IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF LOUISIANA

UNITED STATES OF AMERICA, and the STATE OF LOUISIANA,	)
Plaintiffs,	)
v.	)
CHALMETTE REFINING, L.L.C.	)
Defendant.	)

CONSENT DECREE

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CONSENT DECREE

WHEREAS defendant Chalmette Refining, L.L.C. ("CRLLC"), a Delaware Limited Liability Company, currently owns and/or operates a petroleum refinery located at 500 West St. Bernard Highway in Chalmette, St. Bernard Parish, Louisiana (the "Chalmette Refinery" or the "Refinery").

WHEREAS, plaintiff the United States of America ("Plaintiff" or the "United States"), by the authority of the Attorney General of the United States and through its undersigned counsel, acting at the request and on behalf of the United States Environmental Protection Agency ("EPA"), alleges upon information and belief that defendant CRLLC has violated and/or continues to violate certain requirements of the Clean Air Act, and the regulations and permits promulgated thereunder at the Chalmette Refinery.

WHEREAS, the United States specifically alleges that CRLLC has violated and/or continues to violate the following statutory and regulatory provisions:

1) Prevention of Significant Deterioration ("PSD") requirements found at Part C of Subchapter I of the Clean Air Act (the "Act"), 42 U.S.C. § 7475, and the regulations promulgated thereunder at 40 C.F.R. § 52.21 (the "PSD Rules"); and "Plan Requirements for Non-Attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7502-7503, and the regulations promulgated thereunder at 40 C.F.R. § 51.165(a) and (b) 40 C.F.R. Part 51, Appendix S, and 40 C.F.R. § 52.24 ("PSD/NSR Regulations"), for fuel gas combustion devices and fluid catalytic cracking unit catalyst regenerators for NOx, SO_2, CO and PM;

2) New Source Performance Standards ("NSPS") found at 40 C.F.R. Part 60, Subparts A and J ("Refinery NSPS Regulations"), promulgated under Section 111 of the Act, 42 U.S.C. § 7411, for sulfur recovery plants, fuel gas combustion devices, and fluid catalytic cracking unit catalyst regenerators;

3) Leak Detection and Repair ("LDAR") requirements promulgated pursuant to Sections 111 and 112 of the Act, and found at 40 C.F.R. Part 60 Subpart GGG; 40 C.F.R. Part 61, Subparts J and V; and 40 C.F.R. Part 63, Subparts F, H, and CC ("LDAR Regulations"); and

4) National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Benzene Waste Operations promulgated pursuant to Section 112(e) of the Act, and found at 40 C.F.R. Part 61, Subpart FF ("Benzene Waste NESHAP Regulations").

WHEREAS, the United States also alleges upon information and belief that CRLLC has violated and/or continues to violate certain other legal requirements applicable to the Chalmette Refinery, including the release reporting requirements found at Section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9603(a), and Section 304 of the Emergency Planning and Community Right-to-Know Act ("EPCRA"), 42 U.S.C. § 11004, and the regulations promulgated thereunder.

WHEREAS, the United States also specifically alleges with respect to the Chalmette Refinery that, upon information and belief, CRLLC has been and/or continues to be in violation of the Louisiana state implementation plan ("SIP") and other state rules adopted by the State of Louisiana to the extent that such plan or rules implement, adopt or incorporate the above-described Federal requirements.

WHEREAS, the State of Louisiana (the "Co-Plaintiff" or the "State") have joined in this matter alleging violations of its applicable SIP provisions and other state and local rules, regulations, and permits incorporating and/or implementing the foregoing federal requirements.

WHEREAS, with respect to the provisions of Subsection V.J ("Control of Acid Gas Flaring and Tail Gas Incidents") of this Consent Decree, EPA maintains that "[i]t is the intent of the proposed standard [40 C.F.R. § 60.104] that hydrogen-sulfide-rich gases exiting the amine regenerator [or sour water stripper gases] be directed to an appropriate recovery facility, such as a Claus sulfur plant," see Information for Proposed New Source Performance Standards: Asphalt Concrete Plants, Petroleum Refineries, Storage Vessels, Secondary Lead Smelters and Refineries, Brass or Bronze Ingot Production Plants, Iron and Steel Plants, Sewage Treatment Plants, Vol. 1, Main Text at 28.

WHEREAS, EPA further maintains that the failure to direct hydrogen-sulfide-rich gases to an appropriate recovery facility -- and instead to flare such gases under circumstances that are not sudden or infrequent or that are reasonably preventable -- circumvents the purposes and intentions of the standards at 40 C.F.R. Part 60, Subpart J.

WHEREAS, EPA recognizes that "Malfunctions," as defined in Section IV (Definitions) of this Consent Decree and 40 C.F.R. § 60.2, of the "Claus Sulfur Recovery Plants" or of "Upstream Process Units" may result in flaring of "Acid Gas" or "Sour Water Stripper Gas" on occasion, as those terms are defined herein, and that such flaring does not violate 40 C.F.R. § 60.11(d) if the owner or operator, to the extent practicable, maintains and operates such units in a manner consistent with good air pollution control practice for minimizing emissions during these periods.

WHEREAS, CRLLC denies that it has violated and/or continues to violate the foregoing statutory, regulatory, SIP provisions and other state and local rules, regulations and permits incorporating and implementing the foregoing federal requirements, and maintains that it has been and remains in compliance with all applicable statutes, regulations and permits and is not liable for civil penalties and injunctive relief as alleged in the Complaint.

WHEREAS, the United States is engaged in a federal strategy for achieving cooperative agreements with U.S. petroleum refineries to achieve across-the-board reductions in emissions in a manner that achieves compliance with existing statutory and regulatory standards ("Global Settlement Strategy").

WHEREAS, CRLLC consents to the simultaneous filing of the Complaint and lodging of this Consent Decree so as to accomplish its objective of cooperatively reconciling the goals of the United States, the State, and CRLLC under the Clean Air Act and the corollary state statutes, and CRLLC therefore agrees to undertake the installation of air pollution control equipment and enhancements to its air pollution management practices set forth in this Consent Decree at the Chalmette Refinery to reduce air emissions through participation in the Global Settlement Strategy.

WHEREAS, even before entry into the settlement negotiations that resulted in this Consent Decree, CRLLC had taken significant steps to reduce air pollutant emissions from the Chalmette Refinery, including by installing a wet gas scrubber ("WGS") SO_2 and PM control systems on its Chalmette Refinery fluid catalytic cracking unit ("FCCU") (which commenced operation in 1984).

WHEREAS, by entering into this Consent Decree, CRLLC is committed to making further reductions in air pollutant emissions from its operations.

WHEREAS, the United States, the State of Louisiana, and CRLLC estimate that, when the affirmative relief and environmental projects identified in Sections V and VIII of this Consent Decree are fully implemented, annual emissions from the Chalmette Refinery will be reduced by the following amounts: 1) nitrogen oxide by approximately 600 tons; and 2) sulfur dioxide by approximately 1270 tons.

WHEREAS, CRLLC has waived any applicable federal or state requirements of statutory notice of the alleged violations.

WHEREAS, coordinated negotiations between the United States and Exxon Mobil Corporation, ExxonMobil Oil Corporation, and CRLLC – addressing multiple petroleum refineries owned and/or operated by those entities – resulted in two complementary Consent Decrees, namely: (i) this Consent Decree with CRLLC (relating to the Chalmette Refinery); and (ii) a separate Consent Decree with Exxon Mobil Corporation and ExxonMobil Oil Corporation that has been lodged with the United States District Court for the Northern District of Illinois (relating to certain other refineries).

WHEREAS, the Parties acknowledge that, at the time of CRLLC's execution of this Consent Decree, the Chalmette Refinery was not in operation due to Hurricane Katrina and that CRLLC was not certain of the full extent of the damage to the Refinery or when the Refinery would again be fully operational.

WHEREAS, the Parties agree that: (i) settlement of the matters set forth in the Complaint (filed herewith) and in Section XVI (Effect of Settlement) of this Consent Decree is in the best interests of the Parties, and the public; and (ii) entry of this Consent Decree without litigation is the most appropriate means of resolving this matter.

WHEREAS, the Parties recognize, and the Court by entering the Consent Decree finds, that the Consent Decree has been negotiated at arms-length and in good faith and that the Consent Decree is fair, reasonable, and in the public interest.

NOW THEREFORE, with respect to the matters set forth in the Complaint and in Section XVI of the Consent Decree, and before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties to the Consent Decree, it is hereby ORDERED, ADJUDGED and DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action and over the Parties pursuant to 28 U.S.C. §§ 1331, 1345 and 1355. In addition, this Court has jurisdiction over the subject matter of this action pursuant to Sections 113(b) and 167 of the Clean Air Act, 42 U.S.C. §§ 7413(b) and 7477, Section 109(c) of CERCLA, 42 U.S.C. § 9609(c), and Section 325(b) of EPCRA, 42 U.S.C. § 11045(b). The Complaint states a claim upon which relief may be granted for injunctive relief and civil penalties against CRLLC under the Clean Air Act, CERCLA Section 103, and EPCRA Section 304. Authority to bring this suit is vested in the United States Department of Justice by 28 U.S.C. §§ 516 and 519.

2. Venue is proper in the Eastern District of Louisiana pursuant to Section 113(b) of the Clean Air Act, 42 U.S.C. § 7413(b), CERCLA Section 113(b), 42 U.S.C. § 9613(b), EPCRA Section 325(b)(3), 42 U.S.C. § 11045(b)(3), and 28 U.S.C. §§ 1391(b) and (c), and 1395(a). CRLLC consents to the personal jurisdiction of this Court, waives any objections to venue in this District, and does not object to the participation of the State of Louisiana as a party or intervenor in this action.

3. Notice of the commencement of this action has been given to the State of Louisiana in accordance with Section 113(a)(1) of the Clean Air Act, 42 U.S.C. § 7413(a)(1), and as required by Section 113(b) of the Clean Air Act, 42 U.S.C. § 7413(b).

II. APPLICABILITY AND BINDING EFFECT

4. The provisions of the Consent Decree shall apply to the Chalmette Refinery. The provisions of the Consent Decree shall be binding upon the United States, the State, and CRLLC, (acting through its officers, agents, servants, employees, and members acting in their capacities as such), and upon CRLLC's successors and assigns.

5. CRLLC, the United States, and the State agree not to contest the validity of the Consent Decree in any subsequent proceeding to implement or enforce its terms.

6. CRLLC shall give written notice of the Consent Decree to any successors in interest prior to the transfer of ownership or operation of any portion of the Chalmette Refinery (to the extent such portion is subject to one or more requirements of this Consent Decree) and shall provide a copy of the Consent Decree to any successor in interest. CRLLC shall notify the United States and the State, in accordance with the notice provisions set forth in Paragraph 232 (Notice), of any successor in interest at least thirty (30) days prior to any such transfer.

7. CRLLC shall condition any transfer, in whole or in part, of ownership of, operation of, or other interest (exclusive of any non-controlling non-operational shareholder interest), in the Chalmette Refinery, upon the execution by the transferee of a modification to the Consent Decree, which modification shall make the terms and conditions of the Consent Decree that apply to the Chalmette Refinery or portion of the Chalmette Refinery applicable to the transferee. In the event of such transfer, CRLLC shall notify the United States and the State. By no earlier than thirty (30) days after such notice, CRLLC may file a motion to modify the

Consent Decree to make the terms and conditions of the Consent Decree applicable to the transferee. CRLLC shall be released from the obligations and liabilities of this Consent Decree unless the United States opposes the motion and the Court finds that the transferee does not have the financial and technical ability to assume the obligations and liabilities under the Consent Decree.

8. Subject only to Paragraph 7, above, and Sections VII (Modifications to Implementation Schedules) and XIV (Force Majeure), below, CRLLC shall be solely responsible for ensuring that performance of the work contemplated under this Consent Decree is undertaken in accordance with the deadlines and requirements contained in this Consent Decree and any attachments hereto. CRLLC shall provide a copy of this Consent Decree (or an extract of applicable provisions of this Consent Decree) to each consulting or contracting firm that is retained to perform work required under Subsections V.M or V.N of this Consent Decree, upon execution of any contract relating to such work. Copies of the Consent Decree (or an extract of applicable provisions of this Consent Decree) may be provided by electronic means but do not need to be supplied to firms who are retained to supply materials or equipment to satisfy requirements under this Consent Decree.

III. OBJECTIVES

9. It is the purpose of the Parties in this Consent Decree to further the objectives of the federal Clean Air Act, CERCLA Section 103, EPCRA Section 304, and the Louisiana Environmental Quality Act, La. Rev. Stat. Ann. § 30:2001 et seq..

IV. DEFINITIONS

10. Unless otherwise defined herein, terms used in the Consent Decree shall have the meaning given to those terms in the Clean Air Act, CERCLA Section 103, EPCRA Section 304,

and the implementing regulations promulgated thereunder. The following terms used in this Consent Decree shall be defined, for purposes of the Consent Decree and the reports and documents submitted pursuant hereto, as follows:

a. "Acid Gas" or "AG" shall mean any gas that contains hydrogen sulfide and is generated at a refinery by the regeneration of an amine scrubber solution but does not mean Tail Gas.

b. "Acid Gas Flaring" or "AG Flaring" shall mean the combustion of Acid Gas and/or Sour Water Stripper Gas in an AG Flaring Device. Nothing in this definition shall be construed to modify, limit, or affect EPA's authority to regulate the flaring of gases that do not fall within the definitions of Acid Gas or Sour Water Stripper Gas contained in this Decree.

c. "Acid Gas Flaring Device" or "AG Flaring Device" shall mean the following devices that are used by the Chalmette Refinery to combust Acid Gas and/or Sour Water Stripper Gas: Chalmette Refinery Flare 1 and Chalmette Refinery Flare 2. The term "Acid Gas Flaring Device" does not include facilities in which gases are combusted to produce sulfur or sulfuric acid. To the extent that, during the duration of the Consent Decree, the Chalmette Refinery utilizes any Flaring Devices other than those specified above for the purpose of combusting Acid Gas and/or Sour Water Stripper Gas, those Flaring Devices shall be AG Flaring Devices and shall be subject to the requirements of this Consent Decree.

d. "Acid Gas Flaring Incident" or "AG Flaring Incident" shall mean the continuous or intermittent combustion of Acid Gas and/or Sour Water Stripper Gas from one or more AG Flaring Devices at the Chalmette Refinery that results in the emission of sulfur dioxide equal to, or in excess of, five-hundred (500) pounds in any twenty-four (24) hour period. Where such continuous or intermittent combustion from one or more AG Flaring Devices continues into

subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), and sulfur dioxide equal to, or in excess of, five-hundred (500) pounds is emitted in each subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), then only one AG Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping twenty-four (24) hour periods are measured from the initial commencement of AG Flaring within the AG Flaring Incident.

e. "CEMS" shall mean continuous emissions monitoring system.

f. "CRLLC" shall mean Chalmette Refining L.L.C. and its successors and assigns.

g. "Combustion Units" shall mean the heaters and boilers with a capacity of greater than 40 mmBtu/hr (at HHV) that are listed in Appendix A.

h. "Consent Decree" or "Decree" shall mean this Consent Decree, including any and all appendices attached to the Consent Decree.

i. "Chalmette Refinery" or the "Refinery" shall mean the refinery owned by CRLLC and located at 500 West St. Bernard Highway in Chalmette, St. Bernard Parish, Louisiana.

j. "CO" shall mean carbon monoxide.

k. "Current Generation Ultra-Low NOx Burners" shall mean those burners that are designed to achieve a NOx emission rate of 0.020 to 0.040 lb/mmBTU HHV when firing natural gas at 3% stack oxygen at full design load without air preheat, regardless of whether upon installation actual emissions exceed 0.040 lb/mmBTU HHV.

l. "Date of Lodging" or "Date of Lodging of the Consent Decree" shall mean the date the Consent Decree is lodged with the Clerk of the Court for the United States District Court for the Eastern District of Louisiana.

m. "Day" or "Days" shall mean a calendar day or days.

n. "Entry Date" shall mean the date the Consent Decree is entered by the United States District Court for the Eastern District of Louisiana.

o. "FCCU" shall mean a fluidized catalytic cracking unit, its regenerator and associated CO boiler(s) and CO furnaces where present. CRLLC owns and/or operates an FCCU at the Chalmette Refinery (the "Chalmette FCCU"). A wet gas scrubber that commenced operation in 1984 serves as an SO_2 and PM control device for the Chalmette FCCU. The Chalmette FCCU also has third-stage cyclones and a high-pressure hydrotreater also exists which lowers the sulfur in a portion of the FCCU feed.

p. "Flaring Device" shall mean an AG Flaring Device and/or an HC Flaring Device.

q. "Flaring Incident" shall mean an AG Flaring Incident, a Tail Gas Incident, and/or an HC Flaring Incident.

r. "Fuel Oil" shall mean any liquid fossil fuel with sulfur content of greater than 0.05% by weight.

s. "Hydrocarbon Flaring" or "HC Flaring" shall mean the combustion of refinery-generated gases, except for Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas, in a Hydrocarbon Flaring Device. Nothing in this definition shall be construed to modify, limit, or affect EPA's authority to regulate the flaring of gases that do not fall within the definitions contained in this Consent Decree.

t. "Hydrocarbon Flaring Device" or "HC Flaring Device" shall mean the following devices that are used by the Chalmette Refinery to control (through combustion) any excess volume of a refinery-generated gas other than Acid Gas and/or Sour Water Stripper Gas

and/or Tail Gas: (1) Chalmette Refinery Flare 1; and (2) Chalmette Refinery Flare 2. To the extent that the Chalmette Refinery utilizes Flaring Devices other than those specified above for the purpose of combusting any excess of a refinery-generated gas other than Acid Gas and/or Sour Water Stripper Gas, those Flaring Devices shall be HC Flaring Devices and shall be subject to the provisions of this Consent Decree.

u. "Hydrocarbon Flaring Incident" or "HC Flaring Incident" shall mean the continuous or intermittent flaring of refinery-generated gases, except for Acid Gas or Sour Water Stripper Gas or Tail Gas, in a HC Flaring Device that results in the emission of sulfur dioxide equal to, or greater than five hundred (500) pounds in a 24-hour period. Where such continuous or intermittent flaring from a HC Flaring Device continues into subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), and sulfur dioxide equal to, or in excess of, five-hundred (500) pounds is emitted in each subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), then only one HC Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping twenty-four (24) hour periods are measured from the initial commencement of flaring within the HC Flaring Incident.

v. "LDEQ" shall mean the Louisiana Department of Environmental Quality and any successor departments or agencies of the State of Louisiana.

w. "Low NOx Combustion Promoter" shall mean a catalyst that is added to a FCCU that minimizes NOx emissions while maintaining its effectiveness as a combustion promoter.

x. "Malfunction," as specified by 40 C.F.R. § 60.2, shall mean: "[A]ny sudden, infrequent, and not reasonably preventable failure of air pollution control equipment,

process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions."

y. "Natural Gas Curtailment" shall mean a restriction imposed by a natural gas supplier, which limits CRLLC's ability to obtain natural gas.

z. "Next Generation Ultra-Low NOx Burners" or "Next Generation ULNBs" shall mean those burners that are designed to achieve a NOx emission rate of less than or equal to 0.020 lb/ mmBTU HHV when firing natural gas at 3% stack oxygen at full design load without air preheat, regardless of whether upon installation actual emissions exceed 0.020 lb/mmBTU HHV.

aa. "NOx" shall mean nitrogen oxides.

ab. "NOx Additives" shall mean Low NOx Combustion Promoters and NOx Reducing Catalyst Additives.

ac. "NOx Reducing Catalyst Additive" shall mean a catalyst additive that is introduced to an FCCU to reduce NOx emissions through reduction or controlled oxidation of intermediates.

ad. "Paragraph" shall mean a portion of this Consent Decree identified by an arabic numeral.

ae. "PM" shall mean particulate matter.

af. "Parties" shall mean the United States, the State, and CRLLC.

ag. "Root Cause" shall mean the primary cause(s) of AG Flaring Incident(s), Hydrocarbon Flaring Incident(s), or Tail Gas Incident(s), as determined through a process of investigation.

ah. "Sour Water Stripper Gas" or "SWS Gas" shall mean the gas produced by the process of stripping or scrubbing refinery sour water.

ai. "SO_2 Reducing Catalyst Additive" shall mean a catalyst additive that is introduced to an FCCU to reduce SO_2 emissions by reduction and adsorption.

aj. "State" shall mean the State of Louisiana.

ak. "SO_2" shall mean sulfur dioxide.

al. "Sulfur Recovery Plant" or "SRP" shall mean a process unit that recovers sulfur from hydrogen sulfide by a vapor phase catalytic reaction of sulfur dioxide and hydrogen sulfide. The SRP at the Chalmette Refinery (the "Chalmette SRP") consists of two Claus trains: Train 1 and Train 2.

am. "Tail Gas" or "TG" shall mean exhaust gas from the Claus trains and/or the tail gas cleanup unit ("TGU") section of the SRP.

an. "Tail Gas Unit" or "TGU" shall mean a control system utilizing a technology for reducing emissions of sulfur compounds from a Claus Sulfur Recovery Plant.

ao. "Tail Gas Incident" shall mean combustion of Tail Gas that either is:

(1) combusted in a flare and results in 500 pounds or more of SO_2 emissions in any 24 hour period ; or

(2) combusted in a thermal incinerator and results in excess emissions of 500 pounds or more of SO_2 in any 24-hour period. Only those time periods which are in excess of a SO_2 concentration of 250 ppm (rolling 12-hour average) shall be used to determine the amount of excess SO_2 emissions from the incinerator.

