. Defendants deliberately did this even though – just like the television advertisements that Cullman spoke about in his curious phrase in 1969 – **"it takes an affirmative act** on the part of the viewer . . . to avoid [outdoor] advertising." FTCDOCS-00491753-1821 at 1781 (JD 003567) (O); 680263421-3422 at 3421 (US 22345) (A) (emphasis added).

27. Defendants continued to increase their expenditures on billboard advertising over the next several decades. By 1979, as a May 1981 FTC Staff Report found, "The top five outdoor advertisers in 1979 were the five largest cigarette companies. Almost half of all billboards in the United States advertise cigarettes." Defendants' use of outdoor cigarette advertisements was "large and still increasing." FTC, *Staff Report on the Cigarette Investigation* (1981), ch. 2 at 2-5 (JD 004744) (A). And in 1990, the Centers for Disease Control ("CDC") reported that, in 1988, cigarettes remained "the most heavily advertised product in outdoor media." VXA1243241-3243 at 3242 (US 64306) (A).

28. It was no accident that Defendants immediately quintupled their spending on billboard and other outdoor advertising immediately after the 1971 Broadcast Ban, and no

accident that by 1979, the five largest cigarette companies (all current Defendants or predecessors to current Defendants) were the nation's top five outdoor advertisers, and no accident that in 1988, cigarettes were the most heavily advertised product in outdoor media. Defendants specifically intended their outdoor and billboard marketing to **"replace television as a reach medium,"** that is, as a medium reaching a large percentage of the population. James J. Morgan, a Marlboro brand manager in the 1960s and 1970s and later the President of Philip Morris, testified that "the whole story of the broadcast ban is not the story of the broadcast ban, it is the story of the creation of the Marlboro outdoor effort." After "losing television . . . I and then a couple of my associates came up with the idea that **outdoor could replace television as a reach medium.**" Morgan PT, Minnesota v. Philip Morris Inc., 4/22/98, 13454:10-13456:11 (emphasis added).

29. The experience of the Broadcast Ban amply demonstrates that even when Defendants are subjected to a specific command or prohibition to stop their marketing to youth – here by prohibiting television and radio advertisements – Defendants immediately invest considerable resources and skill to circumvent the restriction – here, through sponsorships that secure widespread television visibility for cigarette brand names and imagery, as well as by massively shifting (and increasing) their huge marketing budgets from one medium to another. Referring to Morgan's Minnesota testimony that "the whole story of the broadcast ban . . . is the story of the creation of the Marlboro outdoor effort," id., Dr. Robert Dolan testified, "If an agreed-to restriction on marketing practices makes marketing less efficient, Defendants could simply substitute additional dollars or effort to compensate for this, as they have in the past." Dolan WD, 146:17-20. The same will likely be just as true for the particular prohibitions on marketing practices that this Court is imposing through basic injunctions. Accordingly, any

remedies ordered by the Court must also include flexible mechanisms to respond to Defendants' likely efforts to compensate for the specific prohibitions that the Court will impose as basic injunctions.

(c) Defendants Have Circumvented and Undermined the MSA's Basic Injunctions

30. The Master Settlement Agreement ("MSA") is a negotiated agreement, signed in November 1998, that ended the states attorneys general lawsuits against the tobacco industry in exchange for certain commands and prohibitions. (As discussed below, not all Defendants are subject to the MSA, and the MSA is inadequate to prevent and restrain future misconduct. See US FF § V.A(3), infra.

31. The MSA's commands and prohibitions include (among other provisions) specific prohibitions and restrictions on forms of marketing that are known to appeal to youth, including prohibitions on outdoor and billboard advertisements, and restricting each signatory to only one tobacco brand-name sponsorship. The MSA also includes a very generally-worded prohibition on youth targeting. MSA §§ III(a), (c), (d) at 19-24 (JD-045158) (A). Notwithstanding the MSA's obvious intent to reduce youth marketing, Defendants have substantially increased their marketing expenditures since agreeing to the MSA's advertising and other marketing restrictions, with 30% more marketing expenditures in 2002 than just two years earlier in 2000. FTC, *Cigarette Report for 2002* (2004) at 1 (JD-013056) (A).

(i) Defendants Have Circumvented and Undermined the MSA's Billboard Ban by Switching to Price Promotions

32. Defendants have not only increased their marketing expenditures since the MSA, but have focused their increased expenditures in areas especially appealing to youth. Decades of Defendants' internal marketing documents demonstrate that they have long known that youth are

highly price sensitive, and thus especially susceptible to changes in cigarette prices. Because youth are more price sensitive than adults, price promotions are calculated to market more effectively to youth than to adults. See US FF § III.E(6), supra, and § V.K(2), infra.

33. Defendants have not lowered their total marketing and promotion expenditures in response to the MSA's prohibition on billboard advertising and its restrictions on print advertising, but rather have both increased their marketing expenditures, and have shifted those increased expenditures towards price-based promotions. Dolan WD, 145:10-146:22; Krugman WD, 101:16-102:9.

34. As Dr. Dolan testified:

> The MSA's restrictions on inputs, i.e. the way companies can engage in marketing, does present challenges to the companies. Because of the MSA, the companies did modify their marketing practices. **As they had in the past, however, they were able to draw on their marketing expertise to come up with a revised marketing approach to achieve their objectives or outputs.**

Dolan WD, 146:13-16 (emphasis added).

(ii) Marlboro Formula 1 Sponsorship (in addition to Marlboro Indy Racing League Sponsorship) Evades and Undermines the MSA's Sponsorship Restrictions

35. As discussed above, one of Defendants' responses to the 1971 Broadcast Ban on television advertisements was to begin spending hundreds of millions of dollars in underwriting entertainment events with cigarette-brand sponsorships which attract large audiences in person and receive substantial television exposure, including highly desired youth viewers. To limit this avenue of youth marketing, the MSA restricted each Participating Manufacturer to one brand name sponsorship. MSA § III(c) at 19-22 (JD-045158) (A).

36. Philip Morris CEO and chairman Michael Szymanczyk agreed at trial that the rationale for the MSA's restriction on brand name sponsorships was "to reduce the exposure of

youth to the cigarette brand names and reduce the association of cigarettes with athletic events." Szymanczyk TT, 4/11/05, 18375:18-18376:9.

37. Nonetheless, Philip Morris has circumvented and undermined the MSA's restriction on brand name sponsorships so that American youth are exposed to Marlboro imagery through multiple auto racing sponsorships. There are several auto racing leagues, such as the Indy Racing League (IRL), the Formula 1 racing league, and NASCAR. Philip Morris sponsors a Marlboro Indy Racing League team, Marlboro Team Penske, which races at multiple venues around the United States each year; its best-known race each year is the annual Indianapolis 500. Szymanczyk agreed that the MSA prohibits all other Philip Morris sponsorships. Szymanczyk WD, 115:5-22.

38. But American youth are also subjected to additional Marlboro imagery and marketing due to the Formula 1 racing team Scuderia Ferrari Marlboro. (US 93343) (A). This Marlboro racing team races two vehicles and has two drivers. The Marlboro brand name and logo are prominently displayed on both race cars and the driver uniforms. 235241790-235241790 (US 93263) (A). The Philip Morris Formula 1 sponsorship impacts audiences and viewers in the United States, particularly when the races are broadcast in the United States and when photographs of the Marlboro vehicles are printed in American magazines and newspapers. Numerous media in the United States cover the Formula 1 Marlboro racing team and thus increase U.S. exposure of the Marlboro brand:

(a) Network and cable television, (US 92110) (A); (JD-055390) (A); Myers TT, 5/19/05, 21681:17-21682:3, 21685:20-21686:13, 21707:6-19;

(b) Magazines such as *Sports Illustrated* and *AutoWeek*, TLT0530001-TLT0530010 (US 93250) (A); (US 93338) (A); (US 93339) (A); (US 93340) (A); (US 93341)

(A); (US 93342) (A); TLT110 0006-0026 (US 89461) (A); TLT110 0027-0035 (US 89462) (A); (US 92137) (A);

(c) Newspapers such as *USA Today* and the *Washington Post*, (US 92110) (A); Myers TT, 5/19/05, 21707:14-19; and

(d) The Internet, (US 93256) (O); (US 93274) (A); (US 93276) (A); (US 93290) (A); (US 93331) (A); (US 93332) (A).

The Formula 1 Marlboro brand sponsorship expands the viewership and exposure of the Marlboro brand name and brand imagery in the United States. Myers WD, 36:6-7; Myers TT, 5/19/05, 21689:6-9; see generally US FF § III.E(7)(c)(iii), supra.

39. Philip Morris defends the Formula 1 Marlboro brand sponsorship on the ground that the official sponsor is its affiliate Philip Morris International, a wholly owned subsidiary of its ultimate parent, Defendant Altria, and that neither PMI nor Altria is subject to the MSA. But American youth are wholly unaware of which corporate entity sponsors the Formula 1 Marlboro marketing and imagery that they see. As Matthew Myers, president of the Campaign for Tobacco Free Kids, testified:

> The Philip Morris Formula One sponsorship enables the companies to get the Marlboro brand in front of a worldwide audience, including an audience here in the United States. Viewers see only the Marlboro logos all over the race cars and uniforms. The fact is that the source of the Marlboro Formula One racing team sponsorship is indistinguishable to the American viewer from the source of Philip Morris's other brand name racing sponsorship, the Marlboro Indy Car racing sponsorship.

Myers WD, 36:7-12.

40. When asked specifically how he would characterize Philip Morris's compliance with the MSA's brand name sponsorship provisions, Szymanczyk asserted, "We have gone well beyond the text of the MSA, as well as respecting the spirit of the MSA and the concerns raised by the Attorneys General." Szymanczyk WD, 136:3-6. In light of the overwhelming evidence to the contrary, these representations are not credible.

41. Szymanczyk also sits on the Corporate Management Committee of Defendant Altria. Altria Group, Inc. 2004 Annual Report at 5 (US 92109) (A). It is undisputed that Defendant Altria, the parent of both Defendant Philip Morris USA and non-Defendant Philip Morris International, "can control how the Marlboro logo is used by either company." Myers WD, 36:12-14; see also Myers TT, 4/15/05, 21720:1-13 (testifying to Altria's ability to control the Marlboro trademark worldwide). Even though Altria Corporate Management Committee member Szymanczyk acknowledges that the rationale for the MSA's restricting brand name sponsorships is "to reduce the exposure of youth to the cigarette brand names and reduce the association of cigarettes with athletic events," Szymanczyk TT, 4/11/05, 18375:18-18376:9, there is no evidence that he or anyone else in the Altria group of companies has done anything to protect American youth from being exposed to Marlboro cigarette imagery and marketing through the Marlboro Formula 1 sponsorship as well as through the Marlboro Indy Racing League team. Szymanczyk and Philip Morris are not "respecting the spirit of the MSA [sponsorship restrictions]," Szymanczyk WD, 136:3-6; they are undermining and circumventing those restrictions.

(iii) The MSA's Generally-Worded Prohibition on Youth Targeting Has Not Changed How Defendants Market Their Cigarettes

42. Section III(a) of the MSA, entitled "Prohibition on Youth Targeting," provides a generally-worded prohibition: "No Participating Manufacturer may take any action, directly or indirectly, to target Youth within any Settling State in the advertising, promotion or marketing of Tobacco Products...." MSA § III(a) at 19 (JD-045158) (A). This general prohibition has done little to change the way that Defendants market their cigarettes. Indeed, the wording of this general prohibition is similar to the general wording of the 1964 Advertising Code. See US FF § V.A(2)(a), supra.

43. When RJR first entered the MSA in 1998, it continued placing cigarette ads in magazines with high youth readership at the same rate it had before. In a court case that took over three years to litigate, the California courts eventually affirmed findings that from 1999 through 2001, RJR did not make any "changes to its media advertising schedules, did not include in its media plans the goal of reducing exposure of its advertising to youth and did not determine the extent its advertising was exposed to youth." People ex rel. Lockyer v. R.J. Reynolds Tobacco Co., 11 Cal.Rptr.3d 317, 322-23 (Ca. Ct. App. 2004). RJR did announce changes to its advertising placement policies the same day that suit was filed in March 2001, but "those changes had minimal impact in reducing exposure of its advertising to youth." Id. at 323 & n.3. Moreover, RJR was well aware – or should have been – that its advertising was reaching youth as much as young adults. To be sure, RJR "'studiously avoided' measuring its advertising exposure to youth, probably because [it] 'knew the likely result of such analysis.'" Id. at 327 (quoting trial court decision). Nonetheless, the appellate court upheld the trial court's determination that RJR "knew to a substantial certainty that its advertising was exposed to youth to the same extent it

was exposed to young adults." Id. at 328.

44. Likewise, Lorillard did not change its principal "Pleasure" advertising campaign for Newport, the second-leading brand smoked among youth ages 12 to 17, after entering the MSA. Milstein TT, 1/10/05, 9312:1-9314:9; 9417:18-9421:25.

45. The tobacco industry experience summarized above – from the 1964 Advertising Code to the 1971 Broadcast Ban to the 1998 MSA – makes clear that this Court cannot rely upon basic injunctions alone; additional forms of injunctive relief are also required to prevent and restrain Defendants from future RICO violations.

(3) The MSA Is Inadequate to Prevent and Restrain Future Misconduct

46. Defendants have repeatedly claimed that even if they are liable under RICO, the MSA is all the relief that is needed to prevent and restrain future violations, and this Court therefore has no need to impose any remedial orders for that purpose; during closing arguments, counsel stated that the MSA "is a watershed event . . . I don't think the effectiveness of the MSA can be questioned." Defs.' closing arg., TT, 6/8/05, 236261:1-6.

47. The evidence before the Court resoundingly disproves this claim. Defendants are not complying with the letter and spirit of the MSA; enforcement is cumbersome and exceptionally time-consuming; and even if Defendants were in full compliance with the letter and spirit of the MSA, it would be insufficient to prevent future frauds.

(a) Defendants Are Not Complying with the Spirit, and Frequently Violate the Letter, of the MSA

48. Defendants assert that the MSA "works," apparently because they have repeatedly been caught violating it.

49. The MSA has numerous restrictions which Defendants are violating and evading. In other instances, Defendants have intentionally undermined the purpose of various MSA

restrictions. Some examples are discussed in this part of US FF § V to demonstrate why the MSA is not adequate to prevent and restrain future violations. Other examples are discussed elsewhere in US FF § V. See, e.g., US FF § V.A(2)(c), supra (Defendants' response to the MSA demonstrates that basic injunctions alone are insufficient); US FF § V.H, infra (Philip Morris created the Philip Morris External Research Program despite the MSA's command to dissolve CIAR).

50. The MSA prohibits Defendants and their lobbyists from opposing new state or local tobacco-control legislation, and specifically prohibits them from lobbying against measures to enhance the enforcement of laws that prohibit the sale of tobacco products to youth. MSA § III(m) at 29-32 (JD-045158) (A). Despite this provision, a registered lobbyist for Philip Morris named Scott Stenger registered in opposition to a Wisconsin State bill to authorize local governments to conduct compliance checks on youth tobacco sales a certain number of times a year. As Wisconsin State Senator Judith B. Robson wrote Wisconsin Attorney General James Doyle in a March 23, 2000 letter, "This is a clear violation of the Master Settlement Agreement." (US 92114) (A).

51. Philip Morris's only response is that even though the MSA prohibits its lobbyists from opposing tobacco-control legislation, Philip Morris has no problem with its lobbyists doing so, so long as they say that their opposition is on behalf of another client – the Tavern League, in Stenger's case – rather than on Philip Morris's behalf. Szymanczyk TT, 4/11/05, 18366:13-21. However, as Wisconsin Senator Robson wrote:

> This is smoke and mirrors. If the tobacco companies can have their lobbyists appear under the guise of [representing] other entities, the entire prohibition against lobbying will be gutted. It will become common practice for tobacco lobbyists to appear on behalf of entities that just happen to share the same perspective as the tobacco companies. The tobacco companies are smart enough

not to have their lobbyists work directly on forbidden topics, but **they are achieving their goals with end-runs like this.**

(US 92114) (A) (emphasis added).

52. Three states – Illinois, New York, and Maryland – filed actions against Brown & Williamson alleging that its "Kool Mixx" marketing campaign violated the MSA's prohibition against youth targeting. B&W settled the actions on October 5, 2004, two weeks after trial began in this action, and agreed to restrictions on their future Kool Mixx promotions and monetary payments to support youth smoking prevention. (US 92037) (A).

53. Sharon Smith, current Vice President of Marketing Services for RJR and former Director of Marketing Services and Operations at B&W, acknowledged that B&W received complaints from NAAG about its "B Kool" advertising campaign, but that "Brown & Williamson did not change the content of the B Kool campaign as a result of the concerns expressed by NAAG." Smith WD, 32:20-33:8. Susan Ivey, current President and CEO of Reynolds American and Chairman and CEO of RJR, and former CEO of B&W, acknowledged receiving complaints about the "B Kool" ad campaign from Governor Chiles of Florida, but that B&W did not change its ads to address his complaint that the campaigns wrongly targeted youth. Ivey WD, 11:4-12:1.

54. Philip Morris's chairman and CEO Michael Szymanczyk testified that the state attorneys general have never taken an enforcement action against Philip Morris. Szymanczyk TT, 4/11/05, 18357:21-18358:2, 18359:1-3. To the contrary, though, Philip Morris's counsel asserted while cross-examining a United States expert witness at trial in this action that "there have been more than 40 practices raised by the State's Attorneys General [against] Philip Morris USA" under the MSA. Dolan TT, 12/8/04, 8010:5-10. Counsel's representation is supported by letters from states attorneys general, as well as summaries of the many states attorneys general notifications/complaints, in Philip Morris's annual "MSA Compliance Reports," which are

prepared internally by Philip Morris to document issues related to the MSA. JD-041836 (A) (1999); JD-050566 (A) (2000); JD-053079 (A) (2001); JD-046586 (A) (2002); JD-055037 (A) (2003).

55. One notable dispute occurred in 2001. The MSA limited Philip Morris to just one brand name sponsorship, which it then used to sponsor a Marlboro brand race team in the CART racing league. In 2001, Philip Morris attempted to enter its CART Marlboro brand race cars in the Memorial Day Indianapolis 500 – the namesake race of the Indy Racing League. Philip Morris's chairman and CEO, Michael Szymanczyk, admitted that CART and the Indy Racing League are two distinct racing leagues, with two distinct approval organizations. Szymanczyk TT, 4/11/05, 18377:15-19.

56. It was only after Washington State Attorney General Christine Gregoire notified Philip Morris that sponsoring Marlboro vehicles in races in two different leagues would violate the MSA that Philip Morris removed the Marlboro brand names from its race cars and uniforms for the 2001 Indianapolis 500. Szymanczyk WD, 131:1-132:10. (After the warning from Attorney General Gregoire, Philip Morris has not attempted to enter its Marlboro vehicles in the races of both leagues, and following the 2001 season, Philip Morris switched from its CART Marlboro brand sponsorship to its current Indy Racing League Marlboro sponsorship. Szymanczyk TT, 4/11/05, 18380:22-18381:1.) Philip Morris's immediately removing the Marlboro brand names when confronted before the 2001 Indianapolis 500 race indicates that it was well aware that entering Marlboro brand race cars in two different leagues in a single season violated the MSA.

57. The MSA does include one very short sub-section entitled, "Corporate Culture Commitments Related to Youth Access and Consumption." It has not been a success. This sub-

section requires each company to designate an "Executive Level Manager" who would be responsible "to identify methods to reduce Youth access to, and the incidence of Youth consumption of, Tobacco Products." MSA § III(*l*) at 29 (JD-045158) (A); see also id., § I at 2 (reciting that "the Participating Manufacturers are committed to reducing underage tobacco use by discouraging such use and by preventing Youth access to Tobacco Products").

58. Two executives at Lorillard have been designated as Lorillard's "Executive Level Manager" under the MSA's "corporate culture commitment" provision: Ronald Milstein, Lorillard's Vice President and General Counsel, from April 15, 1999 to September 2000; and Steven Watson, Lorillard's Vice President of External Affairs, from September 2000 to the present. Milstein TT, 1/7/05, 9312:4-9314:14. Despite Watson's obligation to identify methods to reduce Youth access to tobacco products under this "corporate culture commitment" provision (and despite Milstein's previous obligation to do so under this provision), Watson and Milstein exchanged e-mails on November 2, 2001, in which Watson stated that he did not want to identify to the states attorneys general one obvious method to prevent Youth access to tobacco products. Lorillard had received information identifying more than 1,100 retail stores in just four states that had been cited, fined or convicted for selling cigarettes to minors. Milstein asked Watson, "Do you intend to give this info to NAAG or the AGs?" Watson's answer, in its entirety, was: "Unless you think there is legal reasons [sic] to do so, I would be inclined not to share this info." At trial, Milstein asserted that Corporate Culture Commitment Executive Level Manager Watson was "inclined not to share" Lorillard's information about retail stores that sold cigarettes to minors with NAAG because NAAG had been discussing creating a central website with similar information. However, as Milstein acknowledged, over three years later, as of January 2005, there was still no such central website. Milstein TT, 1/7/05, 9356:24-9359:16; 99409377-9377

(US 89183) (A).

59. The courts have found that RJR is a serial violator of the MSA. See, e.g., People ex. rel. Lockyer v. R.J. Reynolds Tobacco Co., 11 Cal.Rptr.3d 317, 323, 327-28 (Cal. Ct. App. 2004) (discussed supra; finding that RJR did not change its youth magazine placement policies from the 1998 signing of the MSA until the day that it was sued in March 2001; and even then RJR's 2001 changes had insignificant effects on youth exposure to its advertising campaigns); State ex. rel Goddard v. R.J. Reynolds Tobacco Co., 75 P.3d 1075 (Ariz. Ct. App. 2003) (holding that RJR violated MSA by placing cigarette advertisements at auto racetrack year-round); People ex. rel. Lockyer v. R.J. Reynolds Tobacco Co., 132 Cal.Rptr.2d 151 (Cal. Ct. App. 2003) (same; discussed infra); State ex rel. Petro v. R.J. Reynolds Tobacco Co., 820 N.E.2d 910 (Ohio 2004) (discussed infra; finding RJR violated MSA with promotional tobacco brand name matchbooks).

60. Most recently, on July 26, 2005, the state of Vermont has filed a complaint and petition for contempt, alleging that RJR has violated MSA § III(r) which prohibits any participating manufacturer from making "any material misrepresentation of fact regarding the health consequences of using any tobacco product." Complaint, Vermont v. R.J. Reynolds Tobacco Co., No. 744-97 CNC & S-0816-98 (Superior Ct. filed July 26, 2005).

(b) The Court Is Unable to Rely upon the Hope of Full Enforcement of the MSA

61. The MSA imposes monitoring and enforcement duties upon hard-pressed states attorney general offices and diverts them from their numerous other obligations (and also requires taxpayers, rather than Defendants, to pay to enforce Defendants' compliance). In addition, the MSA is exceptionally time-consuming to enforce and is subject to inconsistent interpretations.

(i) MSA Enforcement Is Extraordinarily Time-Consuming

62. Michael Szymanczyk, Philip Morris's chairman and CEO, asserted that if the states attorneys general believed that Philip Morris was violating one of the MSA's requirements, the MSA "would allow the Attorneys General to issue a court order." Enforcing the MSA is far from so easy. Indeed, the Court challenged Szymanczyk's assertion, prompting him to acknowledge that the MSA obliges the states attorneys general to "go to court and conceivably obtain a court order." Szymanczyk TT, 4/7/05, 18122:1-11.

63. The MSA requires that before any enforcement action may begin, a state must "[w]henever possible" first discuss the dispute to determine if it can be resolved informally. MSA § VII(c)(6) at 50-51, § XVIII(m) at 134 (JD 045158) (A). If these virtually mandatory informal discussions are unsuccessful, the state must then provide thirty days' written notice of its intent to initiate a proceeding. Id. § VII(c)(2) at 50.

64. MSA enforcement proceedings take nearly as long to be litigated as tobacco liability lawsuits. It took over five years for Ohio to reach the end of RJR's appeals in a case involving RJR's advertising its tobacco brands on free promotional matchbooks. Ohio ex rel. Petro v. R.J. Reynolds Tobacco Co., 820 N.E.2d 910 (Oh. 2004). RJR was the only signatory to the MSA which continued to distribute branded matchbooks with cigarette advertisements. Id. at 914. In 1999, several states attorneys general alerted RJR that its branded matchbooks violated the MSA's prohibition on tobacco brand merchandise, for informal discussions – required "[w]henever possible" under MSA § VII(c)(6) at 50-51 (JD 045158) (A). When the informal discussions failed, Ohio moved for a show-cause order in March 2001. After proceedings in the trial court and intermediate appellate court, the Ohio Supreme Court affirmed on December 30, 2004, holding that RJR had violated the MSA's prohibition on distributing tobacco branded

merchandise, and that the MSA intended to prohibit the "subtle yet ubiquitous marketing of tobacco products." Id. at 917. It thus took over five years to receive a final decision resolving this issue.

65. Similarly, the California attorney general lawsuit against RJR for failing to change its magazine advertising placement policies following the MSA took well over four and a half years to resolve. People, ex rel. Lockyer v. R.J. Reynolds Tobacco Co., 116 Cal.App.4th 1253, 11 Cal.Rptr.3d 317 (Ca. Ct. App. 2004). State attorneys general met with RJR and voiced concern about its targeting youth in magazine advertising placement on November 4, 1999, People ex. rel Lockyer v. R.J. Reynolds Tobacco Co., No. GIC 764118, 2002 WL 1292994, at *4 (Cal. Superior Ct. June 6, 2002); after informal discussions failed to resolve the issue, the complaint was filed in March 2001, and the California Court of Appeals affirmed the trial court's decision on March 19, 2004, and denied rehearing on June 9, 2004. Even that did not resolve the matter, because the appellate court remanded to the trial court for further proceedings to determine the size of RJR's monetary sanction.

66. Liggett did not sign the MSA because it had previously broken ranks with the other Defendants and reached an earlier settlement with the state attorneys general in March 1997. Liggett's conduct in this litigation reveals that it has violated its own agreement with the states attorneys general. As part of its March 1997 settlement, "Liggett agreed to waive attorney-client privilege and work product protection with respect to internal Liggett-only privileged documents relevant to smoking and health cases." LeBow 4/4/05 WD, 5:5-10; see also LGX002002-2064 at 2020-2021 (LI 338) (A). LeBow characterized the scope of the waiver as being "all-encompassing for everything up to that point in time; to release any and all documents that we had and to waive any and all privilege." LeBow TT, 4/4/05, 17563:14-17564:7.

67. In violation of its March 1997 agreement with the state attorneys general to make an "all-encompassing" waiver of internal Liggett-only smoking and health documents "for everything up to that point in time," Liggett withheld thousands of documents from production in this lawsuit on grounds of privilege and work-product protection. Liggett Privilege Logs in United States v. Philip Morris, vols. 1-4, UCX020 1355-1528 (US 93271) (A). Many of the withheld documents were internal Liggett-only smoking and health documents written before Liggett's March 1977 settlement with the state attorneys general. Id. at 1355, 1360, 1361; LeBow TT, 4/4/05, 17568:4-17569:8.

(ii) The MSA Is Subject to Inconsistent Interpretations and Enforcement

68. Even when a state does issue a written notice of intent to initiate a proceeding, it may initiate an enforcement action only in its own jurisdiction; the MSA specifically prohibits any state from "seek[ing] to enforce the terms of the Consent Decree of another Settling State." MSA § VII(b), (c)(1) at 49 (JD 045158) (A). In addition, many provisions of the MSA contain very general terms, subject to multiple interpretations which often force the individual states to periodically bring enforcement actions to obtain a judicial ruling on the meaning of certain terms under the MSA. Myers TT, 5/18/05, 21630:4-12.

69. Enforcement actions concerning the meanings of terms in the MSA are subject to disparate and inconsistent rulings, because each jurisdiction applies its own law of contracts to interpret the MSA's terms. In 2003, appellate courts in New York and California issued contrary decisions – each drawing on its own state's contract law – in response to parallel enforcement actions against RJR's placing cigarette billboard advertisements at Winston Cup NASCAR auto racetracks. Contrast People ex rel. Lockyer v. R.J. Reynolds Tobacco Co., 107 Cal.App.4th 516, 132 Cal.Rptr.2d 151 (Ca. Ct. App. 2003) (racetrack ads prohibited), with New York v. R.J.

Reynolds Tobacco Co., 304 A.D.2d 379, 761 N.Y.S.2d 596 (N.Y. App. Div. 2003) (racetrack ads allowed).

(c) The MSA Is Inadequate to Prevent Defendants from Engaging in Future Misconduct

70. Defendants have asserted that even if this Court finds them liable for violating the RICO statute, the Court should not issue any remedies Order on the ground that the MSA fully prevents them from engaging in any future misconduct.

71. As an initial matter, three Defendants are not subject to all the provisions of the MSA. As this Court previously recognized, **"the MSA cannot preclude relief in this RICO action** because two of the Defendants, BATCo and Altria, are not even signatories to that Agreement." Order #537, published as United States v. Philip Morris USA Inc., 316 F. Supp. 2d 6, 12 (D.D.C. 2004) (emphasis added). Indeed, Philip Morris's rationalization for multiple auto racing Marlboro brand sponsorships in the face of the MSA's restriction on such sponsorships is that the Marlboro Formula 1 sponsorship is controlled by Altria, and that Altria is not subject to the MSA. Ending just this one aspect of Defendants' youth marketing – Defendants' ability to market to American youth via motor sports sponsorship – will alone require this Court to enter an order that goes beyond the MSA.

72. In addition, a third Defendant, Liggett, is exempt from important provisions of the MSA. LeBow TT, 4/4/05, 17570:14-17572:4 (when asked whether Liggett complies with the document disclosure obligations required by MSA § IV, responding, "This [provision of the MSA] does not apply to us, as Mr. Marks [Liggett counsel] pointed out.").

73. Moreover, the MSA does not compel the full package of relief that is necessary to prevent and restrain future RICO violations. As the Court has previously recognized, the MSA

does not (1) require Defendants to make corrective statements regarding health risks and nicotine addiction; (2) require Defendants to fund effective cessation programs; (3) appoint Court-appointed officials to implement the relief granted; (4) enjoin Defendants from future RICO violations; or (5) enjoin Defendants' alleged youth-marketing practices. Order #537, published as United States v. Philip Morris USA Inc., 316 F. Supp. 2d 6, 11 (D.D.C. 2004) (internal quotation marks and citations omitted; items in list renumbered).

(d) The Scope of the 1997 Proposed Resolution Reveals the Need for More Comprehensive Relief than the MSA Commands

74. The inadequacies of the MSA in preventing and restraining Defendants' future misconduct may be seen by comparing its terms to those in the Proposed Resolution of June 20, 1997. This was a signed memorandum of understanding between the states attorneys general and the tobacco companies they were suing, which would have resolved the states attorneys general lawsuits and provided the companies with protection against federal lawsuits. It would thus have required federal legislation, known as the McCain legislation, to take effect. 2073325723-5793 at 5791 (US 42978) (A).

75. The Proposed Resolution and the MSA differed in important respects. The agreements reached in the MSA were weaker and narrower than the Proposed Resolution. Matthew Myers, president of the Campaign for Tobacco-Free Kids, participated in the Proposed Resolution negotiations over several months in 1997. As he testified, "The differences are not because any of the problems had been solved in the interim, nor are they because the evidence about what remedies would be most effective or what needed to be done had changed." Myers WD, 13:9-13, 22:13-22.

76. The 1997 Proposed Resolution provided for specific earmarked funds for tobacco use cessation: $1 billion per year for the first four years, and thereafter $1.5 billion per year to be

paid by the Cigarette Company Defendants. 2073325723-5793 at 5760 (US 42978) (A); Myers WD, 23:14-17. The MSA did not earmark any funds for smoking cessation programs, nor did any of its provisions require the settling States to spend any funds for this purpose. Myers WD, at 54:16-20. The United States seeks funding for smoking cessation programs.

77. The Proposed Resolution provided for specific earmarked funds to be spent on public education. 2073325723-5793 at 5759-5760 (US 42978) (A). The MSA provided for $300 million per year that was guaranteed for only five years, and contained limitations on how those funds could be spent. MSA at 41-48 (JD-045158) (A); Myers WD, 23:1-13. The United States seeks funding for public and counter-marketing.

78. The Proposed Resolution sought to reduce underage tobacco use by giving the Cigarette Company Defendants economic incentives "to take every step possible to ensure that the advertising, marketing and distribution requirements of this Act are met, and imposing substantial surcharges on the manufacturers in the event the underage tobacco-use reduction targets are not achieved. 2073325723-5793 at 5746-5747 and 5773-5779 (US 42978) (A). The MSA contains no such provision imposing a mandatory surcharge upon Cigarette Company Defendants in the event underage tobacco use is not reduced. Myers WD, 25:4-7. The United States seeks to have youth smoking targets imposed with financial incentives.

79. The Proposed Resolution required Defendants to establish a national tobacco document depository that would contain previously non-public or confidential tobacco industry documents in Washington, D.C., open to the public, to serve as a resource to litigants, public health groups, and anyone else with an interest in Defendants' corporate records on the subjects of smoking and health, addiction or nicotine dependency, less hazardous cigarettes and underage use of tobacco and marketing. 2073325723-5793 at 5786 (US 42978) (A). The MSA's

requirement to provide public access to certain tobacco industry documents through tobacco document websites applies only to the original participating manufacturers. Moreover, the MSA's requirement to maintain tobacco document websites expires in less than five years, on June 30, 2010. MSA § IV at 36-41 (JD-045158) (A). The United States seeks disclosure of documents, disaggregated marketing data, and information concerning health and safety risks.

80. The Proposed Resolution sought to regulate the use of product descriptors such as "light" and "low tar" and require a mandatory disclaimer stating that such "light" and "low tar" products are not shown to be less hazardous than other cigarettes. 2073325723-5793 at 5731, 5736 (US 42978) (A). The MSA contains no provision regulating the use of the descriptors "light" and "low tar." Myers WD, 24:16-18. The United States seeks a prohibition on such descriptors.

81. The Proposed Resolution banned all brand name sponsorships, including concerts and sporting events. 2073325723-5793 at 5731 (US 42978) (A). The MSA permitted certain brand name sponsorships. MSA § III(c) at 19-20 (JD-045158) (A). Moreover, the MSA contained a serious loophole that allowed Defendant Philip Morris to use its international Marlboro brand sponsorship of Formula I racing to impact the United States. Myers WD, 5/09/05, 35:20-36:14; see generally US FF §§ III.G(7)(c)(iii) and V.A(2)(c)(ii), supra. The United States seeks a ban on all motor sports sponsorships. This and the other specific Proposed Resolution remedies absent from the MSA but which the United States seeks here – all of which Defendants agreed to accept in the context of the Proposed Resolution – will prevent and restrain Defendants from engaging in future RICO violations.

(4) The Companies Have Not Made Meaningful Changes

82. Defendants assert that they are now new companies headed by changed

management. During opening statements, for example, counsel for Defendants asserted that there has been "profound change" at Defendants' companies because "you had a new generation of management. You had new people coming through all of these companies who were brought up under a different period, had a different vision, had a different ethic." Wells opening, TT 9/22/04, 213:24, 220:17-21. Similarly, Michael Szymanczyk, Chairman and CEO of Philip Morris, acknowledged that this lawsuit alleges "significant wrongful conduct, including making misrepresentations, concealing material information and marketing to youth." What would prevent Philip Morris from such "wrongful conduct" in the future, he claimed, is that its senior leadership has seen "significant change" since 1997. "That significant change . . . has had a profound impact on the culture of the company. It is no exaggeration to say that the culture of this company has been completely transformed over the past eight years." Szymanczyk WD, 41:16-42:6.

83. Szymanczyk testified that he prepared a demonstrative, showing that 12 of the 13 other members of Philip Morris's "Senior Leadership Team" members had been appointed to their current positions since 1999. He emphasized that he himself had appointed all but one of those executives to their current positions since he was promoted to Chairman and CEO in 1997. JDEM 040284 (O); Szymanczyk WD, 42:9-44:20. Szymanczyk testified at trial that these "changes" in senior management showed "that the people have changed significantly in terms of who they are and who is in what leadership positions, and that . . . in many ways the company has moved to a different place." Szymanczyk TT, 4/7/05, 18110:7-10.

84. Szymanczyk's demonstrative, as revealed on cross-examination, was misleading. Szymanczyk conceded that the Philip Morris executives whom he promoted to his Senior Leadership Team, and whom he showed on his demonstrative as appointed to their current

positions since 1999, were in fact veterans who average some 15-20 years' tenure at Philip Morris or one of its sister companies. For example, Szymanczyk listed himself as appointed to his current position in 1997, but he has actually has been with Philip Morris for fifteen years. As Szymanczyk's cross-examination revealed, the correct full chart is as follows:

Michael Szymanczyk,	listed as appointed to current position	1997; actual tenure: 15 years
John Nelson,	"	2002; actual tenure: over 15 years;
David Beran,	"	2002; actual tenure: 15-30 years;
Craig Johnson,	"	2002; actual tenure: about 15 years;
Denise Keane,	"	2001; actual tenure: almost 30 years;
Howard Willard,	"	2002; actual tenure: about 15 years;
Nancy Lund,	"	1999; actual tenure: 20 years;
Gregory Cummings,	"	2002; actual tenure: 25 years;
Kevin Benner,	"	2003; actual tenure: 8 years;
Tina Walls,	"	2003; actual tenure: about 19-20 years;
Michael Farris,	"	2004; actual tenure: about 20 years;
Virginia Murphy,	"	2005; actual tenure: about 12 years;
Richard Solana,	"	2005; actual tenure: 11-12 years; and
Harry Steele,	"	1990; actual tenure: about 20 years.

JDEM 040284 (O); Szymanczyk TT, 4/7/05, 18111:24-18117:9. Indeed, Szymanczyk acknowledged that when appointing his Senior Leadership Team, he merely shifted Philip Morris and Altria executives from one leadership position to another, and did not "go outside of Philip Morris to fill **any** of those positions as depicted on the exhibit JDEM 040284." Szymanczyk TT, 4/7/05, 18118:18-18119:3 (emphasis added).