CRLLC shall use engineering judgment and/or other monitoring data to estimate emissions during periods in which the SO_2 continuous emission analyzer has exceeded the range of the instrument or is out of service.

ap. "Upstream Process Units" shall mean all amine contactors, amine scrubbers, and sour water strippers at the Chalmette Refinery, as well as all process units at these refineries that produce gaseous or aqueous waste streams that are processed at amine contactors, amine scrubbers, or sour water strippers.

V. AFFIRMATIVE RELIEF

A. NOx EMISSIONS REDUCTIONS FROM THE FCCU.

11. **General.** CRLLC shall implement a program to reduce NO_x emissions from the Chalmette FCCU, as specified below. Pursuant to Subsection V.Q of this Consent Decree, CRLLC shall apply for federally-enforceable permits that incorporate the lower NO_x emission limits established by this Subsection. CRLLC will monitor compliance with the emission limits through the use of CEMS, as specified by this Subsection V.A.

12. **NOx Emissions Control for the Chalmette FCCU.**

a. NOx Control System. CRLLC presently intends to control NOx emissions from the Chalmette FCCU by: (i) continuing to operate the FCCU in full burn mode; and (ii) taking other steps to reduce NOx (which may include, but are not limited to, use of a Thermal DeNOx system and/or use of NOx Additives).

b. Final NOx Limits. CRLLC shall comply with NOx emission limits of 40 ppmvd at 0% O_2 on a 365-day rolling average basis and 80 ppmvd at 0% O_2 on a 7-day rolling average basis at the Chalmette FCCU according to the following schedule:

(1) If CRLLC determines that NOx Additives are effective in achieving the Final NOx Limits specified above, then CRLLC shall notify EPA and LDEQ in writing by no later than June 30, 2007 and shall comply with such limits by no later than June 30, 2007.

(2) If CRLLC determines that NOx Additives are not effective in achieving the Final NOx Limits specified above, then CRLLC shall notify EPA and LDEQ in writing by no later than June 30, 2007 and shall comply with such limits by no later than December 31, 2008.

13. **Startup, Shutdown, and Malfunction**. NOx emissions (i) caused by or attributable to the startup, shutdown, or Malfunction of the Chalmette FCCU and/or (ii) during periods of Malfunction of the Chalmette FCCU's NOx Control System will not be used in determining compliance with the short-term (7-day) Final NOx Limit established pursuant to Subparagraph 12.b, provided that during such periods CRLLC implements good air pollution control practices to minimize NOx emissions. Nothing in this Paragraph shall be construed to relieve CRLLC of any obligation under any federal, state, or local law, regulation, or permit to report emissions during periods of startup, shutdown, or Malfunction, or to document the occurrence and/or cause of a startup, shutdown, or Malfunction event. Emissions during any such period of startup, shutdown, or Malfunction shall either be: (i) monitored with CEMS as provided by Paragraph 14; or (ii) monitored in accordance with an alternative monitoring plan approved by EPA pursuant to this Consent Decree if it is necessary to bypass the FCCU's main stack during the particular period of startup, shutdown, or Malfunction.

14. **Demonstrating Compliance with FCCU NOx Emission Limits.** By no later than December 31, 2006, CRLLC shall use NOx and O_2 CEMS at the Chalmette FCCU to monitor performance and to report compliance with the terms and conditions of this Subsection V.A relating to NOx emissions from the Chalmette FCCU. As permitted by Paragraph 13, emissions during periods of startup, shutdown, or Malfunction may be monitored in accordance with an alternative monitoring plan approved by EPA. CRLLC shall make emissions monitoring

data available to EPA as soon as practicable following an EPA request for such data. The CEMS shall be installed, calibrated and certified in accordance with 40 C.F.R. § 60.13 and Part 60 Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60 Appendix B. However, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3, and 5.1.4, CRLLC may conduct: (1) either a Relative Accuracy Audit ("RAA") or a Relative Accuracy Test Audit ("RATA") once every three (3) years; and (2) a Cylinder Gas Audit ("CGA") each calendar quarter in which a RAA or RATA is not performed. The Parties agree that the CEMS may need to be moved and reinstalled because of the installation of control equipment, and that once moved it will need to be re-calibrated and re-certified.

B. SO_2 EMISSIONS REDUCTIONS FROM THE FCCU.

15. **General.** CRLLC shall implement a program to reduce SO_2 emissions from the Chalmette FCCU, as specified below. Pursuant to Subsection V.Q of this Consent Decree, CRLLC shall apply for federally-enforceable permits that incorporate the lower SO_2 emission limits established by this Subsection. CRLLC will monitor compliance with the emission limits through the use of CEMS, as specified by this Subsection V.B.

16. **SO_2 Emissions Control for the Chalmette FCCU.**

a. SO_2 Control System. CRLLC presently intends to control SO_2 emissions from the Chalmette FCCU by operating its existing wet gas scrubber.

b. Final SO_2 Limits. By no later than December 31, 2006, CRLLC shall comply with SO_2 emission limits of 25 ppmvd at 0% O_2 on a 365-day rolling average basis and 50 ppmvd at 0% O_2 on a 7-day rolling average basis at the Chalmette FCCU.

17. **Malfunction**. SO_2 emissions during periods of Malfunction of the Chalmette FCCU or Malfunction of the Chalmette FCCU's wet gas scrubber will not be used in

determining compliance with the short-term (7-day) Final SO_2 Limit established pursuant to Subparagraph 16.b, provided that during such periods CRLLC implements good air pollution control practices to minimize SO_2 emissions. Emissions during any such period of Malfunction shall either be: (i) monitored with CEMS as provided by Paragraph 18; or (ii) monitored in accordance with an alternative monitoring plan approved by EPA pursuant to this Consent Decree if it is necessary to bypass the FCCU's main stack during the particular period of Malfunction.

18. **Demonstrating Compliance with FCCU SO_2 Emission Limits for Chalmette FCCU.** By no later than December 31, 2006, CRLLC shall use SO_2 and O_2 CEMS at the Chalmette FCCU to monitor performance and to report compliance with the terms and conditions of this Subsection V.B relating to SO_2 emissions from the Chalmette FCCU. As permitted by Paragraph 17, emissions during periods of Malfunction may be monitored in accordance with an Alternative Monitoring Plan approved by EPA. CRLLC shall make emissions monitoring data available to EPA as soon as practicable following an EPA request for such data. The CEMS shall be installed, calibrated and certified in accordance with 40 C.F.R. § 60.13 and Part 60 Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60 Appendix B. However, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3, and 5.1.4, CRLLC may conduct: (1) either a Relative Accuracy Audit ("RAA") or a Relative Accuracy Test Audit ("RATA") once every three (3) years; and (2) a Cylinder Gas Audit ("CGA") each calendar quarter in which a RAA or RATA is not performed. The Parties agree that the CEMS may need to be moved and reinstalled because of the installation of control equipment, and that once moved it will need to be re-calibrated and re-certified.

C. PARTICULATE MATTER EMISSIONS REDUCTIONS FROM THE FCCU.

19. **General**. CRLLC shall implement a program to reduce PM emissions from the Chalmette FCCU, as specified below. Pursuant to Subsection V.Q of this Consent Decree, CRLLC shall apply for federally-enforceable permits that incorporate the lower PM emission limits established by this Subsection. CRLLC will monitor compliance with the emission limits as specified by this Subsection V.C.

20. **PM Control System for the Chalmette FCCU.** CRLLC presently intends to control PM emissions from the Chalmette FCCU by operation of its existing wet gas scrubber and third-stage separators.

21. **Emission Limit for PM.** Consistent with the NSPS regulations at 40 C.F.R., Part 60, Subpart J, CRLLC shall comply with an emission limit of 1.0 pounds of PM per 1000 pounds of coke burned for the Chalmette FCCU by the Entry Date.

22. **NSR Emission Limits for PM**. At any time during the term of the Consent Decree, CRLLC may accept a Final PM Limit of 0.5 pounds of PM per 1000 pounds of coke burned based on the average of three runs in a test performed in accordance with Method 5B or 5F. Upon accepting such limit: (i) CRLLC's liability for certain potential NSR violations for PM emissions from the Chalmette FCCU shall be resolved pursuant to Paragraph 205 of this Consent Decree; and (ii) CRLLC, in accordance with Paragraph 120, shall apply for a federally-enforceable permit that shall incorporate this Final PM Limit.

23. **Malfunction**. PM emissions during periods of Malfunction of the Chalmette FCCU or Malfunction of the Chalmette FCCU's wet gas scrubber or third-stage cyclones will not be used in determining compliance with any PM emission limit established pursuant to

Paragraph 21 or 22, provided that during such periods CRLLC implements good air pollution control practices to minimize PM emissions. Nothing in this Paragraph shall be construed to relieve CRLLC of any obligation under any federal, state, or local law, regulation, or permit to report emissions during periods of startup, shutdown, or Malfunction, or to document the occurrence and/or cause of a startup, shutdown, or Malfunction event.

24. **PM Testing for the Chalmette FCCU.** CRLLC shall follow the test protocol specified in 40 C.F.R. § 60.106(b)(2) using EPA Reference Method 5B or 5F to measure PM emissions from the Chalmette FCCU. CRLLC shall propose and submit the test protocol to EPA for approval, with a copy to LDEQ, by no later than three (3) months after a PM limit becomes effective. CRLLC shall conduct the first test no later than three (3) months after EPA approves the test protocol. CRLLC shall conduct annual PM tests on the Chalmette FCCU and shall submit the results in the first Semi-Annual Report due under Section IX that is at least three (3) months after the test. Upon demonstrating through at least three (3) annual tests that the PM limits are not being exceeded at the Chalmette FCCU, CRLLC may request EPA approval to conduct tests less frequently than annually. Such approval will not be unreasonably withheld.

D. CARBON MONOXIDE EMISSIONS REDUCTIONS FROM THE FCCU.

25. **General**. CRLLC shall implement a program to reduce CO emissions from the Chalmette FCCU, as specified below. Pursuant to Subsection V.Q of this Consent Decree, CRLLC shall apply for federally-enforceable permits that incorporate the lower CO emission limits. CRLLC will monitor compliance with the emission limits with CEMS, as specified by this Subsection V.D.

26. **CO Control System for the Chalmette FCCU.** CRLLC presently intends to control CO emissions from the Chalmette FCCU by operating the FCCU in full burn mode.

27. **Emission Limit for CO.** Consistent with the NSPS regulations at 40 C.F.R., Part 60, Subpart J, CRLLC shall comply with an emission limit of 500 ppmvd CO corrected to 0% O_2 on a 1-hour average basis for the Chalmette FCCU by no later than the Entry Date.

28. **NSR Emission Limits for CO**. At any time during the term of the Consent Decree, CRLLC may accept the following Final CO Limits for the Chalmette FCCU:

Long-term limit: 150 ppmvd CO on a 365-day rolling average basis at 0% O_2

Short-term limit: 250 ppmvd CO on a 24-hour rolling average basis at 0% O_2

Upon accepting such Final CO Limits for the Chalmette FCCU: (i) CRLLC's liability for certain potential NSR violations for CO emissions from the Chalmette FCCU shall be resolved pursuant to Paragraph 206 of this Consent Decree; and (ii) CRLLC shall, in accordance with Paragraph 120, apply for a federally-enforceable permit that incorporates such limits.

29. **Startup, Shutdown, and Malfunction**. CO emissions (i) caused by or attributable to the startup, shutdown, or Malfunction of the Chalmette FCCU and/or (ii) during periods of Malfunction of the Chalmette FCCU's CO control system will not be used in determining compliance with any short-term (i.e., 1-hour and/or 24-hour) CO emission limit established pursuant to Paragraph 27 or 28, provided that during such periods CRLLC implements good air pollution control practices to minimize CO emissions. Nothing in this Paragraph shall be construed to relieve CRLLC of any obligation under any federal, state, or local law, regulation, or permit to report emissions during periods of startup, shutdown, or Malfunction, or to document the occurrence and/or cause of a startup, shutdown, or Malfunction event. Emissions during any such period of startup, shutdown, or Malfunction shall either be: (i) monitored with CEMS as provided by Paragraph 30; or (ii) monitored in accordance with an Alternative Monitoring Plan approved by EPA pursuant to this Consent Decree if it is necessary

to bypass the FCCU's main stack during the particular period of startup, shutdown, or Malfunction.

30. **Demonstrating Compliance with CO Emissions Limits.** By no later than the Entry Date, CRLLC shall use CO and O_2 CEMS at the Chalmette FCCU to monitor emissions and to report compliance with the terms and conditions of this Subsection V.D relating to CO emissions from the Chalmette FCCU. As permitted by Paragraph 29, emissions during certain periods may be monitored in accordance with an Alternative Monitoring Plan approved by EPA. CRLLC shall make emissions monitoring data available to EPA as soon as practicable following an EPA request for such data. The CEMS shall be installed, calibrated and certified in accordance with 40 C.F.R. § 60.13 and Part 60 Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60 Appendix B. However, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3, and 5.1.4, CRLLC may conduct: (1) either a Relative Accuracy Audit ("RAA") or a Relative Accuracy Test Audit ("RATA") once every three (3) years; and (2) a Cylinder Gas Audit ("CGA") each calendar quarter in which a RAA or RATA is not performed. The Parties agree that the CEMS may need to be moved and reinstalled because of the installation of control equipment, and that once moved it will need to be re-calibrated and re-certified.

E. NSPS APPLICABILITY TO THE FCCU CATALYST REGENERATOR.

31. **NSPS Applicability and Compliance.** The Chalmette FCCU catalyst regenerator shall be an "affected facility," as that term is used in 40 C.F.R. Part 60, Subparts A and J, with respect to the pollutants specified in the following Subparagraphs, and shall be subject to all of the applicable requirements of NSPS Subparts A and J, by the dates set forth below.

a. Sulfur Oxides. CRLLC shall comply with the requirements of NSPS Subparts A and J for its Chalmette FCCU catalyst regenerator for SO_2 by no later than December 31, 2006.

b. Particulate Matter. CRLLC shall comply with the requirements of NSPS Subparts A and J for its Chalmette FCCU catalyst regenerator for PM by the Consent Decree Entry Date.

c. Carbon Monoxide. CRLLC shall comply with the requirements of NSPS Subparts A and J for its Chalmette FCCU catalyst regenerator for CO by the Consent Decree Entry Date.

d. Opacity. CRLLC has submitted an Alternative Monitoring Plan application to EPA. If the AMP is not approved, CRLLC shall submit to EPA for approval a plan for complying with the monitoring requirements of NSPS Subparts A and J within ninety (90) days of receiving notice of the disapproval. CRLLC shall comply with the requirements of NSPS Subparts A and J for its Chalmette FCCU catalyst regenerator for opacity when CRLLC receives EPA's approval of the relevant AMP. A plan for complying with the monitoring requirements of NSPS Subparts A and J may include a revised AMP application, physical or operational changes to the equipment, or additional or different monitoring.

e. For all periods of operation, CRLLC shall ensure that the Chalmette FCCU catalyst regenerator complies with the applicable emissions limitations imposed by NSPS Subpart J, as specified by the preceding Subparagraphs, except during periods of startup, shutdown, or Malfunction, as defined by 40 C.F.R. § 60.2. At all times, including periods of startup, shutdown, and Malfunction, CRLLC shall, to the extent practicable, maintain and operate the Chalmette FCCU catalyst regenerator and any associated air pollution control

equipment in a manner consistent with good air pollution control practice for minimizing emissions.

f. Entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree for the Chalmette FCCU shall satisfy the notice requirements of 40 C.F.R. § 60.7(a) and the initial performance test requirements of 40 C.F.R. § 60.8(a).

F. NOx EMISSIONS REDUCTIONS FROM COMBUSTION UNITS.

32. **General.** CRLLC shall implement a program to reduce NOx emissions from the Combustion Units listed in Appendix A through the installation of NOx controls or the shutdown of certain units and by the acceptance of permit limits on the units controlled to meet the requirements of Paragraphs 34 and 38. CRLLC will monitor compliance with the emission limits through the use of CEMS, a predictive emissions monitoring system ("PEMS"), or stack tests as described in more detail below.

33. **Identification of Qualifying Controls.** CRLLC shall select one or any combination of the following "Qualifying Controls" to satisfy the requirements of Paragraphs 34 and 38:

i. selective catalytic reduction or selective non-catalytic reduction;

ii. Current Generation or Next Generation Ultra-Low NOx Burners;

iii. other technologies which CRLLC demonstrates to EPA's satisfaction should reduce NOx emissions to 0.040 pounds of NOx per mmBTU heat input or lower; or

iv. permanent shutdown of a Combustion Unit with surrender of its operating permit; provided, however, that to the extent that the emissions reductions resulting from the permanent shutdown are used to satisfy the requirements of Paragraphs 34, 37, and 38, those reductions may not be used as reductions for the construction of new units or the modification of existing units permitted collectively as a single

project with the shutdown, notwithstanding the provisions of Subparagraph 127.iv.

34. **<u>Installation of Qualifying Controls</u>.** On or before December 31, 2009, CRLLC shall use Qualifying Controls to reduce NOx emissions from the Combustion Units listed in Appendix A by at least 380 tons per year, so as to satisfy the following inequality:

$$\sum_{i=1}^{n} \left[(E_{actual})_i - (E_{allowable})_i \right] \geq 380 \text{ tons of per year}$$

Where:

$(E_{allowable})_i$	=	[(The permitted allowable pounds of NOx per million BTU for Combustion Unit i)/(2000 pounds per ton)] x [(the lower of permitted or maximum heat input rate capacity in million BTU per hour for Combustion Unit i) x (the lower of 8760 or permitted hours per year)];
$(E_{Actual})_i$	=	The tons of NOx per year prior actual emissions as listed in Appendix A for Combustion Unit i (unless prior actual emissions exceed allowable emissions, then use allowable); and
n	=	The number of Combustion Units with Qualifying Controls from those listed in Appendix A that are selected by CRLLC to satisfy the requirements of the equation set forth in this Paragraph 34.

Permit limits established to implement this Paragraph may use a 365-day rolling average for Combustion Units that use a CEMS or PEMS to monitor compliance, and for Combustion Units that do not use a CEMS or PEMS, the permit limits averaging period must be no longer than the averaging period of the reference test method.

35. **<u>Baseline Information</u>.** Appendix A to this Consent Decree provides the following information for each Combustion Unit:

i. the maximum physical heat input capacity or, if less, the allowable heat input capacity in mmBtu/hr (HHV);

ii. the baseline emission rate for the agreed-upon baseline years in pounds of NOx per mmBtu heat input (HHV) and tons per year of actual emissions, but where actual emissions may have exceeded allowable emissions in a given year, the allowable tons per year is shown;

iii. the type of data used to derive the emission estimate (i.e., emission factor, stack test, or CEMS data); and,

iv. the utilization rate in annual average mmBtu/hr (HHV) for the baseline years.

36. **NOx Control Plan**. CRLLC shall submit a detailed NOx control plan (the "NOx Control Plan") to EPA for review and comment by no later than 90 days after the Entry Date, with annual updates (covering the prior calendar year as determined at calendar year end) with the first report submitted pursuant to Section IX (Recordkeeping and Reporting) following the passage of each calendar year until termination of the Consent Decree or until the reductions required by Paragraph 34 are achieved, whichever occurs first. The NOx Control Plan and its annual updates shall describe the achieved (as determined at calendar year end) and anticipated progress of the NOx emissions reductions program for Combustion Units and shall contain the following information for each Combustion Unit greater than 40 mmBtu/hr that CRLLC plans to use to satisfy the requirements of Paragraphs 34, 37, and 38:

i. All of the information in Appendix A;

ii. Identification of the type of Qualifying Controls installed or planned with date installed or planned (including identification of the Combustion Unit to be permanently shut down);

iii. To the extent limits exist, the allowable NOx emission rates (in lbs/mmBtu (HHV)), with averaging period) and allowable heat input rate (in mmBtu/hr (HHV)) obtained or planned with dates obtained or planned;

iv. The results of emissions tests and annual average CEMS data (reported in ppmvd corrected to 3% O_2, and in lbs/mmBtu) conducted pursuant to Paragraph 40 and tons per year; and

v. The amount in tons per year applied or to be applied toward satisfying Paragraph 34.

Appendix A, the NOx Control Plan, and the annual updates required by this Paragraph shall be for informational purposes only and shall not be used to develop permit requirements or other operating restrictions. CRLLC may change any projections, plans, or information (including, but not limited to, which units CRLLC plans to control) that is included in the NOx Control Plan or updates by including such changes or updates in its annual reports.

37. By December 31, 2008, CRLLC shall install sufficient Qualifying Controls and have applied for emission limits sufficient to reduce NOx emissions by two-thirds of the NOx emissions reductions required by Paragraph 34. In the first Semi-Annual Report to be submitted under Section IX after December 31, 2008, CRLLC shall include a report showing how it satisfied the requirement of this Paragraph. Consistent with Paragraph 34, CRLLC shall install the remainder of the required Qualifying Controls by no later than December 31, 2009.

38. By no later than December 31, 2009, Combustion Units with Qualifying Controls shall represent at least 30% of the total maximum heat input capacity of all Combustion Units greater than 40 mmBtu/hr (at HHV) located at the Chalmette Refinery. Any Qualifying Controls may be used to satisfy this requirement, regardless of when the Qualifying Controls were installed.

39. Pursuant to Subsection V.Q of this Consent Decree, CRLLC shall apply for federally-enforceable permits that incorporate emission limits (in lbs/mmBTU) for Combustion

Units required under Paragraph 34, to ensure that the NOx emission reduction requirements imposed by this Subsection V.F shall survive the termination of this Consent Decree.

40. For Combustion Units where Qualifying Controls are installed after the Entry Date, beginning no later than 180 days after installing Qualifying Controls on and commencing operation of a Combustion Unit that will be used to satisfy the requirements of Paragraph 34, CRLLC shall monitor such Combustion Unit as follows:

i. For each Combustion Unit with a maximum physical capacity greater than 150 mmBtu/hr (HHV), install or continue to operate a NOx and O_2 CEMS.

ii. For each Combustion Unit with a maximum physical capacity greater than 100 mmBtu/hr (HHV) but less than or equal to 150 mmBtu/hr (HHV), install or continue to operate a NOx and O_2 CEMS, or monitor NOx emissions with a PEMS developed and operated pursuant to the requirements of Appendix B of this Consent Decree.

iii. For each Combustion Unit with a maximum physical capacity of less than or equal to 100 mmBtu/hr (HHV), (a) conduct an initial performance test and any periodic tests that may be required by EPA or by LDEQ under other applicable regulatory authority; or (b) comply with the monitoring requirements described in Subparagraphs 40.i or 40.ii above. The results of the initial performance testing shall be reported to EPA and LDEQ within 90 days of completing the test.

CRLLC shall use Method 7E to conduct initial performance testing required by Subparagraph 40.iii. Monitoring with a PEMS that is required by this Paragraph shall be conducted in accordance with the requirements of Appendix B. For units that utilize Qualifying Controls as of the Entry Date and which CRLLC intends to use to achieve the NOx reductions required by Paragraphs 34 and/or 38, CRLLC shall implement the specified monitoring requirements (CEMS, PEMS, stack test) based on the capacity of the Combustion Unit as listed in Appendix A by no later than eighteen (18) months after the Entry Date. For any such unit with a maximum physical capacity of less than or equal to 100 mmBtu/hr (HHV), an additional performance test is not required under this Paragraph if an initial performance test using Method

7E was performed after January 1, 2004 and after the Combustion Unit was equipped with Qualifying Controls.

41. **Demonstrating Compliance through Use of a NOx CEMS.** CRLLC shall install, certify, calibrate, maintain, and operate the CEMS required by Paragraph 40 in accordance with 40 C.F.R. Part 60, Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60, Appendix B. However, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, CRLLC may conduct either a Relative Accuracy Audit ("RAA") or a Relative Accuracy Test Audit ("RATA") once every three (3) years and shall conduct Cylinder Gas Audits ("CGA") each calendar quarter during which a RAA or a RATA is not performed.

42. The requirements of this Subsection V.F do not exempt CRLLC from complying with any and all federal, state, regional, and local requirements that may require technology, equipment, monitoring, or other upgrades based on actions or activities occurring after the Date of Lodging of the Consent Decree, or based upon new or modified regulatory, statutory, or permit requirements. However, nothing in this Subsection V.F is meant to prevent CRLLC from using the NOx reductions achieved pursuant to this Section towards future NOx emission reduction requirements except as prohibited under Section VI (Emission Credit Generation) of this Consent Decree. CRLLC is not prohibited from using additional emission reductions from Combustion Units that are not required by this Consent Decree for any other purpose as allowed by Paragraph 127.

43. CRLLC shall retain records demonstrating installation of Qualifying Controls under Paragraph 34 and monitoring/test data under Paragraph 40 until termination of the Consent Decree. CRLLC shall submit such records to EPA upon request.

G. SO_2 EMISSIONS REDUCTIONS FROM AND NSPS APPLICABILITY OF HEATERS, BOILERS AND OTHER FUEL GAS COMBUSTION DEVICES.

44. **General.** CRLLC shall undertake measures to limit SO_2 emissions from refinery heaters and boilers and other fuel combustion devices by restricting H_2S in refinery fuel gas and by agreeing not to burn Fuel Oil except as specifically permitted under the provisions of this Subsection V.G. Flaring Devices are not subject to the provisions of this Subsection V.G, but rather are subject to the provisions of Subsections V.I, V.J, and V.K.

45. **NSPS Applicability to Heaters, Boilers and Other Fuel Gas Combustion Devices (Other than Flaring Devices).**

a. Upon the Entry Date, each heater and boiler that is used to combust refinery fuel gas at the Chalmette Refinery shall be an "affected facility," as that term is used in 40 C.F.R. Part 60, Subparts A and J, and shall be subject to, and comply with the requirements of NSPS Subparts A and J for fuel gas combustion devices, except for those heaters and boilers listed in Appendix C, each of which shall be an affected facility and shall be subject to and comply with the requirements of NSPS Subparts A and J for fuel gas combustion devices by the dates listed in Appendix C.

b. By the dates listed in Appendix D, each of the other fuel gas combustion devices that is used to combust refinery fuel gas at the Chalmette Refinery, as listed in Appendix D, shall be an "affected facility," as that term is used in 40 C.F.R. Part 60, Subparts A and J, and shall be subject to and comply with the requirements of NSPS Subparts A and J for fuel gas combustion devices.

c. Where Appendix C or D specifies an alternative monitoring plan ("AMP") submittal date (rather than a final NSPS Subpart A and J compliance date), CRLLC shall submit

to EPA a timely and complete AMP application by the date(s) specified. To the extent that CRLLC seeks approval of an alternative monitoring method that is the same or substantially similar to the method identified in the "Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas," which is attached hereto in Appendix E, CRLLC may begin using such method immediately upon submitting its application for approval to use such method. If an AMP is not approved, CRLLC shall submit to EPA for approval a plan for complying with the monitoring requirements of NSPS Subparts A and J for the particular equipment within ninety (90) days of receiving notice of the disapproval. The equipment will become an affected facility when CRLLC receives EPA's approval of the relevant AMP. A plan for complying with the monitoring requirements of NSPS Subparts A and J may include a revised AMP application, physical or operational changes to the equipment, or additional or different monitoring.

d. For some heaters and boilers that combust low-flow VOC streams from vents, pumpseals, and other sources, it is anticipated that some of the AMP applications will rely in part on calculating a weighted average H_2S concentration of all VOC and fuel gas streams that are burned in a single heater or boiler and demonstrating with alternative monitoring that either the SO_2 emissions from the heater or boiler will not exceed 20 ppm or that the weighted average H_2S concentration is not likely to exceed 0.1 grains H_2S per dry standard cubic foot of fuel gas. EPA shall not reject an AMP solely due to the AMP's use of one of these approaches to demonstrating compliance with NSPS Subpart J.

46. **Elimination/Reduction of Fuel Oil Burning.** Effective on the Entry Date, CRLLC shall not burn Fuel Oil in any combustion unit at the Chalmette Refinery except during periods of Natural Gas Curtailment or operator training. Nothing herein is intended to limit, or shall be interpreted as limiting: (i) the use of torch oil in an FCCU regenerator to assist in

starting, restarting, maintaining hot standby, or maintaining regenerator heat balance; or (ii) combustion of acid soluble oil in a combustion device.

47. **Compliance with Consent Decree Constitutes Compliance with Certain NSPS Subpart A Requirements**. For each fuel gas combustion device that becomes an "affected facility," as that term is used in 40 C.F.R. Part 60, Subparts A and J, pursuant to this Subsection V.G, entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree for such fuel gas combustion device will satisfy the notice requirements of 40 C.F.R. § 60.7(a) and the initial performance test requirement of 40 C.F.R. § 60.8(a).

H. SULFUR RECOVERY PLANT OPERATIONS.

48. **General.** CRLLC shall comply with the requirements specified below for the Sulfur Recovery Plant ("SRP") at the Chalmette Refinery.

49. **Sulfur Recovery Plant NSPS Applicability**. The Chalmette SRP shall be an "affected facility," as that term is used in 40 C.F.R. Part 60, Subparts A and J, as of the Consent Decree Entry Date.

50. **Sulfur Recovery Plant NSPS Compliance.**

a. Emission Limit. CRLLC shall, for all periods of operation of the Chalmette SRP, comply with 40 C.F.R. § 60.104(a)(2) at the SRP except during periods of startup, shutdown or Malfunction or as provided by Paragraph 51. The startup/shutdown provisions set forth in NSPS Subpart A shall not apply to the independent startup or shutdown of a TGU serving as a control device for the SRP.

b. Monitoring. By no later than the Entry Date, CRLLC shall monitor all emissions points (stacks) to the atmosphere for Tail Gas emissions and shall monitor and report

excess emissions from the Chalmette SRP as required by 40 C.F.R. §§ 60.7(c), 60.13, and 60.105(a)(5), (6) or (7). During the term of this Consent Decree, CRLLC shall conduct emissions monitoring from the Chalmette SRP with CEMS at all of the emission points, unless an SO_2 alternative monitoring procedure has been approved by EPA, pursuant to 40 C.F.R. § 60.13(i), for any of the emission points. The requirement for continuous monitoring of the SRP emission points is not applicable to the Acid Gas Flaring Devices used to flare the Acid Gas or Sour Water Stripper Gas diverted from the SRP.

c. Notice and Initial Performance Test Requirements. For the Chalmette SRP, entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree for such SRP will satisfy the notice requirements of 40 C.F.R. § 60.7(a) and the initial performance test requirement of 40 C.F.R. § 60.8(a).

d. Other Requirements. By no later than the Entry Date, CRLLC shall ensure that the Chalmette SRP complies with all other applicable provisions of NSPS set forth at 40 C.F.R. Part 60, Subparts A and J, including but not limited to all applicable recordkeeping and reporting requirements.

51. **Sulfur Recovery Plant NSPS Compliance Schedule and Interim Requirements.**

a. Interim Disposition of Sulfur Pit Emissions. Between the Entry Date and the date by which sulfur pit gases from the Chalmette SRP are re-routed as required by Subparagraph 51.c, CRLLC shall continue to route sulfur pit gases and treated Tail Gas from the SRP to the dedicated thermal oxidizers ("Thox") and then to the combined Thox stack.

b. Chalmette SRP Optimization Study and Interim Mass Emission Limit.

(1) CRLLC shall complete an optimization study for the Chalmette SRP for the purpose of determining an optimum Interim Mass Emission Limit for SO_2 which shall apply to the combined emissions from the SRP at the Chalmette Refinery (including Tail Gas emissions and sulfur pit emissions) until sulfur pit emissions are managed as required by Subparagraph 51.c.

(2) The Optimization Study shall be completed by no later than twelve (12) months after the Entry Date, and shall include: (i) a detailed evaluation of plant design and capacity, operating parameters and efficiencies - including catalytic activity, and material balances; (ii) an analysis of the composition of the acid gas and sour water stripper gas resulting from the processing of crude slate actually used, or expected to be used; (iii) a thorough review of each critical piece of process equipment and instrumentation within the Claus train that is designed to correct deficiencies or problems that prevent the Claus train from achieving its optimal sulfur recovery efficiency and expanded periods of operation; (iv) establishment of baseline data through testing and measurement of key parameters throughout the Claus train; (v) establishment of a thermodynamic process model of the Claus train; (vi) for any key parameters that have been determined to be at less than optimal levels, initiation of logical, sequential, or stepwise changes designed to move such parameters toward their optimal values; (vii) verification through testing, analysis of continuous emission monitoring data or other means, of incremental and cumulative improvements in sulfur recovery efficiency, if any; (viii) establishment of new operating procedures for long term efficient operation; and

(ix) the study shall be conducted to optimize the performance of the Claus train in light of the actual characteristics of the feeds to the Claus train.

(3) Within sixty (60) days after completion of the Optimization Study, CRLLC shall submit an Optimization Study Report. The Optimization Study Report shall: (i) describe the results of the study on each Claus train; (ii) identify recommended operational improvements, if any, that would enhance Claus train efficiency; (iii) propose an Interim Mass Emission Limit for SO_2 (in pounds per hour on a 24-hour average basis) for the combined SO_2 emissions as measured at the combined Thox stack; and, if necessary, (iv) propose a schedule for implementing recommended operational improvements.

(4) Upon submitting the Optimization Study Report, CRLLC shall comply with its proposed Interim Mass Emission Limit in accordance with this Subparagraph 51.b or, if necessary, shall begin implementing recommended operational improvements required to achieve the proposed Interim Mass Emission Limit.

(5) If EPA determines that a more stringent Interim Mass Emission Limit and/or a different implementation schedule is appropriate and can be achieved with a reasonable certainty of compliance, then EPA, after consultation with LDEQ, shall so notify CRLLC. Unless CRLLC disputes EPA's determination(s) within 90 days of its receipt of that notice, CRLLC shall, in accordance with this Subparagraph 51.b, comply with such new standard within 90 days or, if necessary, such other period as may be established by EPA based upon the approved implementation schedule.

c. Sulfur Pit Gases. By no later than December 31, 2008, CRLLC shall re-route all sulfur pit gases at the Chalmette Refinery to one or more of the Claus train(s) or to one

or more of the TGU(s) so that sulfur pit gases are eliminated as a direct source of emissions subject to the relevant NSPS Subpart J limit, 40 C.F.R. § 60.104(a)(2). The Parties recognize that periodic maintenance may be required for properly designed and operated sulfur pit emission control systems and/or equipment. CRLLC will take all reasonable measures to minimize emissions while such periodic maintenance is being performed.

52. **Good Operation and Maintenance and PMO Plans.**

a. By no later than 180 days after the Entry Date, CRLLC shall submit to EPA and LDEQ a summary of the plans, implemented or to be implemented, at the Chalmette Refinery for enhanced maintenance and operation of the Chalmette SRP, the control devices, and the appropriate Upstream Process Units. Those plans shall be termed the Preventative Maintenance and Operations Plan ("PMO Plan"). The PMO Plan shall be a compilation of CRLLC's approaches for exercising good air pollution control practices and for minimizing SO_2 emissions from sulfur processing and Upstream Process Units at the Chalmette Refinery. The PMO Plan shall have as its goals the elimination of Acid Gas Flaring and operation of the SRP between scheduled maintenance turnarounds with minimization of emissions. The PMO Plan shall include, but shall not be limited to, sulfur shedding procedures, startup and shutdown procedures of the SRP, control devices and Upstream Process Units, emergency procedures and schedules to coordinate maintenance turnarounds of the SRP Claus trains and any control device to coincide with scheduled turnarounds of major Upstream Process Units. Through and after termination of this Consent Decree, CRLLC shall implement the PMO Plan at all times, including periods of startup, shutdown and Malfunction, consistent with the requirements imposed by 40 C.F.R. § 60.11(d). Changes to the PMO Plan related to minimizing Acid Gas

Flaring and/or SO_2 emissions shall be summarized and reported by CRLLC to EPA and LDEQ in the Semi-Annual Report required under Section IX.

b. EPA and LDEQ do not, by their review of the PMO Plan and/or by their failure to comment on the PMO Plan, warrant or aver in any manner that any of the actions that CRLLC may take pursuant to such PMO Plan will result in compliance with the provisions of the Clean Air Act or any other applicable federal, state, or local law or regulation. Notwithstanding review of the PMO Plan by EPA or LDEQ, CRLLC shall remain solely responsible for compliance with the Clean Air Act and such other laws and regulations.

I. FLARING DEVICES.

53. **Flaring Devices**. CRLLC currently owns and/or operates the following Flaring Devices at the Chalmette Refinery: (i) Chalmette Refinery Flare 1; and (ii) Chalmette Refinery Flare 2.

54. **Good Air Pollution Control Practices.** On and after the Entry Date, CRLLC shall at all times and to the extent practicable, including during periods of startup, shutdown, upset and/or Malfunction, implement good air pollution control practices to minimize emissions from its Flaring Devices, in a manner consistent with the requirements imposed by 40 C.F.R. § 60.11(d).

55. **NSPS Applicability to Flaring Devices**. By the following dates, CRLLC agrees that each of its Flaring Devices is an "affected facility" (as that term is used in NSPS, 40 C.F.R. Part 60, Subparts A and J) subject to, and required to comply with, the requirements of 40 C.F.R. Part 60, Subparts A and J, for fuel gas combustion devices: (i) by no later than March 31, 2007 for Chalmette Refinery Flare 1; and (ii) by no later than March 31, 2007 for Chalmette Refinery Flare 2.

56. **Construction and Operation of a New Flare Gas Recovery System.**

a. CRLLC shall construct and commence operation of a new flare gas recovery system for the Chalmette Refinery by no later than December 31, 2006, and shall resolve any start-up related issues by March 31, 2007. That flare gas recovery system will serve Chalmette Refinery Flare 1. CRLLC shall operate and maintain the flare gas recovery system to minimize continuous or routine combustion in Flaring Devices at the Refinery.

b. The Parties recognize that periodic maintenance may be required for properly designed and operated flare gas recovery systems. CRLLC will take all reasonable measures to minimize emissions while such periodic maintenance is being performed.

c. The Parties recognize that under certain conditions, a flare gas recovery system may need to be bypassed in the event of an emergency or in order to ensure safe operation of refinery processes. Nothing in this Consent Decree precludes CRLLC from temporarily bypassing a flare gas recovery system under such circumstances.

57. **Compliance Methods for Flaring Devices**.

a. CRLLC shall comply with the NSPS Subparts A and J requirements for each Flaring Device by using one or any combination of the following methods

i. Operate and maintain a flare gas recovery system to prevent continuous or routine combustion in the Flaring Device. Use of a flare gas recovery system on a flare obviates the need to continuously monitor and maintain records of hydrogen sulfide in the gas as otherwise required by 40 C.F.R. §§ 60.105(a)(4) and 60.7;

ii. Eliminate the routes of continuous or intermittent, routinely-generated refinery fuel gases to a Flaring Device and operate the Flaring Device such that it receives only process upset gases (as defined in 40 C.F.R. § 60.101(e)), fuel gas released as a result of relief valve leakage or gases released due to other emergency malfunctions; and/or

iii. Operate the Flaring Device as a fuel gas combustion device and comply with NSPS monitoring requirements by use of a continuous monitor pursuant to 40

C.F.R. § 60.105(a)(4) or with a parametric monitoring system approved by EPA as an alternative monitoring system under 40 C.F.R. § 60.13(i).

b. For its existing Flaring Devices, CRLLC has selected the following compliance methods:

(1) For Chalmette Refinery Flare 1, CRLLC shall utilize the compliance method set forth in Subparagraph 57.a.i by no later than March 31, 2007.

(2) For Chalmette Refinery Flare 2, CRLLC shall utilize the compliance method set forth in Subparagraph 57.a.iii by no later than March 31, 2007.

58. **Non-Routinely Generated Gases.** The combustion of gases generated by the startup, shutdown, upset, or Malfunction of a refinery process unit or released to a Flaring Device as a result of relief valve leakage or other emergency Malfunction is exempt from the requirement to comply with 40 C.F.R. § 60.104(a)(1).

59. **Flare Flame Monitoring Reliability**. To the extent not previously reported, by no later than sixty (60) days after the Entry Date, CRLLC shall provide EPA and LDEQ with a report covering outages of the mechanisms and/or systems used to monitor the presence of a flame at the Refinery's Flaring Devices since October 31, 1997 and the corrective actions taken (or planned to be taken) to resolve the cause of those outages and to improve flame monitoring reliability.

60. **Compliance with Consent Decree Constitutes Compliance with Certain NSPS Subpart A Requirements**.

a. Notice Requirements. For Chalmette Refinery Flare 1 and Chalmette Refinery Flare 2, entry of this Consent Decree will satisfy the notice requirements of 40 C.F.R. § 60.7(a).

b. Performance Test Requirements.

(1) For Chalmette Refinery Flare 1 and Chalmette Refinery Flare 2, entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree for the Flaring Device shall satisfy the notice requirements of 40 C.F.R. § 60.7(a) and the initial performance test requirements of 40 C.F.R. § 60.8(a).