85. Further demonstrating that Philip Morris has not changed its corporate culture, Szymanczyk testified, in response to a question from the Court, that Philip Morris deliberately chose to hire Youth Smoking Prevention leaders from within the company, rather than experienced professionals from outside the company. Szymanczyk TT, 4/7/05, 18273:7-18274:13.

86. The tenures of the other Defendants' senior management likewise belies any claim of "a new generation of management . . . brought up under a different period." Lorillard's senior

management reflect an average of 22 years tenure with the company:

Martin L. Orlowsky, Chairman, President and CEO	25 years
Ronald Milstein, Vice President and General Counsel	9 years
George Telford, Vice President, Brand Marketing	29 years
Kathy Sparrow, Vice President, Sales	25 years
Victor D. Lindsley III, Senior Group Brand Director	24 years

Orlowsky WD, 1:2-14; Milstein TT 1/7/05, 9257:11-12; Telford PD United States v. Philip Morris, 6/26/02, 15:3-16:6; Sparrow PD, United States v. Philip Morris, 2/25/02, 9:19-22; Lindsley PD, United States v. Philip Morris, 5/16/02, 13:17-14:12.

87. BATCo's senior management reflect an average of 23 years' tenure with BATCo and Brown & Williamson:

Nicholas Brookes, former Chairman and CEO of B&W; now Regional Director, America-Pacific Region of BATCo	27 years
Paul Adams, Chairman of BATCo; also Managing Director and CEO of BAT plc	14 years
Graham Read, BATCo Head of Global Strategic Research	29 years

Brookes PD, United States v. Philip Morris, 5/2/02, 19:21-20:1; P. Adams PD, United States v. Philip Morris, 8/22/02, 14:1-10; Read TT, 3/21/05, 16281:19-16282:1.

88. R.J. Reynolds's senior management (which includes many senior managers from B&W following their merger) reflects an average of 24 years' tenure with the industry:

Andrew Schindler, Non-Executive Chairman, RAI	31 years
Susan M. Ivey, President and CEO, RAI; Chairman and CEO, RJR; former CEO of B&W	24 years
Lynn J. Beasley, President and Chief Operating Officer, RJR	23 years
Charles A. Blixt, Executive Vice President and General Counsel, RAI and RJRT	20 years
Frances Creighton, Executive Vice President, Marketing, RJRT	24 years
Brennan M. Dawson, Senior Vice President, Government Relations, RJRT; former Vice President for External Affairs at B&W and former TI spokesperson:	19 years

Schindler WD, 1:6-2:11; Ivey WD, 1:3-2:11; Beasley WD, 1:6-13; Blixt PD, United States v. Philip Morris Inc., 10/31/02, 20:4-6; Creighton PD, United States v. Philip Morris Inc., 6/20/02,

13:22-24; Dawson WD, 1:19-20, 2:6-9, 3:1-2, 3:21-4:1.

89. BATCo, Liggett, Philip Morris, and Altria have all violated this Court's Orders. Their misconduct in this very litigation thus further establishes that the Court cannot simply trust Defendants to abide by a basic injunction; rather, it will be necessary to appoint Court-appointed officials to police Defendants' compliance with this Court's remedies order.

90. BATCo launched an especially aggressive effort to thwart the United States' ability to discover documents that came to light as a result of the McCabe litigation in Australia. BATCo eventually forced the Court to find it in conditional contempt of Court; and, when BATCo still did not come into compliance with the Court's Orders, to find BATCo in civil contempt of Court and to impose daily monetary sanctions until it purged itself of contempt.

91. In Order #343, issued on April 14, 2003, the Court adopted the Special Master's detailed Report & Recommendation #102, and required BATCo to produce or assert privilege within thirty days over documents in the possession of BATCo's 32%-owned Australian subsidiary, British American Tobacco Australia Services (BATAS). BATCo did not comply. On October 3, 2003, this Court found BATCo "conditionally" in contempt of Order #343, but postponed imposing monetary sanctions to give BATCo one last opportunity to come into compliance with Order #343 by October 17, 2003. Order #411, published as United States v. Philip Morris, 287 F. Supp. 2d 5 (D.D.C. 2003). Even then, BATCo still did not come into compliance, and so, on October 20, 2003, this Court found BATCo in contempt of Court and ordered it to pay $25,000 per day until it came into compliance. Order #419 at 2, available at United States v. Philip Morris Inc., No. 99-CV-2496 (GK), 2003 WL 22462167, at *1 (D.D.C. Oct. 20, 2003), monetary sanctions stayed, 219 F.R.D. 9 (D.D.C. 2003), contempt vacated as of January 15, 2004, 220 F.R.D. 109 (D.D.C. 2004). BATCo ultimately paid $1.4 million in

sanctions for this contempt of Court. Order #904, Mem.-Op. at 4.

92. In another episode of BATCo's egregious violation of this Court's Orders, BATCo first produced an unprepared witness as its corporate designee under Fed. R. Civ. P. 30(b)(6) to discuss the public portions of the Foyle Memorandum and BATCo's document management and document destruction policies. In Order #341, the Court therefore ordered BATCo to produce a knowledgeable witness for a renewed deposition on these topics. BATCo's witness for the re-deposition was once again unprepared. In sanctioning BATCo for its "egregious lack of candor regarding compliance with Order #341," the Court held that "BATCo not only violated a Court Order, but also misled the Court in its submissions about whether it was going to comply with the Order, and then misrepresented the facts about what it had previously told the Court on that subject during oral argument." Order #904, Mem.-Op. at 4. As a result of BATCo's willful defiance of this Court's Order #341, the Court sanctioned BATCo $250,000 and held that BATCo would not be allowed to proffer evidence or make arguments concerning these topics. Order #904.

93. Nor was BATCo's litigation misconduct in this lawsuit limited to avoiding discovery concerning document suppression and destruction. Its misconduct also sought to avoid discovery of "Guildford Reports" that BATCo had its lawyers prepare to report on the documents selected by members of the public for copying from the Guildford Depository. In the face of this Court's Orders (as well as this District's local rules), the Court found that the Special Master's "finding that BATCo did not act in good faith is fully justified by the record. . . . The Court cannot agree . . . that the Government is to be faulted for not having ‘pursued the matter further' in the face of BATCo's repeated and obdurate refusal to meet and confer in good faith." Order #332, Mem.-Op. at 6 (internal citation omitted).

94. During this litigation, this Court ordered a waiver of privilege asserted by Liggett for well over 500 documents as a sanction for Liggett's "egregious" conduct in withholding responsive documents from discovery – either with no notice to the United States at all (due to hiding numerous documents in a single privilege log entry), or due to privilege log entries with grossly deficient descriptions. As the Special Master stated, in findings this Court adopted:

> [T]he Special Master finds the inaccuracies Plaintiff pointed out in Liggett's logs to be quite disturbing. Such erroneous entries seriously undermine the entire system for privilege challenges and threaten the integrity of the process, the Court's orders, and the schedule set in this matter.

R&R #111 at 11, adopted by Order #360. See also R&R #127 at 11 (on subsequent in camera review of 557 more documents from Liggett's privilege logs, finding the "misleading descriptions egregious, as the challenging party must rely on the descriptions in deciding whether to challenge withheld documents," and recommending waiver of hundreds of documents, adopted in relevant part by Order #410).

95. The largest contempt sanction in this case has been rendered against the largest Defendants, Philip Morris and Altria, for violating Order #1, which ordered all parties to preserve "all documents and other records containing information which could be potentially relevant to the subject matter of this litigation." As the Court previously ruled: "Despite this Order, Defendants Philip Morris and Altria Group deleted electronic mail (‘email') which was over sixty days old, on a monthly systemwide basis for a period of at least two years after October 19, 1999." Order #600, published as United States v. Philip Morris USA, Inc., 327 F. Supp. 2d 21, 23 (D.D.C. 2004), reconsideration denied by Order #903.

96. As the Court previously found:

> **In short, it is astounding that employees at the highest corporate level in Philip Morris, with significant**

> **responsibilities pertaining to issues in this lawsuit, failed to follow Order # 1,** the document retention policies of their own employer, and, in particular, the "print and retain" policy which, if followed, would have ensured the preservation of those emails which have been irretrievably lost. **Moreover, it must be noted that Philip Morris is a particularly sophisticated corporate litigant** which has been involved in hundreds, and more likely thousands, of smoking-related lawsuits.

Id., 327 F. Supp. 2d at 25 (emphases added).

97. The Court found that "the reckless disregard and gross indifference displayed by Philip Morris and Altria Group toward their discovery and document preservation obligations" required a substantial penalty for their spoliation of evidence. Id., 327 F. Supp. 2d at 26. The Court set the amount of the sanction at $2,750,000 – a quarter million dollars for each of the eleven high-ranking Philip Morris and Altria corporate officials who violated this Court's document preservation Order #1. Id. at 24, 26.

98. It was necessary to craft remedies that took into account that, "As a practical matter, as this Court noted at the January, 2003 status hearing, 'you cannot recreate what has been destroyed.' **Because we do not know what has been destroyed, it is impossible to accurately assess what harm has been done to the Government and what prejudice it has suffered."** Order #600, published as United States v. Philip Morris USA, Inc., 327 F. Supp. 2d at 25 (emphasis added; internal citation omitted). The Court therefore barred Philip Morris and Altria from calling the employees at the highest corporate level who destroyed evidence and violated this Court's Order #1. Id.

99. If any more evidence were needed that these Defendants are not profoundly changed companies, during live testimony in open court in 2005, over forty years after the 1964 Surgeon General's Report, the executive chairman of Reynolds American Inc, R.J. Reynolds' ultimate parent, refused to admit that smoking does cause disease:

Q. I'm not talking about significant health risks, I'm talking about causation. . . . **You will not admit, will you, on the stand here today on behalf of R.J. Reynolds, that cigarette smoking causes disease, will you?**

A. I believe it significantly increases the risk and very well may, in some people. I mean, that's the testimony.

* * *

Q. So you say it's possible, it's likely, but you don't say it does, do I have that right?

A. Yes.

Schindler TT, 1/24/05, 10812:3-22 (emphases added).

100. R.J. Reynolds also refuses to admit that smoking causes disease:

Q. Let's look at your testimony, Mr. Schindler, on page 18 of your written direct. I want you to go to line 19.

Now, the question that was posed there is similar to what we've been discussing. **"Reynolds has never admitted that smoking causes lung cancer?" The answer that's proposed is: "We have not." Isn't that an accurate response as well, that Reynolds has not admitted that smoking causes lung cancer?**

A. Yes.

Id. at 10812:23-10813:5 (emphasis added).

(5) Defendants Do Respond to Economic Incentives, and Money Is What Drives Their Conduct; Accordingly, the Court's Remedies Order Must Include Economic Incentives

101. The driving force behind Defendants' decades of fraudulent conduct is money. Through such misconduct, Defendants seek to generate as much money as possible from the sale of their product. In addition, Defendants believe that the very survival of the tobacco industry depends upon their successfully executing their schemes to defraud. The record is replete with examples of this mindset, involving, *inter alia*, low-tar cigarettes, addiction, youth marketing, ETS, and targeting smokers who want to quit. A small sample of the evidence is provided below.

102. Defendants took advantage of those smokers who wanted to quit or who were

feeling pressure to quit by marketing "light" or "low tar" cigarettes. The evidence adduced at trial demonstrated that Defendants developed and marketed low-tar cigarettes as a "health reassurance" to make those smokers who wanted to quit or who were feeling pressure to quit instead smoke a "low-tar" brand instead of quitting. Defendants never disclosed that such cigarettes do not have a health benefit, as they were only concerned about padding their bottom line.

(a) A 1992 BATCo marketing document described cigarettes as "a ‘drug' administration system for public use," and acknowledged that smokers buy low-tar cigarettes because they are worried about their health but cannot stop smoking: "True, there is now a group of ‘health concerned smokers' who buy low or ultra-low delivery products and puff away valiantly . . . they must really need the relief of those internal pressures very badly indeed!" Because cigarettes leave smokers always craving more, **"Let us hope . . . that they, our consumers, continue to remain unsatisfied. All we would want then is a larger bag to carry the money to the bank."** 400993160-3331 at 3320, 3322, 3329 (US 75975*) (A) (emphasis added).

(b) A 1980 "RJR Secret" project memo discussed marketing approaches to take with those smokers feeling pressure to quit, including "to convince the [health reassurance] target that the new brand is a reflection of his rational, sensible decision to switch to a low ‘tar.' The idea here is to appeal to his intellect, i.e. the intelligent choice. Again an attempt is made to make him feel better about smoking this particular brand." 500251567-1570 at 1568 (US 21563) (A).

103. Defendants understand the role addiction plays in sustaining the tobacco industry.

While Defendants kept evidence of addiction hidden from the public, Defendants and their executives relied on addicting the public to keep profits, and salaries, high.

(a) A 1977 Philip Morris memorandum entitled "Smoker Psychology Program Review" stated that this program's mission was to "[s]tudy the psychology of the smoker in search of information that can increase corporate profits." The memo went on to discuss nicotine's role: **"Without this chemical compound, the cigarette market would collapse, P.M. would collapse, and we'd all lose our jobs and our consulting fees."** 1000046538-6546 at 6538, 6542 (US 26074) (A) (emphasis added).

(b) A 1979 BATCo document considered alternative products **"to satisfy the 'individual' who is about to give up or has just done so, i.e., in other words, customers in danger of extinction."** The document postulated that:

> **[T]he high profits additionally associated with the tobacco industry are directly related to the fact that the customer is dependent upon the product.** Looked at another way, it does not follow that future alternative "Product X" would sustain a profit level above most other product/business activities unless, like tobacco, it was associated with dependence.

109872505-2508 at 2507, 2508 (US 21530) (A) (emphases added).

104. Defendants were not concerned about the harmful effects of ETS on the public, but instead were only concerned about how ETS would affect company profits:

(a) At the 1987 "Down Under" internal conference to discuss ETS, Philip Morris was very concerned that the tobacco industry was "just at beginning of impact of [the] ETS issue" and that **"in U.S., [the] ETS issue will have [a] devastating effect on sales."** 2021502102-2134 at 2109-2110 (US 20346) (A) (underline emphasis in original; boldface emphasis added).

(b) At that same conference, the Philip Morris Vice Chairman was told that the ETS situation "can't get any worse. Sales are down, can't be attributed to taxes or price increases. ETS is the link between smokers and non-smokers and is, thus, the anti's silver bullet." 2021502671-2678 at 2678 (US 22950) (A).

105. Defendants callously market to youth in order to maintain a healthy market share.

(a) A 1989 R.J. Reynolds memorandum entitled, "Dollar Value of YAS [Young Adult Smokers] Over Time," calculated the company's profits "[i]f an 18 year old adopts an RJR full price brand." The document noted that if the company gained "5.5 share points of smokers 18-20 per year, 1990-93 (about 120,000 smokers per year)," and "if we hold these YAS for the market average of 7 years, they would be worth <u>over $2.1 billion in aggregate incremental profit</u>. . . . [T]his payout should be worth a decent sized investment." 507181261-1261 at 1261 (US 20007) (O) (emphasis in original). R.J. Reynolds has determined that to succeed, it must market to youth under the age of twenty-one. In discussing "Younger Adult Smokers" or "YAS," a marketing document prepared for RJR in the late 1980s states, "YAS are the only source of replacement smokers. Less than one-third of smokers start after age 18. Only 5% of smokers start after age 24. . . . RJR is substantially underdeveloped and declining in share of 18-20 year old smokers." MBDOJ06953-7030 at 6969 (US 59747) (O).

(b) Defendants falsely state that the industry-wide Advertising Code prevents them from marketing to youth. A Philip Morris memorandum dated July 9, 1994 reveals that Philip Morris's motive for falsely stating that it adheres to an industry-wide Advertising Code is to avoid external, legally binding marketing restrictions

which would decrease smoking incidence and decrease profits. The memorandum stated: "The immediate implication [of advertising restrictions] for our business is clear: If our customers have fewer opportunities to enjoy our products, they will use them less frequently and the result will be an adverse impact on our bottom line." 2504024765-4767 (US 21992) (O).

106. As Dr. Jeffrey Harris testified, Defendants act collusively to further their shared economic interests. Harris WD, 22:19-23:14 ("Defendants have engaged during the past five decades in a sustained cooperative arrangement in which they have jointly denied that smoking caused disease, jointly refrained from making comparative health claims about each others' products, and jointly withheld potential risk-reducing alternatives from the marketplace."). This means "sustaining the demand for cigarettes on the one hand, and staving off adverse legal judgments which indirectly, but nonetheless could significantly impinge on profits." Harris TT, 10/14/04, 2519:20-2520:6. This collusive conduct includes denying that smoking causes disease until Defendants, incentivized by threat of a large judgment, admitted that smoking causes disease. Harris TT, 10/14/04, 2508:5-11; 2510:1-10.

107. Defendants have thus persistently focused on the **billions** of dollars they can add to their bottom line through fraudulent conduct, despite the human suffering their misconduct inflicts upon the health and well-being of the American public. Defendants' persistent focus on maximizing the bottom line through misconduct mandates that any effective remedies order must impose economic incentives to prevent and restrain Defendants from future misconduct.

108. In testimony not challenged on cross-examination, Dr. Max Bazerman observed:

> Evidence demonstrates that these frauds have been highly profitable. For instance, evidence shows that most adults who smoke start smoking as young people, which leads to the conclusion that defendants have a significant incentive to market

> their products to young people. Evidence also shows that most adults who smoke would like to quit, which leads to the conclusion that defendants have substantial incentives to market light/low tar cigarettes as an alternative to quitting. . . . **Therefore, absent Court intervention, there is no reason to assume that these fraudulent behaviors will cease to be profitable for defendants in the future and as a result, defendants will experience incentives to engage in them.**

Bazerman WD, 20:7-15 (emphasis added).

109. Economic incentives are needed to prevent and restrain defendants from marketing to youth. "As long as expected profit from cigarette sales to young people exists, the misconduct of marketing cigarettes to young people will continue." Bazerman WD, 46:15-16. As Dr. Bazerman testified, Defendants' "incentives to maximize profit are outweighing the incentives to avoid the misconduct of targeting underage individuals in the defendant companies' marketing efforts." Bazerman TT, 05/04/05, 203226:2-10.

110. The remedies sought by the United States remove Defendants' economic incentive to continue to engage in fraudulent conduct. The forward-looking remedy proposed by Dr. Jonathan Gruber, discussed in detail in § V.D, infra, imposes an assessment on Defendants that exceeds their gain from appealing to youth if youth use of a Defendant's product exceeds a target level. This remedy creates incentives for Defendants to avoid any RICO-violating activities that make their products appealing to youth by removing their ability to profit from youth smoking – profits that RJR estimated in 1989 would earn it alone an additional $2.1 billion per year just for smokers from ages 18-20. Gruber TT, 05/10/05, 20610:22-20611:1; Gruber WD, 14:10-18; 507181261-1261 at 1261 (US 20007) (O). As Dr. Gruber testified, such a remedy provides an economic incentive for Defendants to cease RICO violating activities. Gruber TT, 05/10/05, 20611:2-5; see also Bazerman WD, 46:23-47:2 ("Dr. Gruber's expert report proposes a mechanism aimed at eliminating the economic incentives that defendants experience to market

cigarettes to young people.").

111. Dr. Bazerman testified at trial that Defendants have an incentive to market light and low-tar cigarettes to those individuals who want to quit and smokers who have quit that want to abstain from smoking. Dr. Bazerman also testified that a smoking cessation remedy will "eliminate the incentives that encourage defendants to design and market cigarettes in ways intended to appeal to this population." Bazerman WD, 65:5-14. This testimony was unchallenged by Defendants on cross examination of Dr. Bazerman, and Defendants offered no expert witness to combat that testimony.

112. Dr. Bazerman further testified that implementing a counter-marketing campaign, if effective, "will remove from the marketplace a population of consumers and potential consumers of defendants' products." As a result, Defendants' "incentive to market to this population will be eliminated and their behavior will change accordingly." Bazerman WD, 65:15-20. This testimony was unchallenged by Defendants on cross-examination of Dr. Bazerman, and Defendants offered no expert witness to combat that testimony.

113. To rebut the testimony of several of the United States' experts, Defendants called Daniel Fischel, Dennis Carlton, and James Heckman as expert witnesses. All three are associated with the litigation consulting firm Lexecon, and among them, they have provided paid expert testimony on hundreds of occasions. Fischel TT, 5/27/05, 22134:22-23; Carlton TT, 6/2/05, 22734:7-16; Heckman TT, 4/13/05, 18766:7-8. Each of these experts also has a history with these Defendants, and Fischel acknowledged at trial that the tobacco industry, and many of the law firms representing Defendants, have been sources of income for him personally and for Lexecon. Fischel TT, 5/27/05, 22138:5-7; Heckman TT, 4/13/05, 18816:18-24; Carlton TT, 6/2/05, 22752:3-10. The record demonstrates that the Lexecon witnesses are paid inordinate

sums of money; yet their work in this case lacked diligent preparation. Dr. Heckman, who received $1,000 per hour for his work, brought with him to the stand notes that he used to refresh his own recollection to answer a question posed by Defendants' counsel. Heckman TT, 4/14/05, 19006:6-7. Dr. Carlton, who has earned over $21 million in the last two years for his work with Lexecon, did not read all of the documents on his reliance list, failed to cite peer-reviewed literature or any other data to support several of his conclusions, and admitted that he was unaware of "the growing body of literature" analyzing the economic effects of the MSA on the tobacco industry – an issue upon which he opined. Carlton TT, 6/2/05, 22752:16-22753:3, 22778:6-20, 22810:14-18. Finally, despite earning over $30 million in the last four years through his work for Lexecon and billing Defendants $1,000 per hour for his time, Fischel violated the Rule on Witnesses by calling his assistant during the lunch break to discuss cross-examination questions regarding data that appeared in his own written direct, the first draft of which was written by Defendants' counsel. Fischel TT, 5/27/05, 22137:10-18, 22128:14-22129:24, 22216:21-22219:1. Accordingly, the testimony of the three Lexecon witnesses is accorded little weight in light of the diligent work accomplished by the United States' expert witnesses.

114. Of course there is nothing wrong with Defendants' (or any other corporation's) seeking to maximize profits while fully obeying the law. As the record amply demonstrates, however, that is not what Defendants do. Instead, Defendants seek to maximize profits through misconduct. Bazerman TT, 05/04/05, 20348:4-17. This is unacceptable. The Court's comprehensive package of equitable remedies must therefore impose economic incentives to prevent and restrain future misconduct.

115. Based upon the above findings and the trial record, the Court finds that a comprehensive program of equitable relief is necessary to prevent and restrain Defendants from

continuing to engage in fraud and violate the RICO statute.

B. Defendants Should Be Required to Fund a Smoking Cessation Program[1]

116. Of the nearly 47 million smokers in the United States, approximately 32 million want to quit smoking but have thus far been unable to do so. Of those smokers who want to quit, 18.8 million try to quit each year, but most of them fail, as only 1.2 million American smokers make a successful quit attempt each year. Fiore TT, 5/17/05, 21280:4-21281:7; (US 18267) (A).

117. Defendants have utilized misleading brand descriptors and engaged in marketing campaigns specifically designed to mislead consumers into believing that low tar cigarettes are less hazardous than higher tar cigarettes or constitute a step toward quitting, and continue to do so. See US FF § III.D, supra. Defendants have designed products and created marketing campaigns with the specific intent to keep smokers who want to quit from doing so. See id.. At the same time, Defendants have designed cigarettes to insure that they would deliver higher nicotine yields (and with more nicotine, greater amounts of tar) than the machine-measured yields achieved through the FTC testing method. See id.. These and other aspects of Defendants' wrongful conduct have been pervasive and have affected, and will continue to affect, every smoker in the United States. Burns TT, 2/16/05, 13620:3-10.

118. Many current smokers switch from high to lower tar cigarettes each year: 4-9% of smokers switch brands every year, and 75% of switchers switch down in tar. See US FF § III.D(1), supra. This represents between 1.4 million to 3.2 million smokers every year. In total,

[1] The remedies that the Court may order based on these findings obviously depend on the legal standards that will apply. As the Court is aware, the United States has filed a petition for certiorari, seeking review of the D.C. Circuit's decision on the availability of disgorgement and the meaning of the statutory phrase "prevent and restrain." The relevance of particular factual findings contained in this section to the remedies that the Court might order may depend on the Supreme Court's disposition of the certiorari petition

low tar brands are smoked by 81.9% of all smokers, or a total of approximately 38.5 million smokers. See US FF § III.D(2), supra.

119. Evidence establishes that approximately half of the smokers who smoke low tar cigarettes hold the mistaken belief that low tar cigarettes are less hazardous than higher tar cigarettes or constitute a step toward quitting. See US FF § III.D, supra.

120. Accordingly, between 700,000 and 1.6 million of the smokers who switch down in tar every year (i.e., 50% of 1.4 to 3.2 million annual switchers to "low tar") and a total of 19.25 million smokers of low tar cigarettes (i.e., 50% of 38.5 million "low tar" smokers) hold the mistaken belief that they are taking a step for their health or toward quitting.

121. Based on the statistical data showing that 30% of smokers want to quit but do not make a quit attempt, it is reasonable for the Court to conclude that there are at least 5.75 million persons who want to quit smoking but smoke low tar cigarettes with the mistaken belief that they provide a health benefit compared to higher tar cigarettes and fail to make a quit attempt in a given year.

122. In addition, every year approximately 730,000 youth under the age of eighteen begin daily smoking, and Defendants' marketing is a substantial contributing factor to youth smoking initiation. See US FF § III.E, supra. Research demonstrates that youth, like all smokers, do not appreciate the health risks of smoking and that youth disproportionately fail to appreciate the addictiveness of cigarettes. A majority of those youths who begin daily smoking become addicted and eventually join the group of American smokers who want to quit. See US FF § III.A(4), supra.

123. The defendants are highly likely to continue engaging in fraudulent conduct for at least the first year following judgment, before the comprehensive set of remedies imposed by the

Court has full effect on Defendants' conduct and its impact on the American public.

124. A comprehensive national smoking cessation program has the potential to reach the more than 30 million smokers in the United States who want to quit but are unable to do so in any given year and who have been and continue to be victims of Defendants' fraudulent conduct. A comprehensive program has the potential to reach smokers of diverse populations, to normalize quitting, and to make sure that every smoker who wishes to quit has the opportunity to do so successfully using science-based treatments. Fiore WD, 17:1-3.

125. Between 77% and 92% of smokers are addicted. See US FF § III.C(1), supra. Their continued smoking substantially increases their risk of serious disease and premature death. See US FF § III.A(1), supra. As David Burns, M.D., one of the world's most accomplished researchers in smoking and health, persuasively explained during cross-examination by Defendants, a comprehensive smoking cessation program has the potential to reduce significantly the extraordinary death and disease burden caused by smoking. Burns TT, 2/16/05, 13629:8-17. See also US FF § V.A(1), supra (discussing enormous toll in human suffering caused by smoking). Defendants are well aware of these facts, but do not provide cessation programs. Indeed, while Philip Morris attempted to tout its "QuitAssist" website during cross-examination of Dr. Henningfield, the materials Defendants showed to Dr. Henningfield do not even mention the word "nicotine," let alone meaningfully inform smokers of nicotine's primary role in causing smoking addiction and thus its powerful role in impeding cessation. Henningfield TT, 11/30/04, 7483:14-7484:15.

126. The United States' expert witness, Michael C. Fiore, M.D., M.P.H., is eminently qualified to offer expert opinions on the components, structure, utilization and effectiveness of a comprehensive, population-based smoking cessation program, including the need for sustained

and well-funded promotion of the program. Dr. Fiore is a Professor of Medicine at the University of Wisconsin, and has provided clinical treatment for patients addicted to tobacco and performed research and intervention related to tobacco dependence for almost twenty years. Fiore WD, 4:13-6:6.

127. Dr. Fiore is also the founder and Director of the Center for Tobacco Research and Intervention in Madison, Wisconsin (UW-CTRI). Dr. Fiore and his colleagues have created a diverse portfolio of research, outreach and intervention programs, policy activities, and direct services to smokers in order to fulfill the mission of UW-CTRI: "To expand our understanding of tobacco dependence and its treatment and to use this knowledge to design and implement interventions that will significantly reduce tobacco use in Wisconsin, the nation, and beyond." Under Dr. Fiore's direction, UW-CTRI provides services to thousands of Wisconsin residents through its outreach program and its Wisconsin Tobacco Quit Line, which provides telephonic cessation counseling services to Wisconsin residents. The Center is currently involved in clinical trials of medications under development by the pharmaceutical industry, namely rimonabant, varenicline, and a nicotine vaccine. In the past, UW-CTRI also conducted clinical trials on the nicotine patch, bupropion and other medications for the treatment of tobacco dependence. Dr. Fiore continues to focus on tobacco treatment in both the research conducted by the Center and by its Wisconsin outreach program: new studies are designed to better match individuals and their treatments and to focus on long term outcomes of quitting. The Center's future goals include working to increase quit rates to 50% or greater and developing treatments that can be better matched to individual differences such as gender and racial and ethnic status. Id. at 5:1-6:6, 10:13-11:11.

128. Dr. Fiore's research has focused on understanding tobacco dependence and

developing effective strategies, both clinical and population-based, to facilitate treatment of tobacco dependence. Id. at 6:7-11, 7:9-9:13. Dr. Fiore chaired the panels that produced the Agency for Health Care Policy and Research (now called the Agency for Healthcare Research and Quality, or AHRQ) Clinical Practice Guideline (#18), *Smoking Cessation* (1996) and the United States Public Health Service Clinical Practice Guideline: *Treating Tobacco Use and Dependence* (2000).

129. Dr. Fiore also chaired the United States Department of Health and Human Services Subcommittee on Cessation of the Interagency Committee on Smoking and Health, which in 2003 produced a National Action Plan for promoting tobacco cessation in the United States, and chaired the United States Health Care Financing Administration (HCFA) Expert Panel on Interventions to Promote Smoking Cessation in the Medicare Population. Id. at 9:13-23.

130. Defendants did not call an expert witness in Dr. Fiore's field and did not call any witness with sufficient qualifications to challenge Dr. Fiore's opinions. Instead, Defendants called Donald Rubin, Ph.D., a statistician who has never designed a smoking cessation program, Rubin TT, 5/24/05, 21993:19-21, never conducted research on effective strategies for smoking cessation or nicotine replacement therapy, id. at 21993:22-25, 21994:21-23, never served as a government or state consultant for cessation programs, id. at 21994:1-3, 18-20, and conceded that he is not an expert in the treatment of tobacco dependence. Id. at 21994:4-6. Dr. Rubin further admitted that the Court should look to someone like Dr. Fiore to identify the components of a smoking cessation program. Id. at 22000:22-22001:4.

131. Dr. Rubin has testified as an expert witness for the Defendants in numerous lawsuits since 1997, and received between $1.5 million and $2 million providing testimony and

consulting for them between 1997 and 2002 alone. Id. at 21973:6-12, 21976:20-21978:2. Defendants paid Dr. Rubin between $200,000 and $250,000 in 2004, representing between 25% and 33% of his gross consulting income. Id. at 21978:3-10. He was compensated for his work in this case at $1250 per hour for consulting time and $1600 per hour for testimony, including time spent testifying at trial. Id. at 21976:6-11.

132. The Court observed the demeanor of these witnesses live at trial. Dr. Fiore's opinions are entitled to greater weight than those of Dr. Rubin, and Dr. Fiore was a more credible witness than Dr. Rubin.

133. The recommendations and analyses contained in the United States Public Health Service Clinical Practice Guideline: *Treating Tobacco Use and Dependence* (2000), developed by a panel that Dr. Fiore, provide the most comprehensive recommendations for treating tobacco use and dependence. Fiore WD, 31:19-21.

134. The Guideline recommendations were developed through a comprehensive and systematic review of every article in English language journals on the subject of the treatment of tobacco dependence, and a total of approximately 6,000 articles were reviewed by a staff of scientists and support individuals with the Guideline panel. The Guideline was reviewed by seventy outside peer reviewers, and so its peer-review process was far more extensive than that employed for a journal article (typically three reviewers). Fiore WD, 35:1-36:8, 37:21-38:4, 40:5-8.

135. The work of the Subcommittee on Cessation of the Interagency Committee on Smoking and Health, as reflected in *Preventing 3 Million Premature Deaths, Helping 5 Million Smokers Quit: A National Action Plan for Tobacco Cessation* (2003), represents the scientific judgment of some of the world's foremost experts on treating tobacco dependence, population-

based smoking cessation programs, implementing initiatives to improve the public health and, in particular, to lessen the disease burden associated with tobacco use, and the developing communications to promote behavioral change and utilization of public health initiatives. The panel also included health policy makers, federal officials, and representatives from the health insurance and business industry sectors. Fiore WD, 21:11-23:11, 24:5-25:4; *Preventing 3 Million Premature Deaths, Helping 5 Million Smokers Quit: A National Action Plan for Tobacco Cessation* (2003) (US 89464) (A).

136. The testimony of Dr. Fiore, the 2000 Clinical Practice Guideline, the work of the Subcommittee on Cessation of the Interagency Committee on Smoking and Health, and the weight of the scientific literature establish that a comprehensive, evidence-based smoking cessation program should include: (1) a national tobacco quitline network that will provide universal, barrier-free access to evidence-based counseling and medications for tobacco cessation; (2) an extensive paid media campaign to encourage all smokers in the United States to quit using tobacco; (3) a new, broad, and balanced research agenda to achieve future improvements in the reach, effectiveness and adoption of tobacco dependence interventions across both individuals and populations; and (4) training and education to ensure that all clinicians in the United States have the knowledge, skills and support systems necessary to help their patients quit tobacco use. Fiore WD, 17:22-18:20; U.S. Public Health Service Clinical Practice Guideline: *Treating Tobacco Use and Dependence* (2000) (JD-001210) (A); *Guide to Tobacco Use Prevention and Control* (Guide to Community Preventive Services) (2001) (US 64554) (A); *Draft National Blueprint for Disseminating and Implementing Evidence-Based Clinical and Community Strategies to Promote Tobacco Use Cessation* (2002) (US 89463) (A); *Preventing 3 Million Premature Deaths, Helping 5 Million Smokers Quit: A National Action*

Plan for Tobacco Cessation (2003) (US 89464) (A).

137. A quitline network delivers evidence-based counseling and medications to help smokers who want to quit do so successfully. A quitline allows tobacco users to access these treatments by calling a toll-free telephone number and speaking to a trained counselor, who provides information and assistance to the tobacco user in planning and then following through on a quit attempt. Fiore WD, 28:14-29:16.

138. To be most effective, quitline services (both counseling and medications) must be available to all smokers, without any cost or insurance barriers. Fiore WD, 28:14-29:16.

139. Counseling services should be of sufficient intensity to maximize chances of success. For this reason and based on research findings, counseling should include at least four person-to-person, proactive calls from trained quitline counselors. Fiore WD, 28:14-29:16.

140. Proactive quitlines are characterized by two key components. First, when the smoker makes the first call, an extensive intake is completed to collect all the critical information necessary to personalize an evidence-based quit plan. Second, this extensive intake call is followed by a series of subsequent outgoing counseling calls, initiated by the quitline, to assist the smoker every step of the way though the quit plan. The quitline can also receive additional incoming calls from smokers during a quit attempt - for example, if a smoker is having particularly difficult withdrawal symptoms, he or she can call the quitline for individualized evidence-based advice. In essence, a proactive quitline is a real-time partner in successful quitting. Fiore WD, 30:13-23.

141. Quitline counseling should be augmented with free FDA-approved pharmacotherapy (either over-the-counter medications or vouchers for prescription medications). The FDA has approved six medications for smoking cessation to date. Five of the medications

are nicotine replacement therapies – nicotine gum, nicotine patches, nicotine lozenges, nicotine inhalers and nicotine nasal spray. The sixth approved medication to date, bupropion SR, is an anti-depressant that has been shown to be effective in treating tobacco dependence. All six of these pharmacotherapies are effective. Fiore WD, 28:14-29:16, 43:10-22, 45:5-47:7; (JD-001210) (A); VXA4490327-0404 (US 89468) (A); VXA4490274-0326 (US 89469) (A).

142. Quitline counselors should be trained to work with smokers to establish a personalized and detailed quitting plan, including specific advice on the types of medication that are most appropriate for the smoker in making the quit attempt. The trained quitline counselors who staff the quitline should then be able to work with smokers both during the initial intake calls and every step of the way through the process of quitting. Fiore WD, 28:14-29:16, 44:1-4.

143. If an over-the-counter medication is most appropriate, the medication should be mailed directly to the smoker along with personalized quitting information. If it is determined that the most appropriate medicine for a smoker is a prescription agent such as bupropion, the quitline should include a voucher for the prescription medication when the personalized quitting information is sent to the smoker (with the smoker then visiting a physician or other provider for the prescription and allowing the smoker to get the voucher filled by a pharmacy). Fiore WD, 29:5-7, 44:4-10.

144. Quitline services should be available for the language, culture, and educational background of all users and should be available 24 hours per day, seven days a week, so that whenever a smoker wants to make an assisted quit attempt he or she is able to do so. Fiore WD, 29:7-8, 29:14-16.

145. A national telephone quitline should not replace existing state quitlines. Instead, states should have the capacity to maintain their own quitlines and personalize them to the states'

particular features. As recommended by Dr. Fiore, a national quitline network should be built on the network of state and regional services to ensure that local control can be maintained. The organization that administers a national quitline network as part of a remedial order entered in this case should therefore be permitted and encouraged to build on existing resources. Local control should be maintained but maintained in the context of a nationally funded system that delineates the core performance standards that will result in maximum reach and maximum effectiveness. Fiore WD, 42:21-43:8.