(2) Within 90 days of the Entry Date, for Chalmette Refinery Flare 2: (i) CRLLC shall conduct a velocity test on the Flaring Device pursuant to 40 C.F.R. § 60.18; or (ii) in lieu of conducting the velocity test required by 40 C.F.R. § 60.18, CRLLC may submit velocity calculations which demonstrate that the Flaring Device meets the performance specification required by 40 C.F.R. § 60.18. CRLLC has submitted a pending application for an Alternative Monitoring Plan for Chalmette Refinery Flare 1.

J. CONTROL OF ACID GAS FLARING AND TAIL GAS INCIDENTS.

61. **AG Flaring History and Corrective Measures**. CRLLC has conducted a review of past AG Flaring Incidents that occurred at the Chalmette Refinery between January 1, 1998 and December 1, 2004, and has provided EPA and LDEQ a summary identifying the AG Flaring Incidents that occurred during that period, their probable causes, and the estimated emissions. CRLLC has implemented (or is in the process of implementing) corrective measures to address the root causes of the prior incidents and to minimize the number and duration of Acid Gas Flaring Incidents.

62. **Future AG Flaring Incidents and Tail Gas Incidents**. As specified by this Subsection V.J, and consistent with the requirements of 40 C.F.R. § 60.11(d), CRLLC shall investigate the cause of future AG Flaring Incidents and Tail Gas Incidents, take reasonable

steps to correct the conditions that have caused or contributed to such AG Flaring Incidents and Tail Gas Incidents, and minimize AG Flaring Incidents and Tail Gas Incidents at the Chalmette Refinery. CRLLC shall continue to follow the AG Flaring Incident investigation and corrective action procedures outlined in this Subsection V.J after termination of the Consent Decree, but the reporting and stipulated penalty provisions of this Subsection shall not apply after termination.

63. **Investigation and Reporting.** No later than forty-five (45) days following the end of an AG Flaring Incident occurring after the Entry Date, CRLLC shall submit to EPA and LDEQ a report that sets forth the following:

i. The date and time that the AG Flaring Incident started and ended. To the extent that the AG Flaring Incident involved multiple releases either within a twenty-four (24) hour period or within subsequent, contiguous, non-overlapping twenty-four (24) hour periods, CRLLC shall set forth the starting and ending dates and times of each release;

ii. An estimate of the quantity of sulfur dioxide that was emitted and the calculations that were used to determine that quantity;

iii. The steps, if any, that CRLLC took to limit the duration and/or quantity of sulfur dioxide emissions associated with the AG Flaring Incident;

iv. A detailed analysis that sets forth the Root Cause and all significant contributing causes of that AG Flaring Incident, to the extent determinable;

v. An analysis of the measures, if any, that are available to reduce the likelihood of a recurrence of an AG Flaring Incident resulting from the same Root Cause or significant contributing causes in the future. If two or more reasonable alternatives exist to address the Root Cause, the analysis shall discuss the alternatives, if any, that are available, the probable effectiveness and cost of the alternatives, and whether or not an outside consultant should be retained to assist in the analysis. Possible design, operation and maintenance changes shall be evaluated. If CRLLC concludes that corrective action(s) is (are) required under Paragraph 64, the report shall include a description of the action(s) and, if not already completed, a schedule for its (their) implementation, including proposed commencement and completion dates. If CRLLC concludes that corrective action is not required under Paragraph 64, the report shall explain the basis for that conclusion;

vi. A statement that: (a) specifically identifies each of the grounds for stipulated penalties in Paragraphs 66 and 67 of this Decree and describes whether or not the AG Flaring Incident falls under any of those grounds, provided, however, that CRLLC may choose to submit with the Root Cause Failure Analysis a payment of stipulated penalties in the nature of settlement without the need to specifically identify the grounds for the penalty. Such payment of stipulated penalties shall not constitute an admission of liability, nor shall it raise any presumption whatsoever about the nature, existence or strength of CRLLC's potential defenses; (b) if an AG Flaring Incident falls under Paragraph 68 of this Decree, describes which Subparagraph (i.e., 68.a or 68.b) applies and why; and (c) if an AG Flaring Incident falls under either Paragraph 67 or Subparagraph 68.b, states whether or not CRLLC asserts a defense to the AG Flaring Incident, and if so, a description of the defense;

vii. To the extent that investigations of the causes and/or possible corrective actions still are underway on the due date of the report, a statement of the anticipated date by which a follow-up report fully conforming to the requirements of Subparagraphs 63.iv and 63.v shall be submitted; provided, however, that if CRLLC has not submitted a report or a series of reports containing the information required to be submitted under this Paragraph within the 45 day time period set forth in this Paragraph 63 (or such additional time as EPA may allow) after the due date for the initial report for the AG Flaring Incident, the stipulated penalty provisions of Section XI shall apply, but CRLLC shall retain the right to dispute, under the dispute resolution provision of this Consent Decree, any demand for stipulated penalties that was issued as a result of CRLLC's failure to submit the report required under this Paragraph within the time frame set forth. Nothing in this Paragraph shall be deemed to excuse CRLLC from its investigation, reporting, and corrective action obligations under this Section for any AG Flaring Incident which occurs after an AG Flaring Incident for which CRLLC has requested an extension of time under this Subparagraph 63.vii; and

viii. To the extent that completion of the implementation of corrective action(s), if any, is not finalized at the time of the submission of the report required under this Paragraph, then, by no later than thirty (30) days after completion of the implementation of corrective action(s), CRLLC shall submit a report identifying the corrective action(s) taken and the dates of commencement and completion of implementation.

64. **Corrective Action.**

a. In response to any AG Flaring Incident occurring after the Entry Date, CRLLC shall take, as expeditiously as practicable, such interim and/or long-term corrective

actions, if any, as are consistent with good engineering practice to minimize the likelihood of a recurrence of the Root Cause and all significant contributing causes of that AG Flaring Incident.

b. If EPA does not notify CRLLC in writing within forty-five (45) days of receipt of the report(s) required by Paragraph 63 that it objects to one or more aspects of the proposed corrective action(s) and schedule(s) of implementation, if any, then that (those) action(s) and schedule(s) shall be deemed acceptable for purposes of compliance with Subparagraph 64.a of this Decree. EPA does not, however, by its failure to object to any corrective action that CRLLC may take in the future, warrant or aver in any manner that any corrective actions in the future shall result in compliance with the provisions of the Clean Air Act or its implementing regulations.

c. If EPA objects, in whole or in part, to the proposed corrective action(s) and/or the schedule(s) of implementation or, where applicable, to the absence of such proposal(s) and/or schedule(s), it shall notify CRLLC and explain the basis for its objection (s) in writing within forty-five (45) days following receipt of the report(s) required by Paragraph 63, and CRLLC shall respond promptly to EPA's objection(s).

d. Nothing in this Subsection V.J shall be construed to limit the right of CRLLC to take such corrective actions as it deems necessary and appropriate immediately following an AG Flaring Incident or in the period during preparation and review of any reports required under this Paragraph.

65. **Stipulated Penalties for AG Flaring Incidents.** The provisions of Paragraphs 66 - 68 are to be used by EPA in assessing stipulated penalties for AG Flaring Incidents occurring after the Entry Date and by the United States in demanding stipulated penalties under this Section V.J. The provisions of Paragraphs 66 - 68 do not apply to HC Flaring Incidents.

66. The stipulated penalty provisions of Paragraph 163 shall apply to any AG Flaring Incident for which the Root Cause was one or more of the following acts, omissions, or events:

i. Error resulting from careless operation by the personnel charged with the responsibility for the Sulfur Recovery Plant, TGU, or Upstream Process Units;

ii. Failure to follow written procedures;

iii. A failure of equipment that is due to a failure by CRLLC to operate and maintain that equipment in a manner consistent with good engineering practice; or

iv. For the Chalmette Refinery:

(1) Fire eye flame detection system faults or failures;

(2) Problems associated with low air flow shutdown and/or low steam drum levels when transitioning from use of O_2 to use of air in the SRP;

(3) Triple Modular Redundant power supply failures due to grounding problems; or

(4) Failures of electrical distribution equipment due to lightning strikes or switchgear equipment failure located at the Chalmette Refinery, and which failures are unrelated to power supply or other equipment problems caused by or attributable to Entergy.

67. If the AG Flaring Incident is not a result of one of the Root Causes identified in Paragraph 66, then the stipulated penalty provisions of Paragraph 163 shall apply if the AG Flaring Incident:

i. Results in emissions of sulfur dioxide at a rate greater than twenty (20.0) pounds per hour continuously for three (3) consecutive hours or more and CRLLC failed to act in accordance with its PMO Plan and/or to take any action during the AG Flaring Incident to limit the duration and/or quantity of SO_2 emissions associated with such incident; or

ii. Causes the total number of AG Flaring Incidents in a rolling twelve (12) month period to exceed five (5) for the Chalmette Refinery.

68. With respect to any AG Flaring Incident not identified in Paragraphs 66 or 67, the following provisions shall apply:

a. First Time: If the Root Cause of the AG Flaring Incident was not a recurrence of the same Root Cause that resulted in a previous AG Flaring Incident that occurred since the Entry Date, then:

(1) If the Root Cause of the AG Flaring Incident was sudden, infrequent, and not reasonably preventable through the exercise of good engineering practice, then that cause shall be designated as an agreed-upon Malfunction for purposes of reviewing subsequent AG Flaring Incidents;

(2) If the Root Cause of the AG Flaring Incident was sudden and infrequent, and was reasonably preventable through the exercise of good engineering practice, then CRLLC shall implement corrective action(s) pursuant to Paragraph 64, and the stipulated penalty provisions of Paragraph 163 shall not apply.

b. Recurrence: If the Root Cause is a recurrence of the same Root Cause that resulted in a previous AG Flaring Incident that occurred since the Entry Date, then CRLLC shall be liable for stipulated penalties under Paragraph 163 unless:

(1) the AG Flaring Incident resulted from a Malfunction; or

(2) the Root Cause previously was designated as an agreed-upon Malfunction under Subparagraph 68.a.(1); or

(3) the AG Flaring Incident had as its Root Cause the recurrence of a Root Cause for which CRLLC had previously developed, or was in the process of developing, a corrective action plan for which CRLLC had not yet completed implementation.

69. **Defenses.** CRLLC may raise the following affirmative defenses in response to a demand by the United States for stipulated penalties:

i. Force majeure.

ii. As to Paragraph 66, the AG Flaring Incident does not meet the identified criteria.

iii. As to Paragraph 67, Malfunction.

iv. As to Paragraph 68, the AG Flaring Incident does not meet the identified criteria and/or was due to a Malfunction.

70. In the event a dispute under Paragraphs 65 - 69 is brought to the Court pursuant to the Dispute Resolution provisions of this Consent Decree, CRLLC may also assert a startup, shutdown and/or Malfunction defense, but the United States shall be entitled to assert that such defenses are not available. If CRLLC prevails in persuading the Court that the defenses of startup, shutdown and/or Malfunction are available for AG Flaring Incidents under 40 C.F.R. 60.104(a)(1), CRLLC shall not be liable for stipulated penalties for emissions resulting from such startup, shutdown and/or Malfunction. If the United States prevails in persuading the Court that the defenses of startup, shutdown and/or Malfunction are not available, CRLLC shall be liable for such stipulated penalties.

71. Other than for a Malfunction or force majeure, if no AG Flaring Incident occurs at the Chalmette Refinery for a rolling 36 month period, then the stipulated penalty provisions of Subsection V.J. shall no longer apply. EPA may elect to reinstate the stipulated penalty provision if the Chalmette Refinery has an AG Flaring Incident which would otherwise be subject to stipulated penalties. EPA's decision shall not be subject to dispute resolution. Once reinstated, the stipulated penalty provision shall continue for the remaining term of this Consent Decree.

72. **Emission Calculations**.

a. Calculation of the Quantity of Sulfur Dioxide Emissions Resulting from AG Flaring. For purposes of this Consent Decree, the quantity of SO_2 emissions resulting from an AG Flaring Incident shall be calculated by the following formula:

Tons of SO_2 = [FR][TD][ConcH_2S][8.44 x 10^{-5}].

The quantity of SO_2 emitted shall be rounded to one decimal point. (Thus, for example, for a calculation that results in a number equal to 10.050 tons, the quantity of SO_2 emitted shall be rounded to 10.1 tons.) For purposes of determining the occurrence of, or the total quantity of SO_2 emissions resulting from, an AG Flaring Incident that is comprised of intermittent AG Flaring, the quantity of SO_2 emitted shall be equal to the sum of the quantities of SO_2 flared during each 24-hour period starting when the Acid Gas was first flared.

b. Calculation of the Rate of SO_2 Emissions During AG Flaring. For purposes of this Consent Decree, the rate of SO_2 emissions resulting from an AG Flaring Incident shall be expressed in terms of pounds per hour and shall be calculated by the following formula:

ER = [FR][ConcH_2S][0.169].

The emission rate shall be rounded to one decimal point. (Thus, for example, for a calculation that results in an emission rate of 19.95 pounds of SO_2 per hour, the emission rate shall be rounded to 20.0 pounds of SO_2 per hour; for a calculation that results in an emission rate of 20.05 pounds of SO_2 per hour, the emission rate shall be rounded to 20.1.)

c. Meaning of Variables and Derivation of Multipliers Used in the Equations in this Paragraph 72:

ER =	Emission Rate in pounds of SO_2 per hour
FR =	Average Flow Rate to Flaring Device(s) during Flaring Incident in standard cubic feet per hour
TD =	Total Duration of Flaring Incident in hours
ConcH_2S =	Average Concentration of Hydrogen Sulfide in gas during Flaring Incident (or immediately prior to Flaring Incident if all gas is being flared) expressed as a volume fraction (scf H_2S/scf gas)
8.44×10^{-5} =	[lb mole H_2S/379 scf H_2S][64 lbs SO_2/lb mole H_2S][Ton/2000 lbs]
0.169 =	[lb mole H_2S/379 scf H_2S][1.0 lb mole SO_2/1 lb mole H_2S][64 lb SO_2/1.0 lb mole SO_2]

The flow of gas to the AG Flaring Device(s) ("FR") shall be as measured by the relevant flow meter or reliable flow estimation parameters. Hydrogen sulfide concentration ("ConcH_2S") shall be determined from the Sulfur Recovery Plant feed gas analyzer, from knowledge of the sulfur content of the process gas being flared, by direct measurement by Tutwiler or Draeger (or other colorimeteric) tube analysis or by any other method approved by EPA or LDEQ. In the event that any of these data points is unavailable or inaccurate, the missing data point(s) shall be estimated according to best engineering judgment. The report required under Paragraph 63 shall include the data used in the calculation and an explanation of the basis for any estimates of missing data points.

73. **Tail Gas Incidents**.

a. Investigation, Reporting, Corrective Action and Stipulated Penalties. For Tail Gas Incidents, CRLLC shall follow the same investigative, reporting, corrective action and assessment of stipulated penalty procedures and schedules as those set forth in Paragraphs 63-71 for AG Flaring Incidents. Those procedures shall be applied to TGU shutdowns, bypasses of a

TGU, or other events which result in a Tail Gas Incident, including unscheduled shutdowns of the Chalmette SRP. CRLLC shall continue to follow the Tail Gas Incident investigation and corrective action procedures after termination of the Consent Decree, but the reporting and stipulated penalty provisions of this Subsection shall not apply after termination.

b. Calculation of the Quantity of SO_2 Emissions Resulting from a Tail Gas Incident. For the purposes of this Consent Decree, the quantity of SO_2 emissions resulting from a Tail Gas Incident shall be calculated by one of the following methods, based on the type of event:

i. If Tail Gas is combusted in a flare, the SO_2 emissions are calculated using the methods outlined in Paragraph 72; or

ii. If Tail Gas exceeding the 250 ppmvd NSPS J limit is emitted from a monitored SRP incinerator, then the following formula applies:

$$ER_{TGI} = \sum_{i=1}^{TD_{TGI}} [FR_{Inc.}]_i \, [Conc.\ SO_2 - 250]_i \, [0.169 \times 10^{-6}] \, [[20.9 - \%\ O_2]/\ 20.9]_i$$

Where:

ER_{TGI} = Emissions from Tail Gas Unit at the SRP incinerator, pounds of SO_2 over a 24 hour period

TD_{TGI} = Hours when the incinerator CEM was exceeding 250 ppmvd SO_2 on a rolling twelve hour average, corrected to 0% O2, in each 24 hour period of the Incident

i = Each hour within TD_{TGI}

$FR_{Inc.}$ = Incinerator Exhaust Gas Flow Rate (standard cubic feet per hour, dry basis) (actual stack monitor data or engineering estimate based on the acid gas feed rate to the SRP) for each hour of the Incident

Conc. SO_2 = The average SO_2 concentration (CEMS data) that is greater than 250 ppm in the incinerator exhaust gas, ppmvd corrected to 0% O_2, for each hour of the Incident

% O_2 = O_2 concentration (CEMS data) in the incinerator exhaust gas in volume % on dry basis for each hour of the Incident

$0.169 \times 10^{-6} =$ [lb mole of SO_2 / 379 scf SO_2] [64 lbs SO_2 / lb mole SO_2] [1 x 10^{-6}]

Standard conditions = 60 degree F; 14.7 lb_{force}/sq.in. absolute

In the event the concentration SO_2 data point is inaccurate or not available or a flow meter for FR_{Inc}. does not exist or is inoperable, then CRLLC shall estimate emissions based on best engineering judgment.

K. <u>CONTROL OF HYDROCARBON FLARING INCIDENTS</u>.

74. **<u>HC Flaring History and Corrective Measures</u>.** By no later than ninety (90) days after the Entry Date**,** CRLLC will conduct a review of past HC Flaring Incidents that occurred at the Chalmette Refinery between October 31, 1997 and the Entry Date and will provide EPA and LDEQ a summary identifying the HC Flaring Incidents that occurred during that period, and the corrective measures taken (or planned to be taken) by CRLLC to avoid or minimize the likelihood of recurrence.

75. **<u>Future HC Flaring Incidents</u>**. For HC Flaring Incidents occurring after the Entry Date, CRLLC shall follow the same investigative, reporting, and corrective action procedures as those set forth in Subsection V.J for AG Flaring Incidents. However:

i. CRLLC shall submit the HC Flaring Incident(s) reports as part of the Semi-Annual Reports required pursuant to Section IX, rather than on an incident-by-incident basis.

ii. For each Flaring Device, CRLLC may prepare and submit a single Root Cause Analysis for one or more Root Causes found by that analysis to routinely recur. CRLLC will inform EPA and LDEQ that it is electing to report only once on that Root Cause(s). Unless EPA or LDEQ objects within thirty (30) days of receipt of the Root Cause Analysis, such election will be effective.

iii. For the six (6) month period after the installation of the flare gas recovery system referenced in Paragraph 56.a (that is, during the time in which the flare gas recovery system is being commissioned), CRLLC will not be required to undertake HC Flaring Incident investigations if the Root Cause of the HC Flaring Incident is directly related to the commissioning of the flare gas recovery system.

iv. In lieu of analyzing possible corrective actions under Subparagraph 63.v and taking interim and/or long-term corrective action under Paragraph 64 for a HC Flaring Incident attributable to the startup or shutdown of a process unit that CRLLC has previously analyzed under this Paragraph, CRLLC may identify such prior analysis when submitting the report required under this Paragraph.

v. To the extent that a HC Flaring Incident at the Chalmette Refinery has as its Root Cause the bypass of the flare gas recovery system for safety or maintenance reasons as set forth in Subparagraphs 56.b and 56.c, CRLLC will be required to describe only the HC Flaring Incident and to list the date, time, and duration of such Incident in the Semi-Annual Reports due under Section IX.

CRLLC shall continue to follow the HC Flaring Incident investigation and corrective action procedures after termination of the Consent Decree, but the reporting provisions of this Subsection shall not apply after termination.

76. Stipulated penalties under Paragraphs 65-68 and Paragraph 163 shall not apply to HC Flaring Incident(s).

77. The formulas at Paragraph 72, used for calculating the quantity and rate of SO_2 emissions during AG Flaring Incidents, shall be used to calculate the quantity and rate of SO_2 emissions during HC Flaring Incidents.

L. <u>CERCLA/EPCRA REPORTING FOR ACID GAS FLARING INCIDENTS</u>.

78. **<u>CERCLA/EPCRA Compliance Review</u>**. CRLLC shall conduct a review of past AG Flaring Incidents that occurred at the Chalmette Refinery between October 31, 1997 and the Date of Lodging to determine its compliance with applicable requirements of Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004, with respect to reporting SO_2 and H_2S releases resulting from those AG Flaring Incidents. Upon completion of this review, CRLLC shall complete the following activities by no later than ninety (90) days after the Entry Date:

a. correct any identified violations by submitting reports to the appropriate agencies consistent with the requirements of Section 103(a) of CERCLA and Section 304 of EPCRA; and

b. submit a CERCLA/EPCRA Compliance Review Report to EPA and LDEQ that: (i) identifies all AG Flaring Incidents; (ii) if associated violations of Section 103(a) of CERCLA and Section 304 of EPCRA related to SO_2 and H_2S were identified with respect to any such AG Flaring Incidents, contains a list of such violations for which CRLLC seeks a resolution of liability; and (iii) attaches to such report copies of any corrective reports filed by CRLLC pursuant to Subparagraph 78.a, above.

M. BENZENE WASTE NESHAP PROGRAM ENHANCEMENTS.

79. In addition to continuing to comply with all applicable requirements of 40 C.F.R. Part 61, Subpart FF ("Benzene Waste NESHAP," "BWON," or "Subpart FF"), CRLLC agrees to undertake the measures set forth in this Subsection V.M to ensure continuing compliance with Subpart FF and to minimize or eliminate fugitive benzene waste emissions at the Chalmette Refinery.

80. **Subpart FF Compliance Status.** By no later than 90 days after the Entry Date, the Chalmette Refinery shall comply with the compliance option set forth at 40 C.F.R. § 61.342(e) (herein referred to as the "6 BQ Compliance Option").

81. **Refinery Compliance Status Changes.** During the term of this Consent Decree, CRLLC shall not change the compliance option of the Chalmette Refinery from the 6 BQ Compliance Option to the compliance options set forth at 40 C.F.R. § 61.342(c) or (d).

82. **One-Time Review and Verification of the Chalmette Refinery's TAB and Compliance with the Benzene Waste NESHAP, including the 6 BQ Compliance Option**.

a. Phase One of the Review and Verification Process. By no later than 180 days after the Entry Date, CRLLC shall complete a review and verification of the Chalmette Refinery's Total Annual Benzene ("TAB") and its compliance with the Benzene Waste NESHAP, including the 6 BQ Compliance Option. CRLLC's review and verification process shall include, but not be limited to:

i. an identification of each waste stream that is required to be included in the Refinery's TAB (e.g., slop oil, tank water draws, spent caustic, desalter rag layer dumps, desalter vessel process sampling points, other sample wastes, maintenance wastes, and turnaround wastes);

ii. a review and identification of the calculations and/or measurements used to determine the flows of each waste stream for the purpose of ensuring the accuracy of the annual waste quantity for each waste stream;

iii. an identification of the benzene concentration in each waste stream, including sampling for benzene concentration at no less than 10 waste streams, consistent with the requirements of 40 C.F.R. § 61.355(c)(1) and (3); provided, however, that previous analytical data or documented knowledge of waste streams may be used, 40 C.F.R. § 61.355(c)(2), for streams not sampled. Streams sampled after January 1, 2004 may be applied toward the waste streams requiring sampling;

iv. an identification of whether or not the stream is controlled consistent with the requirements of Subpart FF; and

v. an identification of any existing noncompliance with the requirements of Subpart FF.

By no later than 30 days following the completion of Phase One of the review and verification process, CRLLC shall submit a BWON Compliance Review and Verification Report to EPA and LDEQ that sets forth the results of Phase One, including but not limited to the items identified in Subparagraphs a.i through a.v of this Paragraph.

b. Phase Two of the Review and Verification Process. Based on EPA's review of the BWON Compliance Review and Verification Report, EPA may select up to 20 additional waste streams at the Chalmette Refinery for additional sampling or re-sampling for benzene concentration. CRLLC shall conduct the required sampling under representative conditions and submit the results to EPA within 60 days of receipt of EPA's request. CRLLC shall use the results of this additional sampling to reevaluate the TAB and the uncontrolled benzene quantity and to amend the BWON Compliance Review and Verification Report, as needed. To the extent that EPA requires CRLLC to re-sample a waste stream as part of the Phase Two review that CRLLC chose to sample as part of the Phase One review, CRLLC may average the results of the two sampling events. CRLLC shall submit an amended BWON Compliance Review and Verification Report within 90 days following the date of the completion of the required Phase Two sampling, if Phase Two sampling is required by EPA.

83. **Implementation of Actions Necessary to Correct Non-Compliance or to Come Into Compliance.**

a. Amended TAB Reports. If the results of the BWON Compliance Review and Verification Report indicate that the reports required by 40 C.F.R. § 61.357(c) or 61.357(d) for the Chalmette Refinery have not been filed or are inaccurate and/or do not satisfy the requirements of Subpart FF, CRLLC shall submit, by no later than sixty (60) days after completion of the BWON Compliance Review and Verification Report(s), an amended TAB report to EPA and LDEQ.

b. BWON Corrective Measures Plan. If the results of the BWON Compliance Review and Verification Report indicate that CRLLC is not in compliance with the 6 BQ Compliance Option at the Chalmette Refinery, CRLLC shall submit to EPA and LDEQ, by

no later than ninety (90) days after completion of the BWON Compliance Review and Verification Report, a BWON Corrective Measures Plan that identifies with specificity the compliance strategy and schedule that CRLLC shall implement to ensure that the Chalmette Refinery complies with the 6 BQ Compliance Option as soon as practicable.

c. Review and Approval of Plans Submitted Pursuant to Subparagraph 83.b. Any plan submitted pursuant to Subparagraph 83.b shall be subject to approval or disapproval by EPA, which shall act after an opportunity for consultation with LDEQ. Within sixty (60) days after receiving any notification of disapproval from EPA, CRLLC shall submit to EPA and LDEQ a revised plan that responds to all identified or alleged deficiencies. Upon receipt of approval or approval with conditions, CRLLC shall implement the plan according to the schedule provided in the approved plan.

d. Certification of Compliance with the 6 BQ Compliance Option. By no later than 30 days after completion of the implementation of all actions, if any, required pursuant to Subparagraphs 83.b or 83.c to come into compliance with the 6 BQ Compliance Option, CRLLC shall submit a report to EPA and LDEQ certifying that the Chalmette Refinery complies with the Benzene Waste NESHAP.

84. **Carbon Canisters**. CRLLC shall comply with the requirements of this Paragraph 84 at all locations at the Chalmette Refinery where a carbon canister(s) is utilized as a control device under the Benzene Waste NESHAP.

a. By no later than 90 days after the Entry Date, CRLLC shall complete installation of primary and secondary carbon canisters at locations currently utilizing single canisters and shall operate them in series. By no later than 30 days following completion of the installation of the dual canisters, CRLLC shall submit a report certifying the completion of the

installation. The report shall include: (i) a list of all locations at the Refinery where carbon canister systems are used as a control device under Subpart FF; (ii) an indication, for each location, whether there was a pre-existing secondary carbon canister or whether a secondary carbon canister was installed under this Paragraph; (iii) the installation date of each such secondary canister installed under this Paragraph and the date that each secondary canister was put into operation; and (iv) an indication, for each location, whether volatile organic compounds ("VOC") or benzene will be used to monitor for breakthrough under and as required by Subparagraph 84.d.

b. Except as expressly permitted under Paragraph 84.f, CRLLC shall not use single carbon canisters for any new units or installations at the Chalmette Refinery that require controls pursuant to the Benzene Waste NESHAP.

c. For dual carbon canister systems, "breakthrough" between the primary and secondary canister is defined as any reading equal to or greater than 50 ppm VOC or 5 ppm benzene (depending upon the constituent that CRLLC decides to monitor).

d. CRLLC shall monitor for breakthrough between the primary and secondary carbon canisters monthly, or in accordance with the frequency specified in 40 C.F.R. § 61.354(d), whichever is more frequent. This requirement shall commence: (i) upon the Entry Date where dual carbon canisters currently are in service; and (ii) within seven days after installation of a new dual carbon canister system.

e. If CRLLC monitors a canister system for benzene and detects between 1 ppm and 5 ppm benzene between the primary and secondary canisters, then CRLLC shall begin monitoring for breakthrough (at 5 ppm benzene) between the primary and secondary

carbon canisters weekly, or in accordance with the frequency specified in 40 C.F.R. § 61.354(d), whichever is more frequent.

f. CRLLC shall replace the original primary carbon canister (or route the flow to an appropriate alternative control device) immediately when breakthrough is detected between the primary and secondary canister. The original secondary carbon canister (or a fresh canister) will become the new primary carbon canister and a fresh carbon canister will become the secondary canister. For purposes of this Subparagraph, "immediately" shall mean within eight (8) hours of the detection of a breakthrough for canisters of 55 gallons or less, and within twenty-four (24) hours of the detection of a breakthrough for canisters greater than 55 gallons. In lieu of replacing the primary canister immediately, CRLLC may elect to monitor the outlet of the secondary canister beginning on the day the breakthrough between the primary and secondary canister is identified and each calendar day thereafter. This daily monitoring shall continue until the primary canister is replaced. If the constituent being monitored (either benzene or VOC) is detected at the outlet of the secondary canister during this period of daily monitoring, both canisters must be replaced within eight (8) hours of the detection of a breakthrough.

g. Temporary Applications. CRLLC may utilize properly-sized single canisters for short-term operations such as with temporary storage tanks or as temporary control devices. For canisters operated as part of a single canister system, "breakthrough" is defined for purposes of this Consent Decree as any reading of VOC above background or benzene above 1 ppm (whichever is monitored). Beginning no later than the Entry Date, CRLLC shall monitor for breakthrough from a single carbon canister system once every calendar day that there is actual flow to the carbon canister. CRLLC shall replace the single carbon canister with a fresh

carbon canister, discontinue flow, or route the stream to an alternate, appropriate device immediately when breakthrough is detected. For purpose of this Subparagraph, "immediately" shall mean within eight (8) hours for canisters of 55 gallons or less and twenty-four (24) hours for canisters greater than 55 gallons. If a single canister has been found to exceed the applicable breakthrough concentration, flow must be discontinued to that canister immediately. Such a spent canister may not be placed back into Benzene Waste NESHAP vapor control service until it has been appropriately regenerated.

h. CRLLC shall maintain a readily-available supply of fresh carbon canisters at the Chalmette Refinery at all times or otherwise ensure that such canisters are readily available to implement the requirements of this Paragraph 84.

i. CRLLC shall maintain records associated with the requirements of this Paragraph, including carbon canister monitoring readings and the constituents being monitored for at least five (5) years after such readings occur.

85. **Annual Review.** By no later than 120 days after the Entry Date, CRLLC shall modify, as necessary, its existing written management of change procedures to provide for an annual review of process information for the Chalmette Refinery, including but not limited to construction projects, to ensure that all new benzene waste streams are included in the Refinery's waste stream inventory. CRLLC shall conduct such reviews on an annual basis.

86. **Laboratory Audits**. CRLLC shall conduct audits of all laboratories that perform analyses of CRLLC's Benzene Waste NESHAP samples to ensure that proper analytical and quality assurance/quality control procedures are followed for such samples.

a. By no later than 180 days after the Entry Date, CRLLC shall complete initial audits of each laboratory used by the Chalmette Refinery. In addition, CRLLC shall audit

any new laboratory to be used for analyses of benzene samples from the Chalmette Refinery prior use of the new laboratory. If CRLLC has completed an audit of any laboratory on or after January 1, 2004, initial audits of those laboratories pursuant to this Subparagraph shall not be required.

b. During the term of this Consent Decree, CRLLC shall conduct subsequent laboratory audits, such that each laboratory is audited once every two (2) calendar years.

c. CRLLC may conduct audits itself, retain third parties to conduct these audits, or use audits conducted by others as its own, but the responsibility and obligation to ensure compliance with this Consent Decree and Subpart FF are solely CRLLC's.

87. **Benzene Spills**. For each spill at the Chalmette Refinery after the Entry Date, CRLLC shall review the spill to determine if any benzene waste, as defined by Subpart FF, was generated. For each spill involving the release of more than 10 pounds of benzene in a 24 hour period, CRLLC shall: (i) include the benzene waste generated by the spill in the Chalmette Refinery's TAB, as required by 40 C.F.R. § 61.342; and (ii) as appropriate, account for such benzene waste in accordance with the applicable compliance option.

88. **Training.**

a. By no later than 90 days after the Entry Date, CRLLC shall develop and implement a program for annual (i.e., once each calendar year) training for all employees who draw benzene waste samples for Benzene Waste NESHAP purposes.

b. By no later than 120 days after the Entry Date, CRLLC shall complete the development of standard operating procedures (where they do not already exist) for all control devices and treatment processes used to comply with the Benzene Waste NESHAP at the Chalmette Refinery. By no later than 180 days after the Entry Date, CRLLC shall complete an

initial training program regarding these procedures for all operators assigned to the relevant equipment. Comparable training shall also be provided to any persons who subsequently become operators, prior to their assumption of this duty. "Refresher" training in these procedures shall be performed on a three-year cycle (i.e., once every three calendar years).

c. CRLLC shall assure that the employees of any contractors hired to perform any of the requirements of this Subsection V.M are properly trained to implement such requirements that they are hired to perform, as under Subparagraphs 88.a-88.c.

89. **Waste/Slop/Off-Spec Oil Management**.

a. Schematics. By no later than 60 days after the Entry Date, CRLLC shall submit to EPA and LDEQ schematics for the Chalmette Refinery that: (i) depict the waste management units (including sewers) that handle, store, and transfer waste/slop/off-spec oil streams; (ii) identify the control status of each waste management unit; and (iii) show how such oil is transferred within the Refinery. Representatives from CRLLC and EPA thereafter may confer about the appropriate characterization of each waste/slop/off-spec oil streams and the necessary controls, if any, for the waste management units handling such oil streams, for purposes of the Chalmette Refinery's TAB calculation and compliance with the 6 BQ Compliance Option. If requested by EPA, CRLLC shall promptly submit revised schematics that reflect the Parties' agreements regarding the characterization of these oil streams and the appropriate control standards. CRLLC shall use these schematics in preparing the BWON Sampling Plan required under Paragraph 90.

b. Non-Aqueous Benzene Waste Streams. All waste management units handling non-exempt, non-aqueous benzene wastes, as defined in Subpart FF, shall meet the applicable control standards of Subpart FF.

c. Aqueous Benzene Waste Streams. For purposes of calculating the Chalmette Refinery's TAB pursuant to the requirements of 40 C.F.R. § 61.342(a), CRLLC shall include all waste/slop/off-spec oil streams that become "aqueous" until such streams are recycled to a process or put into a process feed tank (unless the tank is used primarily for the storage of wastes). Appropriate adjustments will be made to such calculations to avoid the double-counting of benzene. For purposes of complying with the 6 BQ Compliance Option, all waste management units handling benzene waste streams will either meet the applicable control standards of Subpart FF or will have their uncontrolled benzene quantity count toward the applicable limit under the 6 BQ Compliance Option.

90. **Quarterly Sampling at End of Line and Point of Waste Generation**. CRLLC shall conduct quarterly sampling at the Chalmette Refinery for the purpose of calculating quarterly, uncontrolled benzene quantities.

a. By no later than 120 days after the Entry Date, CRLLC shall submit to EPA for approval a sampling plan for the Chalmette Refinery designed to identify the quarterly benzene quantity in uncontrolled benzene waste streams, including waste/slop/off-spec oil. That sampling plan (the "BWON Sampling Plan") shall include, but need not be limited to:
(i) proposed sampling locations and methods for flow calculations at the "end of line" of uncontrolled benzene waste streams; (ii) a simplified flow diagram that identifies significant, uncontrolled benzene waste streams that feed into each proposed sampling location;
(iii) proposed quarterly sampling, at the "point of waste generation," of each waste stream that contributes 0.05 Mg/yr or more to the Refinery's benzene quantity; and (iv) quarterly sampling at all "end of line" and point of waste generation locations identified in Subparagraphs 90.a.(i) and 90.a.(iii). The BWON Sampling Plan may identify commingled, exempt waste streams for

sampling, provided CRLLC demonstrates that the benzene quantity of those commingled streams will not be underestimated. Additionally, waste streams that are non-aqueous at their point of generation and do not become aqueous thereafter shall not be included in the BWON Sampling Plan.

b. If changes in processes, operations, or other factors lead CRLLC to conclude that its approved BWON Sampling Plan no longer provides an accurate measure of the Refinery's quarterly benzene quantity in uncontrolled benzene waste streams, CRLLC shall submit a revised BWON Sampling Plan to EPA for approval.

c. CRLLC shall commence sampling under its BWON Sampling Plan during the first full calendar quarter following submittal of the Plan, regardless of whether or not the Plan is approved at that time. CRLLC shall take, and have analyzed, at least three representative samples from each identified sampling location. CRLLC shall use the average of all samples taken and the identified flow calculations to determine its quarterly benzene quantity in uncontrolled waste streams and to estimate a calendar year value for the Refinery.

91. **Quarterly and Annual Estimations of Uncontrolled Benzene Quantity**. At the end of each calendar quarter following commencement of quarterly sampling, CRLLC shall calculate a quarterly uncontrolled benzene quantity and shall estimate a projected calendar year uncontrolled benzene quantity based on the quarterly end of line sampling results, non-end of line sampling results, and the approved flow calculations. CRLLC shall submit the uncontrolled benzene quantity in the Semi-Annual Reports due under Section IX of this Decree.

92. **Corrective Measures**.

a. Applicability. If the calculations in Paragraph 91 indicate that the quarterly uncontrolled benzene quantity exceeds 1.5 Megagrams or the projected calendar year

uncontrolled benzene quantity exceeds 6.0 Megagrams, CRLLC shall submit a written report to EPA and LDEQ that evaluates all relevant information and identifies whether any action should be taken to reduce benzene quantities in its waste streams for the remainder of the calendar year. If additional actions are determined to be necessary to ensure compliance with the 6 BQ Compliance Option, CRLLC will include in its written report a BWON Corrective Measures Plan as specified in Subparagraph 92.b.

b. BWON Corrective Measures Plan. CRLLC shall, in any BWON Corrective Measures Plan required by this Paragraph, identify: (i) the cause of the potentially elevated benzene quantities; (ii) all corrective actions that CRLLC has taken or plans to take to ensure that the cause will not recur; and (iii) an appropriate strategy and schedule that CRLLC shall implement to ensure that CRLLC complies with the 6 BQ Compliance Option. If a spill event is the main cause of the potentially elevated benzene quantities, the BWON Corrective Measures Plan will focus on the spill event and on future measures to minimize and address spills. CRLLC shall submit such plan and schedule, along with its report under Subparagraph 92.a, by no later than 60 days after the end of the Calendar Quarter in which one or more of the conditions specified in Subparagraph 92.a is satisfied. CRLLC shall implement its BWON Corrective Measures Plan in accordance with the schedule provided therein.

c. Third-Party TAB Study and Compliance Review. After a second consecutive quarter in which at least one of the conditions in Subparagraph 92.a continues to exist and CRLLC is not then able to identify the cause(s) and/or appropriate corrective measures to ensure compliance with the 6 BQ Compliance Option, CRLLC shall retain a third-party contractor to undertake a comprehensive TAB study and compliance review ("Third-Party TAB Study and Compliance Review") at the Chalmette Refinery. By no later than the last day of the

next following quarter, CRLLC shall submit a proposal to EPA that identifies the contractor, the contractor's scope of work, and the contractor's schedule for the Third-Party TAB Study and Compliance Review. Unless EPA disapproves or seeks modifications of the proposal within 30 days after its receipt, CRLLC shall authorize the contractor to commence work. CRLLC shall ensure that the work is completed in accordance with the schedule provided therein. No later than thirty (30) days after CRLLC receives the results of the Third-Party TAB Study and Compliance Review, CRLLC shall submit the results to EPA. After the report is submitted to EPA, CRLLC and EPA shall discuss informally the results of the Third-Party TAB Study and Compliance Review. No later than ninety (90) days after CRLLC receives the results of the Third-Party TAB Study and Compliance Review or at such other time as CRLLC and EPA may agree, CRLLC shall submit to EPA a plan and schedule for remedying any deficiencies identified in the Third-Party TAB Study and Compliance Review and any deficiencies that EPA identified following the Third-Party TAB Study and Compliance Review. Unless EPA disapproves or seeks modifications of the proposal within thirty (30) days after its receipt, CRLLC shall implement the remedial plan in accordance with the schedule included in its plan.

93. **Miscellaneous Measures.**

a. By no later than 60 days after the Entry Date, CRLLC shall:

i. Conduct monthly visual inspections of and, if appropriate, refill all Subpart FF water traps within the Chalmette Refinery's individual drain systems;

ii. If CRLLC utilizes conservation vents, visually inspect all Subpart FF conservation vents or indicators on process sewers for detectable leaks on a weekly basis, reset any vents where leaks are detected, and record the results of the inspections. After two (2) years of weekly inspections, and based upon an evaluation of the recorded results, CRLLC may submit a request to the appropriate EPA Region to modify the frequency of the inspections. EPA shall not unreasonably withhold its consent to such modification. Alternatively, for conservation vents with indicators that identify whether flow has occurred,

CRLLC may elect to visually inspect such indicators on a monthly basis and, if flow is then detected, CRLLC shall then visually inspect that indicator on a weekly basis for four weeks. If flow is detected during any two of those four weeks, CRLLC shall install a carbon canister on that vent until appropriate corrective action(s) can be implemented to prevent such flow. Nothing in this Subparagraph shall require CRLLC to monitor conservation vents on fixed roof tanks; and

iii. Conduct quarterly monitoring and repair of the oil-water separators consistent with the "no detectable emissions" provision in 40 C.F.R. § 61.347.

b. By no later than 150 days after the Entry Date, CRLLC shall identify and mark at the drain all area drains that are segregated stormwater drains.