146. The clinical effectiveness of proactive quitlines in helping smokers quit is well-documented in scientific literature. In addition, the effectiveness is supported by two published meta-analyses. First, a meta-analysis published in the 2000 Clinical Practice Guideline demonstrated a 1.2 estimated odds ratio for proactive telephone counseling. A more recent meta-analysis published in 2002 by the Cochrane Collaborative involving twenty-seven studies demonstrated a 1.56 odds ratio for proactive telephone counseling compared to less intensive intervention (e.g., self-help quitting materials). Fiore WD, 31:3-13; JDX016 0624-0830 at 0655-0656 (JD-001210) (A); Stead LF, Lancaster T, Perera R. Telephone counselling for smoking cessation, Cochrane Database System Rev. 2003; (1):CD002850 (US 89465) (A).

147. To maximize its overall effectiveness, the different parts of a comprehensive program should be integrated and viewed as interdependent. Experience with smoking cessation programs and clinics demonstrates that the different parts of a comprehensive program are more effective when applied in tandem with the other components of the program. Fiore WD, 18:21-19:22.

148. Barriers to access prevent most smokers from successfully accessing treatment that has proven effective at helping people quit smoking. Such barriers include eligibility

requirements, screening processes, co-payment obligations, language and other cultural barriers, limited access to services, lack of awareness, limits to covered benefits, and fragmentation of care. One of the reasons that comprehensive smoking cessation treatment is so underutilized in this country is that there are often barriers to use even where services are offered. There are thirty-six state-managed quitlines and five states with formal agreements for coverage by the Cancer Information Service at the National Cancer Institute, but these 41 state quitlines are generally not available to all smokers, are only available for part of the day, are not promoted, do not offer medications to all callers, do not meet language and cultural needs of all smokers, and do not offer a complete menu of services to smokers. The existence of these barriers to treatment results in only 1-2% of smokers using state quitlines each year. Having barrier-free access to evidence-based smoking cessation therapy is essential for a smoking cessation program to reach the largest number of smokers and thereby help the maximum number of smokers quit. Fiore WD, 20:7-18, 41:14-21, 42:2-9; Fiore TT, 5/17/05, 21285:6-24,, 21286:25-21287:22.

149. Different barriers impact utilization in different ways:

(a) Eligibility requirements prevent utilization of services by many smokers who would otherwise call existing quitlines. Fiore TT, 5/17/05, 21286:7-21; (US 18265) (A).

(b) Screening processes lead to complicated and detailed assessments of the types of insurance quitline callers have, leading some callers to terminate calls during the intake process. Fiore TT, 5/17/05, 21286:25-21287; (US 18265) (A).

(c) Cost barriers, including co-payment obligations, are a significant barrier to utilization, particularly due to the high rate of smoking among persons of lower socioeconomic status and smokers without health insurance. In a 1998 article

published in the *New England Journal of Medicine* (Curry SJ, Grothaus LC, McAfee T, Pabiniak C. Use and Cost Effectiveness of Smoking-cessation Services Under Four Insurance Plans in a Health Maintenance Organization, N Engl J Med 1998; 339(10):673), Dr. Susan Curry and her colleagues reported that 3.5% of health plan participants utilized a smoking cessation benefit under standard coverage with a co-payment obligation, compared to a utilization rate of 11.6% with full coverage. In other words, the utilization rate triples if there is no co-payment requirement. Fiore TT, 5/17/05, 21287:11-21289:16; VXA100 0605-0611 at 0608 (US 64387) (A); (US 18265) (A).

(d) Due to budget constraints, many states limit counseling and other services to English or English and Spanish only. In addition, budget limitations on existing quitlines make it difficult for counselors to be adequately trained to address cultural issues that exist with different ethnic groups; for example, tobacco has a cultural significance to many Native American tribes. Fiore TT, 5/17/05, 21292:3-21293:4; (US 18265) (A).

(e) Most existing quitlines, including, as an example, the State of Wisconsin, are only available during limited hours of the day or limited days during the week. This is an additional barrier to utilization. Fiore TT, 5/17/05, 21293:5-21.

(f) Inadequate training of physicians and other health care professionals, as well as limited access to health care services, results in lower utilization of smoking cessation services. Fiore TT, 5/17/05, 21293:22-21294:15; (US 18265) (A).

(g) Fragmentation of care, or the disassociation of key components for the treatment of tobacco dependence, makes it more difficult for smokers to access

comprehensive care and is a barrier to access. Fiore TT, 5/17/05, 21294:17-21295:11; (US 18265) (A).

(h) In addition, experience with state-run quitlines demonstrates that providing cost-free medications increases both call rates and utilization rates:

1. In a Wisconsin program that targeted older smokers, the state dispensed nicotine patches through the mail when smokers called the quitline. Specifically, Wisconsin offered nicotine patches to smokers over 65 who called the state quitline for a six-month period. With a series of news conferences as the only promotion, 5.5% of the population of over-65 smokers in the state called the quitline during the six-months that nicotine replacement therapy was offered. Fiore WD, 44:21-45:4.

2. When New York City offered free nicotine patches to smokers of more than ten cigarettes per day, the city received more than 400,000 calls to its quitline in just three days. Fiore TT, 5/18/05, 21592:1-21594:6; North American Quitline Consortium, *Quitline Operations: A Practical Guide to Promising Approaches* (2005) at A10 (US 92128) (A). The city exhausted its supply of 34,090 nicotine patches within weeks, with the distribution reaching between 4.7% and 5.0 % of eligible smokers in that time period. Id. at A9.

150. Multifaceted communications campaign requires effectively promoting a national telephone quitline network and insuring maximum utilization. A media campaign should have four goals: First, to promote the use of the national tobacco quitline and other effective cessation interventions: second, to motivate tobacco users to make a quit attempt and increase demand for effective cessation services; third, to motivate parents to quit by informing them of the health

risks that secondhand smoke poses to their families and informing them that their smoking increases the likelihood that their children will smoke; and fourth, to reach all segments of the population, including the most underserved and hard-to-reach populations such as low socioeconomic status, certain racial and ethnic minorities, and those of limited English proficiency. Fiore WD, 53:16-54:9.

151. The promotional campaign should be developed by independent media and communications scientists seeking to implement the most effective messages and strategies: A standing group of communications experts will be best equipped to design the promotional campaign, evaluate it, and ensure that it is as effective as possible. A promotional campaign needs to be pervasive, that is, to be a consistent presence in the everyday lives of smokers in the same way that tobacco marketing is now. To do that, the media campaign must use the full range of media - radio, television, print media, signage, the Internet, etc. Fiore WD, 54:10-15.

152. Research on statewide tobacco control programs has shown that aggressive media campaigns are effective in targeted ways such as prompting individuals to use evidence-based treatments such as quitline services, and discouraging children and adolescents from starting to smoke. Some of the strongest evidence of the effectiveness of such media campaigns comes from settings where they were implemented as part of multi-component programs. Such programs increase cessation across a variety of populations, indicating their widespread impact. This research was summarized by the CDC in as part of its 1999 publication, *Best Practices for Comprehensive Tobacco Control Programs*, among other places. Fiore WD, 55:1-13; (JD-002727) (A).

153. The multifaceted communications campaign should be funded at a minimum level of $375 million per year, and at a maximum level of up to $1 billion per year:

(a) Cessation program funding of $1 billion per year for a promotional campaign to achieve the cessation program objectives identified above is well-supported as a recommendation of Dr. Fiore and the Subcommittee on Cessation of the Interagency Committee on Smoking and Health. It is also supported by the expert opinion of Dr. Michael Eriksen and the bases therefor. See US FF § V.C, infra.

(b) The Subcommittee on Cessation was comprised of numerous experts in the field of public health with substantial media experience. Dr. Robert Croyle has been involved with the cancer control and population science media activities as part of his portfolio of work at the National Cancer Institute. Dr. Susan Curry, both in her previous work at Group Health Cooperative of Puget Sound and the University of Washington as well as in her current role at the University of Illinois in Chicago, utilizes media and communications activities as a component of many programs. Dr. Ron Davis has served as a director of the Office on Smoking and Health at the Centers for Disease Control and Prevention and as the Chief Medical Officer for the State of Michigan, where he played an active role in communicating messages of importance for health promotion and disease prevention to the residents of Michigan. As director of the Center for Health Promotion and disease prevention at the Henry Ford Health Systems, Dr. Davis is currently promoting and developing programs that improve health among the enrollees of the Henry Ford Health System. Kathryn Gordon is the Director of the Center for Medicare and Medicaid Services, which has been involved actively in a program to test a new smoking cessation benefit among Medicare enrollees. Dr. Cheryl Healton is involved in extensive media activities, including the truth®

campaign directed by the American Legacy Foundation. Dr. Rosemarie Henson, who directs the United States Office on Smoking and Health, is involved in extensive activities aimed at helping keep children and adolescents from starting to smoke and helping adults to quit. Dr. Howard Koh directed the comprehensive tobacco control program in Massachusetts in his role as its Commissioner of Health. Dr. James Marks had extensive media experience that was essential in his role as Director of the CDC's National Center for Chronic Disease Prevention and Health Promotion. Dr. Tracy Orleans, a senior scientist at the Robert Wood Johnson Foundation, has directed a number of programs on tobacco and has promoted the programs in order to increase utilization. As United States Surgeon General, Dr. David Satcher directed communications activities at the United States Public Health Service, including a number of health promotion and disease prevention communications initiatives. And Dr. John Seffrin, Chief Executive Officer of the American Cancer Society, led the Cancer Society's communications efforts to prevent cancer in America, including its communications efforts to reduce tobacco use. Fiore WD, 24:5-20, 55:23-57:8.

(c) The Subcommittee's considerations support a $1 billion annual recommendation:

1. Decisions and judgments that scientists and experts make for public health today must be based on prior experience. Fiore TT, 5/18/05, 21520:16-18; Carmona TT, 5/3/05, 20134:3-20. From 1967 to 1970, when the Federal Communications Commission required licensees who broadcast cigarette commercials to provide free media time for anti-smoking public service announcements under the Fairness Doctrine, the time donated for the anti-

smoking messages amounted to approximately $375 million per year in 2005 dollars. Peer-reviewed literature supports the effectiveness of the Fairness Doctrine spending equivalent. Fiore WD, 57:9-58:15; Fiore TT, 5/18/05, 21520:11-21521:2.

2. Experience with other media campaigns at the state and national level supports the $1 billion funding level. For example, the American Legacy Foundation's truth® campaign, which has been much more limited than the promotional campaign proposed by the Subcommittee on Cessation and recommended to the Court by Dr. Fiore, supports expenditures of at least $100 million per year for television alone. And while some of those offering testimony to the Subcommittee on Cessation as it developed its recommendation suggested that a television-only campaign would cost only $100 million dollars per year, the Subcommittee on Cessation called for a comprehensive, multifaceted media campaign to achieve the multiple goals described above..

3. A comprehensive media force is needed to counter the more than $12 billion per year that the tobacco industry currently spends on advertising and promotion. TLT093 0001-0949 at 0909 (US 88261) (O); Fiore WD, 57:18-58:2.

(d) Consideration of the Fairness Doctrine supports a minimum promotional campaign funding level of $375 million. The goal of cessation funding is to help smokers to quit, particularly the 32 million smokers who want to, and communicating to them about cessation services is therefore an important component of any program. The impact of the Fairness Doctrine supports the

effectiveness of a $375 million annual promotional expenditure. Fiore WD, 57:9-58:20; Fiore TT, 5/18/05, 21520:11-21521:16; Carmona TT, 5/3/05, 20134:3-20.

(e) As Dr. Eriksen testified, the CDC's *Best Practices* (1999) recommended spending between one and three dollars per capita per year for counter-marketing efforts, although this does not include a coordinated nationwide component. At the time of the 1999 CDC *Best Practices* publication, this would have been between $300 and $900 million per year; due to inflation and population increases since 1999, these figures would now be 25% higher (i.e., $375 million to $1.125 billion per year). Eriksen WD, 10:15-19.

154. An effectively promoted, barrier-free smoking cessation quitline will yield an expected utilization rate of 10%, *i.e.*, 10% of American smokers each year can be expected to undergo counseling services and take medications for a quit attempt. Fiore WD, 52:7-53:14; Fiore TT, 5/17/05, 21284:3-17; VXA452 0053-0061 at 0058-0059 (US 89470) (A). This conclusion is supported by, *inter alia*, CDC's *Best Practices for Comprehensive Tobacco Control*, which determined that 10% of all smokers "18 years and older would be expected to use cessation services each year." GVT 0050344-0431 at 0370 (JD-002727) (A).

155. A 10% utilization rate can be achieved if the call rate to the quitline is 16%. Fiore WD, 52:7-53:14; VXA452 0053-0061 (US 89470) (A).

156. The preponderance of the evidence establishes that a 16% call rate and 10% utilization rate are achievable estimates. For example:

(a) Group Health Cooperative of Puget Sound, now known as Free and Clear, Inc., achieved a call rate of 8% for its comprehensive quitline for five consecutive

years without any promotional activity. Fiore WD, 52:15:22; VXA452 0053-0061 (US 89470) (A).

(b) Promotional activity greatly increases call rates. Peer-reviewed research findings from Deborah J. Ossip-Klein and Scott MacIntosh, published in the *American Journal of Medical Sciences*, reported: "Research has clearly demonstrated that broad community-based promotion increases quitline utilization. For example, Ossip-Klein et al. demonstrated that free television, radio, and newspaper promotions tripled call rates compared with promotion through smoking cessation settings alone." DBR-102546-2550 at 2547 (JD-068087) (A) (footnotes omitted); Fiore TT, 5/18/05, 21596:18-21597:25.

(c) Ossip-Klein and MacIntosh's overall conclusion that "advertising, paricularly when tagged to antismoking media campaigns, increases call rates and may stimulate calls from those who do not otherwise seek help" is consistent with the evidence considered by the Subcommittee on Cessation of the Interagency Committee on Smoking and Health in reaching its determination that a 16% call rate and a 10% utilization rate is achievable. DBR-102546-2550 at 2547 (JD-068087) (A); Fiore TT, 5/18/05, 21603:14-21604:8.

(d) The 16% call rate is further supported by testimony provided to the Subcommittee on Cessation by Dr. Shu-Hong Zhu, the Director of the tobacco quitline for the State of California and a noted and published scientist in the treatment of tobacco dependence. Fiore TT, 5/18/05, 21595:7-20. In both written and oral testimony before the Subcommittee, Dr. Zhu indicated: "The potential of quitlines has not been fully exploited, largely for lack of sufficient state funding. It is estimated

that it is possible for 15% of the smoking population in any given state to call a quitline and request services if there is proper promotion. This means that the existing quitline operation capacity can increase tenfold." VXA452 0429-0432 at 0431 (JD-068082) (A); Fiore TT, 5/18/05, 21595:21-21596:17. Based on his extensive experience in the field, Dr. Zhu stated the view that providing medications as part of quitline services and utilizing media campaigns to "help change the societal norm about smoking and increase the motivation to quit" will contribute to the achievable tenfold increase in quitline utilization. VXA452 0429-0432 at 0431-0432 (JD-068082) (A).

(e) As noted previously, when New York City offered free nicotine patches in 2003 to smokers of more than ten cigarettes per day, the city received more than 400,000 calls to its quitline in just three days and exhausted its supply of 34,090 nicotine patches within weeks, with the distribution reaching between 4.7% and 5.0 % of eligible smokers in that short period. Fiore TT, 5/18/05, 21592:1-21594:6; North American Quitline Consortium, *Quitline Operations: A Practical Guide to Promising Approaches* (2005) at A9-A11 (US 92128) (A).

157. The cost of providing quitline services is $419 per caller to a telephone quitline, as calculated by Group Health Cooperative for the Subcommittee on Cessation of the Interagency Committee on Smoking and Health. VXA452 0053-0061 at 0057 (US 89470) (A). The Group Health Cooperative was specifically selected to provide cost estimates to the Subcommittee on Cessation of the Interagency Committee on Smoking and Health because: (1) its program includes both counseling and medicine; and (2) it offers services without eligibility requirements for participation, so it removes some, but not all, of the barriers to access. Fiore TT, 5/18/05,

21598:1-21599:6. The experience of the Group Health Cooperative, unrebutted by any evidence in the record, demonstrates that there must be an average of 1.6 callers for every person who will participate in a smoking cessation program that is run through a telephone quitline. Fiore WD, 52:7-12; VXA452 0053-0061 (US 89470) (A). At $419 per caller, multiplied by 1.6, the cost of providing services is $670.40 for each smoker who utilizes counseling and medications in a smoking cessation program, and the $670.40 cost per smoker can be used to calculate the total cost of designing a comprehensive program.

158. It is reasonable to expect that 20% of those smokers who utilize counseling and medications as part of a comprehensive program will quit successfully, with a successful quit defined as 6 months without smoking. Fiore WD, 70:3-11; Fiore TT, 5/17/05, 21281:9-15, 21301:20-21302:20.

159. If an effectively promoted, barrier-free smoking cessation quitline is utilized by 10% of smokers each year (based on a 16% call rate) and the quit rate among participants is 20%, there will be almost 1 million successful quits per year. Fiore WD, 70:3-11; VXA449 00494-0534 at 0508 (US 89464) (A).

160. Based on a 20% expected quit rate, if a smoking cessation program is utilized by 10% of smokers, it will take twenty-five years to help every American smoker who wants to quit to do so successfully. This will eliminate entirely the population of addicted smokers who want to quit and who have been and continue to be targets of Defendants' fraudulent marketing and cigarette design. Fiore TT, 5/17/05, 21299:24-21301:10; (US 18266) (A).

161. The twenty-five year time period reflects consideration of epidemiological data concerning: (1) the number of smokers who will quit whether a smoking cessation program is funded or not, (2) the current smokers who will die each year, and (3) new smokers who are

expected to begin smoking and become addicted to cigarettes every year. Fiore TT, 5/17/05, 21299:24-21301:10; (US 18266) (A).

162. The expected quit rate of 20% is supported by both randomized clinical trials and population-based smoking cessation programs:

(a) The 2000 Clinical Practice Guidelines provide reliable and valid estimates of the efficacies of the components of a national smoking cessation program. Rubin TT, 5/24/05, 22020:19-23. The 2000 Clinical Practice Guidelines also provide estimates of effectiveness obtained through meta-analyses undertaken following review of all or almost all published research findings on the treatment of tobacco dependence. Rubin TT, 5/24/05, 22020:1-18. The 2000 Clinical Practice Guidelines reported an odds ratio of 1.2 for proactive telephone counseling. Fiore WD, 31:3-13. The results of the meta-analyses show the following efficacy (expressed as an odds ratio of successfully quitting with medication compared to a placebo) and effectiveness (expressed as percent abstinence, *i.e.*, quit rate) of the following medications:

1. bupropion – 2.1 and 30.5%;
2. nicotine gum – 1.5 and 23.7%;
3. nicotine inhaler – 2.5 and 22.8%;
4. nicotine nasal spray – 2.7 and 30.5%;
5. nicotine patch – 1.9 and 17.7%.

JDX016 0624-0830 (JD-001210) (A); Rubin TT, 5/24/05, 22020:24-22030:12.

(b) Population-based smoking cessation programs also support the 20% expected quit rate:

1. Dr. Shu-Hong Zhu reported in the *New England Journal of Medicine* that 12-month abstinence rates for callers to the California Smokers Helpline were 23.3%. Rubin TT, 5/24/05, 22051:11-22052:7 (discussing Zhu, Anderson et al. Evidence of Real-World Effectiveness of a Telephone Quitline for Smokers. N Engl J Med 2002; 347(14):1087).

2. Smokers of ten or more cigarettes per day who participated in the New York City Department of Health and Mental Hygeine nicotine patch program achieved a quit rate of 33%. Rubin TT, 5/24/05, 22052:8-22053:20 (discussing Cummings KM and Hyland A. Impact of Nicotine Replacement Therapy on Smoking Behavior. Ann. Rev. of Publ. Health 2005, 26:583-599 at 590).

3. Callers to the Wisonsin state quitline who receive telephone counseling have achieved a 22% quit rate. Fiore TT, 5/17/05, 21302:3-10.

4. The quit rate for participants in the Group Health Cooperative full coverage program was 28%, as reported by Dr. Susan Curry in the *New England Journal of Medicine*. VXA100 0605-0611 at 0609 (US 64387) (A); Fiore TT, 5/17/05, 21302:11-14.

Thus, an expected quit rate of 20% is amply supported by the evidence.

163. Based on this expectation that 20% of smokers who utilize counseling and medications will quit successfully, it is necessary to provide treatment for five smokers per successful quit attempt.

164. Accordingly, if a smoking cessation program is to help a number of smokers quit that equals those who can reasonably be expected to be affected by Defendants' fraudulent conduct in the next year, it must provide treatment for five times that number. More specifically:

(a) As set out above, Defendants' marketing activities can reasonably be expected to be a substantial contributing factor to 730,000 new youth daily smokers in the next year, and their fraudulent marketing and design of low tar cigarettes can reasonably be expected to cause up to 1.6 million smokers next year to switch down in tar based on the mistaken belief that they are taking a step for their health or toward quitting, making a total of 2,330,000 smokers. If a smoking cessation smoking program is to assist 2,330,000 persons to quit smoking, the expected 20% successful quit rate requires it to be utilized by a minimum of 11,650,000 persons.

(b) If a program is funded so as to treat 2,330,000 smokers per year, which would reflect an achievable annual utilization rate of under 5% of smokers, it must be funded for five years to achieve 2,330,000 quits.

(c) With a cost of $670.40 per smoker who utilizes counseling and medications, it will cost $1.56 billion per year to provide tobacco dependence treatment to 2,330,000 smokers. The addition of between $375 million and $1 billion in annual promotional expenditures brings the total annual cost to between $1.93 billion and $2.56 billion per year for quitline components and promotion.

165. Any organization that administers a smoking cessation program as part of the equitable remedies imposed in this action should be permitted to make grants for research and for training of health professionals, so long as the program serves a minimum number of persons per

year with quitline counseling and medications. In order to pursue these objectives, any organization that administers a smoking cessation program as part of the equitable remedies imposed in this action should be allowed to obtain funding for the smoking cessation program from other sources and/or to utilize public-private partnerships to maximize the program's reach and effectiveness.

166. A broad and balanced set of research initiatives is important to improve treatments for tobacco dependence and train the next generation of tobacco scientists. Substantial declines in national smoking rates are difficult to achieve at present because certain populations either are not aided by current treatments, or are not adequately exposed to them. Populations that currently are less likely to benefit from available treatments include those with psychiatric co-morbidities such as depression; pregnant women; certain racial and ethnic minorities; adolescent smokers; and individuals with very high levels of nicotine dependence. Fiore WD, 60:9-61:5.

167. The Subcommittee on Cessation considered the need for research funding and recommended $500 million annually for smoking cessation research as part of the National Action Plan. The genesis for the recommendation, and Dr. Fiore's corresponding recommendation to the Court, is the recognition that two key factors are critically important to helping more Americans quit successfully: first, success rates are still far less than 50%; second, as the population of smokers has evolved over the last fifty years, there are pockets of high prevalence and low cessation success that require new research and thus new research funds. Id. at 61:19-62:10.

168. The National Institutes of Health has provided a model that has been used on a pilot basis to establishment Transdisciplinary Tobacco Use Research Centers (TTURC). This model that can comprehensively target specific critical tobacco cessation research questions.

These questions include identifying treatments that are effective in youth smokers, developing specific medications that might be helpful for specific populations, and identifying more effective treatment for low socioeconomic status, less educated, and racial and ethnic minority smokers. The NIH TTURC model had been used in existence at a limited number of Centers. In 1999, NIH initially funded seven very successful centers at a rate of $15 million per year for five years, but that funding has been cut substantially. Because it was designed to pull together researchers built around a specific cessation target and to include components to translate the research findings into practice, the TTURC model represents a means to move tobacco dependence research if appropriately funded. The Subcommittee concluded that effective research results would be achieved by establishing thirty of these centers nationally at a cost of $450 million per year ($15 million per year per center), and administering them through a national coordinating center charged with bringing the findings together and disseminating them at a cost of another $50 million per year. The full TTURC research program recommended by the Subcommittee would thus cost $500 million per year. Id. at 62:11-63:3.

169. Funding for physician and healthcare professionals' training should help healthcare professionals make screening for tobacco use a routine part of their practice, and give physicians the knowledge and tools to support their interventions with patients to encourage quitting. Id. at 64:1-15.

170. Funds dedicated to training and education should be distributed as grants to medical and other healthcare profession schools to develop, implement, and evaluate curricula for evidence-based treatment of tobacco dependence for healthcare profession students and graduates receiving training, such as interns and residents. The goals of such training should be broad and establish a standard of care for treating and referring patients who use tobacco.

Curricular components should include how to intervene and follow up effectively with tobacco-using patients, how to implement systems changes to facilitate intervention, and how to access more intensive services for patients. Id. at 64:16-23.

171. A smoking cessation program consisting of the components set out the preceding paragraphs, to be funded by Defendants, is an important part of a comprehensive remedial order to prevent and restrain future racketeering activity on the part of the Defendants. Moreover, as Dr. Fiore explained:

> From my own experience treating more than 10,000 smokers in Wisconsin over the past 17 years, I know that every day people who are motivated to quit are making the tragic decision to switch to low tar cigarettes in the mistaken belief that they are taking a step for health. They are trying to quit "cold turkey" and failing. They are finding reasons to postpone quitting. All of these are decisions that should and can be prevented with a comprehensive program.

Fiore WD, 70:16-21.

C. Defendants Should Be Required to Fund a Counter-Marketing Campaign

(1) Counter-Marketing is Crucial to a Comprehensive Package

172. Defendants' marketing is a substantial contributing factor to youth smoking initiation and continuation. See US FF § III.E(4), supra.

173. Defendants spend billions of dollars on marketing its products. Today's eighteen year olds have grown up during a period in which the tobacco companies have spent approximately $100 billion on marketing cigarettes. Youth overwhelmingly smoke the three most heavily advertised brands, Marlboro, Camel, and Newport. Eriksen 5/9/05 WD, 6:1-6:13; Healton WD, 17: 6-18:8.

174. Defendants fraudulently state that they do not market to youth. As the evidence adduced at trial has proven, Defendants continue to intentionally direct their marketing efforts at

adolescents. See US FF § III.E(7), supra. A counter-marketing campaign will prevent and restrain Defendants from fraudulently marketing to youth in the future by informing youth that they are being manipulated and lied to by the tobacco industry, thereby making Defendants' marketing efforts targeted at youth less effective. See, e.g., Healton WD, 18:14-19:8. As Dr. Bazerman testified, an effective counter-marketing campaign "will remove from the marketplace a population of consumers and potential consumers of defendants' products." As a result, Defendants' "incentive to market to this population will be eliminated and their behavior will change accordingly." Bazerman WD, 65:15-20.

175. Dr. Eriksen, the only expert witness in the field of public health to testify about the effectiveness of counter-marketing campaigns, recommended a counter-marketing campaign directed at the American public. Eriksen 5/9/05 WD, 3:1-9.

176. As set forth below, counter-marketing is a critical element of an effective remedy designed to prevent and restrain violations of RICO. Any remedy that excludes a counter-marketing component would be incomplete. The evidence introduced in this case establishes that counter-marketing public education campaigns are proven effective in preventing and reducing youth smoking. The efficacy of counter-marketing campaigns has been demonstrated through peer reviewed studies published in the scientific literature and recognized by the Surgeon General of the United States.

177. In its 1999 publication, *Best Practices for Comprehensive Tobacco Control Programs*, the Centers for Disease Control recommended that counter-marketing programs be one of nine core components of a comprehensive state based tobacco control program. Eriksen 5/9/05 WD, 9:16-10:2; JD-002727 (A).

178. The 2000 Surgeon General's Report, *Reducing Tobacco Use*, identified counter-marketing as critical to reducing tobacco use:

> Countermarketing: Changing a social environment that fosters of norm of tobacco use is an essential element of national, state, and local programs. This change requires strategies to counter the billions spent in advertising and promotion that reach young people and adults with misleading images about tobacco

VXA1240104-0567 at 0483 (US 64316) (A).

179. The 2000 Surgeon General's Report, *Reducing Tobacco Use*, concluded:

> Countermarketing activities can promote smoking cessation and decrease the likelihood of initiation. Countermarketing campaigns also can have a powerful influence on public support for tobacco control activities and provide an educational climate that can enhance the efficacy of school- and community-based efforts.

VXA1240104-0567 at 0135 (US 64316) (A).

180. There is a direct correlation between counter-marketing efforts and youth smoking reduction. Historical evidence demonstrates the efficacy of counter-marketing public education campaigns. From 1967 through 1970, the Fairness Doctrine required television and radio stations to broadcast one anti-smoking message for every three tobacco advertisements. As a result, approximately $200 million (in 1970 dollars) was spent during this time period on anti-smoking advertising on television and radio. During this time period, teenage smoking prevalence was 3% less than during the 16 months prior to the Fairness Doctrine. Adult smoking prevalence for the first time in the 20th Century fell for more than three consecutive years in a row during this time period. Evidence suggests that the anti-smoking messages had a greater effect than cigarette advertising. Eriksen 5/9/05 WD, 7:22-8:8; VXA1240104-0567 at 0518 (US 64316) (A).

181. Current evidence also demonstrates the efficacy of counter-marketing campaigns. In recent years a number of states, including California, Florida, and Massachusetts, have funded comprehensive counter-marketing campaigns as part of larger tobacco control efforts. The rates of reduction in cigarette smoking among youth in these states exceeded the rates observed in other states. Eriksen 5/9/05 WD, 8:9-9:15.

182. In 1998, Florida's statewide tobacco control program included anti-smoking advertisements (the Florida Truth Campaign) that sought to deglamorize smoking and to provide youth with information about the tobacco industry. After one year of the program there was nearly a 20% reduction in smoking among middle school students and an 8% reduction in smoking among high school students. After two years of the program, there was a 40% reduction in smoking among middle school students and an 18% reduction among high school students. The results of the Florida campaign were documented in a 2000 article in the *Journal of the American Medical Association*. Eriksen TT, 5/16/05, 21056:3-24; Healton WD, 19:9-20:1.

183. In 1990, California launched a statewide media campaign as part of its Tobacco Control Program. The media campaign sought to denormalize tobacco use and to raise public awareness regarding the industry's marketing practices. A 1994 study by Pierce and colleagues cited in the 2000 Surgeon General Report found that California's media campaign was effective in stemming the rise in teen smoking rates that had been observed in California prior to the campaign's launch. VXA1240104-0567 at 0496-97 (US 64316) (A).

184. A longitudinal study of Massachusetts youth cited in the 2000 Surgeon General Report demonstrated the efficacy of the state's anti-smoking media campaign. The study found that among youth ages 12-13, those who had been exposed to the television campaign were

significantly less likely to progress to established smoking. VXA1240104-0567 at 0499 (US 64316) (A).

185. The Task Force on Community Preventive Services, a national effort led by the CDC to systematically review the scientific evidence to determine the effectiveness of a variety of community interventions, evaluated community interventions to reduce tobacco use. In its 2001 report, the Task Force concluded that there was "strong evidence" on the effectiveness of media campaigns with other interventions to reduce the initiation of smoking among young people. The Task Force's finding of "strong evidence" is the highest criteria of effectiveness provided by the Task Force. Eriksen 5/9/05 WD, 10:3-14.

186. Dr. Eriksen testified at trial about the methodology utilized by the Task Force to reach its finding regarding counter-marketing:

> [E]xperts from around the country reviewed all of the peer-reviewed published literature on the effectiveness of a variety of tobacco control interventions . . . they went through a very rigorous analytic effort with explicit rules of evidence to make a determination as to whether the evidence was sufficient or not to conclude that counter-marketing made a difference with young people, and they gave it its highest level of conclusion that it does.

Eriksen TT, 5/16/05, 21176:24-21177:25

187. The Centers for Disease Control and Prevention Media Campaign Resource Center guidelines issued in 2003 and the testimony of Dr. Eriksen established that an effective counter-marketing campaign: (1) must be long term; (2) should consist of integrated, not isolated, components; (3) must be integrated into the larger tobacco control program; (4) must be culturally competent; (5) should be strategic; (6) should be evaluated; and (7) should be adequately funded. Eriksen 5/9/05 WD, 3:17-4:2.

188. Scientific evidence demonstrates that to be effective, counter-marketing campaigns must be sustained over time, and are most effective when conducted as campaigns and coordinated with and integrated into other elements of a comprehensive tobacco control program. Eriksen 5/9/05 WD, 4:3-5:17.

189. The 2000 Surgeon General's Report called for sustained counter-marketing campaigns: "In light of the ubiquitous and sustained pro-tobacco messages, countermarketing efforts of comparable intensity and duration are needed to alter the social environmental context of tobacco use." VXA1240104-0567 at 0518 (US 64316) (A).

190. Four years later, the 2004 Surgeon General's Report again stressed that tobacco control efforts, such as counter-marketing, need to be sustained over time:

> There is a need for a continuing and sustained national tobacco use prevention and control effort. Many factors encourage tobacco use in this country: the positive imagery of smoking in movies and in the popular culture, the billions of dollars spent by the tobacco industry to advertise and promote cigarettes (e.g., $11.2 billion in 2001 [Federal Trade Commission]) . . . Additionally, funding levels for many effective state and national counter-advertising campaigns were recently reduced.

TLT0930001-0949 at 0909 (US 88621) (A).

191. Adequate funding is essential to ensure that counter-marketing programs are effective. The 2000 Surgeon General's Report states, "[a] factor that has limited the success of traditional media campaigns [intended to reduce tobacco use] is the small size of the campaign budgets compared with the advertising and marketing budgets of the tobacco industry." Eriksen 5/9/05 WD, 4:3-5:17; VXA1240104-0567 at 0517 (US 64316) (A).

192. A counter-marketing campaign should be funded at a minimum level of $400 million annually for at least ten years. The MSA funded the American Legacy Foundation at $300 million per year, but guaranteed that funding level for only five years. MSA at 41-48 (JD-

045158) (A). As Dr. Healton testified, this funding has now ceased. Healton WD, 34:13-35:10. In addition, a further $100 million per year is needed for an effective and comprehensive national public education campaign on secondhand smoke. Id., 10:2-16. The 1999 CDC's *Best Practices for Comprehensive Tobacco Control Programs* and Dr. Eriksen's testimony establish that between $300 and $900 million per year, in 1999 dollars and based upon the 1999 population, were required for a comprehensive counter-marketing campaign. Due to inflation and population increases since 1999, these figures are now 25% higher (i.e., $375 million to $1.125 billion per year). Eriksen 5/9/05 WD, 10:15-23.

(2) The American Legacy Foundation is the Appropriate Recipient of the Court-Ordered Funding for Public Education

193. An independent public health organization already exists with the proven capacity to develop and implement a comprehensive, effective, public education campaign on a national scale. The American Legacy Foundation is a national, independent, public health foundation established in March 1999 as a result of the Master Settlement Agreement. Its Board of Directors includes two governors, appointed by the National Governors Association, two state attorneys general, appointed by the National Association of Attorneys General and two state legislators, appointed by the National Council of State Legislators. These six Directors appoint the additional five Directors. The Foundation's mission is to build a world where young people reject tobacco and anyone can quit. The Foundation develops both national and local programs to educate the public about the addictiveness, social costs and health effects of tobacco through, in part, counter-marketing and grass roots marketing campaigns. The Foundation's efforts also include educating the public about the dangers of second-hand smoke. Healton WD, 3:1-14, 6:1-18, 8:11-10:19.

194. The truth® campaign, launched in February 2000, is the Foundation's counter-marketing campaign designed to prevent youth from smoking. Structured as a brand – truth® – it includes print, radio, and television advertisements as well as internet and grassroots components. The campaign is primarily directed towards open-to-smoking, sensation-seeking 12 to 17 year olds. The campaign consists of hard-hitting, edgy advertisements that educate youth on tobacco-related issues, such as the addictiveness of cigarettes, the social costs of smoking and tobacco-related disease, and how the tobacco industry has marketed its products over the years. The American Legacy Foundation's truth® campaign is the only non-industry-sponsored, nationwide anti-tobacco campaign directed at youth. Healton WD, 11:3-12:11,15:5-16:9; Healton TT, 5/12/05, 20831:6-17.

195. Truth® ads are not designed for adults and in fact many truth® ads rely on approaches that adults find unappealing. Adults must keep the intended audience in mind when they view the ads. Healton WD, 16:1-9.

196. Providing information about the marketing practices of the tobacco industry as part of counter-marketing is critical in order to educate youth that their desire to smoke is, in part, a result of the $12.3 billion spent annually on advertising and promotion by the tobacco industry. Healton TT, 21840:23-21842:12; TLT093 0001-0949 at 0909 (US 88261) (A); Fiore WD, 57:18-58:2.

197. Truth® advertisements expose how Defendants market their products. For example, one truth® advertisement featured an internal R.J. Reynolds's marketing document titled "Project SCUM" in order to inform young people about how the industry targeted certain groups with its marketing. "Project SCUM" stands for "Project Sub Culture Urban Marketing." The document detailed a plan by Reynolds to increase sales of its Camel cigarettes in San Francisco

among "consumer subcultures" such as gays, "street people," and those with alternative life styles. R.J. Reynolds issued a public apology after details of the program were publicly disclosed. Healton TT, 21868:3-21871:22; 519849940-9948 at 9941 (US 90127) (A).

198. In developing the truth® campaign, the American Legacy Foundation relied in part on the recommendations of a panel of youth marketing experts convened by the Columbia University School of Public Health and funded by the Office on Smoking and Health of the Centers on Disease Control and Prevention to create the framework for an effective tobacco counter-marketing campaign. One of the key recommendations of the Expert Panel was to use a "brand" to market an anti-tobacco message that could compete with tobacco brands such as Marlboro. Legacy also relied on the Panel's insight that the "brand" should communicate that teens are being manipulated and lied to by adult institutions such as the tobacco industry. Healton WD, 17:6-19:8; Healton TT, 5/19/05, 21840:32-21842:12.

199. The development of the truth® campaign was also informed by the documented success of Florida's Truth Campaign. The Florida Truth campaign was the first youth tobacco counter-marketing campaign developed that relied on the recommendations of the Columbia Expert Panel. Healton WD, 19:9-15.