94. **Recordkeeping and Reporting Requirements for this Subsection V.M: Outside of the Reports Required under 40 C.F.R. § 61.357 and the Semi-Annual Reports Required by Section IX (Recordkeeping and Reporting)**. At the times specified in the applicable provisions of this Section V.M, CRLLC will submit, as and to the extent required, the following reports to EPA and LDEQ:

i. a BWON Compliance Review and Verification Report (under Subparagraph 82.a), as amended, if necessary (under Subparagraph 82.b);

ii. an Amended TAB Report, if necessary (under Subparagraph 83.a);

iii. a BWON Corrective Measures Plan, if necessary (under Subparagraph 83.b and/or Paragraph 92);

iv. a Certification of Compliance, if necessary (under Subparagraph 83.d);

v. a report certifying the completion of installation of dual carbon canisters (under Subparagraph 84.a);

vi. schematics of waste/slop/off-spec oil movements, as revised, if necessary (under Subparagraph 89.a); and

vii. a BWON Sampling Plan (under Subparagraph 90.a), and revised BWON Sampling Plan, if necessary (under Subparagraph 90.b).

95. **Recordkeeping and Reporting Requirements for this Subsection V.M: As Part of the Semi-Annual Reports Required by Section IX (Recordkeeping and Reporting)**. CRLLC shall submit the following information in the Semi-Annual Reports submitted pursuant to Section IX (Reporting and Recordkeeping) for the six month period covered by the Report:

i. An identification of all laboratory audits, if any, completed during the six month period, including a description of the methods used in the audit and the results of the audit;

ii. A description of the measures taken, if any, during the six month period to comply with the training provisions of Paragraph 88; and

iii. A summary of the sampling results required under Paragraph 90, including the quarterly and projected annual uncontrolled benzene quantities or TAB, as applicable.

N. LEAK DETECTION AND REPAIR PROGRAM ENHANCEMENTS.

96. In order to minimize or eliminate fugitive emissions of volatile organic compounds ("VOCs"), benzene, volatile hazardous air pollutants ("VHAPs"), and organic hazardous air pollutants ("HAPs") from equipment in light liquid and/or in gas/vapor service, CRLLC shall undertake the enhancements identified in this Subsection V.N to its leak detection and repair ("LDAR") programs for the Chalmette Refinery under 40 C.F.R. Part 60, Subpart GGG; Part 61, Subparts J and V; Part 63, Subparts F, H, and CC; and applicable state and local LDAR requirements. The terms "equipment," "in light liquid service" and "in gas/vapor service" shall have the definitions set forth in the applicable provisions of 40 C.F.R. Part 60, Subpart GGG; Part 61, Subparts J and V; Part 63, Subparts F, H and CC; and applicable state and local LDAR regulations.

97. **Applicability of NSPS Subparts GGG to Process Units at the Chalmette Refinery.**

a. As of the Entry Date each existing "process unit" (as defined by 40 C.F.R. § 60.591) at the Chalmette Refinery shall become an "affected facility" for purposes of 40 C.F.R. Part 60, Subpart GGG, and shall become subject to and comply with the requirements of 40 C.F.R. Part 60, Subpart GGG, and the requirements of this Subsection V.N.

b. For the purposes of this Consent Decree, each process unit covered under this Paragraph shall be deemed to have become an affected facility for purposes of Subpart GGG under the provisions of 40 C.F.R. § 60.14 or § 60.15. These provisions specifically apply for the purposes of qualifying such affected facilities for any exemptions provided under 40 C.F.R. §§ 60.482-3(j), 60.482-7(h)(2), 60.482-10(k)(2), and 60.593(c).

c. For process units that become affected facilities for purposes of Subpart GGG pursuant to this Paragraph 97 , entry of this Consent Decree shall satisfy applicable notification requirements of 40 C.F.R. § 60.7(a).

98. **Written Refinery-Wide LDAR Program Description**. By no later than 60 days after the Entry Date, CRLLC shall develop and maintain a written LDAR Program Description for a program for compliance with all federal, state, and local LDAR regulations applicable to the Chalmette Refinery. CRLLC shall update the LDAR Program Description as may be necessary to ensure continuing compliance. The LDAR Program Description shall include, at a minimum:

i. A set of leak rate goals for the Chalmette Refinery that will be a target for achievement on a process-unit-by-process-unit basis. Such targets shall have the purpose of facilitating lower leak rates and are not intended to be enforceable requirements;

ii. An identification of all equipment in light liquid and/or in gas/vapor service that is subject to periodic monitoring requirements via Method 21 under any applicable federal, state, or local LDAR regulation and that has the potential to leak VOCs, HAPs, VHAPs, and benzene within the Chalmette Refinery's process units;

iii. Procedures for identifying leaking equipment within the Chalmette Refinery's process units;

iv. Procedures for repairing and keeping track of leaking equipment;

v. Procedures for identifying and including new equipment to be added to the LDAR program;

vi. A process for evaluating new and replacement equipment to promote consideration and installation of equipment that will minimize leaks and/or eliminate chronic leakers;

vii. A description of the Refinery's LDAR monitoring organization and a designation of the person or position responsible for LDAR management and has the authority to implement LDAR improvements at the Refinery, as required by Paragraph 100; and

viii. A procedure for regularly communicating LDAR information to appropriate CRLLC personnel.

99. **Training.** By no later than 180 days after the Entry Date, CRLLC shall begin to implement a training program at the Chalmette Refinery which includes the following features:

i. For personnel newly-assigned to LDAR responsibilities, CRLLC shall require LDAR training prior to each employee beginning such work;

ii. For all personnel assigned LDAR responsibilities, CRLLC shall provide and require completion of annual LDAR training or require its LDAR contractor to provide such training (initial annual LDAR training for all such personnel will be completed not later than one year after the Entry Date);

iii. For all other Refinery operations and maintenance personnel (including contract personnel) who have duties relevant to LDAR, CRLLC shall provide and require completion of an initial training program that includes instruction on aspects of LDAR that are relevant to the person's duties (initial LDAR training for all such personnel will be completed not later than one year after the Entry Date); and

iv. For the individuals covered by this Paragraph, "refresher" training in LDAR shall be performed on a cycle of no longer than three years.

100. **LDAR Personnel**. By no later than 180 days after the Entry Date, CRLLC shall establish a program that holds each person assigned LDAR responsibilities accountable for LDAR performance. By no later than 90 days after the Entry Date, CRLLC shall establish and maintain a person or position at the Refinery with responsibility for LDAR management and authority to implement LDAR improvements.

101. **LDAR Audits**. CRLLC shall implement Refinery-wide LDAR Audits – including an Initial LDAR Audit and Regular LDAR Audits – as set forth in this Paragraph to ensure the Chalmette Refinery's compliance with all applicable LDAR requirements. Each LDAR Audit shall include, but shall not be limited to: (i) performing comparative monitoring; (ii) reviewing records to ensure monitoring and repairs were completed in the required periods; (iii) reviewing component identification procedures, tagging procedures, and data management procedures; and (iv) observing LDAR technicians' calibration and monitoring techniques. During each LDAR Audit, leak rates shall be calculated for each process unit where comparative monitoring was performed.

a. Initial LDAR Audit. CRLLC shall retain a third-party contractor to complete an Initial LDAR Audit for the Chalmette Refinery by no later than 180 days after the Entry Date.

b. Initial Audit Report. Within 90 days of completion of the Initial Audit, CRLLC shall submit an Initial Audit Report to EPA and LDEQ. The Report shall describe the results of the Initial Audit, disclose all areas of identified non-compliance, and certify CRLLC's

compliance, except for the identified deficiencies. The Report shall also include a schedule for correcting any identified deficiencies as soon as practicable.

c. Regular LDAR Audits.

(1) Third-Party Audits. CRLLC shall retain a contractor to perform a Third-Party LDAR Audit of the Chalmette Refinery's LDAR program at least once every four (4) calendar years after the Initial LDAR Audit is completed under Subparagraph 101.a (with approximately 48 months between the Audits).

(2) Internal Audits. Internal LDAR Audits of the Chalmette Refinery's LDAR program shall be completed by having an audit performed by personnel familiar with the LDAR program and its requirements from one or more other refineries operated by ExxonMobil Oil Corporation and/or Exxon Mobil Corporation. CRLLC shall complete an Internal LDAR Audit by no later than two (2) years from the date of the completion of the third-party audits required in Subparagraphs 101.a and 101.c.(1). CRLLC shall perform an internal audit of the Chalmette Refinery's LDAR program at least once every four (4) calendar years (with approximately 48 months between the Audits). CRLLC may elect to retain third-parties to undertake an Internal Audit, provided that a Regular LDAR Audit at the Chalmette Refinery occurs every two (2) years.

(3) Timing. To ensure that an LDAR Audit occurs every two (2) years at the Chalmette Refinery, once the Initial Audit is completed, the remaining Third-Party Audits and Internal Audits at the Refinery shall be separated by not more than two (2) calendar years (with approximately 24 months between the Audits).

102. **Implementation of Actions Necessary to Correct Non-Compliance**. If the results of any of the LDAR Audits conducted pursuant to Paragraph 101 identify any areas of noncompliance, CRLLC shall implement, as soon as practicable, all steps necessary to correct or otherwise address such area(s) of non-compliance and to prevent, to the extent practicable, a recurrence of the cause of such non-compliance. CRLLC shall, during the term of this Consent Decree, retain the Initial Audit Report and all other LDAR Audit reports generated pursuant to Paragraph 101, and shall maintain a written record of all corrective actions that CRLLC takes in response to deficiencies identified in any LDAR Audits. After the completion of any LDAR Audit other than the Initial Audit, CRLLC shall include the following information in the next Semi-Annual Report due under Section IX of this Consent Decree: (i) a summary, including findings, of each such LDAR Audit; and (ii) a list of corrective actions taken during the reporting period, and any schedule for implementing future corrective actions.

103. **Internal Leak Definition for Valves and Pumps**. CRLLC shall utilize the following internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions.

a. Leak Definition for Valves**.** By no later than 365 days after the Entry Date, CRLLC shall utilize an internal leak definition of 500 ppm VOCs for valves in light liquid and/or gas/vapor service at Chalmette Refinery, excluding pressure relief devices.

b. Leak Definition for Pumps. By no later than 365 days after the Entry Date, CRLLC shall utilize an internal leak definition of 2000 ppm for centrifugal pumps in light liquid and/or gas/vapor service at the Chalmette Refinery. Reciprocating pumps, connectors, compressors, and other components shall retain their applicable regulatory leak definition.

104. **LDAR Monitoring Frequency.**

a. Pumps. When the lower internal leak definition for pumps becomes applicable under Paragraph 103, and unless more frequent monitoring is required by applicable federal, state and/or local requirements, CRLLC shall monitor pumps at the internal leak definition on a monthly basis.

b. Valves. When the lower internal leak definition for valves becomes applicable under Paragraph 103, and unless more frequent monitoring is required by applicable federal, state and/or local requirements, CRLLC shall monitor valves (other than difficult to monitor or unsafe to monitor valves) at the internal leak definition on a quarterly basis, with no ability to skip periods on a process-unit-by-process-unit basis.

105. **Reporting, Recording, Tracking, Repairing and Remonitoring Leaks of Valves and Pumps Based on the Internal Leak Definitions**.

a. Reporting. For regulatory reporting purposes, CRLLC may continue to report leak rates in valves and pumps against the applicable regulatory leak definition, or may use the lower, internal leak definitions specified in Paragraph 103.

b. Recording, Tracking, Repairing and Remonitoring Leaks. CRLLC shall record, track, repair, and re-monitor all leaks in excess of the internal leak definitions of Paragraph 103 (at such time as those definitions become applicable). Except as provided otherwise in this Subsection V.N, CRLLC shall make a first attempt at repair and remonitor the component within five (5) calendar days after a leak is detected and either complete repairs and re-monitor leaks or place such component on the Refinery's delay of repair list according to Paragraph 111 within thirty (30) days after a leak is detected.

106. **Monitoring After Turnaround or Maintenance.** CRLLC shall have the option of monitoring affected valves and pumps within process unit(s) after completing a documented maintenance, startup, or shutdown activity, and that monitoring activity shall not count as a scheduled monitoring activity for any components found to be leaking at a level between the internal leak definition and the applicable regulatory definition, provided that CRLLC monitors according to the following schedule:

i. For events involving 1000 or fewer valves and pumps, monitor within one (1) week of the documented maintenance, startup, or shutdown activity;

ii. For events involving greater than 1000 but fewer than 5000 valves and pumps, monitor within two (2) weeks of the documented maintenance, startup, or shutdown activity; and

iii. For events involving greater than 5000 pumps and valves, monitor within four (4) weeks of the documented maintenance, startup, or shutdown activity.

107. **Initial Attempt at Repair on Certain Valves.** Beginning no later than 180 days after the Entry Date, CRLLC shall promptly make a "initial attempt" at repair after detecting a leak at a reading greater than 200 ppm of VOCs at any valve, excluding pressure relief devices, control valves, valves that are on the delay of repair list, and components that LDAR personnel are not authorized to repair. CRLLC or its designated contractor shall re-monitor the valve in question within five (5) calendar days after the "initial attempt" to repair. If the re-monitored leak reading is below the applicable leak definition, no further action will be necessary. If the re-monitored leak reading is greater than the applicable leak definition, CRLLC shall repair the valve according to the requirements of Subparagraph 105.b, except that no first repair attempt requirement shall apply. If CRLLC can demonstrate with sufficient, statistically significant monitoring data over a period of at least two years that "initial attempts" to repair at 200 ppm

worsen or do not improve refinery leak rates, CRLLC may request EPA to reconsider or amend this requirement.

108. **Electronic Monitoring, Storing, and Reporting of LDAR Data**.

a. Electronic Storing and Reporting of LDAR Data. CRLLC has and shall continue to maintain an electronic database for storing and reporting LDAR data at the Chalmette Refinery.

b. Electronic Data Collection During LDAR Monitoring and Transfer Thereafter. By no later than 90 days after the Entry Date, CRLLC shall use data loggers and/or electronic data collection devices during all LDAR monitoring at the Chalmette Refinery. CRLLC, or its designated contractor, shall use its best efforts to transfer, by the end of the next business day, the electronic data from electronic data logging devices to the electronic database maintained pursuant to Subparagraph 108.a. For all monitoring events in which an electronic data collection device is used, the collected monitoring data shall include a time and date stamp, and identification of the instrument and operator. CRLLC may only use paper logs where necessary or more feasible (e.g., small rounds, re-monitoring, or when data loggers are unavailable or broken), and shall record, at a minimum, the identity of the technician, the date, the monitoring starting and ending times, all monitoring readings, and an identification of the monitoring equipment. CRLLC shall use its best efforts to transfer any manually recorded monitoring data to the electronic database maintained pursuant to Subparagraph 108.a within seven (7) days of the monitoring event.

109. **QA/QC of LDAR Data.** By no later than 90 days after the Entry Date, CRLLC (or a third-party contractor retained by CRLLC) shall develop and implement procedures for quality assurance/quality control ("QA/QC") reviews of all data generated by LDAR monitoring

technicians. CRLLC shall ensure that monitoring data provided by monitoring technicians is reviewed daily for QA/QC. At least once per calendar quarter, CRLLC shall perform a QA/QC review of each contractor's monitoring data which shall include, but not be limited to, a review of: (i) the number of components monitored per technician; (ii) the time between monitoring events; and (iii) abnormal data patterns.

110. **Calibration/Calibration Drift Assessment.**

a. Calibration. CRLLC shall conduct all calibrations of LDAR monitoring equipment at the Chalmette Refinery using methane as the calibration gas, and in accordance with 40 C.F.R. Part 60, EPA Reference Test Method 21.

b. Calibration Drift Assessment. By no later than 365 days after the Entry Date, CRLLC shall conduct calibration drift assessment re-checks of the LDAR monitoring equipment at least twice during each monitoring shift, with one such re-check being at the end of the monitoring shift. CRLLC shall conduct the calibration drift assessment re-check using a calibration gas with a concentration approximately equal to the applicable internal leak definition. If any calibration drift assessment after the initial calibration shows a negative drift of more than 10% from the previous calibration, CRLLC shall remonitor all valves that were monitored since the last calibration or calibration drift assessment that had a reading greater than 100 ppm and shall remonitor all pumps that were monitored since the last calibration or calibration drift assessment that had a reading greater than 500 ppm.

111. **Delay of Repair**.

a. By no later than 90 days after the Entry Date, CRLLC shall take the following actions for any equipment at the Chalmette Refinery that CRLLC intends to place on the "delay of repair" list, under applicable regulations:

i. CRLLC shall require sign-off by the unit supervisor, within thirty (30) days of identifying that a piece of equipment is leaking at a rate greater than the applicable leak definition, that such equipment qualifies for delayed repair under applicable regulations;

ii. CRLLC shall include equipment that is placed on the "delay of repair" list in CRLLC's regular LDAR monitoring;

iii. CRLLC shall use its best efforts to isolate and repair centrifugal pumps identified as leaking at a rate of 2000 ppm or greater; and

iv. For valves (other than control valves and pressure relief devices) leaking at 10,000 ppm or greater and which cannot be repaired using traditional techniques, CRLLC shall use the "drill and tap" repair method (or an equivalent repair method) for the leaking valve (unless the valve is isolated from the process and does not remain in VOC service), prior to placing the valve on the delay of repair list, unless CRLLC can demonstrate that there is a safety, mechanical, or major environmental concern posed by repairing the leak in that manner. If not repaired within 15 days by other means, CRLLC shall perform the first "drill and tap" (or equivalent repair method) within 15 days, and a second attempt (if necessary) within 30 days after the leak is detected. After two unsuccessful attempts to repair a leaking valve through the "drill and tap" (or equivalent) method, CRLLC may place the leaking valve on its "delay of repair" list. The requirement to make two attempts to repair a leaking component by the drill and tap method may be satisfied by making two sealant injection attempts rather than by making multiple taps into the valve body.

b. If a new valve repair method not currently in use by the refining industry is planned to be used by CRLLC in lieu of the "drill and tap" method referenced in the preceding Subparagraph, CRLLC shall advise EPA prior to implementing such a method or, if prior notice is not practicable, as soon as practicable after implementation.

112. **Chronic Leakers.** A valve shall be classified as a "chronic leaker" under this Paragraph if it leaks above 5,000 ppm twice in any consecutive four quarters after the Entry Date, unless the valve has not leaked in the twelve (12) consecutive quarters prior to the relevant process unit turnaround. Following the identification of a "chronic leaker" non-control valve,

CRLLC shall replace, repack, or perform similarly effective repairs on the chronic leaker during the next process unit turnaround occurring 180 days after the after the Entry Date.

113. **Alternate Leak Detection Method**. With EPA's prior written approval, CRLLC may begin using an alternate leak detection method – such as a method employing "Smart LDAR" technology – based on a showing that the alternate leak detection method is equivalent to traditional monitoring methods and is allowable under the applicable LDAR regulations. If necessary to implement this Paragraph, the Parties shall make appropriate modifications to this Consent Decree in accordance with Paragraph 235.

114. **Recordkeeping and Reporting Requirements for this Section**.

a. In the Semi-Annual Reports submitted by CRLLC pursuant to Section IX (Recordkeeping and Reporting), CRLLC shall include the following information in the Report for the period in which the identified activity occurred or was required:

i. A copy of the Refinery's LDAR Program Description under Paragraph 98;.

ii. A certification that the Refinery's training program has been implemented as required by Paragraph 99;

iii. An identification of the person or position at the Refinery responsible for LDAR performance as required by Paragraph 100;

iv. A certification that the lower leak definitions and increased monitoring frequencies have been implemented according to Paragraphs 103 and 104;

v. A certification of the implementation of the "initial attempt" to repair program under Paragraph 107;

vi. A certification of the implementation of QA/QC procedures for review of data generated by LDAR technicians as required by Paragraph 109;

vii. A certification of the implementation of the calibration drift assessment procedures of Paragraph 110; and

viii. A certification of the implementation of the "delay of repair" procedures of Paragraph 111.

b. Special Requirement for Initial Semi-Annual Report Each Year. As part of the first Semi-Annual Report submitted each year pursuant to Section IX (Recordkeeping and Reporting), CRLLC shall identify each LDAR Audit that was conducted under Paragraph 101 in the previous calendar year, including an identification of the auditors, a summary of the audit results, and the actions that CRLLC took or intends to take to correct identified deficiencies.

c. Reports Due Under 40 C.F.R. § 63.654. In each report due under 40 C.F.R. § 63.654, CRLLC shall include the following information on LDAR monitoring:

i. a list of the process units monitored during the reporting period;

ii. the number of valves and pumps present in each process unit;

iii. the number of valves and pumps monitored in each process unit;

iv. the number of valves and pumps found leaking for each process unit;

v. the number of "difficult to monitor" pieces of equipment monitored;

vi. the projected month and year of the next monitoring event for that unit;

vii. a list of all equipment currently on the "delay of repair" list and the date each component was placed on the list;

viii. the number of repairs not attempted within five (5) days and thirty (30) days pursuant to Subparagraph 105.b;

ix. the number of initial attempts at repair not made promptly and remonitored within five (5) days pursuant to Paragraph 107;

x. the number of repairs not completed at the next process unit turnaround pursuant to Paragraph 112; and

xi. the number of repairs not completed within fifteen (15) days and thirty (30) days under Subparagraph 111.a.iv.

O. NSPS SUBPART QQQ COMPLIANCE.

115. **Program Summary**. As described by this Subsection V.O, CRLLC shall evaluate and, where necessary, correct deficiencies in its NSPS Part 60 (Subpart QQQ) compliance at the Chalmette Refinery.

116. By no later than December 31, 2006, CRLLC shall conduct a Subpart QQQ Compliance Review to determine: (i) whether construction, modification or reconstruction has triggered QQQ at any potentially affected facilities; and (ii) what, if any, upgrades are necessary to satisfy NSPS QQQ. This exercise will include a review of all available documentation pertaining to capital projects and other work that may have affected an oily wastewater system since May 4, 1987.

117. By no later than December 31, 2006, CRLLC shall submit a Subpart QQQ Compliance Review Report to EPA and LDEQ which shall summarize the results of the Subpart QQQ Compliance Review and specify a schedule for implementing any corrective measures to be taken to ensure Subpart QQQ compliance at the Chalmette Refinery. CRLLC shall implement any corrective measures in accordance with the specified schedule.

P. OTHER COMPLIANCE MEASURES.

118. **Coke Barn Fugitive Emission Control Program**.

a. By no later than 60 days after the Entry Date, CRLLC shall complete a Coke Barn Compliance Review to identify, among other things: (i) the cause of fugitive airborne emissions of particulate matter from the Chalmette Refinery's coke barn, as observed during a January 2005 LDEQ inspection at the Refinery; and (ii) additional reasonable precautions to be taken by CRLLC to prevent fugitive emissions of particulate matter from the

Chalmette Refinery's coke barn, as required by 33 LAC III:1305.A, such as employment of additional containment methods or installation and use of dust collectors.

b. By no later than 90 days after the Entry Date, CRLLC shall submit a Coke Barn Compliance Review Report to EPA and LDEQ which shall summarize the results of the Coke Barn Compliance Review and specify a schedule for implementing all additional reasonable precautions to be taken to ensure compliance with the requirements of 33 LAC III:1305.A at the Chalmette Refinery's coke barn. CRLLC shall implement all such additional reasonable precautions in accordance with the specified schedule. CRLLC shall also incorporate the requirement to use all such additional reasonable precautions into a federally-enforceable permit under Paragraph 120.

Q. INCORPORATION OF CONSENT DECREE REQUIREMENTS INTO FEDERALLY ENFORCEABLE PERMITS.

119. **Emission Limits and Standards Effective on the Entry Date**. By no later than 120 days after the Entry Date, CRLLC shall submit appropriate applications, amendments and/or supplements to LDEQ's consolidated permitting program to ensure that the emission limits and standards, including NSPS applicability, that are effective as of the Entry Date under this Consent Decree shall survive the termination of this Consent Decree in accordance with Paragraph 123. Following submission of the appropriate applications, amendments, or supplements, CRLLC shall cooperate with LDEQ by promptly submitting to LDEQ all available information that LDEQ seeks following its receipt of the permit materials. Promptly upon issuance of such permits or in conjunction with such permitting, CRLLC shall file any applications necessary to incorporate the requirements of those permits into the Title V permit for the Chalmette Refinery.

120. **Future Emission Limits and Standards**. As soon as practicable, but in no event later than ninety (90) days after the effective date or establishment of any emission limit or standard under Section V that becomes effective after the Entry Date, CRLLC shall submit appropriate applications, amendments and/or supplements to LDEQ's consolidated permitting program to ensure that the emission limits and standards, including NSPS applicability, shall survive the termination of this Consent Decree in accordance with Paragraph 123. Following submission of the appropriate applications, amendments, or supplements, CRLLC shall cooperate with LDEQ by promptly submitting to LDEQ all available information that LDEQ seeks following its receipt of the permit materials. Promptly upon issuance of such permits or in conjunction with such permitting, CRLLC shall file any applications necessary to incorporate the requirements of those permits into the Title V permit for the Chalmette Refinery.

121. **Emission Limits and Standards.** The following Consent Decree requirements shall constitute the emission limits and standards that are required to be incorporated into permits under Paragraphs 119 and 120:

i. the interim emission limits and standards imposed by Subparagraphs 51.a and 51.b, for so long as each such interim emission limit or standard applies under this Consent Decree; and

ii. the requirements specified in Subparagraphs 123.a.(1) through 123.a.(10), that shall survive termination of the Consent Decree.

122. **Mechanism for Title V Incorporation.** The Parties agree that the incorporation of the requirements of this Consent Decree into Title V permits shall be in accordance with state Title V rules, including applicable administrative amendment provisions of such rules.

123. **Obligations that Shall Survive Consent Decree Termination**. The requirements imposed by the following provisions of this Consent Decree that shall survive termination of the Consent Decree under Section XVIII:

a. Emission Limits and Standards. The following Consent Decree requirements shall constitute emission limits and standards that shall survive termination of the Consent Decree by virtue of being incorporated into federally-enforceable permits:

(1) Subparagraphs 12.b and Paragraph 14 in Subsection V.A;

(2) Subparagraphs 16.b and Paragraph 18 in Subsection V.B;

(3) Paragraphs 21 and 22 (if applicable as of the date of termination) in Subsection V.C;

(4) Paragraphs 27, 28 (if applicable as of the date of termination), and 30 in Subsection V.D;

(5) Paragraph 31 in Subsection V.E;

(6) Paragraphs 39, 40 and 41 in Subsection V.F;

(7) Subparagraphs 45.a and 45.b and Paragraph 46 in Subsection V.G;

(8) Paragraphs 49 and 50 and Subparagraph 51.c in Subsection V.H;

(9) Paragraphs 54, 55, and 57 in Subsection V.I; and

(10) Subparagraph 133.b.(2) (as specified therein) in Section VIII.

b. Certain Other Requirements

(1) Subparagraph 52.a (as specified therein) in Subsection V.H;

(2) Paragraph 62 (as specified therein) and Subparagraph 73.a (as specified therein) in Subsection V.J;

(3) Paragraph 75 (as specified therein) in Subsection V.K;

(4) All of this Subsection V.Q; and

(5) All of Section VI.

c. Agreement Required for Changes to Surviving Requirements. In the event CRLLC should ever seek, after termination of this Consent Decree, to delete or modify an emission limit or standard surviving termination by virtue of Subparagraph 123.a, such emission limit or standard shall not be deleted or modified unless EPA and LDEQ shall have first agreed in writing to the deletion or modification. In the event that CRLLC should ever seek to delete or modify any of the certain other requirements surviving termination pursuant to Subparagraph 123.b, such requirement shall not be deleted or modified unless EPA and LDEQ shall have first agreed in writing to the deletion or modification.

124. **Obtaining Construction Permits.** CRLLC agrees to use its best efforts to obtain all required, federally-enforceable permits for the construction of the pollution control technology and/or the installation of equipment necessary to implement the affirmative relief and environmental projects set forth in Section V and in Section VIII. To the extent that CRLLC must submit permit applications for construction or installation to LDEQ, CRLLC shall cooperate with LDEQ by promptly submitting to LDEQ all available information that LDEQ seeks following its receipt of the permit application. This Paragraph 124 is not intended to prevent CRLLC from applying to LDEQ for a pollution control project exemption.

VI. EMISSION CREDIT GENERATION

125. **Summary.** This Section addresses the use of emissions reductions that will result from the installation and operation of the controls required by this Consent Decree ("CD Emissions Reductions") for the purpose of emissions netting or emissions offsets.

126. **General Prohibition.** CRLLC shall not generate or use any NOx, SO_2, PM, VOC, or CO emissions reductions, or apply for and obtain any emission reduction credits, that result from any projects conducted or controls required pursuant to this Consent Decree as netting reductions or emissions offsets in any PSD, major non-attainment and/or synthetic minor New Source Review ("NSR") permit or permit proceeding.

127. **Outside the Scope of the General Prohibition.** Nothing in this Consent Decree is intended to prohibit CRLLC from seeking to:

i. utilize or generate netting reductions or emission offset credits from refinery units that are covered by this Consent Decree to the extent that the proposed netting reductions or emission offset credits represent the difference between the emissions limitations set forth in or established pursuant to this Consent Decree for these refinery units and the more stringent emissions limitations that CRLLC may elect to accept for these refinery units in a permitting process;

ii. utilize or generate netting reductions or emission offset credits for refinery units that are not subject to an emission limitation pursuant to this Consent Decree;

iii. utilize or generate netting reductions or emission offset credits for Combustion Units on which Qualifying Controls, as defined in Paragraph 33, have been installed, provided that such reductions are not included in CRLLC's demonstration of compliance with the requirements of Paragraphs 34 and 37 of this Consent Decree;

iv. utilize emissions reductions from the installation of controls required by this Consent Decree in determining whether a project that includes both the installation of controls under this Consent Decree and other construction that occurs at the same time and is permitted as a single project triggers major New Source Review requirements; or

v. utilize CD Emission Reductions for the Chalmette Refinery's compliance with any rules or regulations designed to address regional haze or the non-attainment status of any area (excluding PSD and Non-Attainment New Source Review rules) that apply to the Chalmette Refinery; provided, however, that CRLLC shall not be allowed to trade or sell any CD Emissions Reductions.

VII. MODIFICATIONS TO IMPLEMENTATION SCHEDULES

128. **Modifications Relating to Securing Permits or Approvals (in States Where Permits are Characterized as "Approvals").**

a. Timely Submitting Complete Permit Applications and Exercising Best Efforts. For any work under Sections V or VIII of this Consent Decree that requires a federal, state and/or local permit or approval (including but not limited to air or wastewater permits or approvals), CRLLC shall be responsible for submitting in a timely fashion applications for federal, state and local permits and approvals for work and activities required so that permit or approval decisions can be made in a timely fashion. CRLLC shall use its best efforts to: (i) submit permit applications (i.e., applications for permits to construct, operate, or their equivalent) that comply with all applicable requirements; and (ii) secure approval of permits after filing the applications, including timely supplying additional information, if requested.

b. Notification. If it appears that the failure of a governmental entity to act upon a timely-submitted, complete permit application may delay CRLLC's performance of work according to an applicable implementation schedule, CRLLC will notify EPA and LDEQ of any such delays as soon as CRLLC reasonably concludes that the delay could affect its ability to comply with the implementation schedule set forth in this Consent Decree. CRLLC shall propose for approval by EPA a modification to the applicable schedule of implementation setting out the time necessary to comply after the permit or approval has been received by CRLLC. EPA, after an opportunity for consultation with LDEQ, shall not unreasonably withhold its consent to requests for modifications of schedules of implementation if the requirements of this Paragraph 128 are met.

c. Stipulated Penalties Inapplicable. Stipulated penalties shall not accrue nor be due and owing during any period between an originally-scheduled implementation date and an approved modification to such date; provided, however, that if EPA does not approve a modification to a date or dates then: (i) EPA and LDEQ will retain the right to seek stipulated penalties; and (ii) CRLLC will retain the right to dispute any demand for stipulated penalties, pursuant to Paragraph 182.

d. Force Majeure Inapplicable. The failure of a governmental entity to act upon a timely-submitted permit or approval application shall not constitute a force majeure event triggering the requirements of Section XIV; instead, this Paragraph shall apply.

129. **Modifications Relating to Securing EPA Approval under this Consent Decree.**

a. For requirements of this Decree where CRLLC is prohibited from commencing an action prior to receiving EPA approval, CRLLC will use its best efforts to submit materials that comply with all applicable requirements of this Consent Decree and to ensure EPA's timely response to the applicable submission. If it appears that the failure by EPA to timely provide an approval that is a condition precedent to subsequent action(s) will delay CRLLC's performance of subsequent action(s), CRLLC and EPA will modify all relevant deadlines as appropriate in light of the delay. If EPA fails to timely act on a modification(s) required by this Subparagraph, stipulated penalties will not accrue for the period up to and including the earlier of: (i) the modified date(s) that EPA eventually determines; or (ii) the modified date(s) that this Court establishes if CRLLC pursues dispute resolution under Section XV.

b. For requirements of this Consent Decree that are subject to EPA approval but for which CRLLC's subsequent actions are not expressly conditioned upon receipt of EPA approval, CRLLC will commence and continue with such subsequent actions even without receipt of EPA approval. If, during the course of such continuing CRLLC actions, EPA disapproves in whole or in part of the manner in which CRLLC has proceeded, extensions of all relevant deadlines may result by agreement of the parties. Stipulated penalties will not accrue nor be due and owing during any period between a scheduled implementation date and an approved modification to such date; provided, however, that if EPA does not approve a modification to a date or dates then: (i) EPA and LDEQ will retain the right to seek stipulated penalties; and (ii) CRLLC will retain the right to dispute any demand for stipulated penalties, pursuant to Paragraph 182.

c. Force Majeure Inapplicable. The failure of EPA to provide a required approval in a timely manner will not constitute a force majeure event triggering the requirements of Section XIV; instead, this Paragraph shall apply.

130. **Modifications Relating to Commercial Unavailability of Control Equipment and/or Additives**.

a. CRLLC's General Obligation. CRLLC shall be solely responsible for compliance with any deadline or the performance of any work described in Sections V and VIII of this Consent Decree that requires the acquisition and installation of control equipment, including SO_2 Reducing Catalyst Additive or NOx Additives.

b. Notification. If it appears that the commercial unavailability of any control equipment may delay CRLLC's performance of work according to an applicable implementation schedule, CRLLC shall notify EPA and LDEQ of any such delays as soon as

practicable after CRLLC reasonably concludes that the delay could affect its ability to comply with the implementation schedule set forth in this Consent Decree. CRLLC shall then contact a reasonable number of vendors of such equipment or additive and obtain (or request) a written representation (or equivalent communication to EPA) from the vendor that the equipment or additive is commercially unavailable.

c. Additional Notice Requirements and Requirements Relating to Contacting Vendors. CRLLC shall propose for approval by EPA a modification to the applicable schedule of implementation, refer to this Paragraph 130 of this Consent Decree, identify the milestone date it contends it will not be able to meet, provide EPA and LDEQ with written correspondence to the vendor identifying efforts made to secure the control equipment or catalyst additive, and describe the specific efforts CRLLC has taken and will continue to take to find such equipment or additive. CRLLC may propose a modified schedule or modification of other requirements of this Consent Decree to address such commercial unavailability.

d. Dispute Resolution. Section XV (Retention of Jurisdiction/Dispute Resolution) shall govern the resolution of any claim of commercial unavailability. EPA, after an opportunity for consultation with LDEQ, shall not unreasonably withhold its consent to requests for modifications of schedules of implementation if the requirements of this Paragraph are met.

e. Stipulated Penalties Inapplicable. Stipulated penalties shall not accrue nor be due and owing during any period between an originally-scheduled implementation date and an approved modification to such date; provided, however, that if EPA does not approve a modification to a date or dates then: (i) EPA and LDEQ will retain the right to seek stipulated penalties; and (ii) CRLLC will retain the right to dispute any demand for stipulated penalties, pursuant to Paragraph 182.

f. Force Majeure Inapplicable. The failure of CRLLC to secure control equipment or additives will not constitute a force majeure event triggering the requirements of Section XIV; instead, this Paragraph shall apply.

131. **Procedures for Modifying Implementation Schedules under this Section VII**. Any modifications to implementation schedules under this Section VII shall be made in accordance with Paragraph 235.

VIII. ENVIRONMENTALLY BENEFICIAL PROJECTS

132. In accordance with the requirements and schedule set forth in this Section VIII, CRLLC shall pay $3,000,000 to implement Supplemental Environmental Projects ("SEPs") and Beneficial Environmental Projects ("BEPs"), as described below.

133. Supplemental Environmental Project.

a. Performance of SEPs. CRLLC may carry out its responsibilities for the SEP required by this Paragraph directly or through contractors selected by CRLLC.

b. Internal Combustion Engine K-406 NOx Reduction SEP.

(1) By no later than December 31, 2009, CRLLC shall spend at least $1,000,000 to retrofit or replace the Chalmette Refinery's existing gas-fired Waste Gas Compressor #4 (designated as Source K-406) to reduce NOx emissions by at least 40 tons per year, as compared to Source K-406's 2000/2001 baseline NOx emissions. CRLLC hereby represents that 2000/2001 baseline emissions from Source K-406 were 115.0 tons per year, based on an 8 mmBtu/hr utilization rate and a NOx emission rate of 3.281 lb/mmBtu.

(2) The required reduction from Source K-406: (i) shall be in addition to those NOx emission reductions from Combustion Units required by Subsection V.F of

this Consent Decree, and shall not count toward the reductions required by that Subsection; and (ii) shall be quantified, made, and incorporated into a federally-enforceable permit in a manner consistent with the approach outlined in Subsections V.F and V.Q of this Consent Decree. The permit shall incorporate an emission limit (in lbs/mmBTU) for Source K-406, to ensure that the NOx emission reduction required by this Paragraph 133 shall survive the termination of this Consent Decree.

(3) Beginning no later than one-hundred eighty (180) days after retrofitting or replacing Source K-406 as required by this Paragraph 133, CRLLC shall monitor emissions from Source K-406 (or any replacement unit) with a NO_x CEMS, unless the replacement unit is an electric motor which does not combust fuel. CRLLC will certify, calibrate, maintain, and operate the NO_x CEMS in accordance with the requirements of Paragraph 41.

134. If CRLLC completes the SEP described in Subparagraph 133.b, but does not expend all of the project-specific amount specified in Subparagraph 133.b, then CRLLC shall, with respect to the difference between the project-specific amount and the amount actually expended, either:

i. pay the difference to the United States as a stipulated penalty under Paragraph 181, if a written demand for payment is made at any time by EPA; or

iii. use the difference to fund another appropriate SEP, with the advance written approval of EPA and the Applicable Co-Plaintiff as set forth in a material modification to the Consent Decree under Paragraph 235.

135. CRLLC shall include in each Semi-Annual Report required by Section IX, a progress report for SEP specified by Subparagraph 133.b. In addition, the first Semi-Annual Report that is submitted after December 31, 2009 (or after any extended deadline for the

performance of the SEP) shall contain the following information with respect to the SEP specified by Subparagraph 133.b:

i. A detailed description of the SEP as implemented;

ii. A brief description of any significant operating problems encountered, including any that had an impact on the environment, and the solutions for each problem;

iii. A summary of the costs CRLLC incurred in performing the SEP specified by Subparagraph 133.b;

iv. Certification that the project has been fully implemented pursuant to the provisions of this Consent Decree; and

v. A description of the environmental and public health benefits resulting from implementation of the project (including quantification of the benefits and pollutant reductions, if feasible).

136. State of Louisiana Beneficial Environmental Projects. As a term and condition of the settlement between CRLLC and LDEQ that is reflected in this Consent Decree, CRLLC shall pay $2,000,000 to the Louisiana Wildlife and Fisheries Foundation within thirty (30) days of the Entry Date in order to fund performance of one or more BEPs under La. Admin. Code tit. 33, I Chapter 25. In the first Semi-Annual Report that is required by Section IX, CRLLC shall confirm whether that payment was made as required by this Paragraph 136. LDEQ has agreed that the Louisiana Wildlife and Fisheries Foundation will perform the BEPs that are to be funded with that payment, as described in Appendix G to this Consent Decree.

137. Public Statements. CRLLC agrees that in any of its public statements regarding the SEP or BEPs, CRLLC must clearly indicate that these projects are being undertaken as part of the settlement of an enforcement action for alleged violations of the Clean Air Act and corollary state statutes.

IX. RECORDKEEPING AND REPORTING

138. CRLLC shall submit Semi-Annual Reports to EPA and LDEQ that contain the following information:

i. a progress report on the implementation of the requirements of Section V (Affirmative Relief) at the Chalmette Refinery;

ii. a summary of the emissions data, including a separate identification of any exceedance(s) of Consent Decree emission limitations or standards for the Chalmette Refinery set forth in or established pursuant to Section V of this Consent Decree for the six (6) month period covered by the report;

iii. a description of any problems anticipated with respect to meeting the requirements of Section V of this Consent Decree at the Chalmette Refinery;

iv. a progress report on the implementation of the requirements of Section VIII (Environmentally Beneficial Projects);

v. any such additional matters as CRLLC believes should be brought to the attention of EPA and LDEQ; and

vi. additional items required by another Paragraph of this Consent Decree to be submitted with a Semi-Annual Report.