200. Truth® advertisements are directed at 12 to 17 year olds because the vast majority of smoking initiation takes place within this age group. Truth® advertisements run on youth-oriented television networks such as MTV (Music Television), the WB (Warner Brothers), and UPN (United Paramount Network) during programs with high youth viewership. Healton WD, 15:5-10, 21:18-23:4.

201. Truth® has developed into the largest youth smoking prevention campaign ever executed in the United States. The New York chapter of the American Marketing Association

awarded the truth® campaign its Gold and Grand EFFIE awards in 2003 for its success in reducing youth smoking prevalence. Legacy was only the second non-profit organization to be awarded the Grand EFFIE in its thirty-five year history. Healton WD, 12:1-11, 16:14-17:5.

202. The American Legacy Foundation conducts extensive scientific evaluations of the truth® campaign. Ongoing evaluation of counter-marketing campaigns such as truth® is critical to ensure the continued success of such programs. Eriksen 5/9/05WD, 4:3-5:17; Biglan WD 400:17-401:11; Healton WD, 24:2-25:14.

203. On an on-going basis, the Foundation conducts Legacy Media Tracking Surveys (LMTS). These telephone surveys measure exposure to tobacco marketing and counter-marketing, attitudes and beliefs toward tobacco, and tobacco use behaviors among youth. The Foundation is currently conducting the tenth wave of the LMTS. The surveys are designed to include nationally representative samples of youth ages 12 to 17 and young adults ages 18 to 24. Questions included in the LMTS are designed particularly to measure youth attitudes and beliefs towards tobacco, as well as their tobacco use behaviors. Healton WD, 40:13-42:6.

204. The truth® campaign is proven effective. Exposure to truth® has been associated with changes in youth beliefs and attitudes toward tobacco, as well as reductions in youth smoking prevalence. Healton WD 25:8-12, 33:20-34:5.

205. Beginning in late 2000, the Foundation first looked at whether there were demonstrated changes in tobacco-related beliefs and attitudes among teens. Changing youth attitudes toward the tobacco industry is significant because the scientific literature demonstrates that attitudes predict behavior. Shifting youths' key attitudes toward tobacco significantly increases the likelihood of changing their smoking behavior. Approximately two years later, the

Foundation examined whether truth® was associated with a reduction in youth smoking prevalence. Healton WD, 24:4-25:4, 46:20-47:11.

206. The Foundation's LMTS survey research has demonstrated that exposure to the truth® campaign is associated with changes in youth beliefs and attitudes toward tobacco. The analysis, which was based on the first two LMTS surveys (LMTS I & LMTS II), was set out in a 2002 peer-reviewed article published in the *American Journal of Public Health* (Farrelly MJ, Healton CG, Davis KC, Messeri P, Hersey JC, Haviland ML. "Getting to the Truth: Evaluating National Tobacco Countermarketing Campaigns," AJPH 2002; 92(6):901) ("2002 article"). LMTS I, which provided a baseline for comparison, was conducted before the December 2000 launch of the truth® campaign. LMTS II was conducted ten months after the launch. The 2002 article examined the relationship between exposure, as measured in the LMTS surveys, to truth® and Philip Morris's "Think. Don't smoke" campaigns and changes in attitudes and beliefs towards tobacco and intention to smoke during the next year. The 2002 article concluded that exposure to truth® was associated with an increase in anti-tobacco attitudes and a decrease in intention to smoke, while exposure to "Think. Don't Smoke" was associated with an increase in intention to smoke. Exposure to "Think. Don't Smoke" was associated with a 23% increase in the odds of reporting an intent to smoke in the next year. Wittes TT, 6/1/05, 22481:4-22484:8; Healton WD, 39:14-21, 45:9-14; 47:2-4; (JD-065578) (A).

207. The results from LMTS I and LMTS II also demonstrated that awareness of the truth® campaign was significantly greater than awareness of Philip Morris's "Think. Don't Smoke" campaign. Unaided awareness of truth® was 21.9% as opposed to 3.2% for "Think. Don't Smoke." Thus, a survey respondent was nearly seven times more likely to have unaided

recall of a truth® advertisement than a "Think Don't Smoke" advertisement. Healton WD, 42:20-44:11.

208. Philip Morris engaged in extensive correspondence with Legacy about the conclusions drawn from LMTS I and LMTS II which were summarized in the 2002 article. The record of this correspondence before the Court demonstrates that Philip Morris's focus was to challenge the article's findings that exposure to "Think. Don't Smoke" was associated with an increased intention to smoke, and not to dispute the efficacy of the truth® campaign. In fact, Philip Morris did not challenge the conclusion that exposure to the truth® campaign was associated with attitude change. One of Philip Morris's main criticisms was that the survey did not account for all of Philip Morris's "Think. Don't Smoke" advertisements that were running during the relevant time period. However, the LMTS surveys were designed to capture awareness of advertisements airing nationally. When directly asked by Dr. Healton, Philip Morris's Senior Vice President Youth Smoking Prevention and Corporate Responsibility, Howard Willard, would not answer whether the "Think. Don't Smoke" advertisements which Philip Morris claimed were omitted had in fact aired nationally. Nor, despite Legacy's requests, would Philip Morris provide any other information to Legacy to support its contention that more of its ads were running during the relevant time period. Healton TT, 5/12/05; 20872:20-20873:11, 20886:1-20; Healton TT, 5/19/05, 21817:1-21818:17; Healton WD, 47:12-57:6.

209. Philip Morris also claimed that the 2002 study did not measure the effect of "Think. Don't Smoke" on its target audience of 10 to 14 year-olds, but concentrated instead on 12 to 17 year-olds. However, the article was clear that it was examining the impact of the two campaigns on 12 to 17 year-olds, the age group most likely to begin smoking. Defendants' expert

was unfamiliar with the literature regarding how many 10 to 11 year-olds begin to smoke. Wittes TT, 22446:23-22447:3, 22573:24-22574:1.

210. Although the 2002 article did not expressly disclose the relationship between the American Legacy Foundation and the Research Triangle Institute which collected and analyzed the data, the article clearly describes the affiliations of the authors, including the authors employed by Research Triangle Institute, as well as their roles in the preparation of the article. (JD-065578) (A).

211. Philip Morris never engaged in a public dialogue with the scientific community about the findings of the 2002 article. Defendants did not introduce into evidence or refer in any fashion to any peer-reviewed articles criticizing the findings of the 2002 article. Healton WD, 54:12-18.

212. In addition to being associated with changes in the attitudes of teens about smoking, truth® has also been associated with dramatic reductions in youth smoking prevalence in the United States. Two years after the truth® campaign was launched, Legacy evaluated whether the changes in beliefs and attitudes related to exposure to truth® translated into actual changes in youth smoking behavior.

213. Between 2000 and 2002, youth smoking prevalence declined from 25.8% to 18.0% according to the Monitoring the Future survey conducted by the University of Michigan. The Monitoring the Future Study consists of annual surveys administered in schools to monitor youth alcohol, tobacco and illicit drug use in the United States. It is primarily funded by the National Institutes of Health – National Institute on Drug Abuse. It has been conducted since 1975 and is considered the most reliable source for this type of information. Healton WD 24:18-20, 26:5-13.

214. Based on this information, Legacy's evaluation focused on three questions: Did truth® play a role in the decline? If yes, how much of the decline could be attributed to truth®? Was there a dose response relationship between the amount of exposure to truth®? **The truth® campaign contributed to approximately 22% of the overall decline in youth smoking rates between 2000 and 2002. There were approximately 300,000 fewer youth smokers as a result of the campaign.** The results of this evaluation were summarized in a 2005 peer-reviewed article published in the *American Journal of Public Health* (Farrelly MJ, Davis KC, Haviland ML. Messeri P, Healton CG. "Evidence of a Dose-Response Relationship Between "truth" Antismoking Ads and Youth Smoking Prevalence," AJPH 2005; 95(3): 425) ("2005 article"). Healton WD, 24:4-25:16; (US 89452) (A).

215. The 2005 article compared the trends in youth smoking behavior documented in the Monitoring the Future Survey with exposure to the truth® campaign. Exposure to the truth® campaign was measured in each of the 210 media markets in the United States using gross rating points (GRPs), which represent the percentage of the target audience that saw an advertisement multiplied by the average number of times they saw the advertisement. The authors took into account confounding variables that could have influenced youth smoking prevalence, such as grade, race, ethnicity, the different youth smoking rates in each of the media markets, and potential state-level influences such as state investment in tobacco control efforts. The article concluded that there was a statistically significant dose-response relationship between exposure to truth® and youth smoking behavior. Healton WD, 25:17-25:16-32:17; (US 89452) (A).

216. Defendants' expert criticized the 2005 article's conclusion based on her contention that at higher levels of GRP exposure, truth® was associated with an increase in the prevalence of youth smoking. She presented graphs that she had developed which purported to extrapolate the

effect of high GRP levels of truth® exposure on youth smoking rates. Wittes WD 67:6 - 69:9, Wittes TT, 6/1/05, 22466:22-22468:9.

217. On cross-examination, however, Defendants' expert conceded that the charts in the 2005 article showed that at the higher GRP levels, there was less of a decrease in youth smoking but there still was a decrease. Wittes TT, 6/1/05, 22479:3-20. She conceded that she had no idea how many schools were included in the upper level GRP doses and she had made no effort to find out this information. During cross-examination it was brought out that she had never worked with data from the Monitoring the Future Survey and had never spoken with anyone at the University of Michigan involved with the survey. In addition, she conceded that she only first learned about GRPs when she read the two papers in preparation for testifying in this case, and that she does not know the exact definition of GRP and cannot even say whether GRPs are a measurement or a proxy. Wittes TT, 6/1/05, 22480:11-22481:3, 22484:9:-22485:5, 22519:8-22520:14.

218. Defendants have acknowledged the efficacy of the American Legacy Foundation's efforts to reduce youth smoking. An April 2, 2004 letter, Michael Szymanczyk, the Chairman and CEO of Philip Morris, wrote to Dr. Healton, president and CEO of Legacy, that "[w]e continue to believe that much of Legacy's work has been significant in contributing to reductions in underage smoking." Szymanczyk in all his conversations with Dr. Healton never questioned the efficacy of Legacy's work in reducing underage smoking. PM3000185320-5322 at 5322 (JD 052837) (A); Healton TT, 5/16/05, 21865:22-21866:6.

219. The general counsel of Lorillard, Ronald Milstein, testified at trial that research had shown that the truth® campaign was effective in reducing youth smoking rates. Steven Watson, Lorillard Vice President for External affairs, acknowledged that youth smoking rates

have declined since 1996, and that Lorillard supports the mission of the American Legacy Foundation. Watson also testified that the Monitoring the Future Study recognized the truth® campaign as contributing to this overall decline in youth smoking rates. Milstein TT, 1/7/05, 9366:6-9368:15; Watson PD, United States v. Philip Morris, 4/2/02, 62:25-63:6, 100:7-16; Watson PD, American Legacy Foundation v. Lorillard Tobacco Co., 12/8/04, 60:10-61:9.

220. Former President George G.W. Bush has gone on record in a videotaped statement praising the efficacy of the truth® campaign: "The American Legacy Foundation's truth® campaign is saving young lives and I applaud them for it. These ads are smart, they're humorous, they're tough, and they're edgy-not for you and me, but for our kids and grand kids, **and most of all, they work**." Healton TT, 5/19/05, 21872:14-21874:5; (US 93771) (A) (emphasis added).

221. Defendants called no witness with sufficient qualifications to challenge the efficacy of counter-marketing campaigns generally, or the efficacy of the truth® campaign specifically. In response to the overwhelming public health and other evidence offered by the United States on the efficacy of counter-marketing and the truth® campaign, Defendants offered the testimony of a bio-statistician with no expertise in developing or evaluating counter-marketing public education campaigns to opine about the methodologies utilized in two studies evaluating the truth® campaign. Wittes TT, 6/1/05, 22487:17-19.

222. Dr. Wittes testified in her written direct that she looked at the two published papers evaluating the truth® campaign as a "peer reviewer." However, during cross-examination it was revealed that she has never even served as a peer reviewer for a journal article or other research evaluating the effectiveness of a media campaign, let alone for a public education campaign. Wittes TT, 6/1/05, 22486:2-22.

223. Dr. Wittes offered no opinions about the efficacy of counter-marketing campaigns in general, or the truth® campaign specifically. Indeed, she conceded on cross-examination that she had never even seen a truth® advertisement and was not offering the opinion that the truth® campaign had been ineffective at reducing youth smoking. Wittes TT, 6/1/05, 22485:21-23, 22487:2-23.

224. The root of Dr. Wittes' criticism was exposed during cross-examination as an unfounded bias manifesting itself in her belief that no observational study, no matter how well designed or extensively peer-reviewed, can ever provide conclusions about whether public health communications effect population-wide behavior. She explicitly testified that in her view, the only way to determine whether the truth® campaign is efficacious in reducing youth smoking is through a randomized controlled trial. Wittes TT, 6/1/05, 22489:5-22491:24.

225. Dr. Wittes offered no support for her opinion that observational studies cannot provide conclusions about the efficacy of public health communication campaigns such as truth®, and her opinion is contrary to the published literature. On cross-examination, Dr. Wittes was confronted with *Public Health Communication: Evidence for Behavioral Change* by Dr. Robert C. Hornik. Dr. Hornik is Professor of Communications, holds the Wilbur Schramm Chair in Communications and Health Policy at the Annenberg School for Communications at the University of Pennsylvania, and serves as the Director of the Center for International Health and Development Communications. Dr. Hornik, in contrast to Dr. Wittes, has led efforts to design and evaluate large-scale public health communication and education programs. In his book, Dr. Hornik concludes that non-experimental and quasi-experimental approaches to the evaluation of public health communication, such as observational studies, are necessary in order to achieve

valid results. Randomized, controlled trials, on the other hand, are rarely a feasible method of evaluation:

> Finally, accept that evaluations of public health communication programs will rarely produce the unequivocal evidence promised in randomized controlled trials of pills. Sometimes this is feasible for smaller scale trials where enough resources can be mustered to produce a substantial additional dose of exposure, but most often this is not the case. If evaluations are to respect the way that public health communication programs work, then they will likely depend on alternative approaches: Natural experiments, correlated time series and other such non-experimental and quasi-experimental approaches. They are less definitive methodologically than controlled trials, but they respond to the nature of the intervention at issue. A moderately good answer to the right question is better than a very good answer to the wrong question. The effects of communication interventions must be evaluated with a methodology that respects their character and the way they work, but is still credible enough to influence policy discussion.

Defendants have conceded that Dr. Hornik's conclusions are entitled to deference as a reliable authority and learned treatise pursuant to Federal Rule of Evidence 803(18). Wittes TT, 6/1/05, 22491:25-22494:11; Defs. Mot. Entry of Exhibit Order Related to Janet Wittes, filed 7/8/05 (R. 5542).

226. When pressed about her specific criticisms of the methodological flaws in the 2002 and 2005 articles, Dr. Wittes could not explain whether – or if so, how – these flaws would affect the results. Dr. Wittes criticized the 2005 paper for relying on the Monitoring the Future data because of the survey's 10% non-response rate. However, she could not explain how the non-response rate had any effects on the findings reported in the 2005 paper. Dr. Wittes criticized the 2002 and 2005 articles for not controlling for peer smoking, but could not explain how failing to control for peer smoking would confound the relationship between exposure to truth® and youth smoking. Moreover, she conceded that she is not familiar with the literature on whether youth choose their friends in part based on their friends' smoking behavior; agreed that if

truth® does reduce youth smoking it will impact not just individual youth but their friends as well; and acknowledged the well-known adage that one must not adjust for variables affected by treatment. Wittes TT, 1/6/05, 22501:8-22508:16, 22578:11-22579:18, 22579: 20-23, 22582:16-20, 22583:19-21.

227. Dr. Wittes relied on four letters – chosen for her by Defendants' attorneys – between Philip Morris and Legacy as support for her conclusion that not all the Philip Morris "Think Don't Smoke" advertisements were included in the 2002 article. During cross-examination, Dr. Wittes acknowledged that she did not know how many letters were exchanged between Philip Morris and Legacy on this issue, and that she never asked Defendants' attorneys whether there was additional correspondence. Wittes TT, 1/6/05, 22551:1-22552:15.

228. Dr. Wittes's total lack of experience in evaluating media campaigns and national public health communication led her to reject the evaluation method that best fits the context and character of a media campaign. Her bias against any research design other than randomized trials is contrary to the weight of scientific experience in the field and eliminates any credibility to her criticism of the 2002 and 2005 studies.

229. Defendants have not evaluated the efficacy of their youth smoking prevention programs. In addition, no peer reviewed articles have been published demonstrating the efficacy of any of Defendants' youth smoking prevention programs. Healton TT, 5/19/05, 21866:19-21867:1.

230. The American Legacy Foundation is an independent third-party organization with a proven ability to implement effective public education campaigns and should be funded by Defendants in the amount of $400 million annually for the next ten years to prevent and restrain

Defendants from engaging in future RICO violations. Legacy is authorized to receive these funds pursuant to § VI(f)(10) of the Master Settlement Agreement.

D. Strict Targets for Reductions in Youth Smoking Are Required to Prevent and Restrain Defendants from Fraudulently Marketing to Youth in the Future

231. The remedy proposed by the United States to reduce youth smoking (the "Youth Smoking Reduction Remedy") will act to reduce the economic incentive for defendants to engage in future RICO violations that make their brands appealing to young people. Gruber WD, 7:22-8:2; 28:1-5; Gruber TT, 05/10/05, 20610:20-20611:5. In short, under the Youth Smoking Reduction Remedy, Defendants will not use promotions that make their products appealing to youth because they won't financially benefit from appealing to those youths. Gruber WD, 14:10-18.

232. Roman Weil, a defense expert, agreed that the "proposed remedy does give Defendants economic incentives to achieve the targeted reductions in youth smoking." Weil WD, 6:3-4. Indeed, in an exhibit prepared and highlighted at trial by Weil, it is clear that "where a Defendant cigarette manufacturer is above its youth smoker target and committing [a] future RICO violation would likely increase the number of youth smokers of its brands, [the Youth Smoking Reduction Remedy] increases that Defendant's economic incentives to avoid future RICO violations." (JDEM-060674) (A); Weil WD, 17:9-18:2; Weil TT, 05/31/05, 22319:17-22320:6. Based upon the totality of the evidence presented in this case, it is clear that Defendants' RICO violations have made their products more appealing to youth. See US FF § III.E, supra. Weil did no analysis and did not seek out any advice or expert assistance that would contradict the evidence, which confirms that Defendants RICO violations make tobacco products appealing to youth. Weil TT, 05/31/05, 22314:8-22316:5, 22319:8-10, 22320:2-12.

Thus, as Weil admits, the Youth Smoking Reduction Remedy will, in fact, create an economic incentive for Defendants "to avoid future RICO violations." Weil WD, 18:2.

233. The Youth Smoking Reduction Remedy was proposed by Jonathan Gruber, a noted Ph.d. economist from the Massachusetts Institute of Technology, who the Court recognized as an expert in the field of economics. Gruber TT, 05/10/05, 20589:1-6. In his former capacity as a Deputy Assistant Secretary for Economic Policy at the United States Treasury Department, he acted as point person on issues related to tobacco regulation, he served on an interagency task force charged with evaluating the April 1997 Proposed Resolution between tobacco manufacturers and the states attorneys general, and he served on an interagency task force charged with evaluating legislation to comprehensively regulate youth smoking in the United States known as the McCain bill. He is currently the director of the Program on Children at the National Bureau of Economic Research, the leading academic economic research institution in the country not affiliated with a particular university. He is widely published and is currently or has previously served as an editor for several leading journals in the field of economics. Gruber has received several national awards recognizing his scholarship and in 2004 was selected as a member of the National Institute of Medicine (IOM). Gruber WD, 2:4-6:16; (US 89458) (A).

234. As part of Gruber's participation on the United States' interagency task force on the 1997 Proposed Resolution, Gruber focused on the evaluation of the proposed "youth lookback" provision included in the Proposed Resolution, which imposed a financial assessment on the tobacco industry if youth smoking rates exceeded certain target levels. Id., 5:3-11. The experts presented by Defendants to attack the Youth Smoking Reduction Remedy, Drs. Roman Weil and Dennis Carlton, have no such prior experience. Weil TT, 05/31/05, 22402:25-22403:5.

Weil, for example, could not even say whether he had ever read the 1997 Proposed Resolution. Id., 22404:23-25.

235. Tobacco-related research has been and continues to be a major focus of Gruber's research. He has published numerous articles on the economics of smoking and health, particularly focused on youth smoking, including *Is Addiction "Rational'? Theory and Evidence* published in the *Quarterly Journal of Economics*; *Youth Smoking in the 1990s: Why Did it Rise and What are the Long Term Implications*, which was published in the *American Economic Review*; and he edited a book entitled *Risky Behavior Among Youth: An Economic Analysis*. Gruber WD, 6:12-7:17. The experts presented by Defendants to attack the Youth Smoking Reduction Remedy, Drs. Roman Weil and Dennis Carlton, have never published on the subject of smoking, let alone on the topic of youth smoking. JDM2710011-0023 (US 93831) (A); Weil TT, 5/31/05, 22361:16-24. Moreover, Weil admitted that he had not reviewed testimony from the United States' marketing and youth smoking witnesses in this case (Weil TT, 5/31/05, 22324:17-23, 22324:24-22325:3, 22328:16-22329:2) and instead was relying upon "thought experiments" and "back-of-the-envelope calculations" to support his conclusions, for which he charged Defendants $1,500 per hour. Id., 22327:10-11, 22354:25-22355:1, 22372:10, 22398:21-22, 22407:7-8.

236. The Youth Smoking Reduction Remedy imposes no financial assessment on Defendants unless they fail to meet certain targeted reductions in youth smoking. Gruber WD, 8:4-5. The target reductions in youth smoking are 6% per year between 2007 and 2013, for a total reduction of 42% among those 12-20 years old. Id., 8:1-8.

237. The youth smoking reduction targets are reasonable and attainable for three reasons. First, these targets are the same that these Defendants agreed to as part of the 1997

Proposed Resolution, albeit on a slower timetable. Id., 15:15-16:16; (US 18255) (A); (US 18263) (A); Gruber TT, 5/10/05, 20592:10-15. Under the Youth Smoking Reduction Remedy, Defendants effectively receive credit for the 30% reduction in youth smoking that has already occurred from 1997 to 2003. Gruber WD, 16:17-17:3; Gruber TT, 5/10/05, 20590:19-20591:15. Indeed, if the targets in the 1997 Proposed Resolution had been put in place in 1998, as of 2004, Defendants would have met their targets and would not have been subject to an assessment. Gruber TT, 5/10/05, 20592:16-21.

238. Second, the testimony by marketing and youth smoking experts in this case overwhelmingly established that Defendants' market to youth. US FF § III.E, supra. Thus, curtailing these actions will result in a reduction in youth smoking and allow Defendants to meet the targets contained in the Youth Smoking Reduction Remedy.

239. Third, prior price increase experience in the tobacco market demonstrates that Defendants can meet the youth smoking reduction targets solely by instituting price increases that are equivalent to increases that have been instituted in the past. Because the price elasticity of youth smoking initiation is -1 (i.e., each 10% increase in cigarette prices leads to a 10% reduction in youth initiation), meeting the 42% smoking reduction among youth required under this remedy, solely by raising prices, would require Defendants to raise their prices by 42% over the seven-year period from 2006 to 2013. Gruber WD, 19:15-20:21. Such a reduction is feasible given that Defendants have instituted similar price increases over similar seven-year time periods in the past. For example, from 1993-2000, real net cigarette prices rose by 46%, slightly in excess of the price increase that would be required for Defendants to meet the targets contained in the Youth Smoking Reduction Remedy, if they chose to meet those targets solely by raising prices. Id., 20:21-21:4.

240. Moreover, it is unlikely that Defendants would choose to meet those targes solely by raising prices. As Gruber testified, "the idea of this remedy is to let them choose the most efficacious way to meet the targets. I doubt purely raising price would be that method." Gruber TT, 5/10/05, 20597:25-20598:6. Defendants have a variety of mechanisms through which they can reduce youth use of their products. Raising prices is only one of those mechanisms. Gruber WD, 21:5-14.

241. Defendants nonetheless contend that a 42% price increase would devastate them, because they would suffer insurmountable losses of market share. This is not borne out by the evidence. Weil asserts that Defendants' loss of market share as the result of the proposed remedies in this case would exceed the loss of market share experienced by Defendants following the MSA. Weil WD, 25:1-14. First, Weil confirmed that the cost of the remedies sought by the United States is only half of the cost of Defendants' payments under the MSA. Weil TT, 05/31/05, 22335:4-22336:8. Despite this fact, Weil fails to explain why Defendants' loss of market share would be greater than the loss of market share following the MSA. Second, Weil admitted on cross-examination that he had not reviewed peer-reviewed literature that found that the MSA had little or no impact on the viability of Defendants' businesses, even though he was opining on the impact of even lower payments resulting from potential remedies in this case. Id., 22336:16-25, 22361:16-24. Third, Weil was unable to state whether the change in market share following the MSA was the result of cost differentials between Defendants and Subsequent Participating Manufacturers. Id., 22357:15-22358:23. In fact, Weil admitted that during the period since the MSA, American consumers have, in general, been more attracted to generic products while the overwhelming majority of Defendants' sales are in premium brands. Id., 22358:24-22360:4. Fourth, Weil presented no computations of the impact on price created by

the remedies proposed by the United States. In comparison, Gruber provided historical data demonstrating that a price increase substantially in excess of 42% (the amount required to meet the youth smoking targets if only price is used as a means to achieve the target) did no discernable damage to Defendants' profitability. As Gruber testified, from 1997 to 2002 these Defendants raised prices by 60% and, even though the increased revenue from those price increases went to states in the form of MSA payments rather than into company coffers, Defendants remain profitable. Gruber TT, 05/10/05, 20596:18-20597:4. Fifth, even if Defendants' experts could and had estimated impact on sales, they have done no analysis to determine whether other players in the market (namely the SPMs and the Non-Participating Manufacturers) would meet the price increases. Sixth, Weil was confused whether the cost differential numbers he was citing from Gruber were average or marginal. They were actually marginal. But, Weil concluded that it would not make a difference to his opinion even though the marginal difference was only 5% of the average difference ($.20 marginal cost difference / $4.00 average cost difference). Id., 22363:25-22365:8; 22370:24-22372:15. In short, Defendants' experts have failed to review the relevant literature, failed to understand the numbers they relied upon, and failed to do the analysis necessary to support the broad assertions that they have made.

242. The youth smoking figures used in the Youth Smoking Reduction Remedy will be based upon the National Survey on Drug Use and Health (NSDUH). The NSDUH is a nationally representative survey that provides the large sample sizes and brand-specific smoking information necessary to measure youth smoking in applying the Youth Smoking Reduction Remedy. Gruber WD, 18:5-15. The number of youth by which a Defendant misses its target is calculated in two steps. First, using data from the NSDUH, the excess of each Defendants' youth

smoking percentage over the target youth smoking percentage is computed. Second, the excess percentage is then multiplied by the number of youth ages 12 to 20 from the U.S. Census to determine the number of youth misses. Id., 26:9-15. Finally, for years after the first year, Defendants are only assessed for new misses, not those who were already counted in previous years. As Gruber explains:

> [I]f 2007 is the first year in which assessments are levied, then from 2008 onwards, the assessments are only on the net increase in the number of misses over the previous year, accounting for natural attrition.
>
> The following example illustrates how this adjustment works. Suppose that in 2008 a defendant missed the target by 1 million youth smokers. Suppose that in 2009 they also missed by 1 million youth smokers. Finally, suppose that 20% of that defendant's youth smokers in 2008 were 20 year olds. This implies that the 1 million by which the target is missed in 2009 includes 800,000 of those by which the target was previously missed, plus 200,000 new misses (to replace the 200,000 who became 21 years old). So the assessment would only be applied on the 200,000 new misses in the year 2009.

Id., 26:16-27:10.

243. Defendants' experts have criticized the Youth Smoking Reduction Remedy, arguing that it fails to account tor the fact that smokers switch brands over their lifetime or the fact that smokers who most frequently use one brand may still smoke other brands occasionally. Carlton WD, 14:3-10. First, because joint and several liability applies, this argument is moot. Second, even assuming no joint and several liability, the approach in the Youth Smoking Reduction Remedy is appropriate because its intent it to fully ensure that a Defendant is not encouraged to attract individuals to its product as youth. Youths' later actions as adults are of no moment. Gruber WD, 19:5-14.

244. Under the Youth Smoking Reduction Remedy, if Defendants fail to meet the targeted reductions, they will be assessed $3,000 per youth by which they exceed the target level.

$3,000 is the upper limit on the lifetime proceeds a Defendant could expect to earn from making its brands appealing to youth. Id., 8:5-11, 22:2-7. Gruber employed a thorough and exacting five-step process to compute this upper limit on lifetime proceeds. Id., 22:8-26:4.

245. There is no dispute that the Youth Smoking Reduction Remedy is forward-looking. Id., 14:21-15:6. Moreover, as an "outcome-based" remedy, it avoids many of the pitfalls inherent in an "input-based" remedy, such as basic injunctive relief. Id., 13:16-18.

246. An "outcome-based" remedy ties the financial assessments to an output measure, which in this case is the level of youth smoking, rather than to "input" measures, such as the number and type of youth advertisements, cigarette sampling techniques employed by Defendants, or Defendants' direct mail marketing practices. Id., 8:18-9:4. The Youth Smoking Reduction Remedy's outcome-based approach will create an incentive for Defendants to avoid future RICO violations. Moreover, because Defendants are most knowledgeable about how they act to make their products appealing to youth, the Youth Smoking Reduction Remedy's outcome-based approach will allow Defendants to choose the avenue to meet the targets rather than having the Court attempt to define the path with inherently less complete knowledge. In short, the outcome-based approach is the most efficient and effective means of removing the economic incentive for Defendants to engage in future RICO violations that make their brands appealing to young people. Id., 9:5-16.

247. To be effective, the Court's remedies Order must include outcome-based components, because relying upon an input-based approach alone will not be sufficient to prevent and restrain Defendants from engaging in future RICO violations. An input-based approach alone suffers from several deficiencies. Gruber WD, 9:5-13:8. However, input-based measures have value despite their limitations, and are a useful complement to the outcome-based approach

proposed by Dr. Gruber. Including an outcome-based approach in this Court's remedies Order will address the deficiencies which would arise with a solely input-based approach to relief. Id., 13:9-14:9.

248. Weil suggests that injunctive relief is preferable because it is "more targeted." Weil WD, 7:22-25. His assertion lacks support in the record. First, Weil admitted that he has "no expertise with which to evaluate whether ascertaining the truth or falsity of Defendants' future public statements would be easy or hard...." Second, Weil admits that he "didn't systematically look at the potential side effects of the injunctive relief that [he] proposed to the court" Id., 8:16-18; Weil TT, 05/31/05, 22302:12-15. Third, when asked whether he had done an analysis to support the costs he asserted that the Court would incur to enforce injunctive relief, Weil admitted that he "did not." Id., 22311:7-15.

249. Also, the outcome-based approach prevents Defendants from simply retooling their marketing efforts to avoid a Court injunction but still reach youth through some new and novel approach; something they have been successful at doing in the past, as discussed in Section V.A(2), supra (discussing how Defendants have undermined the Advertising Code, Broadcast Ban, and MSA). Indeed, the limited efficacy of the MSA demonstrates that an input-based remedy is decidedly less effective. As Robert Dolan testified:

> The MSA's restrictions on inputs, i.e. the way companies can engage in marketing, does present challenges to the companies. Because of the MSA, the companies did modify their marketing practices. As they had in the past, however, they were able to draw on their marketing expertise to come up with a revised marketing approach to achieve their objectives or outputs.

Dolan WD, 146:13-16 (emphasis added).

E. Corrective Communications Are Required to Prevent and Restrain Defendants from Making Fraudulent Public Statements on Smoking and Health Issues

250. Substantial evidence supports the United States' request that Defendants issue corrective communications on the smoking and health issues that have been the subject of Defendants' pervasive campaign of fraud for a half-century. Further, the specifics of this remedy are tailored to reflect the nature and scope of Defendants' own public relations and marketing efforts, as evidenced in the record.

251. The trial record amply proves that Defendants have made false, deceptive, misleading, and otherwise fraudulent public statements from the Frank Statement in January 1954 through to the present. See US FF §§ III.A(1) & (2), supra (public statements on adverse health effects, including exposure to secondhand smoke); § III.C(1), supra (public statements on addictiveness of smoking and nicotine); § III.C(2), supra (public statements on nicotine manipulation); § III.E, supra (public statements on youth marketing); § III.D, supra (statements on "light" and "low tar" cigarettes).

252. Evidence in the record shows that certain of Defendants' public statements communicating their positions on smoking and health issues continue to omit material information or present information in a misleading and incomplete fashion. For example, Reynolds's current website statement on the health effects of smoking continues to insist that smoking "causes disease in some individuals" only "in combination with other factors." (JD-068012) (A); see also Schindler TT, 1/24/05, 10810:9-10813:5 (Reynolds' recent Chairman and CEO refusing to admit that cigarette smoking causes disease).

253. Philip Morris's current website claims that Philip Morris's position on addiction is the same as the public health community, but Philip Morris's statement on addiction omits the material information that nicotine delivered by cigarettes is a drug and that it is addictive.

3000172188-2188 (JD-053199) (A); Henningfield WD, 105:15-106:12 (explaining why Defendants' failure to communicate that cigarette smoking is addictive **because it involves the addictive drug nicotine** omits "vital information").

254. Similarly, the corporate website for BATCo's parent company – a website to which BATCo contributes and which reflects its views, see Defs.' Motion for Summary Judgment on the Grounds That There Is No Reasonable Likelihood of Future RICO Violations, Rule 7.1/56.1 Statement of Material Facts Not in Dispute (R. 2394, filed 8/1/03), at 43 – currently has a "Frequently Asked Questions" section that asks "Is Nicotine Addictive?" (US 89563) (O). The answer fails even to use the word nicotine. Dr. Henningfield explained why the statement misstates the scientific evidence and is contrary to numerous internal BATCo documents acknowledging the role of nicotine in maintaining addictive smoking behavior. Henningfield WD, 106:13-108:1.

255. And Philip Morris's package onsert, as shown through the cross-examination of Denise Keane, Philip Morris's general counsel, included for short periods on certain brands of its "light" cigarettes, mentioned that tar and nicotine doses can be affected if a smoker blocks the ventilation holes, but omitted material information about the invisible ventilation holes – what they are, where they are placed on a cigarette, what they do, and how not to block them. Keane TT, 1/18/05, 10422:3-10423:3. See also id., 10461:6-11 (stating that package onserts allow the most direct communication of material information to smokers).

256. As United States' witnesses have attested, certain language in some of Defendants' more recent positions on smoking and health issues, following their decades of outright fraudulent statements, do represent a step forward. See, e.g., Henningfield TT, 11/29/04, 7185:2-8. However, evidence in the record supports a finding that notwithstanding Defendants' self-

serving claims that they have "come clean" on smoking and health issues, and notwithstanding a general prohibition in the Master Settlement Agreement that preclude the Defendants who are party to the MSA from making any "material misrepresentation of fact regarding the health consequences of using any Tobacco Product," MSA § III(r) at 36 (JD-045158) (A), Defendants continue to make affirmative statements on smoking and health issues that omit material truthful information. See Complaint, Vermont v. R.J. Reynolds Tobacco Co., No. 744-97 CNC & S-0816-98 (Superior Ct. filed July 26, 2005).

257. As became evident during the trial, particularly during the testimony of the most senior Reynolds executive, Andrew Schindler, Defendants' statements are intended to communicate some information about smoking and health and to give the appearance of frank openness, while in fact in many cases they are little more than mild semantic variations on their prior fraudulent positions and are designed to protect their defense in ongoing litigation by not contradicting their past fraudulent statements. It is therefore apparent that general proscriptions have failed to curtail Defendants' making statements that fit well within the broad category of representations that implicate the federal mail and wire fraud statutes. Accordingly, the Court finds a limited campaign of prescripted affirmative communications is warranted to prevent Defendants from continuing to make statements on smoking and health issues that are false, misleading, and/or contain material omissions, and from publicly portraying and promoting such statements as proof of "openness" and "disclosure" when they are not.

258. Defendants have used numerous public fora to disseminate their statements on smoking and health issues and to execute their fraudulent scheme, including newspapers, television, magazines, pamphlets, package onserts, and Internet websites.

259. More recently, Defendants – particularly Altria and Philip Morris – have used many of these same fora to promote their allegedly responsible corporate behavior, including statements on smoking and health positions and alleged youth smoking prevention efforts. Philip Morris presented the components and scope of this campaign during its live examination of Denise Keane. See generally Keane TT, 1/19/05, 10566:4-10578:17.

260. Newspapers. From the inception of the fraudulent scheme, newspapers have been a leading way for Defendants to disseminate public statements on smoking and health issues. See, e.g., 86017454-7454 (US 21418) (A) (1954 Frank Statement printed in 448 newspapers nationwide); 2023011263-1263 (US 20371) (A) (1994 Philip Morris "Facts You Should Know" advertisement in the *New York Times*); 500810940-0941 (US 23036) (A) (BATCo's Blackie Letter to Editor in 1994); TI00581619-1629 (US 62969) (A); Dawson WD, 114:18-115:21; Dawson TT, 1/12/05, 9907:21- 9918:8 (ghostwritten letter to the editor challenging evidence of health effects of secondhand smoke, prepared for outside scientist to send to editors at AP, UPI, and 22 newspapers across the country, without disclosing TI's role or that scientist was a paid Tobacco Institute consultant); 513943434- 3434 (US 50268) (A) (1984 RJR newspaper statement that whether smoking causes disease is an "open controversy").

261. In November 2002, Philip Morris placed about 15.8 million glossy inserts (JD-041513) (A), in editions of thirty general circulation newspapers. Keane WD, 43:13-17; see also (JD-052908) (A) (listing the 30 newspapers in which the insert was included).

262. Television. Defendants have actively prepared media spokespersons to communicate their joint fraudulent statements on smoking and health issues, and have pursued and used opportunities on television shows to disseminate those messages. See US FF § I.C(5), supra (describing Tobacco Institute's College of Tobacco Knowledge); see also, e.g., Dawson

WD, 45:10-46:4 (discussing US 21286 (A), transcript of *Good Morning America* on January 11, 1989, reflecting statements on addiction), 46:5-48:2 (other television appearances during which Dawson made statements on smoking and health issues).

263. Philip Morris and Altria have run a range of television (and radio) advertisements to improve their public image and to promote Philip Morris's website. See, e.g., Keane TT, 10/19/05, 10577:1-25, 10620:9-18 (testimony about Philip Morris's national television and radio advertising campaign).

264. Package Onserts. Both Philip Morris and B&W have made use of onserts to convey certain information to consumers in recent years. See, e.g., (JD-041096) (A) (Philip Morris onsert discussing "low tar" and "light" cigarettes that omits role of nicotine addiction in causing the smoker compensation that eliminates any meaningful health benefit from "low tar" cigarettes compared to their full-tar counterparts); TLT0960001-0002 (US 87216) (A) (B&W onsert for Advance cigarette that omitted information about nicotine, addiction, compensation, ventilation holes and other material matters from the onsert first used with the Advance product by Star Scientific); see also Blackie WD, 181:12-182:20; Blackie TT, 10/26/04, 3897:11-3900:15 (discussing B&W's advance onsert compared to the Star Scientific onsert).

265. During the pendency of this case, in November 2002 Philip Morris for a limited period of time placed an onsert on 135 million packs of certain of its "light" and "low tar" cigarette brands. Keane TT, 1/19/05, 10576:8-25; see also id., 10578: 4-17 (testimony about February 2004 "omnibus" onsert promoting website, JD-054553 (A)). Philip Morris claims to have reached 90% of smokers of its "low tar" brands through its onsert program. Id., 10615:23-10616:2, 10616:11-10617:20.

266. Pamphlets. During the course of the fraudulent scheme, Defendants – particularly the Tobacco Institute – have prepared numerous pamphlets and brochures that summarize Defendants' public positions on a range of smoking and health issues, including the health effects of smoking and exposure to secondhand smoke, addiction, youth smoking, marketing practices, and others. See, e.g., 1005152849-2896 (US 20226) (O) (1969 publication issued by the Tobacco Institute); TIMN0055129-5135 at 5130 (US 21298) (O) (1977 pamphlet from the Tobacco Institute stating, "Has the Surgeon General's report established that smoking causes cancer or other diseases? No."); 2023916742-6776 at 6745 (US 20396) (A) (1992 Philip Morris pamphlet "Tobacco Issues and Answers").

267. In July 2000 and September 2001, Philip Morris claims to have distributed a brochure placed on the countertop at retail outlets that promoted the Philip Morris website to 200,000 retailers nationwide. The September 2001 brochure also communicated Philip Morris's position on the health effects of smoking. Keane TT, 1/19/05, 10571:4-10572:15; see also (JD-053192) (A) (Philip Morris's 2001 retail countertop brochure).

268. Internet. Each Defendant that existed independently at the close of trial maintains or supports a corporate website. There were frequent references to these websites during trial. Many witnesses testified about them and their contents, and many exhibits were introduced into the record that consisted of excerpted portions (and, in some instances, entire printouts) of these websites. (These corporate websites are distinct from the document websites that some but not all Defendants were ordered to create pursuant to the MSA. Document websites are discussed separately in Section V.F(1), infra.) The Defendants' corporate websites are:

- Philip Morris: www.pmusa.com. See, e.g., JD-053199 (A) (printout of entire Philip Morris website).

- Altria: www.altria.com. See, e.g., Parrish TT, 1/27/05, 11359:14-11360:9; Parrish TT, 1/25/05, 11024:11-15; JD-046719 (A) (website of Altria launched October 13, 1999).
- R.J. Reynolds: www.rjrt.com. See, e.g., JD-068012 (A).
- Lorillard: www.lorillard.com. See, e.g., Milstein TT, 1/7/05, 9269:18-9270:4; US 86693 (A) (copy of press release printed from Lorillard website)
- Liggett: www.liggettgroup.com. See also LeBow WD 4/4/05, 11:9-14, 12:12 (discussing website of Liggett affiliate Vector Tobacco).
- BATCo: www.bat.com. See, e.g., US 86692 (O); US 89563 (O)

269. Defendants have used their corporate websites as a primary way to communicate their views on smoking and health issues to the public. See, e.g., (JD-068012) (A) (current Reynolds statement on causation); US 89563 (O) (BAT website Q&A on "Is nicotine addictive" that does not mention nicotine in the answer).

270. Martin Orlowsky, President, Chairman, and CEO of Lorillard, testified that Lorillard posted corporate policies on its website. Lorillard's Vice President and General Counsel Ronald Milstein testified that "the website's statement is the public statement of Lorillard regarding these issues," and stated in response to a question from the Court, "If we want to talk to the public we use our website." Orlowsky TT, 10/13/04, 2337:22-24; Milstein TT, 1/10/05, 9417:2-3, 9452:25:9453:1.

271. Philip Morris's website "is the central point of communication" for Philip Morris "to provide information to smokers about our products." Szymanczyk TT, 4/11/05, 18497:11-17. Denise Keane, Senior Vice President and General Counsel for Philip Morris, confirmed this point, testifying that Philip Morris's website is "the core" of Philip Morris's efforts "to create the

broadest platform possible" to communicate with the public. Keane TT, 1/19/05, 10550:4-6; see also id., 10549:20-23.

272. Susan Ivey, President and CEO of Reynolds American Inc. and former CEO of Brown & Williamson, testified that B&W put its positions on its website, and that when it did so, it intended consumers to act in reliance upon its statements. Ivey TT, 11/16/04, 6068:23-24, 6098:16-19. See also US 76600 (A) (1999 B&W website stating that a "relevant issue" about smoking is "whether there is anything in cigarette smoke that impairs smokers from reaching and implementing a decision to quit (which we believe there is not)").

273. Magazines. Magazines have historically, and until very recently, been a primary vehicle for Defendants' advertising, including advertising intended to appeal to adolescents and teenagers, and fraudulent advertising for "light" cigarettes. See, e.g., (US 9846) (A) (1999 B&W advertisement for ultra light cigarettes with implied health reassurance message, "Isn't it time you started thinking about Number One?").

274. Press Releases. The evidence in the record shows that during the course of Defendants' unlawful scheme, press releases – statements prepared by Defendants and then usually sent to news media outlets for dissemination to the public – have likely been the most oft-utilized means for communicating and publicizing Defendants' fraudulent statements on smoking and health matters.

275. Altria used press releases to publicize the launch of the Altria corporate website (JD-046719) (A), in October 1999. Keane TT, 1/19/05, 10566:19-21 (confirming issuance of press release, JD-054558 (A)).

276. Direct Mail Databases. Another means for disseminating information to the public, and to smokers in particular, has been Defendants' increasing use of mailing databases

that enable Defendants to mail marketing material and other information directly to the tens of millions of people in the database. Philip Morris, Lorillard, Reynolds, and B&W (prior to its acquisition by Reynolds) all have maintained direct mail marketing databases. See US FF § III.E(7)(d), supra.

277. In November 1999, after it had publicly launched its corporate website, Philip Morris sent a mailing promoting the website (JD-042707) (A) directly to 29 million people on its marketing database. Keane TT, 1/19/05, 10569:17-10570:8.

278. Philip Morris has also promoted its website address by printing it on all packs of Philip Morris cigarettes. Keane TT, 1/19/05, 10567:10-10568:10.

279. The United States' proposed corrective communications campaign utilizes a subset of the same communication vehicles Defendants have used, both historically and recently, to disseminate their fraudulent positions on smoking and health issues and to promote themselves as responsible corporate citizens. Specifically, the remedy requires Defendants to utilize newspapers, Internet websites, point-of-sale displays, and onserts to communicate specific statements, as approved by the Court, on smoking and health issues.

F. Disclosure of Documents, Disaggregated Marketing Data, and Health and Safety Risks Is Required to Prevent and Restrain Future Unlawful Conduct

280. As set out in detail above, Defendants' suppression of information has been part and parcel of their fraudulent activity and their overarching scheme to defraud, and such suppression continues to this day. See US FF § III.F, supra. Ordering the creation and maintenance of document depositories and document websites (i.e., websites which provide the public with free Internet access to tobacco industry documents) is a disincentive for future misconduct because Defendants know that their business practices will be subjected to public display. Such disclosure will thus prevent and restrain future misconduct. As Defendants'

counsel said during opening statements, document websites achieve transparency, "so that people can monitor what the tobacco companies are doing." Webb opening statement, 9/22/04, 370:19-25.

281. Document websites and depositories ensure public access to internal company documents. Szymanczyk WD, 200:3-6.

282. Adding documents that are produced in litigation to the Minnesota Depository and to the Defendants' document websites "ensure[s] that the information known by the tobacco companies is available and readily accessible to the public." Szymanczyk WD, 202:15-19.

283. As Dr. Allen M. Brandt, Professor of the History of Science at Harvard University and of the History of Medicine at Harvard Medical School testified, document depository and website archives of industry documents are of "great importance" to research because they provide "a remarkable archive of industry materials on questions of great significance in the history of cigarette smoking." Brandt WD, 19:9-11.

284. The existing document websites and depositories created and maintained as a result of litigation during the 1990s, when joined with the discovery materials produced in this case, provide "a remarkable volume of internal industry material that sheds important light on the history of research into the health risks associated with tobacco; the strategies of the industry for marketing cigarettes; as well as the industry's internal and sponsored research programs." Brandt WD, 27:1-5.

285. Such document collections allow researchers to "gain insights into the internal behind-the-scenes processes, planning, and activities of individuals and institutions[;] deepen and enhance our understanding of the logic of decision-making, planning and the deeper contexts of

issues than might be available in the public record[; and] provide access to motivations, strategies, and actions not always available in printed sources." Brandt WD, 28:18-29:1.

286. Defendant BATCo uses its existing document depositories to collect information about the topics and specific documents that members of the public, as well as its litigation opponents, review and select for copying. As this Court stated in Order #332, BATCo maintains daily records on all BAT Group documents which are selected for review, and all documents which are selected for copying, by visitors to the Guildford Depository. BATCo then provides this information to its lawyers at the Lovells law firm, and requests and receives legal advice – provided in daily reports known as "Guildford Reports" – based upon BATCo's knowledge of every single document that visitors to the Guildford Depository review or select for copying. The Health Committee of the U.K. House of Commons stated in its Second Report, entitled, *The Tobacco Industry and the Health Risks of Smoking* (2000), "We find it a matter of concern that BAT takes such an interest in those organizations using the Depository. We do not think it is appropriate for them to sift through the individuals wishing to examine public access materials, working out who is a scientist, who is an academic, who is British or who is a potential litigant." 322241213-1295 at 1282 (US 93249) (O).

287. Unless expressly prohibited by Court order, Defendants will be able to use their document websites to gather, store, and make use of information about visitors to those websites, such as information about their computer "domains" and other data identifying their research institution, government agency, company, or law firm, as well as the searches that they conduct and the documents they view and print or download. The BAT plc website, to which BATCo contributes and with which it agrees (see Defs.' Motion for Summary Judgment on the Grounds That There Is No Reasonable Likelihood of Future RICO Violations, Rule 7.1/56.1 Statement of

Material Facts Not in Dispute (R. 2394, filed 8/1/03) at 43), specifically states that it collects website visitors' Internet Protocol addresses. BAT website "Conditions of Use" § 4 (JD-013221) (O).

(1) Document Websites

288. Section IV of the MSA obliges certain Defendants to create and maintain document websites. MSA § IV(c) & (e) at 36, 39 (JD-045158) (A). See, e.g., Keane TT, 1/18/05, 10376:22-10377:7 (discussing Philip Morris's document website, www.pmdocs.com); McAllister WD, 8:25-9:4, 15:4-5 (discussing CTR document website, http://www.ctr-usa.org/ctr).

289. Neither Altria nor BATCo was a signatory to the MSA, and so neither is obliged to have any document website. Bennett LeBow acknowledged on behalf of Liggett that Liggett is not subject to the MSA's document website provisions. He also acknowledged that "Liggett has not agreed to create and maintain a website on an ongoing basis, like the original participating manufacturers, that contains documents that Liggett produces in smoking and health litigation." LeBow TT, 4/4/05, 17570:14-17572:4.

290. The MSA's document website obligations end on June 30, 2010, and it applies only to documents produced by these Defendants in litigation. As David Beran testified, the requirement applies to "many documents we produce in litigation," but it does not apply to all. Beran WD 82:17-20; Beran TT, 4/18/05, 19342:4-14.

291. Document websites have several significant features that document depositories do not. Collections of tobacco documents placed on the web following the litigation of the 1990s, unlike the majority of non-digitized archival materials, are generally searchable through the web. In addition, not all members of the public are able to travel to Minnesota to access the

Minnesota Depository, so a document website "increases the availability of the documents to the general public," as well, of course, as to Court-appointed monitors. Brandt WD, 28:1-8; Szymanczyk WD, 202:4-6.

292. Defendants' own expert witnesses used Defendants' document websites to do research for background information and to find internal company documents concerning nicotine pharmacology. Gentry TT, 10/14/04, 2360:15-2361:3; Rowell WD, 8:17-22.

293. Bibliographic data provided by Defendants' existing document websites are essential to ascertain such information as the authors of documents who are not identified within the document. Harris WD, 135:12-16. Such bibliographic data reveals who received a given document, and whether it comes from a Defendant's legal or marketing department. Redgrave arguments, TT, 10119:9-23, 10121:8-10122:22.

(2) Document Depositories

294. Separately from the documents available on document websites, hard copies of many documents are maintained in document depositories. The May 1998 Minnesota settlement obliged the Minnesota Settling Defendants to pay to maintain and operate the Minnesota Depository, for 10 years, and those Defendants and BATCo to send additional documents produced in smoking and health litigation there for the same period. Those obligations will thus cease in May 2008. Minnesota consent judgment § VII(C), (E) (JD-093326) (A).

295. The Minnesota settlement did not oblige Liggett to send documents to the Minnesota Depository or to create any other document depository. Nor has Liggett voluntarily created a document depository on its own. Bennett LeBow, Chairman and CEO of Vector Group and VGR Holding, testified that he is unaware of Liggett's having a document depository that is publicly available anywhere in the United States. LeBow TT, 4/4/05, 17622:16-22.

296. During the Minnesota litigation, BATCo created the Guildford Depository in Guildford, England, to provide the Minnesota litigants with access to documents created before that litigation's document cutoff date, August 18, 1994. See Order #38 (protocols for United States trip to Guildford Depository for access to pre-August 18, 1994 documents available to the public); Order #75 ¶ 2 at 2 (same, for access to non-public "files created between August 18, 1994 and December 31, 1999"). BATCo is obliged to maintain and operate the Guildford Depository collection of documents from 1994 and earlier for another 10 years. Minnesota consent judgment § VII(D) (JD-093326) (A). That obligation thus ceases in May 2008. As discussed by Health Committee of the U.K. House of Commons in its Second Report, entitled, *The Tobacco Industry and the Health Risks of Smoking* (2000), the Guildford Depository falls short of the standards for a usable archive in many ways. 322241213-1295 at 1282-1283 (US 93249) (O) (reporting that there are no document-level indices at the Guildford Depository, and the file-level indices "gave no useful indication of the material contained in the eight million pages stored at Guildford. . . . [O]nly the title of the file was indexed and, as we discovered, this often gave absolutely no indication of the contents.").

(3) Assertions of Privilege and Confidentiality

297. The purposes of document disclosure will be substantially frustrated unless Defendants are ordered to provide complete and accurate information about any documents they withhold on grounds of privilege or other protection, as well as confidentiality. This must include complete and accurate information about any courts or other authorities which have previously overruled Defendants' assertions of privilege or other protection, as well as confidentiality. In Order #51, § III.G.9, this Court ordered Defendants to identify all privilege

assertions which were previously overruled, including court action, and to provide copies of all orders overruling such privilege assertions.

298. Defendants have been recalcitrant about providing the public with access to documents over which they have lost privilege. For example, many of the most significant documents detailing Defendants' past history came to light only as a result of past orders overruling Defendants' assertions of privilege, especially including the Minnesota crime-fraud rulings that led to over 32,000 documents being produced. Defendants agreed to allow the Minnesota plaintiffs to seek authority to place those documents in the Minnesota Depository. Minnesota consent judgment § VII(C) (JD-093326) (A). This Court and many other courts have found that Defendants thus waived privilege over these documents, as well as through the non-British Defendants' producing their documents (which became known as "Bliley documents") to a congressional subcommittee. Order #149, published as United States v. Philip Morris, Inc., 212 F.R.D. 421 (D.D.C. 2002), and cases cited therein.

299. Defendants have been abusive in designating and withholding documents on both privilege grounds and confidentiality grounds. Charles Wall, now Altria's General Counsel and Senior Vice President, and previously an attorney at Shook Hardy & Bacon for twenty years, wrote a March 20, 1985 memorandum, produced by BATCo after its privilege assertions were overruled in Order #397. Wall wrote that in Cipollone, Shook Hardy & Bacon designated **all** tobacco industry documents that were not already in the public domain as "confidential," **without any attempt "to determine whether in fact the documents were treated as confidential or could be defined as confidential by the federal rules and case law."** 503140888-0907, 0899 (US 29670) (O) (emphasis added).

300. As discussed above, Liggett committed egregious abuses in its privilege logs in this action, as well as asserted privilege over documents for which it had waived all privilege in its 1997 settlement with the states' attorneys general. See US FF §§ V.A(3)(b)(i), V.A(4), supra. Moreover, when scientist Dr. Dennis Dietz first joined Liggett in 1990, Liggett attorneys instructed him to write **"Privileged and Confidential"** on any document he thought was "going to be sensitive"; he conceded that "sensitive" issues included "any issue that . . . could crop up in a product liability case." Dietz TT, 3/29/05, 17158:19-17163:22, 17172:9-24. As Dietz wrote in a contemporaneous December 5, 1990 memorandum, Liggett's attorneys emphasized the importance of marking scientific documents as "Privileged and Confidential" in the context of protecting such documents from disclosure in product liability litigation. LWDOJ00002067-2070 at 2067 (US 93217) (A); LWDOJ00002066-2066 (US 93218) (A).

301. Although the value of most confidential information declines with time, Defendants do not routinely "dedesignate" documents that they withhold from the public on confidentiality grounds. See, e.g., Read TT, 3/22/05, 16460:9-16466:20; 322275335-5372 (US 93197) (A) (discussing 38-page fax dated September 14, 2000, titled "Documents Not in the Public Domain" and listing over a thousand BATCo research and development reports not in the public domain).

(4) Disaggregated Marketing and Sales Data

302. Compelling disclosure of disaggregated marketing and sales data are required "to provide greater transparency to the public as to what is being spent and what effect it's having." Eriksen TT, 5/16/05, 20135:18-23. Compelling Defendants to make publicly available the disaggregated marketing and sales data that their own expert witness recommends be released to

the public domain is needed to ensure transparency and to prevent Defendants from continuing to make false denials of the effects of their conduct upon youth smoking.

303. The Defendants do not make publicly available brand-specific, promotion-specific, or other disaggregated data on their marketing expenditures or sales, such as the disaggregated marketing data that the FTC adds up in its reports of aggregated total figures. Beran TT, 4/18/05, 19324:22-19325:16; Eriksen WD, 87:22-88:2.

304. Philip Morris's Retail Leaders price discount program vividly illustrates Defendants' selective release of such information. Through this program Philip Morris discounts cigarettes or gives other incentives to 200,000 retail outlets in the United States, which account for 85% of the cigarettes sold at retail in the United States. Willard TT, 4/14/05, 19083:1-19084:20. Mark Beran, Philip Morris's Executive Vice President of Strategy, Communications and Consumer Contact, acknowledged that Philip Morris does not make public how much Philip Morris pays retail stores and outlets through its Retail Leaders Program for product placement and promotion. Beran TT, 4/18/05, 19343:4-19344:2. Nonetheless, Philip Morris does selectively release other disaggregated promotion information about the Retail Leaders program when it believes it helpful. Specifically, Philip Morris highlighted that from 2001 to 2004 it spent about $125 million per year (totaling $500 million over the four years) on one component of the Retail Leaders program – the "Progressive Merchandising Option" – to publicize its expenditures on what it considers to be a youth smoking prevention program. Szymanczyk WD, 153:1-154:7; Szymanczyk TT, 4/7/05, 18217:1-18218:3.

305. Nor do Defendants make detailed data on brand-specific, promotion-specific, and other disaggregated marketing expenditures or sales available to the public or public health researchers for research purposes. Both the United States' and Defendants' experts agree that

detailed calculations of the precise impact of Defendants' various kinds of marketing expenditures upon youth smoking requires such disaggregated data. Eriksen WD, 87:22-88:5; Heckman TT, 4/13/05, 18875:7-10. The United States' and Defendants' expert witnesses further agreed that such disaggregated data must be broken down to show spending expenditures by geographic region and type of market. Eriksen WD, 88:2-5; Eriksen TT, 5/16/05, 21054:25-21055:12.

306. Defendants' expert witness James Heckman testified that in preparing to testify in this case, he requested data from his litigation contract firm, Lexecon, and/or Defendants' attorneys, to show Defendants' advertising budgets broken down by geographical regions, but did not receive the data he requested. Heckman TT, 4/13/05, 18944:15-18949:12. He asked Lexecon or Defendants' attorneys for data disaggregated not only by region, but broken down all the way to "neighborhood blocks, the kind of data that marketing people can sometimes get access to." Id. at 18954:22-18955:2. He testified that such disaggregated data, broken down by geographic markets and regions, is of central importance: "I would repeat the statement that it would help understand the factual – approve [sic] **the factual base on all sides of this case to have that information in the public domain."** Heckman TT, 4/14/05, 18960:2-15 (emphasis added); see also id. at 18996:3-4 ("Well, I agree that more disaggregated data would be productive as I testified yesterday and would testify any day.").

(5) Disclosure of Health and Safety Risks

307. Defendants have gone to great lengths to suppress information about the health effects of their products. See generally US FF § III.F, supra (suppression and concealment). As Dr. Max Bazerman testified, "Evidence exists that defendants have not been forthcoming with

accurate and complete information concerning the health and safety risks associated with cigarette smoking." Bazerman WD, 62:37-63:1.

308. Mandatory disclosure is the only mechanism for the public or others to learn about Defendants' research. Bonhomme WD, 66:18-22 ("With the exception of the document website, documents or research that we do is held confidential within the organization."). To prevent and restrain Defendants from continuing to suppress such material information from the public and from their consumers, Defendants must be ordered to provide "accurate and complete information concerning the health and safety risks associated with cigarette smoking." Id., 63:1-4. Ensuring that this happens will require appointing Court-appointed officials who have access to Defendants' papers and personnel.

G. Comprehensive Review of Defendants' Business Practices Is Required to Prevent and Restrain Future Frauds

(1) Fraud Pervades Defendants' Business Practices

309. For over five decades, Defendants have engaged in a massive scheme to defraud the public and this fraud continues to this day. See US FF § III., supra. Using their Research and Development, advertising, marketing, and public relations business functions, Defendants perpetrate this scheme to defraud through various means, including:

(a) causing public dissemination of numerous false, deceptive and misleading statements denying that cigarette smoking and Environmental Tobacco Smoke cause disease and other adverse health effects (See US FF § III.A-C, supra);

(b) failing to conduct or sponsor independent, disinterested research into the potential adverse health effects of smoking despite public dissemination of numerous false, deceptive and misleading statements that they would conduct or sponsor such research (See US FF § III.B, supra).

(c) causing public dissemination of numerous false, deceptive and misleading statements denying that cigarettes are addictive (See US FF § III.C(1), supra);

(d) designing cigarettes with the purpose of ensuring rapid delivery of a controlled level of nicotine sufficient to create and maintain addiction despite public dissemination of numerous false, deceptive and misleading statements denying that they manipulate nicotine levels (See US FF § III.C(2), supra);

(e) deceptively marketing "light" and "low tar" cigarettes as less hazardous despite their knowledge to the contrary (See US FF § III.D, supra);

(f) marketing to youth despite public dissemination of numerous false, deceptive and misleading statements denying that they marketed to youth (See US FF § III.E, supra); and

(g) suppressing the disclosure of information that could jeopardize their public relations positions and litigation defenses (See US FF § III.F, supra).

310. Defendants' fraudulent conduct has permeated all aspects of their operations – from how they design and market their products to how they communicate with the public about them. Bazerman WD, 43:10-13. It is clear that the current business practices of the still-operating Defendants encourage fraudulent behavior to occur. Bazerman WD, 45:4-6.

311. This fraudulent behavior is driven by profit, and there is no question that Defendants are profitable companies. See US FF § V.A(5), supra. Without changes to their business practices and policies, Defendants will continue to engage in RICO violations as long as this behavior reaps profits. Bazerman WD, 19:19-21; Harris TT, 10/14/04, 2519:24-2520:6. Removing the incentives, practices, and policies that lead to RICO violations will prevent and restrain future frauds. Bazerman WD, 1:14-2:10; Bazerman TT, 5/4/05, 20322:18-20324:12.

(2) Independent Investigation and Oversight of Defendants' Business Practices Is Reasonable and Necessary In Order to Address Defendants' Pervasive Fraud

312. Because a "culture" of fraud permeates Defendants' business practices, Defendants cannot be allowed the responsibility of identifying and implementing changes to their own businesses. Thus, it is necessary for an impartial agent of the Court to conduct an independent review of Defendants' business policies, practices, and operations in order to identify and

implement appropriate procedures and measures, which will remove the incentives, practices, and policies that have led Defendants to commit RICO violations. Bazerman WD, 2:20-3:3, 45:1-6.

313. Dr. Max Bazerman, an expert in behavioral decision research with a specific focus in managerial and organizational contexts, evaluated the incentives operating on Defendants' business practices. Bazerman WD, 1:16-19, 4:13-16. Since 1977, Dr. Bazerman has served on the faculties of distinguished business schools, such as Boston University, Massachusetts Institute of Technology, and the Kellogg Graduate School of Management at Northwestern University. For the past five years, Dr. Bazerman has been the Jesse Isidor Straus Professor of Business Administration at Harvard Business School. (no bates) (US 89457) (A) (Curriculum Vitae). In addition to his teaching and research, Dr. Bazerman has consulted to "corporations, international financial institutions, professional associations, not-for-profit organizations, and municipalities" for over twenty years. Id. at 11:13-16. Many of the corporations to which Bazerman consults are renowned multinational entities in various industries. Id. at 12:1-5; Bazerman TT, 5/4/05, 20489:24-20491:8. Specifically, Bazerman teaches corporate executives in the areas of decision making and negotiations, including "ethical aspects of decision making." Bazerman WD, 11:17-23.

314. One aspect of Dr. Bazerman's research is particularly relevant to this case. In 1997, Dr. Bazerman and his colleagues published a paper that examined alleged corruption in the auditing industry and recommended structural changes to auditing firms "so that incentives that create corruption and bias would not occur in the future." Id. at 38:17-23, 39:4-10. In 2000, the Securities and Exchange Commission ("SEC") invited Dr. Bazerman to testify at a hearing on

auditor independence and Dr. Bazerman presented recommendations to restructure auditing firms to eliminate incentives for misconduct. Id. at 39:11-41:6.

315. Defendants called Daniel Fischel, a part-time law professor and litigation consultant, to respond to Bazerman's testimony. Other than providing advice through counsel for litigation, Fischel has never advised corporate boards of directors, has never consulted directly to senior management of any corporation, nor has he consulted to companies on issues of corporate reorganization or restructuring. Fischel TT, 5/27/05, at 22144:25-2145:10. As a paid expert witness and litigation consultant, Fischel has earned approximately $3 million to $4 million in salary and bonuses each year from 2001 through 2004. Id. at 22136:13-18, 22137:10-18. Furthermore, through business dealings as President of the litigation consulting firm, Lexecon, Fischel received a total income of $20 million in 2003. Id. at 22135:16-22137:9; US 93792 (A). Fischel, however, first denied receiving that sum when directly asked by the United States on cross examination. Id. at 22135:13-15.

316. The Court observed the demeanor of these witnesses live at trial. Based on his expertise and experience with organizational behavior, Dr. Bazerman's opinions pertaining to the incentives that drive Defendants' unethical and fraudulent conduct are entitled to greater weight than those of Fischel.

317. Ensuring that Defendants fully comply with this Court's remedies Order will require that the Court-appointed officials have full access to Defendants' premises, papers, and personnel. Provisions of the MSA authorizing state attorneys generals to inspect documents and interview employees will largely expire by the end of 2006. This Court's remedies Order will require at least as much authority to monitor Defendants as they voluntarily agreed to in settling

the states' attorney general lawsuits. Szymanczyk WD, 118:2-4; MSA § VII(g) at 52 (JD-045158) (A); Szymanczyk TT, 4/11/05, 18344:13-18346:20.

318. Access to Defendants' facilities, operations, employees, meetings, and records is imperative in order for the independent investigation to be effective. Bazerman WD, 45:1-6. Remedial changes to Defendants' business practices will require the independent investigators to become familiar with the "organizational architecture" of Defendants' companies, which includes "the ways in which the people, tasks, competencies, structures, incentives, and culture of a firm interrelate." Bazerman WD, 45:12-23. An effective way to do this is through witnessing the corporate culture in person. The independent investigators will need to talk with employees, attend meetings, and review Defendants' operations firsthand, especially since the evidence demonstrates that Defendants' written policies are not necessarily what is done in practice. See discussion at end of US FF § V.G(3), infra. (discussing Mission Statements); see also Gulson WD, 8:16-10:16, 15:1-12; Gulson TT, 2/17/05, 13756:14-13757:21 (describing BATCo's written and "unwritten" document retention policies). The independent investigators also play an integral role in overseeing Defendants' compliance with remedies such as the cessation programs and targeted reductions in youth smoking discussed above. See US FF §§ V.B & V.D, supra.

(3) Independent Review and Oversight of Defendants' Business Practices Is Aimed at Addressing Specific Fraudulent Conduct

319. The goal of the independent review and oversight of Defendants' business practices is to identify and implement procedures and measures that will prevent and restrain Defendants from continuing to engage in fraud. This may be accomplished in numerous ways, including but not limited to: (a) eliminating economic incentives for Defendants to market and sell cigarettes to youth; (b) changing compensation and promotion policies for managers and executives to produce outcomes inconsistent with misconduct; (c) requiring subcontracting of

certain research to independent third parties monitored by the Court; (d) requiring Defendants to divest intact their research and development, current product development activities, and all other relevant material regarding less hazardous cigarettes so that less hazardous cigarettes can be brought to the marketplace; (e) requiring the institution of programs to educate managers in such a way to address bias in decision making; (f) creating internal mechanisms for employees, agents and contractors to report misconduct without fear of retribution; and (g) changing oversight and reporting arrangements to produce outcomes inconsistent with misconduct. Bazerman WD, 2:11-19, 3:4-15.

320. As set forth below, the United States has presented evidence that each of these potential changes to Defendants' business practices and policies is aimed at preventing and restraining specific future fraudulent conduct.

321. Defendants have substantial economic incentives to sell cigarettes to youth and they act to attract young people to smoking because they need new young smokers to stay in business and increase profits. "Market research showed all the tobacco companies that, unless an individual began smoking by age 18, it was very unlikely that he or she would ever start." Dolan WD, 62:11-14. Consequently, Defendants recognized that young smokers were the key to sustaining the industry. A 1984 RJR document states, "Younger adult smokers are the only source of replacement smokers . . . . If younger adults turn away from smoking, the industry must decline, just as a population which does not give birth will eventually dwindle." 501431517-1610 at 1526 (US 20680) (A).

322. Defendants' marketing to teenagers sustains their customer base and generates substantial profits over the long term. Dolan WD, 67:8-68:11; 507181261-1261 (US 20007) (O). Publicly, however, Defendants deny that they market to youth. See generally, US FF § III.E,

supra. Defendants' economic incentives to engage in this fraud continue to operate within their businesses and outweigh incentives that Defendants currently have to change their marketing practices. In fact, Defendants have refused to implement measures voluntarily that would make their marketing efforts less appealing to youth. For example, Altria has consistently opposed proposals from its shareholders that the company voluntarily submit all advertising and marketing to "independent and certifiable testing to ensure that it is not equally or more appealing to those [under eighteen]." GTS1491471-1501 at 1498-1499 (US 87738) (A); 2078016400-6453 at 6435-6435 (US 20531*) (A); GTS1482016-2055 at 2041-2042 (US 87740) (A).

323. As long as it is profitable for Defendants to market and sell cigarettes to young people, this behavior will continue. The United States has presented evidence of measures that would eliminate the economic incentives to market cigarettes to young people, such as targeted reductions in youth smoking, US FF § V.D, supra, and counter-marketing programs, US FF § V.C, supra.

324. Defendants' executives and officers also profit substantially from all of Defendants' business practices, including those that comprise the overarching scheme to defraud the public. Clearly, there are financial incentives for Defendants' executives to continue business practices that provide them with lucrative salaries, stock options and other perquisites. The record contains numerous examples of these substantial financial incentives:

(a) Andrew Schindler, Non-Executive Chairman of Reynolds American Inc. ("RAI"), earned total compensation of **$10,301,913** in 2003, Schindler WD, 7:13-7:15; and **$44 million to $45 million** in 2004. Schindler TT, 1/24/05, 10712:1-5.

(b) As incoming President and CEO of RAI, Susan Ivey earned **$1.1 million** in 2004, while Lynne Beasley, President of Reynolds, earned **$4.6 million** in total compensation in 2004, and Charles Blixt, Executive Vice President of Reynolds,

earned **$3.6 million** in total compensation in 2004. VXA4870234-0310 at 0267 (US 89456) (A).

(c) Michael Szymanczyk, Chairman of Philip Morris, earned **$2.9 million** in salary, incentive, and other compensation in 2004, plus another **$2.7 million** in restricted stock awards, dividends and defined contribution plans. Szymanczyk WD, 2:23-3:14.

(d) In 2004, Denise Keane, Senior Vice President and General Counsel of Philip Morris, received a salary of **$525,000**, a bonus of approximately **$350,000 or $400,000**, a stock option package dependent upon company performance, and other benefits. Keane TT, 1/19/05, 10523:15-10525:8.

(e) Bennett LeBow, of Liggett, earned total compensation of about **$3.8 million** in 2003. LeBow WD, 4:12-20.

325. The compensation of these executives is based almost exclusively on traditional financial measures, rather than on measures inconsistent with misconduct. For example, Andrew Schindler's bonus is based on "market share performance." Schindler WD, 7:22-8:2. Schindler admitted that the structure upon which his bonus was based provided no incentive for reducing youth smoking. Schindler TT, 1/24/05, 10712:20-23. Reynolds's current executive compensation polices are based on two principles: attracting and keeping "high caliber" executives, and "quantifiable measures of RAI's financial performance and/or stock price performance." VXA4870234-0310 at 0264-0265 (US 89456) (A). Other Defendants' executive compensation policies are similar. Keane TT, 1/19/05, 10523:20-25 (Philip Morris); AG8000100000-0073 at 0023 (JD-052854) (A) (Altria); TLT1022236-2258 at 2247 (US 87743) (A) (Lorillard).

326. Motivated by profits and maximizing shareholder return, Defendants will continue to act consistently with these incentives. Bazerman WD, 1:20-22; Bazerman TT, 5/4/05, 20324:8-13. Bennett LeBow summarized this sentiment by agreeing that he "wanted to make as much money as [he] possibly could selling cigarettes" because "[t]hat's what a business person

normally does." LeBow TT, 4/4/05, 17576:20-17577:7. Defendants continue to earn significant profits, due in part by committing fraud. Thus, it is important to change the focus of Defendants' compensation and promotion policies to produce outcomes that are inconsistent with fraud. Bazerman WD, 47:3-12, 48:10-16; Bazerman TT, 5/4/05, 20494:21-20495:3. Even Defendants' expert witness, Daniel Fischel, agreed that compensating managers using "nonfinancial measures [of] conduct inconsistent with fraud" is a way to discourage managers from engaging in fraud. Fischel TT, 5/27/05, 22157:20-22158:5.

327. When confronted with proposals to tie executive compensation to nonfinancial measures, such as reductions in youth smoking, Defendants have declined to implement such measures voluntarily. Overlooking the long-term profitability of addicting young smokers, Andrew Schindler rationalized, "the sale of Reynolds cigarettes to minors represents an extremely small amount of Reynolds' total sales and thus is insignificant to any bonus." Schindler WD, 7:22-8:2. Philip Morris claims that executive compensation is based on meeting the goals expressed in its Mission Statement. Szymanczyk asserts that he is "compensated based on the progress we make toward our Mission." Szymanczyk WD, 1:18-20. Philip Morris and Altria, however, have opposed shareholder proposals requesting that the company "voluntarily create a formula linking future executive compensation packages with achievement in specific decreases in teen consumption of our company's brands." GTS1491471-1501 at 1497 (US 87738) (A); 2078016400-6453 at 6432 (US 20531*) (A). Lorillard has also declined to implement such policies voluntarily. TLT1022236-2258 at 2251 (US 87743) (A). To prevent and restrain Defendants from engaging in fraud, such as marketing cigarettes to youth, there is a need for independent evaluation of Defendants' business practices to ascertain how to accomplish and implement changes to executive compensation and promotion polices that will produce

outcomes inconsistent with this fraud. Bazerman WD, 53:12-18; Bazerman TT, 5/4/05, 20454:7-20455:18.

328. Profits and the continuation of their businesses have also motivated Defendants to use their Research & Development functions to commit fraud. See US FF §§ III.A-F, supra. Defendants have collectively generated research that supports their public positions on smoking and health, addition, and nicotine. See id. At the same time, they suppress the results of studies that are unfavorable to the industry. See US FF § III.F, supra.

329. Examples of this continuing fraud include Defendants' concerted efforts to produce research that the industry could use in support of its public positions on ETS. In a 1988 BATCo document memorializing a "special meeting of the UK Industry on Environmental Tobacco Smoke," held on February 17, 1988 in London, Dr. Sharon Boyse, a B&W scientist, stated that:

> Philip Morris presented to the UK industry their global strategy on environmental tobacco smoke. In every major international area (USA, Europe, Australia, Far East, South America, Central America, & Spain), they are proposing, in key countries, to set up a team of scientists organised by one national coordinating scientist and American lawyers, to review scientific literature and **carry out work on ETS to keep the controversy alive.** They are spending vast sums of money to do so, and on the European front Covington & Burling, lawyers for the Tobacco Institute in the USA, are proposing to set up a London office from March 1988 to coordinate these activities.

321140944-0949 at 0944 (US 20586) (A) (emphasis added); Blackie TT, 10/25/04, 3703:1-3703:8.

330. Covington & Burling attorney John Rupp asserted that Boyse-Blackie's summary of the Philip Morris and Covington & Burling "global strategy" on ETS was "inaccurate in many respects." Rupp WD, 90:16-17. However, internal industry documents belie Rupp's assertion.

Indeed, Rupp's goal was to recruit "a core group of scientists who are fully trained on the issues" to write articles and participate on the industry's behalf at conferences. 2500048635-8640 at 8636-8637 (US 20550)(A); 2500048508-8515 at 8510 (US 20549) (A); 300543209-3215 at 3210 (US 28138) (A).

331. Defendants also attempted to conceal the funding source of the ETS studies that they supported, so that the studies would seem to come from "independent sources." See generally US FF § III.A(2), supra; 2500048976-8998 at 8989 (US 23007) (A) (1990 Asia ETS Consultant Project); 300541761 (US 23597) (O) (1991 Hong Kong monitoring study); see also US FF § III.A(2), supra (discussing Defendants' "ghostwriting" of scientific studies). Defendants have touted the Enstrom and Kabat article, "Environmental tobacco smoke and tobacco related mortality in a prospective study of Californians, 1960-1998," as support for their position that ETS does not cause disease. (JD-024496) (A). Researcher James Enstrom's affiliation with Defendants is not mentioned in this article. Yet, the record here shows that Enstrom received $525,000 from CIAR to conduct the study. Eisenberg WD, 49:21-50:3; 566943549-3579 (US 85813) (A); 2505442777-2960 at 2815 (US 25643*) (A). In addition, Enstrom had a previous decades-long working relationship with Defendants. 2063610840-0841 at 0840 (US 85796) (A). Defendants have failed to note these facts when publicly praising the results of the study. ARG0412302-2303 (US 86747) (O) (BATCo website); TLT1020487-0488 (US 88461) (O) (BATCo website); Defs.' Opening Stmt, TT, 9/22/04, 328:21-25.

332. To prevent and restrain Defendants from using their research activities to perpetrate fraud, an independent agent is needed to review and monitor Defendants' research activities to determine whether such activities need to be placed under the direction of an independent third party. Bazerman TT, 5/4/05, 20333:3-9. Defendants' own expert witness,

Daniel Fischel, agreed that, if research functions are being used to commit fraud, then one logical solution is to subcontract those functions to an independent third party. Fischel TT, 5/27/05, 22158:14-22159:1.

333. Another way in which Defendants have used their R&D functions and marketing practices to commit fraud is through their marketing and development of less hazardous cigarettes. Defendants agreed not to compete on smoking and health issues in the marketing of cigarettes. See US FF § III.A, supra. Despite knowing that the commercial success of less-hazardous products depends upon informing consumers about their potential for harm reduction, Defendants have consistently withheld this information from consumers, because it would contradict their public relations position denying that smoking causes disease. See id.; 2086120855-0890 at 0855, 0871 (US 45812) (A) (Philip Morris's Accord); 510959750-9752 at 9750 (US 51536) (A) (RJR's EW); TLT0960001-0002 (US 87216) (A) (B&W's Advance).

334. To prevent and restrain Defendants from continuing their refusal to develop and market less hazardous products in order to protect their false public relations campaign, an independent review of Defendants' current research in this area is imperative. Bazerman WD, 58:4-9. The experience with the development and marketing of Advance is instructive in this regard. See US FF § III.A(3)(g), supra Star Scientific, an independent tobacco company, test marketed Advance, which was developed under an agreement with B&W. Star provided consumers with onsert information about Advance's potential for harm reduction. See 524942388-2389 (US 52963) (A) and 524942390-2391 (US 88038*) (O); Blackie WD, 180:4-16. B&W, however, renegotiated the agreement and then repackaged Advance without the previous statements of smoking's harms to consumers. TLT0960001-0002 (US 87216) (A). Consequently, an independent investigation of Defendants' less hazardous research and

development activities is needed to determine measures to divest intact these activities from Defendants' operations, so that less hazardous cigarettes can be brought to the marketplace. Bazerman WD, 58:23-59:8.

335. Certainly, Defendants' overarching scheme to commit fraud continues to this day due to the decisions of Defendants' managers and executives that perpetuate this fraud. Indeed, numerous individuals at Defendants' companies have intentionally misrepresented the facts about smoking and deceived the public. For instance, Thomas Sandefur, former Chairman and CEO of Brown & Williamson, frequently told others within the company, "we need to hook ‘em young and hook ‘em for life." Wigand WD, 89:8-15. Yet, testifying under oath before Congress, Sandefur denied that nicotine is addictive. TLT0730001-0850 at 0594 (US 77011) (O). Wayne Juchatz, longtime counsel for RJR, along with other company attorneys, monitored and suppressed the work of scientist Robert DiMarco, who believed the company should develop "less mutagenic," or "safer" cigarettes. Juchatz told DiMarco that he could not conduct this type of research, as such products imply that RJR's existing products are not safe. Juchatz TT, 11/18/04, 6583:19-6587:5. Ultimately, DiMarco was forced to work with the company's Legal Department to ensure that he would conduct the work that he wanted, but in a way that did not jeopardize the company's legal defenses or public positions. Id. at 6590:19-6591:2.

336. Intertwined with this intentionality are individuals who have supported Defendants' public positions on smoking and health while remaining ignorant of Defendants' internal research and knowledge. Brennan Dawson, former spokesperson for TI, claims that Defendants did not provide her with any information that nicotine was addictive and that Defendants did not share with her that they accepted the view that smoking tobacco caused diseases, such as lung cancer. Dawson WD, 53:9-12; 54:8-11; 55:5-9, 80:11-16. The United

States called Dr. Bazerman to discuss social science research that shows how individuals identify with positions they have taken or roles that they have assumed to the point where "they see the world as they wanted to see it." Bazerman WD, 6:7-7:2. Bazerman also described how bias and unintentional conduct flow from the intentional frauds committed by those in Defendants' companies. Bazerman TT, 5/4/05, at 20333:3-9.

337. Defendants contend that their respective Mission Statements, Corporate Principles, and executive training programs evidence a commitment to ethical standards of behavior. "In order for a Mission Statement to have meaning and be effective, the company's actions must reflect the values expressed in the mission statement." Bazerman WD, 68:10-11. Unfortunately, Defendants' Mission Statements are words which have proven wholly inadequate to prevent fraud and misconduct. See id. at 68:17-72:7 (discussing policy statements of Philip Morris, Reynolds, and Lorillard).

338. Philip Morris is a prime example of the failure of a company's stated corporate principles. The Court previously determined that at least eleven employees of Philip Morris failed to comply with Order #1, ¶7 (requiring preservation of "all documents and other records containing information which could be potentially relevant to the subject matter of this litigation."). Order #600 Mem. Op. at 2. The Court was particularly troubled by the fact "that those eleven employees hold some of the highest, most responsible positions in [Philip Morris]." Order #600 Mem. Op. at 2. At the time this occurred, Philip Morris's "Core Values" claimed, "we conduct ourselves within both the spirit and the letter of the law, regulations, agreements and policies that govern us. . . ." Szymanczyk WD, 34:9-10. Despite this claim, Philip Morris did not report the lack of compliance to the Court until four months after learning about the situation. Order #600 Mem. Op. at 2. In addition, there is no evidence that any of the eleven employees

were disciplined or reprimanded for failing to follow the company's "print and retain" policy. Instead, Philip Morris chose to "improve the entire process, rather than take actions against the individuals," because Defendant decided that the loss of email was "inadvertent." Wallmeyer PD, United States v. Philip Morris, 12/20/02, 397:15-20. Philip Morris, however, ignores the fact that, these high level employees failed to follow an explicit company policy and disregarded the Court's Order.

339. Preventing and restraining Defendants from engaging in future fraud depends upon the ability of their executives and managers to make decisions that are in line with the law and ethical behavior. Implementing programs at Defendants' companies to educate managers about "ethical aspects of decision making" will address the intentional fraud. Bazerman WD, 20:1-6, 24:18-21. "The managers would be educated on the ethics of this new organization and on what is appropriate behavior." Id. at 60:9-13.

340. In contrast to the numerous instances where Defendants have failed to discipline misconduct, Defendants have also punished and suppressed individuals who have attempted to disseminate information that contradicts Defendants' public relations positions. See US FF § III.F, supra. In 1984, Philip Morris shut down the lab where Drs. Victor DeNoble and Paul Mele conducted nicotine research using rats, because "the work [they] were doing was inconsistent with the industry's position in litigation." DeNoble WD, 38:4-14. Philip Morris placed DeNoble and Mele in an office, separate from the lab facilities, where their only tasks were to find other positions outside of the company. Id. at 38:22-39:2; see also Mele WD, 26:17-21, 27:11-19. Dr. Jeffrey Wigand, former Vice President of R&D at B&W, had long-standing disagreements with then President and COO, Thomas Sandefur on various issues, such as "safer cigarettes, biotesting of additives . . . [and] lawyer involvement in the editing and revising of

scientific documents." Wigand TT, 1/31/05, 11691:22-11693:2. Soon after Wigand proposed removing the additive coumarin from B&W cigarettes, because it was found to be a carcinogenic substance by the National Toxicology Program, Sandefur became Chairman and CEO of B&W and Wigand was terminated. Id. at 11692:21-11693:8, 11699:24-11700:10. Defendants cursorily dismissed these employees, not for deficient job performances, but to protect Defendants' public policy positions and litigation defenses. See DeNoble TT, 1/6/05, 9067:4-9069:20; Mele WD, 26:22-27:4; Wigand WD, 16:1-18:15; Wigand TT, 1/31/05, 11598:3-7.

341. Based on these experiences, an independent investigation of Defendants' personnel policies and practices is necessary. Implementing internal mechanisms for employees, agents and contractors to report misconduct without fear of retribution will prevent and restrain Defendants from suppressing individuals who oppose Defendants' public relations positions. Bazerman WD, 60:14-61:2.

342. Finally, Defendants have also structured their companies to compartmentalize information such that some individuals presenting information to the public have remained intentionally and unintentionally uninformed of Defendants' internal knowledge-- often remaining willfully blind to Defendants' fraudulent conduct. As noted previously, Brennan Dawson claims that, despite being a spokesperson for the industry, she was not informed of Defendants' internal knowledge about addiction and the adverse health effects of smoking. Similarly, Denise Keane, General Counsel of Philip Morris, was responsible for responding to the FTC's request for information regarding research on consumer perception of tar and nicotine ratings and brand descriptors. Keane informed the FTC that Philip Morris did not have such internal research; however, this was not accurate. Compare Keane WD, 48:12-23, with 2049455309-5318 at 5315 (US 22218) (A) and 2045628312-8328 (US 22217) (A). Keane

claimed that no one at Philip Morris provided her with that information and her response to the FTC was based on "specific conversations [she] had with company people, as to the nature of research that [Philip Morris] conducted." Keane TT, 1/18/05, 10375:7-10; Keane WD, 48:22-49:13. Yet, at the same time she failed to request such information specifically from the Marketing Department. Keane TT, 1/18/05, 10373:19-10374:14.

343. Individuals working on behalf of Defendants who provide information to government agencies, law enforcement, or the public at large must have all relevant information available to them if these representatives are to provide accurate and candid information on behalf of Defendants. To prevent and restrain Defendants from shielding information from their public representatives, an independent review of, and changes to, Defendants' oversight and reporting arrangements are necessary so that information is communicated properly throughout each company. Bazerman WD, 61:11-62:32.

(4) Remedies to Business Practices Requires Comprehensive Change

344. Clearly, fraud permeates Defendants' business practices. To prevent and restrain future fraud requires **comprehensive** review and oversight of Defendants' business practices. As Dr. Bazerman noted, this is not the case where "a few top managers engaged in a relatively discrete episode of illegal behavior . . . [or] where the problem is limited to a CEO or top executive who embezzled money from a company and where the company itself, as an organization, is not involved in any wrongdoing." Bazerman WD, 43:3-9. Comprehensive change to Defendants' business practices must be implemented to change the culture of fraud that exists at these companies. Id. at 10-13.

345. Based on the management literature and his experience consulting to corporations, Dr. Bazerman explained two ways comprehensive change may be implemented: through

leadership succession and "discontinuous change." Id. at 43:18-44:1. First, leadership succession is not uncommon when businesses are moving from one business model to another. Id. at 56:13-17; Bazerman TT, 5/4/05, 20494:4-20. An independent investigation of Defendants' corporate structure may reveal that removal may be warranted if any officer, employee, or other member of senior management has been found, after due notice and an adjudicatory proceeding, to have committed a RICO violation. See Bazerman WD, 54:16-55:23. Second, Defendants need to create a new business model, which moves away from the fraudulent practices of the past and present. Implementing "discontinuous change" means that there will be simultaneous and fundamental changes to the ways in which the companies do business. Bazerman WD, 44:6-11. This also means that an independent investigation will take into account ways to implement a comprehensive package of structural changes to Defendants' business practices, as well as incorporate other remedial measures such as counter-marketing and cessation programs. Id. at 2:5-10.

(5) Response to Defendants' Claims that Comprehensive Changes Will Result in Adverse Effects on Stakeholders and Market Share

346. Defendants contend that imposing changes to their business practices and requiring them to fund certain programs will adversely affect the companies, as well as "innocent stakeholders," such as employees and shareholders. Carlton WD, 37:14-23; Weil WD, 21:20-22; Fischel WD, 14:4-13. Most of the adverse effects and harms asserted by Defendants' experts are economic, and none of their expert witnesses takes into account the magnitude of Defendants' fraud.

347. Defendants called Drs. Dennis Carlton and Roman Weil to examine how the United States' remedies would effect Defendants' businesses. Carlton concluded that, if the remedies explained by Drs. Gruber, Fiore, Healton and Eriksen were implemented as a

comprehensive structure of relief, Defendants' competitive position in the marketplace "vis-a-vis non-defendant cigarette companies" would be more adversely affected than if a single remedy alone was imposed. Carlton WD, 37:14-23. These adverse effects to Defendants' competitive position mean that there will be "significant decline in share of cigarette sales." Id. Similarly, Weil concluded that requiring Defendants to pay "unconditional" payments for smoking cessation and counter-marketing programs would "impair Defendants' ability to compete meaningfully in the U.S. cigarette market" and possibly bankrupt these companies. Weil WD, 21:18-20. These opinions, however, are specious. Carlton was unable to testify about the overall profitability of Defendants' companies if the United States' remedies were imposed; he simply had a "hunch" that they would decline. Carlton TT, 6/2/05, 22786:1-13, 22787:6-9. Moreover, Weil did not calculate or analyze particular amounts of assessments that would cause any particular Defendant to become bankrupt. Weil TT, 5/31/05, 22331:10-19.

348. Daniel Fischel focused his analysis almost exclusively on Dr. Bazerman's testimony regarding removal of senior management. Without providing evidence or explanation, Fischel cursorily opined that if senior management at Defendants' companies were removed and replaced with "inexperienced" people, then shareholders, employees and the public would be adversely affected. Fischel WD, 14:4-13. According to Weil, requiring "unconditional" payments for smoking cessation and counter-marketing programs would also adversely affect "innocent third parties," such as shareholders, employees, retirees, and the States. Weil WD, 21:20-22. In reaching his conclusions, Weil did not qualify or concretely identify the alleged harms to Defendants' shareholders or employees. Weil TT, 5/31/05, 22334:8-13, 22348:25-22350:21, 22351:23-22352:8. Weil admitted that Defendants' retirees are harmed only if the pension funds maintained by Defendants are underfunded. Id. at 22353:24-22354:6.

349. While Weil assumed that liability was found, Fischel did not. Weil WD, 19:23-20:2; Fischel TT, 5/27/05, 22260:5-11. In his analysis, however, Weil did not examine the benefits that Defendants have received as a result of engaging in RICO violations. Weil TT, 5/31/05, 22352:9-16. Also, Carlton's analysis did not take into account "externalities," such as medical costs borne by society for the treatment of smoking related illnesses (Carlton TT, 6/2/05, 22854:1-3), nor did he consider "the history of the defendants' conduct that's being brought into question in this case." Id. at 22666:25-22667:3. In analyzing the impact of the United States' remedies, Defendants' experts failed to weigh the economic harms, such as possible declines in market share, against the benefits of stopping a history of fraud that has a devastating toll on public health. See Carmona WD, 1:18-21.

H. Defendant Philip Morris has Continued the Functions of CTR and CIAR through its Philip Morris External Research Program

350. The MSA, signed by certain Defendants on November 23, 1998, required that Defendants shut down and disband CIAR within 45 days of "Final Approval." Although the MSA was signed by the parties in November 1998, "Final Approval" by the settling States did not take place until approximately one year later. CTR was disbanded in October 1998 in accordance with an agreement with the New York attorney general. (No Bates) JD-045158 at 32-33 (A); 70005153-5362 at 5153-5186 (JE-021048) (A).

351. The CIAR Board of Directors voted to dissolve CIAR on October 7, 1999, and Eisenberg formally dissolved the organization on December 6, 1999. 86205205-5206 (US 21091) (O). However, a number of documents suggest that Defendants have continued the mission of CIAR, and to a large extent CTR, through a new organization called the Philip Morris External Research Program, or PMERP.

352. Defendants were already forming a plan to reconstitute CIAR at the time the MSA was signed. On November 25, 1998, Lorillard general counsel Arthur Stevens wrote a letter to Philip Morris general counsel Denise Keane with copies to Charles Blixt at Reynolds and Ernie Pepples at B&W. Stevens wrote: "Please call me later in the morning on Monday, November 30, 1998, so that we can discuss the status of the plan to reinstate CIAR. The matter seems to be 'dragging' without direction toward a positive resolution." 86205404 (US 22164) (A). Eisenberg recalled at trial that the CIAR Board of Directors had voiced their intent in 1998 to reconstitute the CIAR as well, and that he expected to be the director of the reconstituted organization. Eisenberg TT, 11/15/04, 5881:6-17, 5883:2-6.

353. Defendants' plan to reform CIAR continued into 1999. On March 7, 1999, Philip Morris USA counsel Mark Berlind sent an e-mail to James McNasby, telling him, "I will call you tomorrow about selecting counsel for the organization that would replace CIAR." 2064207030B (US 25744) (A).

354. In a March 11, 1999 memorandum from CIAR Board member Helmut Reif to Peter Lipowicz and Cathy Ellis in Richmond, Reif reviewed a proposal to form a new indoor air research organization. Reif recognized and lamented the similarities to CIAR, from a company-chosen Board of Directors with full authority over research, to the possible interference by Philip Morris lawyers:

> According to this draft, the new Corporation will be founded and paid by one company only who has all theoretical rights of interference. Since the company consists of lawyers as well, we have to make sure that nobody from the outside could construct a view that lawyers are again dominating research.

2063871374-1380 at 1380 (US 92030) (A).

355. On October 11, 1999, Eisenberg faxed Philip Morris a proposal to form an "External Research Program" to administer research largely using the CIAR model of an SAB, a research agenda, and peer reviewers. 2073327299-7301 (US 90035) (A).

356. The PMERP was established in early 2000. The program is administered by an entity called Research Management Group (RMG). RMG is headed by Max Eisenberg, the former executive director of CIAR. PMERP/RMG, also founded in early 2000, is operated out of the same offices in Linthicum, Maryland, that formerly housed CIAR. PMERP/RMG employs many of the same persons who were employed by CIAR, and even uses the same phone numbers as the former CIAR. Eisenberg WD, 52:6-10, 53:10-16; Eisenberg TT, 11/15/04, 5852:10-5853:7.

357. Eisenberg testified that he and Philip Morris established a "Research Focus" and Request for Applications for PMERP in the same way that the Research Agenda and Request for Applications were established for CIAR. Eisenberg TT, 11/9/04, 5637:16-5638:14; 2085317779-7809 (US 22200) (A). Eisenberg located peer reviewers for the PMERP in the same way he had done for CIAR; in fact, the PMERP utilized a number of former CIAR peer reviewers and grantees, as well as TI-ETSAG project recipients, including James Enstrom, Alan Hedge, Samuel Lehnert, Roger Jenkins, and Antonio Miguel. Eisenberg TT, 11/9/04, 5638:15-5639:9; 2085317779-7809 at 7802 (US 22200) (A). All told, 44 out of the 105 peer-reviewers listed by PMERP in its 2000 Request for Applications were drawn from the peer reviewer list in the 1998 CIAR Request for Applications. 2085317779-7809 at 7802 (US 22200) (A); 86616778-6810 (JD-042662) (A); Eisenberg TT, 11/15/04, 5663:14-18.

358. Eisenberg also organized the formation of a Scientific Advisory Board (SAB), similar in structure to the CIAR SAB. The PMERP SAB was originally staffed with two former

members of the CIAR SAB. Eisenberg WD, 53:22-54:3; 2085317779-7809 at 7780 (US 22200) (A). Also, researchers funded through CIAR have continued to receive funding through the PMERP. Eisenberg WD, 54:14-17.

359. The approval authority for PMERP projects in 2000 was originally a group of Philip Morris executives called the Scientific Research Review Committee (SRRC). Eisenberg TT, 5639:16-5640:7. According to the 2000 Request for Applications, the SRRC not only had exclusive approval authority, but its approval was conditioned on the serving the "business needs" of the company. 2085317779-7809 at 7783 (US 22200) (A).

360. The approval authority was later changed to the Scientific Advisory Board prior to the 2001 Request for Applications. 2082735680-2082735706 at 5682 (JD-043675) (A). Eisenberg testified at trial that the SAB still has funding authority even today. Eisenberg TT, 11/15/04, 5831:9-13. However, he was forced to concede on further examination that the SAB has no authority to sign contracts with researchers or commit funds for any studies. This authority continues to reside with Philip Morris. Eisenberg TT, 11/15/04, 5861:6-5862:6

361. A Philip Morris document titled "Philip Morris External Research Program Management Report" reveals the stark similarities in the types of work funded by the former CIAR and the current PMERP. For example, a number of projects, by their title, relate directly to ETS and indoor air quality. 2085522647-2721at 2663, 2671, 2672, 2675, 2688, 2697, 2717, 2720 (US 25310) (A). The PMERP has in many respects also taken over the role of the now-defunct CTR. Eisenberg conceded at trial that the CTR and PMERP research are very similar; in fact, when comparing the PMERP topic areas to those in the 1997 CTR Report table of contents, he testified: "That table of contents list is about as broad an area in biomedical research as there is. In fact, there is – I can't think of any proposal that would come in that wouldn't fall within one

or more of those areas. And, therefore, any proposal that the Philip Morris' External Research Program were receiving would certainly fall within one of those areas some place." Eisenberg TT, 11/15/05, 5877:14-5878:5.

362. CIAR funded $4-5 million in research annually. Eisenberg TT, 11/15/04, 5834:23-5835:1. In 1997, Defendants' contributions to CTR reached their peak - approximately $45 million - to carry out CTR-funded research. DXA0630917-1033 at 1022-1023 (US 75927) (A). According to Eisenberg, the PMERP currently funds between $45 and $50 million in research annually. Eisenberg TT, 11/9/04, 5634:9-11. Thus, the PMERP is able to provide and replace the combined funding of both CIAR and CTR, in addition to funding the exact same types of research carried out by the former entities.

363. Thus, Philip Morris is single-handedly able to achieve and operate through the PMERP what Defendants were able to achieve and operate through CIAR.

I. Surgeon General Reports at the Time of Publication Provide a Statement of Scientific Consensus on Smoking and Health; Prohibiting Defendants from Distorting or Misrepresenting Surgeon General's Reports Is Necessary to Prevent and Restrain Future Fraud

364. Smoking and health is one of the most well-studied subjects in the field of public health. The Reports of the Surgeon General on Smoking and Health are comprehensive reviews of the medical and scientific literature on smoking, smokers, and the effects of smoking on disease and death rates. Burns WD 9:2-16, 10:13-11:16, 14:10-12. The Surgeon General's Reports are authoritative statements of existing scientific consensus, and the 1964 Report "became a model for nonpartisan, independent governmental assertions of scientific evidence of public moment." Brandt WD 99:9-100:1.

365. The Reports of the Surgeon General are considered to be authoritative statements of scientific consensus in the scientific and medical communities. Benowitz WD 11:4-8; Burns

WD 12:16-17. The peer review process for Surgeon General's Reports is more extensive and objective than the peer-review process for most scientific journals. Burns WD 18:2-7.

366. Beginning with the first Report in 1964, the United States Public Health Service has followed the scientific consensus formation approach when producing a Report of the Surgeon General on Smoking and Health. The scientific community forms a consensus on issues of causation by reviewing all of the scientific evidence available; examining that evidence for its strength, consistency, coherence, temporal association and biological plausibility; and then reaching a judgment as to whether the data support a causal relationship between smoking and a disease. Burns WD, 14:13-19.

367. The Reports go through a careful process to ensure that individual biases are not determining the conclusions or statements within the volume. That process occurs through a set of expert reviews of the Report at various stages in its preparation. Individual scientists are first selected and asked to author chapters on a given topic. Sometimes the entire Report will be devoted to a specific topic, like cancer, heart disease or lung disease, but individuals are asked to offer chapters or sections on specific questions that relate to the issue examined, so that chapters can be assembled to cover the entire topic. The individual authors selected have extensive knowledge in the specific area that they are asked to write about, with the constraints that all of the pertinent scientific literature is to be considered and that conclusions of the chapter are to be based on the data presented in that literature rather than on the individual perspective of the author. Initial drafts of chapters are prepared for each Report by the individual authors, and the initial drafts are received by the editors and edited into chapters. Once the chapters are submitted, the editors make all subsequent changes and the chapters are not resubmitted to the authors for approval of those changes. The chapters are next sent out to a group of expert

scientific reviewers for peer review of their scientific accuracy and completeness, as well as for balance, tone and appropriateness of the conclusions drawn from the scientific data. These comments are integrated into the volume, and the entire volume is sent out to a group of senior scientists in the academic community for review of the entire volume for its accuracy, balance and tone. The Report is also formally reviewed by each of the agencies of the Public Health Service. Once these reviews are completed, the editors again integrate the comments into the text to strengthen the text and the science. Each Report is then submitted for formal clearance by the Centers for Disease Control, by the Assistant Secretary for Health and the Surgeon General, and by the Secretary of Health and Human Services. Once it is cleared, it is transmitted as a formal requirement of the law to Congress as the official position of the HHS on the issue. It is also released to the public and the press. Burns WD, 15:3-16-7; accord Henningfield WD, 140:12-142:10; Benowitz WD, 11:11-14, 12:4-8.

368. The scientific conclusions presented in each of the Reports of the Surgeon General are based on the consensus of then-existing scientific understanding. Burns WD, 14:10-12; accord Benowitz WD, 12:4-8. Nevertheless, the tobacco industry responded to the 1964 Report by distorting and denying the scientific evidence set forth in it. Brandt WD, 112:5-113:15; 500052010-2018 at 2011 (US 63600) (A).

369. In fact, Defendants, most often collectively through the Tobacco Institute, have routinely attacked the conclusions of the Reports of the Surgeon General simultaneously with and immediately after the reports were issued, even when their own internal studies and knowledge supported the Surgeon General's conclusions. See, e.g., Brandt WD, 115:7-118:22; 1005152849-2896 (US 20226) (O) (1969 publication issued by the Tobacco Institute undermining the 1964 Surgeon General's Report and subsequent public health publications);

TIMN0055129-5135 at 5130 (US 21298) (O) (1977 pamphlet from the Tobacco Institute mischaracterizing the 1964 SGR); TIMN0127049-7072 (US Ex. 21532) (O) (describing Tobacco Institute preemptive attack on the 1979 Surgeon General's Report); Henningfield WD 151:9-154:19; TIMN0019963-9963 (US 64514)(A) (press release attacking the 1988 Report); TIMN0019963-9963 (US 21239) (A) (same); Dawson WD 38:6-40:10; Dawson TT, 1/12/05, 9873:23 -9878:12 (US 62252) (A) (describing coordinated attack on the 1989 Report); Dawson WD 65:19-71:11 (US 21286) (A) (describing coordinated attack on the 1989 Report).

J. Strict Limitations Upon Brand Descriptors Are Required to Prevent and Restrain Future Frauds, Since Express and Implied Health Claims Made by Brand Names, Descriptors, and Marketing Are Misleading

370. As described exhaustively in US FF § III.D, supra, cigarettes marketed with descriptors such as "low tar," "light,", "mild," "natural," and similar terms are no less likely to be harmful than other cigarettes. The terms themselves have no standardized meaning aside from a non-enforceable industry practice to apply the "light" descriptor to cigarettes with 7 to 14 milligrams of tar as reported by the FTC method, and "ultra light" to cigarettes with fewer than 7 milligrams of tar. Keane WD, 56:14-23; Mulholland WD, 26:4-27:9; accord Henningfield WD, 56:8-11. In addition, "light" cigarettes are designed to allow smokers to obtain much higher levels of nicotine than are measured by the FTC method, and consumers are therefore highly likely to receive much higher deliveries of tar and nicotine than the FTC yields. Burns WD, 29:6-13; Monograph 13, DXA0310399-0650 (US 58700) (A).

(1) Consumers Interpret Many Brand Names, Descriptors and Marketing to Imply That Certain Brands of Cigarettes Are Less Harmful than Others, and Defendants Know It

371. The overwhelming evidence introduced at trial establishes that in the aftermath of the 1964 Surgeon General's Report, Defendants developed and introduced low tar and nicotine

brands in order to dissuade smokers from quitting smoking. See US FF § III.D, supra (Low Tar/Low Nicotine). In particular, as Dr. Dolan testified, Defendants knew that the main reason people wanted to quit was due to health concerns, and many smokers felt guilty about continuing to smoke. Dr. Dolan further testified that "two very specific activities directed at deterring quitting were: (1) the fostering of a 'continuing controversy' denying that any negative health impacts had been proven and (2) the introduction of low tar and nicotine brands as 'health reassurance' brands." Defendants "introduced a number of brands and brand extensions lower in tar and nicotine and positioned them as 'health reassurance' brands to meet health concerns of smokers." Defendants' own internal research showed that "smoking low tar and nicotine helped a smoker to reduce guilt about smoking and thus made a smoker less likely to quit. Smoking a 'health reassurance' product with its low tar FTC rating was a 'compromise' to justify not quitting." Dolan WD, 106:14-107:2; 118:4-8; 118:23-119:21; 126:8-16; accord Burns WD, 69:3-14 (testifying that beginning in the 1950s, Defendants "introduced and marketed filtered cigarettes and 'low tar and nicotine' cigarettes as an effort to prevent smokers from quitting based on growing health concerns among smokers").

372. The 2004 Surgeon General's Report noted the apparent success of these attempts by Defendants to keep smokers from quitting by their widespread marketing of low tar cigarettes as less harmful. 2004 Surgeon General's Report at 901 (US 88621) (A); see also Monograph 13 at 5, TLT095001-001 (US 88847) (A); DXA0310399-0650 (US 58700) (A).

373. Nevertheless, although lower-yield cigarettes have dominated the U.S. market for many years, there has been no corresponding reduction in smoking-related disease among U.S. smokers; in fact, the disease risk has increased. Burns WD, 33:18-35:9; Monograph 13, DXA0310399-0650 (US 58700) (A).

374. In addition, the disclosure of internal industry documents, among other developments, has revealed that the amount of tar and nicotine present in lower-yield cigarettes is similar to that available in "full flavor" versions, and that Defendants have intentionally designed to allow smokers to obtain a different delivery from that obtained by the FTC method. "The internal tobacco industry documents demonstrate the design characteristics, the design intent for developing these products, the testing that was done, . . . and the results of that testing demonstrate that what was happening was that cigarettes were intentionally being designed to vary the yield when smoked differently, and that the reason for that design was to satisfy the nicotine ingestion required by individual smokers." Burns WD, 39:7-40:14.

375. As described in detail in US FF § III.D(1), supra, Defendants conducted extensive research on quitting to help them identify, understand, and deter potential quitters. Defendants' internal documents show that they were confident that if they could convince potential quitters that low tar cigarettes were a healthier choice and an acceptable alternative to quitting, they could keep their sales from declining. See also Burns WD, 41:12-18, 46:21-47:9, 49:11-20.

376. As the following examples illustrate (and as also discussed in US FF § III.D(3)(a) & (b), supra.), the evidence also clearly establishes both that Defendants knew smokers were switching to low tar cigarettes either as an alternative to quitting or in the belief they would help them quit, and that Defendants intentionally marketed their low tar brands to take advantage of consumers' mistaken belief that such brands were less harmful and better for their health.

377. Carolyn Levy, who was Philip Morris's Director of Consumer Research (among many other positions) testified that Philip Morris studied the reasons people quit smoking, as well as smokers' mistaken beliefs about low tar cigarettes. See, e.g., Levy WD, 26:1-5, 26:20-28:10, 28:20-30:8, 31:5-22, 32:2-33:8, 33:12-34:9, 34:23-35:2; 1000368057-8081 at 8060, 8066

(US 20098*) (A); 2080009523-9529 at 9524 (US 88156) (A); 2080009511-9515 at 9511 (US 20535) (A).

378. Advertisements and internal documents discussing RJR's low tar brands and brand extensions establish that RJR knew that low tar cigarettes appeal to "health conscious" smokers and would-be quitters, and that RJR exploited that appeal to reduce "quitting and switching losses." See, e.g., 650340129-0193 at 0180, 0183 (US 20948) (A); ADV0121663-1665 (US 3545) (A); ADV0141197-1199 (US 4403) (A); ADV0160142-0144 (US 4954) (A); ADV0160274-0277 (US 4998) (A); 502313230-3308 at 3235, 3240 (US 22151) (A); 502784092-4100 at 4097 (US 22153) (A); 500672011-2172 at 2069 (US 20645) (A); 500251567-1570 at 1567-1569 (US 21563) (A); 700173214-3217 at 3214, 3215, 3216-3217 (US 22121) (A).

379. B&W's internal documents similarly demonstrate its intent to "'intercept' people who are trying to give up smoking" by offering them products that they and their friends and family members would perceive as less harmful. See, e.g., 650510607-0607 (US 87138) (A); 660026713-6718 at 6714, 6717-6718 (US 85030) (A); 566628004-8083 at 8015 (US 20940) (O); 190200047-0116 at 0061, 0071, 0106 (US 22162) (A). The documents further illustrate that the advertising campaigns were successful, because consumers perceive low tar cigarettes as both "better for you" and an acceptable alternative to quitting. See, e.g., 250255336-5347 at 5339, 5343-5347 (US 22031) (A); 250255060-5075 (US 22170) (A).

380. Dr. Jeffrey Wigand testified that, given the understanding of smoker compensation at B&W and the other BAT companies and these companies' design of their cigarettes for elasticity of delivery, B&W and the other BAT companies did not believe that their "light" and "mild" brand descriptors were accurate. Dr. Wigand added:

> First, everyone at Brown & Williamson, indeed throughout all of BAT, understood that the machine method for measuring nicotine and tar yield grossly understated the tar and nicotine actually ingested by the smoker. Second, again throughout the BAT organization, we knew that smokers compensated to obtain more nicotine than was reported on the label and that compensation increased as a smoker moved from a full flavor to a light cigarette.

Wigand WD, 124:2-13.

381. BATCo researched and developed low tar products to "serve as an important mechanism for reassuring smokers" and to offset the fact that "most smokers wish to quit." 109883101-3103 at 3101, 3102 (US 21518) (A); 105562110-2189 at 2114 (US 21516) (A); see also Dolan WD, 103:6-10.

382. Lorillard expressly marketed its "True" cigarette as an acceptable alternative to quitting for smokers concerned about their health. ADV0151115-1117 (US 4853) (A); ADV0160097-0099 (US 4939) (A); ADV0160281-0283 (US 5000) (A); 325100040-0040 (US 87206) (A); 03496228-6630 at 6268, 6269 (US 20057) (O); ADV0281033-1035 (US 10447) (A); 03061394-1394 (US 21700) (A); ADV1030052-0054 (US 87462) (A); 01408237-8237 (US 21808) (A). Lorillard knew that consumers interpreted its ads to mean that True was less harmful to health than other cigarettes. 03496228-6630 at 6277, 6280 (US 20057) (O).

383. Liggett's Dr. Anthony Albino sent an e-mail dated September 5, 2001, to a number of recipients, including Bennett LeBow, Chairman of the Board and Chief Executive Officer of Vector Group, Ltd., and VGR Holding Inc., stating that "the adoption of 'light' cigarettes over the past 25 years was mainly due to the PERCEPTION of safety." VDOJ6743-6744 at 6743 (US 64727) (A) (emphasis in original); LeBow TT, 4/4/05, 17594:24-17596:17. Liggett continues to market light cigarettes under its brands Class A, Eve, Jade, Liggett Select,

Montego, Pyramid, and under a generic Private Label. (US 93254) (A); LeBow WD, 66:10-12; LeBow TT, 4/4/05, 17597:6-17598:16, 17600:4-17603:2.

(2) Defendants Intend Consumers to Be Deceived Since They Knowingly Continue to Use Misleading Descriptors

384. The evidence has established conclusively that beginning with the introduction of filters to cigarettes in the 1950s and continuing until today, Defendants have reacted to consumers' rising awareness of the health consequences of smoking by developing and marketing products that smokers wrongly perceive to be safe or at least safer than "regular" cigarettes.

385. The evidence set forth in full in US FF § III.D(3)(a), supra, demonstrates that over several decades, Defendants have used several techniques to persuade consumers that so-called "low tar" and "low nicotine" cigarettes are less harmful than "full flavor" or regular cigarettes and consequently present an acceptable alternative to quitting smoking. As a result, consumers labor under a longstanding and pervasive mistaken belief that "low tar/low nicotine" cigarettes are safer. See US FF § III.D, supra. Most recently, in the face of Monograph 13's demonstration that "light" and "mild" cigarettes are at least as harmful, and may be more harmful as, "full-flavor" cigarettes, Defendants have developed new descriptors such as "natural" to convey the same implied, but false, safety message.

386. All Cigarette Company Defendants presently market low tar cigarettes to smokers who are concerned about the health effects of smoking. See US FF § III.D, supra; Burns WD, 62:5-7.

387. Jeanne Bonhomme, Director of Consumer Insights for Philip Morris, testified at trial that Philip Morris currently "aims its low tar cigarette marketing at least in part at smokers of regular cigarettes who are concerned about the amount of tar they are inhaling and want to reduce it," and that she has been aware during her decades of conducting consumer research for

Philip Morris that some smokers switch to low tar cigarettes because they believe such cigarettes are less harmful. Bonhomme WD, 43:11-14; 65:15-22. Philip Morris's recent internal research continues to reinforce the company's knowledge that consumers perceive "light" cigarettes as "better for you." See, e.g., 2063687348-7527 at 7350, 7353-7356, 7357, 7359 (US 39820*) (A) (1998); 2080486996-7108 at 7010-12 (US 45330) (A) (1998); 2070657640-7650 at 7644, 7646 (US 22015) (A) (1998); 2048941177-1201 at 1180, 1183, 1187 (US 38731) (A) (1996). Nevertheless, Philip Morris continues to use these misleading descriptors and limits its communications to smokers which might counteract the smokers' mistaken belief that light cigarettes are less dangerous.

388. Philip Morris's website includes statements about low-delivery cigarettes and brand descriptors. Keane TT, 1/18/05, 10399:8-10400:2. The website falsely claims that descriptors are value-neutral terms designed to help consumers choose among cigarettes based on taste.

> Philip Morris USA frequently describes cigarette brands using terms such as "full flavor," "medium," "mild," "light" and "ultra light." These terms are commonly referred to as descriptors and facilitate smokers' ability to distinguish among different product offerings.
>
> Descriptors are generally used as a point of comparison (with respect to attributes such as strength of taste and flavor and tar and nicotine yield as measured by a machine method) for a cigarette brand in order to distinguish it from other brands on the market.

TLT0770066-0088 at 0077 (US 72408) (A); Szymanczyk WD 75:20-76:6.

389. As Dr. Farone testified, the terms "Light" and "Low Tar," as used by Defendants, are "meaningless" and "arbitrary," because "light" and regular cigarettes of the same brand can have the same FTC yields:

> [T]here are lights of certain brands with higher tar levels than regulars of other brands from the same company, and there are also lights and regulars of the same brand that have the same FTC tar rating. So therefore the term ‘light' is not related to tar or taste. For example, according to the most recent FTC report of tar and nicotine yields, Philip Morris sells versions of Virginia Slims and Virginia Slims Lights that both deliver 15 mg of tar by the FTC method.

Farone WD, 116:3-14; 525311179-1223 at 1185, 1207-1208, 1222 (US 52977) (A).

390. Similarly, RJR has been aware for decades that smokers of its "light" brands such as Vantage, Doral, Now, and Salem brand extensions perceive their cigarettes as less harmful than full-flavor cigarettes. See, e.g., 500210073-0075 (US 22108) (A); Orlowsky WD, 70:12-71:6; 511469097-9250 at 9105, 9116 (US 20842) (A); 514343517-3566 at 3522, 3524-26, 3530, 3540, 3556 (US 51848) (O). For example, a 1981 research report into the relative market placement of Vantage and Merit recommended that Vantage marketing be modified to better "target" smokers with health concerns: "Perhaps a more balanced approach is needed, both to tone down the perceptions of harshness and to renew the belief that VANTAGE does indeed address the target consumer's health/safety concerns." 523474848-4851 at 4848 (US 22156) (A); Orlowsky WD, 71:15-72:16. Martin Orlowsky, who was Senior/Executive Vice President of Marketing for RJR from 1984 to 1986, acknowledged that RJR targeted its marketing of these brands towards health-conscious smokers. Orlowsky TT, 10/13/04, 2288:24-2289:19.

391. Gary Burger, Senior President of Research & Development for RJR in a 1997 deposition, testified that RJR was aware that consumers smoke low tar cigarettes for the perceived health benefit. Burger testified that "[c]ertainly, smokers perceive lower tar cigarettes in some ways to be better for them and therefore they want them." He further testified that consumers "have that impression that there are higher levels of bad stuff in high tar cigarettes and

lower levels of bad stuff in low tar cigarettes." Burger PD, Arch v. American Tobacco Co., 8/21/97, 226:9-243:18.

392. Nevertheless, RJR's website falsely claims that it uses descriptors merely to convey differences in taste:

> Our company, like other cigarette manufacturers, uses brand descriptors such as 'full flavor,' 'lights' and 'ultra lights' to differentiate cigarette brand-styles in terms of such characteristics as strength of taste, and reported 'tar' and nicotine yield.

TLT0770095-0128 at 0111 (US 72410) (A) (emphasis added); Schindler WD, 64:19-65:3.

393. B&W has marketed its low tar brands, especially its Carlton brand, with full knowledge that low tar smokers are "health conscious" and believe that "switching down" to lower FTC yields will decrease the health risks of smoking. See, e.g., 176020783-0800 at 0785, 0792, 0798 (US 23351) (A); 250255336-5347 at 5340, 5343-5347 (US 22031) (A). Research conducted for B&W as recently as 2000 confirmed that consumers still misperceive "lights" as less harmful. 250255060-5075 at 5064, 5066-5068, 5071-5075 (US 22170) (A); Ivey WD, 59:20-60:12.

394. Nevertheless, in May 2004, Brown & Williamson's website falsely stated that the significance of brand descriptors was instead a taste message:

> Cigarette brands in the U.S. are usually identified on packs, cartons and advertising as belonging to the following categories: 'Ultra Lights' or 'Ultra Low Tar', 'Lights' or 'Low Tar', and 'Full Flavor" . . . . Recent published studies suggest that **the majority of smokers use descriptors to guide their product selection based on taste**. . . .

TLT1040056-0062 at 0061 (US 88628) (A) (emphasis added); Ivey WD, 70:5-14.

395. BATCo's files contain numerous recent research reports confirming that many smokers of light cigarettes believe they are reducing their risks from smoking, and Dr. Sharon

(Boyse) Blackie, former Head of the Smoking Issues Department at BATCo, testified at trial in this case that she has "been aware for some time that some smokers believe that low tar cigarettes are less hazardous to their health," and that "some smokers believe that by switching to low tar cigarettes, they will achieve a health benefit." Blackie WD, 184:14-21. See, e.g., 321541609-1679 at 1609, 1644, 1652 (US 22052) (A) (1998 research report indicating that 40.5% of light smokers believe lights are less harmful); 321989078-9276 at 9121-9122 (US 28819) (O) (1999 report indicating that nearly 40% of lights smokers had switched for "health reasons"); 760008596-8803 at 8770, 8800 (US 54588) (A) (2002 research report including smokers' perception that lights pose a lower health risk).

396. Lorillard had early success positioning Kent as a "health brand," and its appeal to health conscious smokers with advertisements for True continued into the 1980s and 1990s. See ADV0191018-1020 (US6538) (O); see also ADV0200073-00075 (US 6682) (O); ADV0200176-0180 (US 6711) (O); 970469347-9474 at 9433 (US 85104) (O). Martin Orlowsky, Chairman, President, and CEO of Lorillard, testified at trial in this case that Lorillard's True advertisements were targeted toward smokers who, due to their concerns about health risks, were seeking a low-tar cigarette. Orlowsky TT, 10/13/04, 2288:24-2289:19.

397. Similarly, Liggett not only has a history beginning in the 1950s of deliberately promoting its filtered and low tar cigarettes to health-conscious smokers, see 696000888-0916 at 0894, 0900 (US 21387) (A); ADV1100051-0053 (US 88718) (A); ADV1100068-0071 (US 88723) (A); ADV1100040-0043 (US 88715) (A), but (as mentioned above) it continues to market numerous brands of light cigarettes today. Bennett LeBow testified in this trial that Liggett continues to market light cigarettes because it could not remain in business if it stopped. LeBow further testified that every cigarette manufacturer in the industry must continue to sell

light cigarettes in order to stay in business. (US 93254) (A); LeBow WD, 66:10-12; LeBow TT, 4/4/05, 17597:6-17598:16, 17600:4-17603:2.

398. As data have emerged establishing that "light" and "mild" cigarettes are at least as harmful as "full-flavor" brands, Defendants have developed new descriptors to convey implied health reassurance messages. B&W developed and marketed the "Kool Natural Lights" brand extension beginning in 1998. Despite having marketing research showing that consumers incorrectly interpret the word "natural" to mean that the cigarettes are safer than conventional cigarettes, 210430297-0396 at 0322 (US 67711) (A), B&W advertised Kool Natural Lights without informing consumers that "natural" cigarettes are no safer than any others. Smith TT, 1/6/05, 9178:18-9182:9; ADV0100742-0744 (US 2701) (A) (advertisement in 2001 issue of *Rolling Stone*); (US 12651) (A) (advertisement in 2000 issue of *Maxim*).

399. Philip Morris has recently contemplated developing an additive-free brand extension of its low-tar Merit brand. Its 1998 internal research indicated that "[a]dditive-free is an excellent fit with ‘light'" because it "[r]einforces ‘better for you'." 2080486996-7108 at 7010-7012 (US 45330) (A); Bonhomme WD, 17:2-16.

400. As Dr. Burns testified, the Scientific Advisory Committee on Tobacco for the World Health Organization has concluded descriptors should be banned as inherently misleading consumers as to the relative health risks of different brands of cigarettes. It recommended that "misleading health and exposure claims should be banned. . . . Banned terms should include light, ultra-light, mild and low tar, and . . . . should include not only misleading terms and claims but also names, trademarks, imagery and other means to conveying the impression that the product provides a health benefit." Burns WD 59:14-61:7; TLT1010692-0699 at 0695 (US 86658) (A).

401. This evidence shows that it will not be sufficient for the Court simply to forbid Defendants from misrepresenting the health effects of "light" and "low tar" cigarettes, but rather, that Defendants must be prohibited from using any descriptor which conveys a health message. The design of "lower yield" cigarettes is intentionally deceptive. Burns WD, 45:3-48:5. By continuing to use descriptors such as "lights" and "low tar," Defendants knowingly convey the false impression that cigarettes with those labels are less harmful than other cigarettes. Consumers' false belief is so pervasive and longstanding, and has been exploited and promoted by Defendants for so long, that preventing and restraining future fraud requires this Court to ban any future use of descriptors which convey a health message.

K. Prohibiting Defendants from Marketing Cigarettes with Youth-Appealing Marketing and Imagery Is Required to Prevent and Restrain Future Frauds

(1) Defendants Continue to Market Cigarettes with Youth-appealing Marketing and Imagery, and Will Continue to Do So Unless the Court Intervenes

402. Defendants continue to fraudulently deny that they market to youth and that their advertising is a substantial contributing factor to youth smoking. A ban on any marketing activities which have the effect of marketing cigarettes in a manner appealing to youth in the United States is required to prevent and restrain Defendants from fraudulently marketing to youth in the future.

403. Dr. Eriksen, a public health expert who formerly headed the CDC's Office on Smoking and Health, recommended that youth-appealing or misleading imagery in cigarette advertising and promotion be removed and replaced with "factual, black and white communication." Eriksen 5/9/05 WD, 24:18-26:5.

404. The National Survey on Drug Use and Health estimates that in 2003, there were over three million 12 to 17 year olds who were current smokers. Eriksen 1/17/05 WD, 44:20-22; (JD-067884) (A).

405. The extensive literature on smoking initiation demonstrates that the vast majority of smokers begin smoking before the age of 18. The 1989 Surgeon General's Report concluded, "Smoking begins primarily during childhood and adolescence." The 1994 Surgeon General's Report found that 81.6% of persons who had ever tried a cigarette tried their first cigarette before the age of 18. A similar percentage (81.9%) of persons who had ever smoked daily tried their first cigarette before the age of 18, and 53% became daily smokers before the age of 18. According to the National Survey on Drug Use and Health, in 2001 the average age for starting to smoke was 16.1 years of age. Eriksen 1/17/05 WD, 1:11-19, 35:1-37:14.

406. Each of the Cigarette Company Defendants understands that to expand or maintain its share of the cigarette market it must influence young people to smoke its brands. Defendants are well aware that most people begin smoking as teenagers, and remain loyal to their initial brand choice of cigarettes, as their internal documents demonstrate. As Dr. Dolan testified, the Cigarette Company Defendants understand that "the time to get someone to enter the market was as a teenager. If the tobacco companies did not get a person to begin smoking and begin smoking their brand as a teenager, they likely never got that person as a customer." Biglan WD, 100:22-105:24; 209:5-210:34, 237:2-241:17, 285:1-295:4; Dolan WD, 62:7-63:15.

407. Dr. Dolan further explained the importance to tobacco companies of attracting teenagers to their brands:

> The route to long-term success for a brand and a company was well understood by the tobacco companies. If you got someone to start smoking your brand, they typically dedicated all their purchases to you from then on. First, on a given day they did not seek variety by

> jumping around from one brand to the next. You did not have to share them with anybody. Second, they picked a brand and stuck with it over time. Given the dynamics of the cigarette market, Defendants understood that these starters were likely to be teenagers. The tobacco companies know that, if you didn't attract a good share of these starters, whom you could count on to be loyal to you, you were in trouble long-term. This was the key dynamic of the business and a driver of companies' planning.

Dolan WD, 90:16-91:3.

408. Philip Morris is keenly aware that the success of its business depends on getting teenagers to smoke its Marlboro brand. Myron Johnston, Senior Economist for Research and Development at Philip Morris, authored a March 31, 1981 research report,"Young Smoker: Prevalence Trends, Implications, and Related Demographic Trends" in which he concluded: "the overwhelming majority of smokers first begin to smoke while still in their teens . . . [I]t is during the teenage years that the initial brand choice is made: At least part of the success of Marlboro Red during its most rapid growth period was because it became the brand of choice among teenagers who then stuck with it as they grew older." Biglan WD, 100:21-105:24; 1000390803-0855 at 0808 (US 22334) (A).

409. RJR recognizes that its market share depends upon getting adolescents to start smoking its brands. Up until the early 1980's the company collected data on the brand choice of teenagers. A February 2,1973 RJR "Research Planning Memorandum on Some Thoughts about New Brands of Cigarettes for the Youth Market," authored by Claude Teague, Assistant Director of Research, stated in no uncertain terms RJR's need to capture the youth market: "Realistically, if our Company is to survive and prosper, over the long term, we must get our share of the youth market." Biglan WD, 285:14-295:4; Schindler TT, 1/24/05,10862:5-11; 502987357-7368 at 7358 (US 21475) (A).

410. Lorillard's consumer research demonstrates that the company has analyzed the age at which most people begin smoking and the initial brand choice of smokers. An October 1981 report prepared for Lorillard, "An Exploratory Study for Newport - Smoking and Purchase Behavior of Young Adults," analyzed the results of focus group research. The report indicated that "[o]ne-half of these respondents started to smoke at ages 10 to 13 years, with the pattern being precisely equal between the male and female respondents . . . Among these participants it was rare to start smoking at an age older than 18 years . . . Both the male and female respondents . . . cited Newport as a brand used by those who are just starting to smoke." Biglan WD, 209:12-210:34; 83896981-7009 at 6995, 7000 (US 55927) (A).

411. B&W knows that it must attract new smokers in order to maintain and grow its business. A B&W 1985 Strategic Marketing Plan concludes that "[h]igh attraction of starters key to growth whether by company (PM) or brand (Newport, Virginia Slims, Marlboro or Generics)." Biglan WD, 237:16-241:17, 670146621-6701 at 6626 (US 30805) (A).

412. Armed with the knowledge that influencing young people to smoke their cigarette brands is vital to their business, the Cigarette Company Defendants have conducted extensive research on what motivates adolescents to take up smoking. Based on their research, the Cigarette Company Defendants understand that adolescents smoke in order to appear popular, masculine, independent, cool, rebellious, or to have excitement. Biglan WD, 36:15-37:6.

413. Dr. Biglan, the only psychologist who testified, addressed the complicated issue of youth smoking initiation. The changes that occur during adolescence result in the need for adolescents to: (1) develop a self-image that bolsters their confidence; (2) to be popular with their peers and the opposite sex; (3) to feel and be seen as independent; (4) to experience fun, excitement and adventure; (5) to succeed in school, sports and social activities; and (6) to rebel

against authority. In addition, adolescent boys desire to be seen as masculine, and adolescent girls desire to be and be seen as attractive. To the extent that the themes and images in the tobacco companies' marketing communicate to adolescents that they can satisfy these needs by smoking a particular cigarette brand, adolescents are vulnerable to that marketing. Empirical research demonstrates that exposure to cigarette advertising increases adolescents' perception that smoking will meet the needs described above. Biglan WD, 42:12-43:13; 53:2-10; 95:9-96:18.

414. Phillip Morris has researched why young people begin smoking and it understands the specific social and psychological needs that motivate adolescent smoking. A March 20, 1984 Philip Morris document entitled "The Cigarette Consumer" concluded that "[p]eople begin smoking 1) [because of] peer pressure, 2) to rebel/assert independence, 3) to appear grown up, [and] 4) to experiment," and that "products targeted to younger end of spectrum [are] most viable" because that "segment is more amendable to advertising." Biglan WD, 105:25-106:10; 2500002189-2207 at 2203, 2205 (US 21460) (A).

415. B&W has studied what motivates people to begin smoking in devising marketing strategies for its brands. A 1976 B&W document entitled "Viceroy Agency Orientation Outline" was created to "prepare agencies for the creative and positioning assignments on Viceroy." In a section titled "Why People Smoke," the document discussed the "real or perceived benefits of smoking," which include "symbol of maturity or independence," "social ice breaker," and "presentation of self in a favorable manner associated with the cigarette brand image." The document indicated that the "primary target" for Viceroy were "[m]ales ages 16-35." 680116947-6968 at 6947, 6952, 6959 (US 21877)(A).

416. The manager of consumer research for RJR, Donald Tredennick, specifically addressed "What causes smokers to select their first brand of cigarettes" in a July 3, 1974

memorandum to F. Hudnall Christopher, Director of Marketing Research at RJR. The memorandum discussed "Initial Reasons for Smoking" and indicated that "smoking is often a way to gain entree to a group by effecting an appearance of being mature, sophisticated, sexy or manly." Tredennick concluded that "If a person is going to smoke cigarettes, he generally starts during his teens, primarily to conform with a close friend or friends, to give himself greater confidence in stress situation . . . The main causes of initial brand selection; i.e., the influence of friends, the user image a brand projects and differentiated product characteristics, are logically related to the reasons a young person begins to smoke." 501899346-9355 at 9346-9347, 9351 (US 20688) (A).

417. Lorillard produced documents in this litigation revealing that it has extensive information about smoking initiation among young people. A 1969 Eastman Chemical Products report titled "1969 Survey of Cigarette Smoking Behavior and Attitudes" provided to Lorillard stated that "an attempt has been made to determine the reasons why people decide to smoke." Among survey respondents ages 16 to 24, the report concluded "[s]howing off, feeling of confidence, enjoyment, conformity to group, and because an unbreakable habit has been established were the dominant responses" to the question "[w]hy do members of your sex smoke?" Among survey respondents, nearly 20% of males and over 10% of females reported feeling "big," while nearly 20% of both sexes mentioned confidence and security as reasons why they started smoking. 81560431-0496 at 0431, 0460 (US 85200) (A).

418. Defendants use their knowledge about what motivates young people to start smoking and intentionally develop marketing campaigns that appeal to youth. Defendants in their marketing campaigns utilize images, themes, and attributes that make smoking their brands appealing to adolescents by effectively communicating to them that they can satisfy their

psychological needs by smoking their brands. The themes and images utilized by Defendants in their marketing include, but are not limited to, independence, confidence, masculinity, attractiveness, adventurousness, sophistication, glamour, athleticism, sexual attractiveness, thinness, popularity and peer approval, rebelliousness and being "cool." Biglan WD, 36:22-37:6; 53:20-54:3; Krugman WD 94:14-95:14.

419. Dr. Biglan testified that "[t]here's extensive literature on the influence of tobacco company marketing on adolescent smoking and all of the psychological variables that lead up to adolescent smoking." Biglan TT, 1/10/05, 9778:16-9779:3.

420. Defendants conduct extensive consumer research to determine the appeal of their marketing to18 to 24 year olds which also provides information on its appeal to smokers under the age of 18. As Dr. Biglan testified at trial: "I would also add that there's not a bright line between 17 and 18 . . . and the themes and images that are successful and can be developed through research with 18-to-24-year-olds, you can be confident will also be effective with those under 18." Susan Ivey, Chairman and CEO of RJR and former CEO of B&W, acknowledged that advertising targeting young adults could also appeal to youth. Biglan TT, 1/10/05, 9524:21-9525:24; Ivey WD, 16:4-6.

(a) Philip Morris Marketing Appeals to Youth

421. Based on its knowledge of what motivates adolescents to smoke, Philip Morris's marketing consistently and successfully associates Marlboro, Parliament and Virginia Slims brands with images, themes, and attributes that make smoking these brands appealing to adolescents. Biglan WD, 105:25-106:5.

422. Philip Morris through its marketing of Marlboro successfully associates the brand with themes and images of masculinity, independence, and popularity which appeal to youth.

Philip Morris at times has also associated the Marlboro brand with themes and images of excitement and adventure, as well as relaxation, all of which are appealing to youth. As Dr. Krugman testified, "[t]he Marlboro Man has become an icon in American life symbolizing and communicating freedom, independence, authenticity, ruggedness and adventure." The 1994 Surgeon General's Report, *Youth and Tobacco: Preventing Tobacco Use Among Young People,* stated that **"[t]he Marlboro cowboy (also know as the Marlboro man) epitomizes [t]he stereotype of American independence."** Biglan WD, 119:19-120:7; Krugman WD, 98:3-11; VXA0130158-VXA0130484 at 0351 (US64693) (A) (emphasis added).

423. The senior brand manager for Marlboro, Steve Sampson, has acknowledged that masculinity and adventure are some of the "core values" for Marlboro. Philip Morris's consistent use in its Marlboro advertising of images of handsome, rugged men has associated the brand with masculinity. The image of masculinity particularly appeals to adolescent boys who are seeking to establish a masculine self image, and Marlboro marketing communicates that they can achieve this goal by smoking Marlboro. Biglan WD, 120:10-16, 123:11-129:11.

424. Philip Morris's own research demonstrates that the company has been successful in associating Marlboro with masculinity. A December 21, 1995 report on sixteen focus groups conducted with male Marlboro smokers stated, "The most common associations with the brand [Marlboro Reds] were ‘rugged,' ‘tough,' ‘masculine,' ‘cowboy,' ‘outdoors,' and the ‘West.'" 2047134293- 4297 at 4293 (US 89187) (A).

425. As revealed by its internal marketing documents, Philip Morris recognizes the importance of associating Marlboro with the theme of independence, and Marlboro advertisements contain images that associate the brand with freedom and independence. The images in Marlboro advertisements associating the brand with freedom and independence are

appealing to adolescents because many adolescents feel constrained by parents and teachers. Marlboro cigarettes became a symbol of freedom, autonomy, and independence to these adolescents as a result of the imagery contained in Marlboro advertisements. In the 1994 Surgeon General's Report *Youth and Tobacco: Preventing Tobacco Use Among Young People*, the Surgeon General noted that "[t]he brands most successful with teenagers seem to be those that offer adult imagery rich connotations of independence, freedom from authority, and/or self-reliance." Biglan WD, 130:12-136:24; VXA0130158-VXA0130484 at 0350 (US64693) (A).

426. Philip Morris has sought to communicate that Marlboro is the most popular brand through its ubiquitous and high-quality advertisements placed in magazines featuring well-known celebrities and through its point of sale marketing. The company understood that associating the Marlboro brand with popularity would make the brand attractive to young smokers. A May 1999 Philip Morris National Market Structure Study concluded, "Both YAMS [Young Adult Male Smokers] and YAFS [Young Adult Female Smokers] value peer popularity of a brand very highly compared to older menthol smokers." Internal company research demonstrates the effectiveness of Philip Morris's efforts to associate the Marlboro brand with popularity. A January 1996 report entitled "Marlboro Marketing Mix Monitor" stated that among the top ten attributes of Marlboro identified by consumers were "Most popular . . . Popular with both men and women . . . Growing in popularity," and "Best known brand in the world." Philip Morris preys on adolescents' need for acceptance by convincing teenagers that smoking Marlboro is a means to popularity and peer acceptance. Biglan WD, 150:7-174:15; 2073578573-8650 at 8605 (US 43350*) (A); 2063515175-5197 at 5182 (US 39742) (A).

427. Philip Morris continues to utilize Marlboro brand imagery in its direct mail marketing, at point of sale, and on Marlboro cigarette packs. Suzanne LeVan, Vice President of

Marlboro and former Vice President of Philip Morris Premium Brands, testified that Marlboro's brand image has not changed since 1954. Marlboro's brand imagery is an "image that portrays quality, freedom, independence, adventure, and the gateway to the American frontier, the American West." LeVan PD, United States v. Philip Morris, 6/25/02, 124:14-17, 221:10-221:14; Biglan TT 1/10/05, 9530:6-9533:3. Philip Morris CEO Michael Szymanczyk acknowledged during cross-examination that Philip Morris was not doing all that it could to reduce the visibility of its brand name advertising at retail stores that nonsmokers and children are exposed to. Szymanczyk TT, 4/7/05, 18194:6-22.

428. In the 1990's, Philip Morris decided to market its Parliament brand of cigarettes to younger people by associating the brand with themes and images that resonate with youth. Parliament advertisements contained images associating the brand with youth appealing themes of escape, romance, and sociability. Philip Morris successfully made its Parliament brand appealing to younger people as demonstrated by the company's internal marketing documents. An August 2000 report, "Parliament Image Study," concluded that compared to 25- to 34-year-olds, "Young adult smokers [the 18-24 year olds] are more likely to find Parliament appealing." Biglan WD, 175:9-185:7; 2080534400-4483 at 4479 (US 45340) (A).

429. Through its marketing, Philip Morris associates its Virginia Slims brand of cigarettes with themes and images resonate with adolescent girls. Virginia Slims advertisements conveyed that Virginia Slims smokers were modern, attractive, self-confident, stylish or fashionable, independent, and slim. These themes are attractive to adolescent girls who are keenly attentive to cues about how they can be attractive and self-confident women. Furthermore, associating the brand with being slim is appealing to adolescent girls. A 1994 article by French, Perry, Leon, and Fullerton published in the *American Journal of Public Health*

reported that adolescent girls with weight concerns are significantly more likely to be smokers. Biglan WD, 186:8-202:22; VXB3210209-0211at 0210 (US 72896) (A).

(b) Lorillard Marketing Appeals To Youth

430. Lorillard consistently associates its Newport brand of cigarettes with themes and images that are appealing to youth. Through its marketing, Lorillard associates Newport and Newport smokers with popularity and social acceptance, fun and excitement, as well as athleticism and relaxation. Newport advertising has consistently communicated themes of popularity and social acceptance by featuring images of young attractive people having fun together. Lorillard also associates the Newport brand and Newport Smoker with popularity by placing Newport advertisement in celebrity magazines such as *People*. Newport advertising communicates to adolescents that they can be popular and gain the acceptance of their peers by smoking Newport. Issues of fitting in and having others like them are dominant concerns during adolescence. Biglan WD, 211:1-220:8; Krugman WD, 97:21-98:2.

431. Lorillard has long understood that Newport's success is linked to the company's ability to associate the brand with popularity. An August 30, 1978 internal company memorandum to the CEO of Lorillard, Curtis Judge, proclaimed "NEWPORT in the 1970's is turning into the Marlboro of the 60's and 70's. It is the ‘In' brand to smoke if you want to be one of the group." A July 1994 report entitled "An Evaluation of the Newport ‘Pleasure on Wheels' Promotion," prepared for Lorillard by Meyers Research Center, specified that one of the primary objectives of the promotion was to "Reinforce Newport's image as the ‘peer brand' among young adult smokers." Lorillard's current chairman, CEO, and president Martin Orlowsky, testified at trial that "[p]eer acceptance is an important business issue in terms of brand selection, because it

is a factor affecting brand choice among younger adult smokers." Orlowsky WD, 58:3-4; 03537131-7132 at 7131 (US 22357) (A); 91840214- 40311 at 0218 (US 74415) (A).

432. Lorillard's advertisements also effectively communicate that one can have fun and excitement by being a Newport smoker. Newport advertisements include images of young people riding a roller coaster or kayaking. Lorillard's own research demonstrates that it has been successful in associating its Newport brand with adolescent appealing themes of fun and excitement. A September 1988 study prepared by the Lorillard Marketing Research Department entitled "Newport Image Study" specifically sought to "determine current attitudes toward the Newport and its smokers across certain geographic regions." The report concluded that, in all geographic regions, "Newport smokers were viewed as party-goers, those that do their own thing and fun- loving" and "were viewed younger and more fun- loving than Kool and Salem smokers." Many adolescents crave excitement and are interested in having fun with their peers. Biglan WD, 221:1-224:21; 89579737-9797 at 9741, 9784 (US 67673) (A).

433. Lorillard through its marketing also associates the Newport brand and Newport smokers with athleticism. Newport advertisements show young people enjoying numerous sports, including football, tobogganing, skiing or ski jumping, archery, hiking, basketball, soccer, rock or mountain climbing, wind surfing, fishing, water volleyball, rollerblading, surfing, and baseball. Newport's association with athleticism is appealing to adolescents, many of whom are interested in sports. Newport advertisements communicate that smoking should be associated with the athletic activities featured in Newport advertisements. Biglan WD, 226:1-228:17.

434. The brand image for Newport and the themes and images portrayed in Newport advertisements have been remarkably consistent for the past 30 years. Lorillard's "Pleasure"

advertising campaign for Newport has not changed fundamentally over the past 30 years. Orlowsky WD, 30:14-31: 5.

435. The Vice President and General Counsel of Lorillard, Ronald Milstein, testified that the company did not change its principal advertising campaign for Newport, the "Pleasure" campaign, after the company entered into the Master Settlement Agreement ("MSA") in 1998. The MSA required Lorillard to appoint an executive level manager in charge of identifying methods to reduce youth access to tobacco and the incidence of youth consumption of tobacco products, and Milstein held this position from April 1990 to September 2000. Lorillard continues to utilize the "Pleasure" campaign themes and images in its point of sale advertising for Newport. Milstein never discussed with Lorillard's chairman, CEO, and president Martin Orlowsky, whether the company should consider reducing the visibility of the "Pleasure" campaign at retail stores as part of its obligation under the MSA to reduce youth tobacco consumption. To the contrary, the number of stores receiving payments for the display of promotional items as part of the Excel program (Lorillard's retail merchandising program) has increased since the MSA. Milstein acknowledged that in 1999 Newport was the second leading brand smoked among youth ages 12 to 17, and did not dispute that the number of youth ages 12 to 17 who smoke Newport has increased from 21% to 23% over the last several years. Milstein TT, 1/10/05, 9312:1-9314:9; 9417:18-9421:25.

(c) Brown & Williamson Marketing Appeals To Youth

436. B&W's marketing for its Kool brand utilizes themes and images that are appealing to adolescents: B&W effectively associates Kool and Kool smokers with masculinity, fun and excitement, and membership in a young, cool, in-group. Biglan WD, 243:13-21.

437. B&W sought to develop and maintain a masculine image for Kool in order to make the brand attractive to young smokers, especially young male smokers. Its 1985 Kool Media Plan concluded that: "While the brand has broader appeal beyond young men, the young male smoker has been isolated as the key prospect that the media plan must deliver against . . . The [advertising] creative property is judged to be a strong masculine proposition for the brand and as such a valuable targeting device for young male smokers." A May 1987 study entitled "Kool Impact Awareness & Usage Study Pre-Wave," prepared for B&W by Kapuler Marketing Research, concluded that "KOOL Full-Taste smokers were best described as being ‘masculine' and ‘rugged'." B&W associates the Kool brand with masculinity through its advertisements depicting attractive young men smoking Kool, looking confident, and engaging in activities that are of interest to many men. By associating the Kool brand with images of handsome, self-confident, and socially successful men, the company communicates to adolescent boys that they can achieve a masculine self-image by smoking Kool cigarettes. Biglan WD, 244:1-250:3; 670660378-0420 at 0380 (US 53870) (A); 465647509-7599 at 7522 (US 67875) (A).

438. B&W's marketing of Kool is attractive to youth because it associates the brand with fun and excitement. The images of motorcycles that have appeared in Kool advertisements communicate fun and excitement. B&W's 1984 "Kool Biker Ad Campaign Test Market Work Plan" explained that the "strategy behind this campaign is to integrate two elements into one message that will appeal to young adult males: (1) the unique menthol sensation of Kool; and (2) an attractive person who uses the product . . . The ‘Biking' experience, as depicted in the ads, provides a brief escape from the ordinary life to enjoy the freedom and excitement of the open road." Biglan WD, 251:1-253:16; 635900092-0117 at 0094 (US 54346) (A).

439. Through its marketing, B&W also associates Kool with being a member of young, cool in-group. The company wanted the Kool brand to be perceived as the "in brand," among young people. A March 6, 1985 internal company memorandum identified as one of the "Key Issues" facing Kool the fact that it had "lost its in-brand status." The memorandum concluded that "Marlboro and Newport are growing because they are ‘in-brands' for young adult target audiences. They have peer group acceptance and high perceived popularity." Adolescents' social success depends upon their ability to appear to be "up with"or "into" the latest trends and fashions. Biglan WD, 254:1-257:7; 554000052-0060 at 0052 (US 20937) (A).

440. B&W has historically associated Kool with music in order to make the brand more appealing to young people as demonstrated by the company's internal marketing documents. A 1981 study entitled "Final Report Kool Campaign Qualitative Evaluation," prepared for B&W by Kapuler & Associate Marketing Research, concluded:

> It appears that the younger the respondent, the more importance he attaches to the fact that the music is contemporary. . . Some people also use music to feel part of a special group. This is primarily done by younger people who tend to be more influenced by their peers than older people . . . . Based on this research, it appears that the use of music in advertising was very effective. It is doubtful whether any subject other than music could have elicited such rich imagery from people who were not in any way extraordinary.

Biglan WD, 257:8-260:2; 665000008-0091 at 0039, 0040, 0042 (US 69063) (A).

441. In the mid-1990's, B&W sought to increase Kool's market share among young people through its "B Kool" advertising campaign. The B Kool advertisements featuring attractive young women gazing at a unidentified young man holding a pack of Kool cigarettes in their hands were appealing to youth. The B Kool advertisements associated smoking Kool with masculinity, excitement and fun, and being a member of a young in-group. The former Director of Marketing Services and Operations at Brown & Williamson, Sharon Smith, testified that the B

Kool campaign was intended to associate Kool with themes and images of masculinity, independence, confidence, and being "cool." The B Kool campaign was effective in creating an image of the Kool smoker as young and socially successful. A January 19, 1999 report for B&W prepared by Bates USA on the B Kool campaign indicated that those who were aware of the campaign gave higher ratings of the brand on "kept up with the times," "younger adult," "sophisticated person," "keeps up with latest trends," and "popular person." Biglan WD, 260:3-268:21; Krugman WD, 99:13-100:10; Smith WD, 16:20-17:8; 309031048-1071 at 1051 (US 22660) (A).

442. B&W's recent marketing campaigns for Kool have associated the brand with music popular with youth. In 2000, Brown & Williamson launched the House of Menthol advertising campaign for Kool associating the brand with house music, which is popular with adolescents. A 2000 Report "Kool: The Road to Menthol Authority" found that consumers perceived the House of Menthol campaign as: "Most contemporary, 'hip', urban and ASU26; Kool portrayed as keeping up with times; Communicates that Kool invented category." B&W's 2004 Kool Mixx campaign associated the Kool brand with hip-hop music. According to Peter Zollo of Teenager Research Unlimited, hip-hop or rap is currently the most popular music among adolescents. Biglan WD, 271:1-280:16; 250170002-0092 at 0043 (JD-012836) (A).

(d) R.J. Reynolds Marketing Appeals To Youth

443. R.J. Reynolds effectively incorporates into its marketing for its Camel, Winston, and Salem brands themes and images attractive to adolescents. Marketing campaigns for Camel dating back to the 1970's have emphasized youth appealing themes and images. The 1970's "They're not for Everybody" and the "Meet the Turk" campaigns for Camel were developed to attract young male smokers. Consumer research on the "Meet the Turk" campaign indicated that

the campaign was targeted "directly at the young male utilizing ‘Turk' to create an image/aura around the brand that reflects the attitudes, values, lifestyle of the young male,"and that "‘Turk' advertising is on target. . . it appeals to young adult males (18-34)." Biglan WD, 305:14-308:22; 505775556-5598 at 5567, 5580 (US 21797) (A).

444. From 1980 to 1987, RJR ran the "Bob Beck" advertising campaign for Camel. The "Bob Beck" campaign associated Camel with masculinity through advertisements depicting the Camel smoker as an independent, rugged outdoorsman in dangerous, exciting situations. Consumer research confirmed that the company in the 1980's was successful in associating Camel with masculinity. A May 1983 report prepared for RJR, "The Camel Brand Image," concluded that, "Camel is imbued with an almost indisputable masculinity." In the mid-1980's the company sought to update the campaign to make it more appealing to young people by incorporating the theme of popularity and peer acceptance into the campaign. In a March 12, 1986 memorandum addressed to D.N. Iauco, Vice President of Brand Management and titled "Camel New Advertising Campaign Development," R.T. Caufield of R.J. Reynolds Brand Group stated that "advertising will be developed with the objective of convincing target smokers that by selecting CAMEL as their usual brand they will project an image that will enhance their acceptance among their peers." What resulted were "Share a New Adventure" advertisements featuring young people in social situations which communicated to adolescents that their peers would like and admire them if they smoked Camel. Biglan WD, 309:1-320:16; 503455432-5554 at 5442 (US 50398) (A); 503969238-9242 at 9238 (US 20725) (A).

445. In 1988, RJR launched its most famous Camel marketing campaign – the "Joe Camel/Smooth Character" campaign featuring the Joe Camel cartoon. Through its Joe Camel/ Smooth Character campaign, RJR was extraordinarily successful in communicating to

adolescents that Camel smokers were popular and admired members of their peer group, sexually attractive to women, experience much fun and excitement, and rebellious nonconformists. The Joe Camel campaign also associated Camel with images of masculinity, sports, and relaxation. All of these themes are important to many adolescents. Biglan WD,320:17-341:4; 521890951-0955 at 0952 (US 66555) (A); see also US FF § III.E(4), supra.

446. After the Joe Camel campaign, RJR sought to make its Camel brand appealing to youth through marketing campaigns such as "Viewer Discretion Advised," which featured shocking, irreverent, or amusing events. These advertisements associated Camel with numerous adolescent appealing themes, including sexual attraction, good looks, defiance of authority, excitement, and humor. RJR's "Viewer Discretion Advised" Camel campaign advertisements were appealing to youth because of their irreverent tone and spoofs related to movie ratings. Biglan WD, 344:4-346:6; Krugman WD, 98:12-99:10.

447. RJR also incorporates youth appealing themes and imagery into its marketing for its Winston and Salem brands. RJR's marketing campaigns for Winston in the 1970's and 1980's associated the brand with masculinity by featuring rugged-looking men and slogans such as "When your taste grows up, so should your cigarette." In 1998, RJR introduced the Winston "No Bull" campaign, which communicated that the Winston smoker is self-confident and independent through its use of images of assertive, attractive, young people. RJR's market research indicates that the campaign was effective, as demonstrated by a January 8, 1999 Winston/Marlboro Image Study which concluded that "[t]he power of the Winston positioning is with the confident, no bull person going after the things he wants in life to ensure he gets them." RJR's current advertising campaign for Winston, "Leave the Bull Behind," associates the brand with romance and escape by featuring images of sexy young men and woman in romantic situations. These

advertisements appeal to youth who are interested in ways to appear attractive to the opposite sex. Biglan WD, 347:4-355:2; 519923696-3787 at 3698 (US 68740) (A).

448. Through its marketing, RJR associates its Salem brand with youth appealing themes and images. In the 1970's, RJR associated Salem with masculinity through its "Enjoyment" advertising campaign. The 1977 "Salem Brand Review 20-Year Marketing History" described the "creative strategy" for the Enjoyment campaign as follows: "Create a positive/clearly defined brand user image: Masculine, active, contemporary, emulatable." In the 1980's RJR launched the Salem Spirit marketing campaign which communicated that the Salem smoker was attractive, fun, and popular. Salem Spirit advertisements featured attractive people in recreational settings. These advertisements appealed to adolescents who desired to be in the recreational situations depicted, and to have the social and athletic skills that the young people in the advertisements appear to have. RJR next implemented the Salem Green campaign in the mid-1990's to make the brand more appealing to younger smokers. The campaign successfully created an image of Salem as a contemporary, trendsetting brand for people who want new experiences. An October 24, 1996 report prepared for RJR indicated that the following attributes were associated with the Salem Green campaign: "In tune with what's happening, Do their own thing; Free spirited and fun." Adolescents have a strong desire to be accepted by their peers, and keeping up with the latest trends and fashions is an essential part of gaining that acceptance. Biglan WD, 359:10-376:18; 520371448-1628 at 1580 (US 71114) (A); 516937537-7833 at 7593 (US 68552) (A).

449. A ban which prohibits Defendants from marketing cigarettes in ways which have the effect of appealing to youth – whether through imagery or otherwise – is necessary to prevent and restrain Defendants from fraudulently marketing to youth in the future. The Court

recognizes that this is a generally-worded basic injunction, and therefore Court-appointed officials are needed as an enforcement mechanism to ensure Defendants' compliance.

(2) Defendants' Price Promotions Are Disproportionately Appealing to Youth; Despite Knowing This, Defendants Continue the Practice

(a) Defendants Understand That Cigarette Prices Affect Overall Smoking Behavior

450. Defendants know that changes in cigarette prices affect cigarette smoking and smoking prevalence (prevalence is the number of smokers) of both teenagers and adults. The following documents provide a glimpse into Defendants' decades-long knowledge concerning the impact of cigarette prices on overall smoking behavior.

451. In its "Interim Report to Stockholders" for the first quarter of 1969, Liggett stated: "There is strong evidence to indicate that the consumer demand for cigarettes is elastic, as it is for most other products, and that the state cigarette excise taxes do affect sales wherever they are imposed. According to the U.S. Department of Agriculture, in 28 states where cigarette prices have increased 12 per cent in the last two years, sales have declined by 6 per cent; whereas in 21 other states where the price has increased 1 per cent, sales have increased almost 1 per cent." 500397668-7690 at 7675 (US 22711) (A). This document demonstrates Liggett's knowledge that higher cigarette taxes, which increase cigarette prices, will reduce their cigarette sales. Chaloupka WD, 95:1-18.

452. Similarly, in a March 3, 1975 Economic Forecast produced by analyst Myron Johnston for Philip Morris, Johnston reports that:

> Still another factor is the price elasticity of cigarettes, i.e., the change in cigarette sales that will result from a change in the retail price of cigarettes. My calculations, using a variety of methods, show the price elasticity to be -0.43. This means that a ten percent increase in the retail price of cigarettes will, other things being equal, lead to a 4.3 percent decline in unit sales. Since the average

> retail price per pack of cigarettes is about 45c [cents], over twice the wholesale price, a ten percent increase in the wholesale price of cigarettes would, other things being equal, cause only a 2.1 percent decline in unit sales.

Johnston also notes "the Department of Agriculture, calculated price elasticity at - 0.42, remarkably close to my own figure." 1000739883-9907 at 9904 (US 21601) (A) (emphasis in original). This document shows that Philip Morris had quantified the affect of price increases on cigarette sales, was aware of comparable outside estimates, such as those from the USDA, and knew that higher cigarette prices would reduce cigarette sales. Chaloupka WD, 95:19-96:13.

453. In a September 1977 document prepared for the Tobacco Merchants Association and produced from RJR's files entitled "A Temporal Cross-Section Analysis of Cigarette Price Elasticity in the United States," Herbert Lyon of the University of Houston and M. Lynn Spruill of the University of Kentucky analyzed the impact of cigarette prices on cigarette smoking at the regional level. The summary states:

> In this study, price elasticities of cigarette demand for the United States and nine individual regions were estimated by covariance regression analysis. Six cross-section samples provided the data base for the analysis. Based on earlier experimental work the estimates in this study can be considered the least biased yet developed. The value of the cigarette price elasticity of demand for the United States was estimated at -.445. This finding reinforces some of the earlier work in this area. Collectively these studies indicate that cigarette price elasticity of demand is about -.50.

502016148-6154 at 6154 (US 49016) (A).

454. An August 1994 report entitled *A Study of the Effect of Pricing Changes in Michigan Two Months After Tax Increase* by SE Surveys, Inc., prepared for Lorillard, describes the findings from tracking surveys conducted in Michigan just prior to the May 1, 1994, 50 cent per pack increase in the state cigarette excise tax and approximately two months after the tax increase; the state sample was augmented by samples of black smokers and smokers in the Grand

Rapids marketing area. All three surveys indicated that, in the two months after the Michigan state cigarette excise tax increase, overall smoking prevalence in Michigan had fallen by 7%, that smoking prevalence among blacks had fallen by 4%, and that smoking prevalence in the Grand Rapids marketing area had fallen by 10%. 82885447-5500 (US 22724) (A). This document shows that Lorillard commissioned its own studies of the impact of state tax increases on cigarette smoking, and that Lorillard knows that increases in state cigarette taxes lead to smoking cessation and that some population sub-groups are more responsive to the price increases resulting from state tax increases. Chaloupka WD, 101:7-22.

(b) Cigarette Prices Affect Teenage Smoking Behavior Two to Three Times More Than Adult Smoking Behavior

455. Econometric studies conclude that smoking by teens is two to three times more sensitive to price than smoking by adults. This is true for several reasons. First, teenage smoking prevalence is mostly affected by the number of teenagers who start smoking. Adult smoking prevalence, on the other hand, is largely affected by the number of adults who quit smoking (rather than the number who start smoking, because there is little smoking initiation after age 19). Because adults have been smoking for a long time and are addicted, quitting smoking is very difficult. Addiction makes it difficult to change smoking behavior in response to a price change. For those teenagers who are not yet addicted, their smoking behavior is more responsive to price changes. Because there are more teenage smokers who are not addicted than there are adult smokers who are not addicted, teenage smokers are more sensitive to price changes than adult smokers. Second, peers are very important to teenagers. When prices go up and fewer teenagers start smoking, their friends will not start smoking or will stop smoking due to peer influence. Many teenagers get cigarettes from their friends. When cigarette prices increase, teenagers have fewer cigarettes to share, and those who have cigarettes are less likely to

share them. Third, because teenage smokers have less money or less discretionary income than adults, they spend relatively more of their income on cigarettes than adult smokers do, so they are more responsive to changes in price. Fourth, teenagers are more apt to think in the present, and as a result they will focus more on the monetary costs than on the long-term "costs" – e.g. the health consequences – of smoking. Consequently, they will respond more to price than will adults who generally give more weight to the long-term consequences of smoking. Fifth, because parental smoking affects teenage smoking, changes in cigarette prices that affect parental smoking will affect teenage smoking. Chaloupka WD 34:3-12; 43:8-46:9.

456. A recent study looking at data from 1991 to 2003 shows that as cigarette prices increased, youth smoking prevalence fell, and, as cigarette prices decreased, youth smoking prevalence increased. This study also showed that a drop in prices on Marlboro Friday in 1993 significantly increased youth smoking prevalence. In addition, the study indicated that significant price increases following settlements in the late 1990s and recent numerous state tax increases had led to reductions in teenage smoking prevalence. Id. 40:23-42:10; 43:1-4.

457. In *2002 Nicotine & Tobacco Research,* a peer reviewed article co-authored by Frank J. Chaloupka, it was shown that higher prices have an increasing impact as an individual's level of cigarette consumption gets higher. Another of these econometric studies by John Tauras, Patrick O'Malley, and Lloyd Johnson, done as part of the Bridging the Gap project, concluded that price had relatively little impact on the initiation of any smoking, but that teenage initiation of daily and heavy daily smoking is very responsive to price. Id. 35:9-19; 36:11-20.

458. The CDC estimates that 2,000 12 to 17 year olds become daily smokers each day. Given the Tauras, O'Malley, and Johnson estimates on the effects of price on initiation of daily

smoking, a 10% drop in cigarette prices would increase the number of teenagers who become daily smokers by as many as 87,600 each year. Id. 37:15-20.

459. Teenage smoking is affected by price in four key ways. First, reductions on cigarette prices encourage some teenagers who would not have otherwise taken up smoking to begin to smoke. Because, according to the Surgeon General, 90% of smokers try their first cigarette before they turn 19 years old, most of those who begin to smoke are teenagers. Second, decreases in cigarette prices lead teenage smokers to smoke more cigarettes. Some will smoke more frequently (on more days); others will smoke more cigarettes on the days that they do smoke; some will both smoke more frequently and smoke more cigarettes when they smoke. Third, decreases in cigarette prices reduce the number of teenage smokers who try to quit smoking. Fourth, reductions in cigarette prices will lead some teenagers who had quit smoking to take up smoking again. Id. 39:2-40:12.

(c) Defendants Are Well Aware That Teenagers Are Much More Price Sensitive than Adults

460. Defendants are well aware that cigarette prices affect teenage smoking behavior much more than adult smoking behavior.

461. In two memoranda to Jon Zoler concerning a study by Jeffrey Harris entitled "The 1983 Increase in the Federal Cigarette Excise Tax," Philip Morris's Myron Johnston discussed the implications for Philip Morris of adolescent smokers' greater price sensitivity. In his July 15, 1987 memorandum, Johnston stated:

> The conclusion of greatest interest to us, and one with which I cannot disagree, is that by increasing prices by more than the amount of the excise tax, we priced ourselves out of the market, or, as he puts it: "If the change in the federal excise tax actually induced a full $0.16-per pack increase in the nominal price of cigarettes, then I compute that, **as a result of the federal excise tax increase** and the resultant oligopoly response, about 2 million

> adults stopped and **600,000 teenagers (aged 12-17) did not start."**

2058122171-2172 at 2171, 2172 (US 22717) (A) (emphases added).

462. On September 3, 1987, in his second memorandum discussing Harris's article "The 1983 Increase in the Federal Cigarette Excise Tax," Johnston gave his views on "how we should pass on the price increase in the event of an increase in the excise tax." He states that:

> Jeffery [sic] Harris of MIT calculated, on the basis of the Lewin [sic] and Coate data, that the 1982-83 round of price increases caused two million adults to quit smoking and prevented 600,000 teenagers from starting to smoke. Those teenagers are now 18-21 years old, and since about 70 percent of 18-21 year-olds and 35 percent of older smokers smoke a PM brand, this means that 700,000 of those adult quitters had been PM smokers and 420,000 of the non-starters would have been PM smokers. Thus, if Harris is right, we were hit disproportionately hard. We don't need to have that happen again.

2022216179-6180 at 6179, 6180 (US 76177) (A) (emphasis in original).

463. These Philip Morris documents are important in several ways. First, they show that Philip Morris knew that federal excise tax increases affected teenage and adult smoking. Philip Morris knew that its own pricing behavior – raising prices before the tax increase – in anticipation of the tax increase further reduced teenage and adult smoking. Second, Philip Morris knew that its business was particularly affected by the tax increase and their own price increases given their high market share among teenage smokers for their brands particularly Marlboro. Third, it is clear that this knowledge affected Philip Morris's thinking about how to respond to future tax increases. Chaloupka WD, 103:17-108:8. See also Levy WD, 96:1-97:13; Levy TT, 2/9/05, 12745:6-10 (acknowledging that when Philip Morris decided how to respond to proposed increases in cigarette excise taxes, executives at the highest level were well aware of this research showing that higher excise taxes reduce youth smoking). Furthermore, Philip

Morris currently admits that increased cigarette price is a variable that would lower youth smoking rates. See US FF § III.E(6)(a), supra.

464. RJR shared Philip Morris's interest in econometric studies on differences in price sensitivity of smoking by age. In a September 20, 1982 RJR memorandum from G. Novak to J.W. Johnston and H.J. Lee, Novak states:

> Our Forecasting Group has determined that younger adult smokers, particularly younger adult male smokers, tend to be very price sensitive. The effect of a price increase on younger adult male smokers could be three to four times greater than on smokers in general, in terms of negative impact on volume. This has obvious implications to the growth of Marlboro, as well as implications to our own Project VB.

500151647-1647 (US 21785) (A).

465. A January 3, 1984 memorandum from Margaret Parham of RJR's Marketing Development department summarized "three major MDD sources of evidence regarding price sensitivity by age/sex. The key data supporting the conclusion that younger adult males do exhibit price sensitivity" came from three sources: an internal "1983 Segment Description Study," the internal "Project VB ASSESSOR Analysis," and the NBER studies. 503981058-1058 (US 22714) (A). These documents show that RJR was doing its own internal research on the affects of price on smoking behavior among younger smokers, and that this research showed that "younger adult male smokers" are highly sensitive to price. It also showed that RJR recognized the importance of this for brands which were leading brands among teenage smokers such as Marlboro, as well as RJR's own brands, and that RJR was developing price-related marketing strategies to respond to this greater price sensitivity. Chaloupka WD, 110:1-25.

466. A March 20, 1992 Lorillard memorandum from Lorillard's S.R. Benson to S.T. Jones discusses the price sensitivity of smoking by age. Based on data from Lorillard's 1991

National Cigarette Tracking Study for "full price brand smokers," Benson states, "[w]hile we know that older smokers have historically represented a greater share of the off price category, there is some evidence that the younger adult smokers currently smoking a full price brand many be demonstrating a sensitivity toward price." He further states:

> It is clear that the younger adult, 18-24 smoker group, although still smoking a full price brand, 'claim' a greater sensitivity to price than the older age groups. Furthermore, among those who claim to shop for price, it is the younger age group that exhibits the highest switching rates. While we know that switching rates have traditionally been higher among younger adult smokers, this information lends further support to that finding. It is the older smokers who are more brand loyal and probably less likely to 'shop around.' We know that younger adult smokers may be in a lower economic group and this information may reflect that phenomenon.

82849666-9667 at 9666 (US 55569) (A). This document shows that, based on its own internal tracking data, Lorillard was aware of the greater price sensitivity of younger smokers. Chaloupka WD, 111:16-112:12.

(d) Even After the MSA, Defendants Have Increased Their Price Promotion Activities Because They Know That Teenagers Are More Sensitive to Price

467. Defendants have in the past, and continue to this day, to use their knowledge (that cigarette prices affect smoking behavior generally, and that cigarette prices affect teenage smoking behavior to a much greater degree than adult smoking behavior) in developing and implementing price-related marketing strategies.

468. Over time, Defendants have increased the amount spent on price-related marketing, both absolutely and as a share of their overall marketing expenditures. Defendants have placed an increasing emphasis on price-related marketing strategies, as shown by both the sizable increases in the absolute amount of expenditures on marketing activities that directly

affect price, as well as by the increased share of overall marketing expenditures that goes to these marketing activities that directly affect price. Chaloupka WD, 73:3-14.

469. Defendants' price-related marketing has become increasingly dominated by promotional allowances and retail value added. There has also been a growing emphasis on price-related marketing activities to the major cigarette companies as a proportion of overall marketing spending, in both absolute and relative terms. From 1975 to 1981, the balance between image-oriented marketing and price-related marketing was relatively stable. In 1975, expenditures on image-oriented marketing activities accounted for more than three-quarters of total cigarette marketing expenditures, with spending on print and outdoor advertising accounting for most of these expenditures. In contrast, expenditures on price-related marketing activities accounted for just over one-fifth of the total, with spending on promotional allowances accounting for most of this. By 1981, total marketing expenditures had more than tripled, while the balance between image-oriented and price-related marketing had shifted slightly, with spending on image-oriented activities accounting for about two-thirds of the total, and spending on price-related marketing accounting for over one-fourth of the total. These trends did not continue. Over the next ten years, this balance shifted markedly in the other direction. Defendants' overall marketing increased sharply and more and more of the marketing dollars went to price-related marketing. The increasing trend towards price-related marketing continued through 1993, with spending on price-related marketing activities increasing both absolutely and as a share of the total. Chaloupka WD, 79:2-86:4.

470. After the MSA (which went into effect in 1998), the overall cigarette marketing expenditures rose sharply and tobacco companies increased their share of spending on price-related marketing. In inflation-adjusted terms, the Cigarette Company Defendants nearly

doubled their cigarette marketing expenditures between 1997 (the last full year prior to the MSA) and 2002 (the most recent year for which tobacco company data are reported by the FTC). Over the same period, the share of Defendants' spending on price-related activities rose from just over 80% to over 92%. In contrast, Defendants' inflation-adjusted spending on image-oriented marketing fell somewhat from 1997 to 2002. Id. 88:21-89:6. This increase in cigarette marketing expenditures was due to the Cigarette Company Defendants' increases in spending on price-related marketing, primarily for promotional allowances and retail value added. Defendants' total marketing expenditures went from $5.7 billion in 1997 to $11.2 billion in 2001, an increase of $5.5 billion. Expenditures on retail value added during this time went from under one billion dollars to nearly $4.8 billion in 2001; expenditures on promotional allowances went from almost $2.4 billion to almost $4.5 billion in 2001. Together, promotional allowances and retail value added went from $3.4 billion to $9.2 billion between 1997 and 2001, a total increase of $5.8 billion. Because Defendants' total marketing expenditures only increased by $5.5 billion, their increase in promotional allowances and retail value added together account for more than the total increase in marketing expenditures. Chaloupka WD, 89:7-18.

471. This price-related marketing has had a significant effect on teenage smoking initiation. Marketing activities that significantly reduce cigarette prices will increase the initiation of regular smoking and daily smoking by teenagers, and will increase the number of cigarettes smoked by teenage smokers beyond what would have been the case in the absence of these marketing activities. Based on the 2002 FTC data, marketing expenditures that directly reduced the price of cigarettes amounted to about 46 cents per pack. In November of 2002, as reported in the annual *Tax Burden on Tobacco*, average cigarette prices, not including generic brands and not including temporary price reductions caused by the price-related marketing

described above, were just under four dollars per pack. Given this, price-related marketing activities reduced the average price per pack by at least 11.6%, which, based on the estimates described above, means that as many as 100,000 teenagers would have initiated daily smoking in 2002 as a result of these marketing activities. Given the likelihood that Defendants' marketing activities are concentrated on their leading brands which are the brands most likely to be smoked by teenage smokers, it is likely that these price-related marketing activities resulted in even larger increases in teenage smoking initiation. Chaloupka WD, 93:13-94:7.

472. It is indeed true that teenage smokers are more likely to smoke the leading brands. In 1994, the CDC published a report documenting for the first time that the vast majority of adolescents smoke just three brands of cigarettes – Marlboro, Newport and Camel – and that adolescents are much more likely to smoke these brands than are adults. Eriksen 1/17/05 WD, 73: 11-16; (US 17684A) (A) (MMWR 43(32): 577-581, 1994). This report also showed that these three brands were the brands with the largest advertising expenditures. This pattern of adolescents smoking fewer brands, but more advertised brands, continues today. Subsequent peer-reviewed research shows that, after controlling for possible confounding variables, adolescent brand preference is in fact about three times more sensitive to advertising expenditures than is adult brand preference. Eriksen 1/17/05 WD, 73:16:22; Pollay, et al., Journal of Marketing 60:1-16, 1996) (US 17684) (A). See also US FF § III.E(6) (discussing young people's price sensitivity).

473. It is also true that teenage smoking behavior is specifically sensitive to changes in price of the premium brands (such as Marlboro, Newport, and Camel), and since the MSA, more and more of Defendants' marketing budgets have been concentrated on the youth brands. See generally Chaloupka WD, 73:3-94:7. For example, about 80% of Lorillard's current marketing

budget is devoted to Newport. Lindsley TT, 17225:7-9. Specifically, beginning around 1992, price promotions were becoming "a more important part" of Lorillard's marketing program for Newport. Lindsley WD, 48:6-8. In 1999, Lorillard started its "buy-down program" which reimbursed retailers for selling Newport at a certain discounted price. This enabled Lorillard to engage in much more widespread discounting than coupons. When the "buy down program" was initially started, Lorillard discounted up to 50% of its volume. At present, it is discounting nearly 80%. Lindsley WD, 48:6-21. Price promotion has become the "main thrust" of Lorillard's marketing activity. Lindsley WD, 48:22-23. Moreover, Philip Morris's price promotion expenditures for Marlboro increased from 1990 to today. Szymanczyk TT, 18415:16-25.

(3) Defendants' Packaging and Selling "Kiddie Packs" Disproportionately Markets to Youth; Despite Knowing This, Defendants Continue the Practice

474. As discussed immediately above, Defendants fraudulently market to youth by exploiting their price sensitivity. A ban on marketing, manufacturing, or distribution of cigarettes in packs containing fewer than 20 cigarettes ("Kiddie Packs") will prevent and restrain Defendants from fraudulently marketing to youth in the future.

475. The prohibition of the sale of individual cigarettes or packs with fewer than twenty cigarettes was included in the proposed regulations on tobacco products promulgated by the FDA in 1996 intended to reduce youth access and the appeal of tobacco to youth. In the 1998 Surgeon General's Report *Tobacco Use Among U.S. Racial/Ethnic Minority Groups*, the Surgeon General commented that "the FDA regulations hold promise for reducing tobacco use by all young people." HHA0430685-1029 at 0960 (US 64831) (A).

476. The 1997 Proposed Resolution would have banned the sale of packs with fewer than 20 cigarettes. The Master Settlement Agreement included a temporary ban on the sale of packs with fewer than 20 cigarettes which expired on December 31, 2001. However, in a

number of communities around the country retailers have been opening up cigarette packs and selling cigarettes individually. Myers TT, 5/18/05, 21647:8-21648:1; Myers WD, 24:19-25:3; MSA § III(k) at 28 (JD-045158) (A).

477. In the 2000 Surgeon General's Report *Reducing Tobacco Use*, the Surgeon General specifically addressed the issue of the sale of packs with fewer than 20 cigarettes. The Surgeon General stated that "research has shown that young people account for many sales of smaller cigarette packages . . . probably because of their low price and ease of concealment. These findings have led some jurisdictions to prohibit the marketing of packages containing fewer than 20 cigarettes." VXA1240104-0567 at 0278 (US 64316) (A).

478. Dr. Eriksen recommended restricting promotional devices that lower the price of cigarettes. Eriksen WD, 5/9/05, 24:18-25:2, 28:15-29:8. Selling cigarettes in packs containing fewer than twenty cigarettes has the effect of reducing the price of cigarettes. Youth have less disposable income, and banning the sale of packs with less than twenty cigarettes would make purchasing cigarettes more expensive.

(4) Defendants' Manufacturing and Selling Flavored Cigarettes Disproportionately Markets to Youth; Despite Knowing This, Defendants Continue the Practice

479. Defendants continue to market to youth through the sale and marketing of flavored cigarettes which appeal to youth. A ban on the sale and marketing of flavored cigarettes is necessary to prevent and restrain Defendants from fraudulently marketing to youth in the future.

480. Flavored cigarettes are appealing to youth. Organizations such as the American Legacy Foundation have spoken out against marketing flavored cigarettes because these products are attractive to teens and encourage them to smoke. Preliminary results from the American

Legacy Foundation Media Tracking Survey administered in January 2005 indicate that teens who reported having seen an advertisement for flavored cigarettes were more than three times more likely to have tried the product than those who reported not having seen any ads. Healton WD, 66:15-67:8.

481. Defendants have long known that flavored cigarettes appeal to children. A September 1972 B&W Project Report from the firm Marketing Innovations, Inc. entitled "Youth Cigarette – New Concepts" suggested that the company develop "youth-oriented" cigarettes with new types of flavoring, such as Coca-Cola and Apple. The report suggested developing a "sweet flavor cigarette" because "[i]t's a well known fact that teenagers like sweet products." 170042014-2014 (US 20291) (A).

482. B&W knows that starter smokers (i.e. youth) do not initially like the taste of cigarettes. A February 17, 1987 memorandum entitled "Kool Isn't Getting the Starters" from D.V. Cantrell at B&W to I.D. Macdonald, B&W Marketing Vice President, discussed "product reasons for Kool's decline in attracting starters." Cantrell described "low tobacco taste (this is an acquired taste with use)" as an attribute that is "important to a beginning smoker." He went on in his memorandum to note that "Menthol brands have been said to be good starter products because new smokers appear to know that menthol covers up some of the tobacco taste, and they already know what the menthol tastes like, vis-a-vis candy." 621079918-9921at 9918, 9920 (US 30792) (A).

483. RJR believed that developing a flavored cigarette would improve its competitive position among young smokers. A December 18, 1972 memorandum by A.P. Ritchy, an RJR employee, recommended "conducting the second phase of research to determine if the concept of a fruit wine flavored cigarette is viable among young adult smokers (18-35)." The company

conducted initial focus group testing "to provide a basis for developing lines of questioning for further research" on a fruit wine flavored cigarette. The memorandum went on to explain the rationale for a fruit-wine-flavored cigarette: "Competitive brands, e.g. Marlboro and Kool, have exhibited exceptional strength in the under 35 age group, especially in the 14-24 age group. RJR Brands do not generally skew toward the younger socio-economic groups, and a product strategically targeted at this group would complement our current product line." 501283430-3431 (US 20675) (O).

484. A document produced by BATCo discusses "Project Saturn," an Imperial Tobacco project designed to "acquire an understanding . . . of an array of cigarette taste and other sensory characteristics that would appeal to and create preference within various segments of the smoking population." The project explored adding flavors including "berry," "maple," "spearmint," and "vanilla" to cigarettes. 400229127-9148 at 9127, 9131-9132 (US 47489) (A).

485. Defendants continue to develop and market flavored cigarettes designed to attract youth. Susan Ivey, chairman and CEO of RJR and former chairman of B&W, testified about B&W's 2004 introduction of Kool Smooth Fusions, which are Kool mild cigarettes with "top flavors" such as Caribbean Chill, Midnight Berry, Mocha Taboo and Mintrigue. A March 18, 2004, B&W press release announcing the introduction of these cigarettes, entitled "Kool Introduces Smooth Fusions: Innovative Menthol Experiences With A Revolutionary Pack Design," quoted Ludo Cremers, divisional vice president, brand marketing as saying: "Kool established the menthol category and continues to reinvent to give consumers a product that fits the lifestyle of today's urban, multicultural smokers." The press release went on to state that, "[r]esponding to the demand of the hip trendsetting consumers, Kool Smooth Fusions packs will be introduced in bar, restaurant and night club venues, making it available to the most up-to-date,

plugged in smokers. Further expansion is planned for later in the year." Ivey TT, 11/16/04, 6170:17-6172:14; TLT0962005-2006 at 2005 (US 87745) (A).

486. The National African American Tobacco Prevention Network (NAATPN) issued a statement on November 8, 2004 that the organization was "outraged at Kool's new development . . . of a line of new cigarette flavors, such as 'Caribbean Chill and Midnight Berry'" and requested that B&W "immediately suspend the sale . . . of flavored cigarettes aimed at young consumers." (US 89170) (A).

487. Andrew Schindler, RJR's former CEO, has acknowledged that products such as cherry flavored and lemon flavored cigarettes could appeal to children. Nevertheless, since 2001 RJR has marketed Camel exotic blend flavored cigarettes such as "Dark Mint," "Cinnzabar," "Mandalay Lime" and "Crema." RJR also introduced Camel "Bayou Blast" berry flavored cigarettes around Mardi Gras in 2003 and 2004. During the summer of 2003, RJR marketed Camel "Beach Breezer" with a "swirling layer of tropical fruit flavor" and "Margarita Mixer" with "splash of lime." RJR has placed advertisements for Camel exotic blend flavored cigarettes in magazines with significant youth readership such as *Sports Illustrated*. Schindler WD, 208:23-209:3, 210:7-211:24, 214:6-215:19; ADV0340049-0051 (US 10761) (A); (US 89356) (A).

488. During the summer of 2004, RJR marketed flavored Camel Kauai Kolada and Twista Lime cigarettes. RJR ran a national advertising campaign to promote these cigarettes. One of the color ads for these two blends featured a provocatively posed brunette in a grass skirt and bikini top laying under a tiki umbrella and across the top of brightly colored packs of these cigarettes. The Governor of Hawaii wrote to the then-CEO of RJR, Andrew Schindler, criticizing the company for targeting young people with these cigarettes, stating that:

> I find it particularly disturbing that the R.J. Reynolds Tobacco Company is targeting young people with a marketing campaign that attempts to associate these flavored cigarettes with exotic tropical drinks. Enticing this vulnerable population with flavored cigarettes only serves to get them addicted at a very young age.

Tommy Payne, the Executive Vice President for External Relations at RJR, responded to Governor Lingle's letter on behalf of Schindler, and denied that these cigarettes targeted youth. Governor Lingle not only expressed her anger over these cigarettes to Schindler in a letter, but also issued a public statement specifically addressing "Kaua'i Kolada Cigarettes in which she proclaimed: "Using the name a Kaua'i and Hawaii images to market cigarettes to young people is disgusting . . . . The tobacco companies are preying on our youth by enticing them with flavored cigarettes." Schindler TT, 1/24/04, 10829:22-10844:12; Schindler WD, 209:4-19; (US 89357) (A); (US 90119) (A); (US 90117) (A); (US 90118) (A).

489. RJR ignored the criticism it received over its Camel Kauai Kolada and Twista Lime cigarettes, and a mere few months later marketed and advertised Winter Mocha Mint and Warm Winter Toffee flavored Camel cigarettes. RJR placed advertisements for these cigarettes in the youth-oriented magazines *Rolling Stone*, *Glamour*, *Cosmopolitan*, and *Elle*. In a January 5, 2005 letter to Schindler, the Michigan Surgeon General and Michigan's Director of Community Health expressed their outrage at RJR's latest marketing of flavored cigarettes:

> The latest blatant attempt by your company to entice youth into a lifetime of cigarette smoking and tobacco use has come to our attention. . . . Manufacturing cigarettes the same way an ice cream or candy bar company would manufacture its goods is an overt and offensive attempt to lure children, teens and nonsmokers into the harmful and deadly web of tobacco usage. . . With this letter we are calling for you and your company to discontinue this egregious and patently offensive practice of manufacturing and marketing flavored cigarettes.

(US 90114) (A); Myers WD, 31:3-5; (US 90116) (A); Schindler TT, 1/24/04, 10845:16-10851:8.

490. RJR continues to market Camel exotic blend flavored cigarettes. Schindler acknowledged that, despite the criticism the company has received for targeting youth through the marketing of flavored cigarettes, he would refuse to make a recommendation that the company stop marketing flavored cigarettes. He further testified that, to his knowledge, RJR has no plans to change with respect to its marketing of flavored cigarettes. Schindler TT, 1/24/04, 10830:17-10834:6; 10845:16-10846:17.

(5) Defendants' Motor Sports Sponsorships Target Youth; Despite Knowing This, Defendants Continue the Practice

491. Defendants fraudulently market to youth through their sponsorship of motor sports which garners their brands substantial national media exposure on television, radio, and in newspapers as the United States fully detailed in Section III.E.(7)(C)(iii), supra. Despite the broadcast ban on television advertising, the television exposure Defendants receive through their sponsorship of motor sports is valued at millions of dollars. Id. Defendants also use their sponsorship of racing events to market their cigarette brands at the point of sale. Id.

492. Auto racing events sponsored by defendants are attended by millions of individuals, and are watched on television by millions more people. In 2002, the television ratings for NASCAR racing were second only to football. Krugman WD, 108:12-112:14.

493. As Dr. Krugman testified with respect to Defendants' sponsorship of motor sports: "these events sponsored by the tobacco companies are important tools for the companies in presenting positive cigarette brand images to potential and current smokers including young people." Krugman WD, 111:7-112:7. Defendants' sponsorship of auto racing effectively associates their brands with themes and images that attractive to youth, such as masculinity and fun and excitement. As Dr. Biglan explained, "auto racing is a particularly rich source of images

of excitement for many and adolescents are high in their need for excitement." Biglan WD, 356:3-13.

494. As discussed above, see US FF §§ V.A(2)(b) & (c), supra, Defendants responded to the 1971 Broadcast Ban by sponsoring motor racing events that result in widespread television coverage of cigarette brand names and imagery. Prohibiting Defendants from sponsoring motor sports will prevent and restrain Defendants from fraudulently marketing to youth in the future.

CONCLUSION

Based upon a review of the totality of the evidence in the trial record:

1. The Court hereby finds that each Defendant – Philip Morris, R.J. Reynolds, Brown & Williamson, Lorillard, Liggett, American, Altria, BATCo, CTR, and the Tobacco Institute – has participated in an association-in-fact Enterprise comprised of Defendants and other employees, agents, and organizations.

2. The Court further finds that each Defendant has committed substantive RICO violations under 18 U.S.C. § 1962(c) and has conspired to violate RICO in violation of 18 U.S.C. § 1962(d).

3. The Court finds that Defendants have continued to engage in misconduct in furtherance of the objectives of the Enterprise and conspiracy and Defendants' scheme to defraud.

4. The Court further finds that there is a reasonable likelihood of ongoing and future RICO violations by Defendants.

5. The Court hereby finds that, pursuant to its grant of authority under 18 U.S.C. § 1964(a), the United States is entitled to equitable relief against Defendants.

Respectfully submitted,

PETER D. KEISLER
Assistant Attorney General

/S/_____
SHARON Y. EUBANKS (D.C. Bar No. 420147)
Director, Tobacco Litigation Team

/S/_____
STEPHEN D. BRODY (D.C. Bar No. 459263)
Deputy Director, Tobacco Litigation Team

/S/_____
RENÉE BROOKER (D.C. Bar No. 430159)
Assistant Director, Tobacco Litigation Team

BRUCE G. OHR
Chief, Organized Crime and Racketeering Section
Criminal Division

CAROLYN CLARK
MICHELLE GLUCK
RUSSELL B. KINNER
Senior Trial Counsel
Tobacco Litigation Team

MEREDITH L. BURRELL
ALLISON CENDALI
DANIEL K. CRANE-HIRSCH
ELIZABETH C. CROCKER
JAMES D. GETTE
ANDREW N. GOLDFARB
MICHELE S. GREIF
CAROLYN I. HAHN
SHANNON T. KELLEY
PATRICK M. KLEIN
DAVID S. KLONTZ
NOELLE M. KURTIN
JASON LAESER
SIOBHAN MADISON
BRIAN J. MCCABE
LINDA M. MCMAHON
MARY JO MOLTZEN
STASIA M. MOSESSO
JAMES T. NELSON
JOEL D. SCHWARTZ
GREGG M. SCHWIND
DON G. SCROGGIN
KENNETH E. SEALLS
ANDREW A. STEINBERG
INA STRICHARTZ
ARMELLE VAN DORP
ROBERT P. WILLIAMS
Trial Attorneys, Tobacco Litigation Team

United States Department of Justice
Post Office Box 14524
Ben Franklin Station
Washington, DC 20044-4524
(202) 616-4185

Attorneys for Plaintiff
United States of America

Date: August 15, 2005