Semi-Annual Reports shall be submitted by August 31 (covering the period from January 1 to June 30) and February 28 (covering the period from July 1 to December 31), with the first such Report due on the first reporting date after the Entry Date. The Semi-Annual Report shall be certified by: (i) the person responsible for environmental management and compliance for the Chalmette Refinery; or (ii) a person responsible for overseeing implementation of this Decree for CRLLC, as follows:

> I certify under penalty of law that this information related to the Chalmette Refinery was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

X. CIVIL PENALTY

139. **Civil Penalty.**

a. Within thirty (30) days of the Entry Date, CRLLC shall pay a civil penalty of $1,000,000 as follows: (i) $500,000 to the United States; and (ii) $500,000 to the State. Of the $500,000 to be paid to the United States, $100,000 of that amount will be a civil penalty paid to the EPA Hazardous Substances Superfund.

b. Payment of monies to the United States shall be made by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing DOJ Case Number 90-5-2-1-07030/2 and the civil action case name and case number of this action in the Eastern District of Louisiana. The costs of such EFT shall be the responsibility of CRLLC. Payment shall be made in accordance with instructions provided to CRLLC by the Financial Litigation Unit of the U.S. Attorney's Office for the Eastern District of Louisiana. Any funds received after 11:00 a.m. (EST) shall be credited on the next business day. CRLLC shall provide notice of payment, referencing DOJ Case Number 90-5-2-1-07030/2 and the civil action case name and case number to the Department of Justice and to EPA, as provided in Paragraph 232 (Notice).

c. Payment of the civil penalty owed to the State of Louisiana under this Paragraph shall be made by certified check made payable to the Louisiana Department of Environmental Quality and sent to Darryl Serio, Fiscal Director, Office of Management and Finance, LDEQ, P.O. Box 4303, Baton Rouge, LA 70821-4303.

140. The amount set forth in Paragraph 132 for SEPs and BEPs and the civil penalty set forth in Subparagraph 139.a together constitute the sole penalty imposed for the violations alleged hereunder within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C.

§ 162(f), and, therefore, CRLLC shall not treat these penalty payments as tax deductible for purposes of net income taxes imposed under federal, state, or local law.

141. Upon the Entry Date, the Consent Decree shall constitute an enforceable judgment for purposes of post-judgment collection in accordance with Federal Rule of Civil Procedure 69, the Federal Debt Collection Procedure Act, 28 U.S.C. §§ 3001-3308, and other applicable federal authority.

XI. STIPULATED PENALTIES

142. **Generally.**

a. CRLLC shall pay stipulated penalties to the United States and to the State for each failure by CRLLC to comply with the terms of this Consent Decree as provided herein. Stipulated penalties shall be calculated in the amounts specified in this Section XI. Stipulated penalties for failure to comply with the concentration-based, rolling average emission limits referenced in Section V shall not start to accrue until there is noncompliance for 5% or more of the applicable unit's operating time during any calendar quarter.

b. For those provisions where a stipulated penalty of either a fixed amount or 1.2 times the economic benefit of non-compliance is available, the decision of which alternative to seek shall rest exclusively within the discretion of the EPA and LDEQ. For the purposes of this Section XI, the term "economic benefit of non-compliance" means the economic benefit accrued from delaying a capital investment, delaying a one-time expenditure, and avoiding recurring costs (such as operation and maintenance costs) over the period of non-compliance. The overall "economic benefit of non-compliance" will be calculated based on the total number of days of non-compliance, and will be multiplied by 1.2 to compute the total stipulated penalty amount under a particular provision of this Section XI. That total stipulated penalty amount will

be assessed for the full period of non-compliance, and will not be assessed "per day." In no event shall any stipulated penalty assessed against CRLLC exceed $32,500 (or any inflation-adjusted increase in that maximum penalty amount set pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, as amended by the Debt Collection Improvement Act of 1996) per day for any individual violation of this Consent Decree.

c. Where a single event triggers more than one stipulated penalties provision in this Consent Decree, only the provision providing for the higher stipulated penalty shall apply. In cases where a violation of this Consent Decree is also a violation that provides a basis for potential recovery of civil penalties under of the Clean Air Act, another federal environmental law, and/or an applicable state or local environmental law, the United States and the State will each elect between seeking stipulated penalties under this Consent Decree and commencing a new action for civil penalties under such laws. Notwithstanding the foregoing, the United States and the State reserve the right to pursue any other non-monetary remedies to which they are legally entitled, including but not limited to injunctive relief for violations of the Consent Decree.

d. For the purposes of this Section XI, terms such as "per unit," "per valve," "per drain" and the like shall mean only each unit, each valve, or each drain that is in non-compliance with a specific Consent Decree requirement.

A. <u>Requirements for NO_X Emission Reductions from the FCCU</u>.

143. For failure to meet an FCCU Final NOx Limit set forth in Paragraph 12: $750 for each calendar day in a calendar quarter in which the short-term rolling average exceeds the applicable limit; and $2,500 for each calendar day in a calendar quarter on which the specified 365-day rolling average exceeds the applicable limit.

144. For failure to install, certify, calibrate, maintain, and/or operate a CEMS, as required by Paragraph 14, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$1,000
Beyond 60th day after deadline	$2,000 or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

B. Requirements for SO_2 Emission Reductions from the FCCU.

145. For failure to meet any FCCU Final SO_2 Limit set forth in Paragraph 16: $750 for each calendar day in a calendar quarter on which the specified 7-day rolling average exceeds the applicable limit; $2,500 for each calendar day in a calendar quarter on which the specified 365-day rolling average exceeds the applicable limit.

146. For failure to install, certify, calibrate, maintain, and/or operate a CEMS, as required by Paragraph 18, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$1,000
Beyond 60th day after deadline	$2,000 or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

C. Requirements for PM Emissions Reductions from the FCCU.

147. For each failure to meet any FCCU Final PM Limit that CRLLC accepts pursuant to Paragraph 22 (if applicable), per day: $500 for the first day of non-compliance in which the specified short-term rolling average exceeds the applicable limit, and $1,500 for each day thereafter until CRLLC demonstrates compliance with the applicable limit.

148. For failure to conduct PM testing, as required by Paragraph 24, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$200
31st through 60th day after deadline	$500
Beyond 60th day after deadline	$1000

D. Requirements for CO Emissions Reductions from the FCCU.

149. For each failure to meet any FCCU Final CO Limit that CRLLC accepts pursuant to Paragraph 28 (if applicable): $750 for each calendar day in a calendar quarter in which the short-term rolling average exceeds the applicable limit; and $2,500 for each calendar day in a calendar quarter on which the specified 365-day rolling average exceeds the applicable limit.

150. For failure to install, certify, calibrate, maintain, and/or operate a CEMS, as required by Paragraph 30, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$1,000
Beyond 60th day after deadline	$2,000, or, an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

E. Requirements Related to NSPS Applicability to FCCU Regenerator.

151. For failure to comply with NSPS Subparts A and J limits applicable to the Chalmette FCCU's catalyst regenerator, as specified by Paragraphs 21, 27, and 31, per pollutant, per day in a calendar quarter:

Period of Non-Compliance	Penalty per day
1st through 30th day	$1,000
31st through 60th day	$2,000
Over 60 days	$3,000 or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

F. Requirements for NOx Emission Reductions from Combustion Units.

152. For failure to install selected Qualifying Controls on Combustion Units or to reduce NOx emissions from Combustion Units as required by Paragraphs 34, 37, or 38, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$2,500
31st through 60th day after deadline	$6,000
Beyond 60th day after deadline	$10,000, or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

153. For failure to comply with the applicable monitoring requirements as set forth in Paragraphs 40 and 41, per Combustion Unit, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$1,000
Beyond 60th day after deadline	$2,000, or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

154. For failure to submit the written deliverables required by Paragraph 36, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$200
31st through 60th day after deadline	$500
Beyond 60th day after deadline	$1,000

G. Requirements for SO_2 Emission Reductions from Heaters, Boilers, and Other Fuel Gas Combustion Devices.

155. For burning in any heater or boiler (including but not limited to those listed in Appendix C) or in any Other Fuel Gas Combustion Device (listed in Appendix D) any refinery fuel gas in violation of the applicable requirements of NSPS Subparts A and J after the Entry Date or, if the device is listed in Appendix C or D, after the date set forth in Appendix C or D on which the respective device becomes an "affected facility" subject to NSPS Subparts A and J, as set forth in Subsection V.G., per device, per day in a calendar quarter:

Period of Non-Compliance	Penalty per day
1st through 30th day	$2,500
Beyond 31st day	$5,000 or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

156. For burning Fuel Oil in a manner inconsistent with the requirements of Paragraph 46, per device, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day	$1,750
Beyond 31st day	$5,000

H. Requirements for Sulfur Recovery Plants.

157. For failure to comply with the NSPS Subparts A and J emission limits at the Chalmette Sulfur Recovery Plant, as specified in Subparagraph 50.a, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day	$1,000
31st through 60th day	$2,000
Over 60 days	$3,000 or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

158. For failure to comply with NSPS Subparts A and J monitoring requirements at the Chalmette Sulfur Recovery Plant, as specified in Subparagraph 50.b, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
Beyond 31st day after deadline	$1,500
Beyond 60th day after deadline	$2,000

159. For failure to complete an Optimizations Study or for failure to comply with the Interim Mass Emission Limit at the Chalmette Sulfur Recovery Plant, as specified by Subparagraph 51.b, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day	$1,500
31st through 60th day	$3,000
Over 60 days	$4,500 or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

160. For failure to re-route sulfur pit gases in accordance with the requirements of Subparagraph 51.c, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day	$1,000
31st through 60th day	$1,750
Beyond 60th day	$4,000 or an amount equal to 1.2 times the economic benefit of non-compliance whichever is greater.

161. For failure to develop a Preventive Maintenance and Operation Plan as specified in Paragraph 52, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
Beyond 31st day after deadline	$1,500
Beyond 60th day after deadline	$2,000

I. Requirements for Flaring Devices.

162. For failure to comply with applicable NSPS Subparts A and J requirements, including emission limits, as specified in Paragraph 55, after December 31, 2006 for the Chalmette Refinery's Flaring Devices, per device:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
Beyond 31st day after deadline	$1,500
Beyond 60th day after deadline	$2,000

Provided, however, that if stipulated penalties could be assessed under both Paragraphs 162 and 163, the provisions of Paragraph 163 shall control.

J. <u>Requirements for Control of AG Flaring Incidents and Tail Gas Incidents</u>.

163. For AG Flaring Incidents and/or Tail Gas Incidents for which CRLLC is liable under Subsection V.J:

Tons Emitted in Flaring Incident or Tail Gas Incident	Length of Time from Commencement of Flaring within the Flaring Incident to Termination of Flaring within the Flaring Incident is 3 hours or less; Length of Time of the Tail Gas Incident is 3 hours or less	Length of Time from Commencement of Flaring within the Flaring Incident to Termination of Flaring within the Flaring Incident is greater than 3 hours but less than or equal to 24 hours; Length of Time of the Tail Gas Incident is greater than 3 hours but less than or equal to 24 hours	Length of Time of Flaring within the Flaring Incident is greater than 24 hours; Length of Time of the Tail Gas Incident is greater than 24 hours
5 Tons or less	$500 per Ton	$750 per Ton	$1,000 per Ton
Greater than 5 Tons, but less than or equal to 15 Tons	$1,200 per Ton	$1,800 per Ton	$2,300 per Ton, up to, but not exceeding, $27,500 in any one calendar day
Greater than 15 Tons	$1,800 per Ton, up to, but not exceeding, $27,500 in any one calendar day	$2,300 per Ton, up to, but not exceeding, $27,500 in any one calendar day	$27,500 per calendar day for each calendar day over which the Flaring Incident lasts

For purposes of calculating stipulated penalties pursuant to this Paragraph, only one cell within the matrix shall apply. Thus, for example, for an AG Flaring Incident in which the flaring starts at 1:00 p.m. and ends at 3:00 p.m., and for which 14.5 tons of sulfur dioxide are emitted, the penalty would be $17,400 (14.5 x $1,200); the penalty would not be $13,900 [(5 x $500) + (9.5 x $1200)]. For purposes of determining which column in the table set forth in this Paragraph applies under circumstances in which flaring occurs intermittently during an

AG Flaring Incident, the flaring shall be deemed to commence at the time that the flaring that triggers the initiation of an AG Flaring Incident commences, and shall be deemed to terminate at the time of the termination of the last episode of flaring within the AG Flaring Incident. Thus, for example, for flaring within an AG Flaring Incident that (i) starts at 1:00 p.m. on Day 1 and ends at 1:30 p.m. on Day 1; (ii) recommences at 4:00 p.m. on Day 1 and ends at 4:30 p.m. on Day 1; (iii) recommences at 1:00 a.m. on Day 2 and ends at 1:30 a.m. on Day 2; and (iv) for which no further Flaring occurs within the Flaring Incident, the flaring within the AG Flaring Incident shall be deemed to last 12.5 hours -- not 1.5 hours -- and the column for flaring of "greater than 3 hours but less than or equal to 24 hours" shall apply.

164. For failure to timely submit any report required by Subsection V.J, or for submitting any report that does not substantially conform to its requirements:

Period of Non-Compliance	Penalty per day
Days 1-30	$750
Days 31-60	$1,500
Over 60 days	$3,000

165. For those corrective action(s) which CRLLC: (i) agrees to undertake following receipt of an objection by EPA pursuant to Paragraph 64; or (ii) is required to undertake following dispute resolution, then, from the date of EPA's receipt of CRLLC's report under Paragraph 63 of this Consent Decree until the date that either: (i) a final agreement is reached between EPA and CRLLC regarding the corrective action; or (ii) a court order regarding the corrective action is entered, CRLLC shall be liable for stipulated penalties as follows:

i.

Period of Non-Compliance	Penalty per day
Days 1-120	$50
Days 121-180	$100
Days 181 - 365	$300
Over 365 Days	$3,000

or

ii. 1.2 times the economic benefit resulting from CRLLC's failure to implement the corrective action(s).

166. For failure to complete any corrective action under Paragraph 64 of this Decree in accordance with the schedule for such corrective action agreed to by CRLLC or imposed on CRLLC pursuant to the dispute resolution provisions of this Decree (with any such extensions thereto as to which EPA and CRLLC may agree in writing):

Period of Non-Compliance	Penalty per day
Days 1-30	$1,000
Days 31-60	$2,000
Over 60	$5,000

K. Requirements for Control of Hydrocarbon Flaring Incidents.

167. For failure to perform a review of past HC Flaring Incidents, or to submit a summary report on the review, as required by Paragraph 74 :

Period of Non-Compliance	Penalty per day
1st through 30th day	$500
31st through 60th day	$1,500
Beyond 60th day	$3,000

168. For each failure to perform a Root Cause analysis or submit a written report or perform corrective actions for an HC Flaring Incident, as required by Paragraph 75:

Period of Non-Compliance	Penalty per day per Incident
1st through 30th day	$500
31st through 60th day	$1,500
Beyond 60th day	$3,000

L. Requirements for CERCLA/EPCRA Reporting for Acid Gas Flaring Incidents.

169. For failure to perform a CERCLA/EPCRA Compliance Review, submit a CERCLA/EPCRA Compliance Review Report, or perform corrective actions, as required by Paragraph 78:

Period of Non-Compliance	Penalty per day
1st through 30th day	$500
31st through 60th day	$1,500
Beyond 60th day	$3,000

M. Requirements for Benzene Waste NESHAP Program Enhancements.

170. For each violation in which a frequency is specified in Subsection V.M., the amounts identified below shall apply on the first day of violation, and shall be calculated for each incremental period of violation (or portion thereof).

a. For failure to complete a BWON Compliance Review and Verification Report as required by Paragraph 82: $7,500 per month.

b. For failure to submit a BWON Corrective Measures Plan as required by Subparagraph 83.b, or for failure to implement Plan and to certify compliance as required by Subparagraphs 83.c and 83.d:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$1,250
31st through 60th day after deadline	$3,000
Beyond 60th day	$5,000, or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

c. For failure to comply with the requirements set forth in Paragraph 84 related to the use, monitoring, and replacement of carbon canisters: $1,000 per incident of non-compliance, per day.

d. For failure to implement the training requirements of Paragraph 88: $10,000 per quarter.

e. For failure to establish an annual review program to identify new benzene waste streams as required by Paragraph 85: $2,500 per month.

f. For failure to perform laboratory audits as required by Paragraph 86: $5,000 per month, per audit.

g. For failure to submit or maintain any plans or other deliverables required by Paragraph 89: $2,000 per deliverable.

h. For failure to conduct sampling in accordance with the sampling plans required by Paragraph 90: $30,000 per quarter, per stream, whichever is greater, but not to exceed $150,000 per quarter.

i. For failure to submit a BWON Corrective Measures Plan or retain the third-party contractor required by Paragraph 92: $10,000 per month.

j. For failure to conduct monthly visual inspections of all Subpart FF water traps as required by Subparagraph 93.a.i: $500 per drain not inspected;

k. For failure to monitor Subpart FF conservation vents as required by Subparagraph 93.a.ii: $500 per vent not monitored;

l. For failure to conduct monitoring of oil-water separators as required by Subparagraph 93.a.iii: $1,000 per month, per unit not monitored;

m. For failure to identify/mark segregated stormwater drains as required in Subparagraph 93.b: $1,000 per week per drain not identified/marked as required;

n. For failure to submit any of the written deliverables required by Subsection V.M (except for those deliverables for which stipulated penalties are specified in Subparagraphs 170.a, 170.b, 170.g, or 170.i): $1,000 per week, per deliverable not submitted.

N. Requirements for Leak Detection and Repair Program Enhancements.

171. For each violation in which a frequency is specified in Subsection V.N the amounts identified below shall apply on the first day of violation, and shall be calculated for each incremental period of violation (or portion thereof).

a. For failure to develop an LDAR Program Description as required by Paragraph 98: $3,500 per week.

b. For failure to implement the training program specified in Paragraph 99: $10,000 per month.

c. For failure to conduct any of the LDAR Audits described in Paragraph 101: $5,000 per month, per audit.

d. For failure to implement any actions necessary to correct non-compliance as required in Paragraph 102:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$1,250
31st through 60th day after deadline	$3,000
Beyond 60th day	$5,000, or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater

e. For failure to perform monitoring utilizing the lower internal leak rate definitions as specified in Paragraph 103: $100 per component, but not greater than $10,000 per month, per process unit.

f. For failure to perform implement LDAR monitoring at the frequency required by Paragraph 104: $100 per component, but not greater than $10,000 per month for the Refinery.

g. For failure to make first repair attempts within 5 days and/or take other actions required by Paragraph 105: $100 per component but not greater than $10,000 per month

(except that Subparagraph 171.h shall apply in lieu of this Subparagraph 171.g where both Subparagraphs are potentially applicable).

h. For failure to implement the "initial attempt" repair program set forth in Paragraph 107: $100 per component, but not to exceed $10,000 per month for the Refinery.

i. For failure to implement the QA/QC procedures described in Paragraph 109: $1,000 per incident, but not greater than $10,000 per month for the Refinery.

j. For failure to designate a person or position responsible for LDAR management as required by Paragraph 100, or for failure to implement the maintenance tracking program required by Subparagraph 98.iv: $3,500 per week.

k. For failure to use dataloggers or maintain electronic data as required by Paragraph 108: $5,000 per month.

l. For failure to conduct and record the calibrations and the calibration drift assessments or remonitor valves and pumps based on calibration drift assessments in Paragraph 110: $100 per missed event.

m. For failure to comply with the requirements for delay of repair set forth at Paragraph 111: $5,000 per valve or pump, per incident of non-compliance.

n. For failure to submit a written submission to EPA and/or LDEQ as required by Subsection V.N (except where a more specific stipulated penalty provision applies to a submission under this Subsection XI.N: $500 per week per submission.

o. If it is determined through a federal, state, or local investigation that CRLLC has failed to include any valves or pumps in its LDAR program, CRLLC shall pay $175 per component that it failed to include.

p. For failure to comply with the requirements for chronic leakers set forth at Paragraph 112: $5,000 per valve.

O. Requirements for NSPS Subpart QQQ Compliance.

172. For each failure to perform a Subpart QQQ Compliance Review, or to submit a Subpart QQQ Compliance Review Report, or to perform corrective measures, as required by Subsection V.O:

Period of Non-Compliance	Penalty per day
1st through 30th day	$500
31st through 60th day	$1,500
Beyond 60th day	$3,000

P. Other Compliance Measures.

173. For failure to perform a Coke Barn Compliance Review, or to submit a Coke Barn Compliance Review Report, or to take additional reasonable precautions to comply with 33 LAC III:1305.A at the Refinery's coke barn, as required by Paragraph 118:

Period of Non-Compliance	Penalty per day
1st through 30th day	$500
31st through 60th day	$1,500
Beyond 60th day	$3,000

Q. Requirements to Incorporate Consent Decree Requirements into Federally-Enforceable Permits.

174. For each failure to submit an application as required by Paragraphs 119 and 120:

Period of Non-Compliance	Penalty per day
Days 1-30	$800
Days 31-60	$1,500
Over 60 Days	$3,000

R. Requirements for Reporting and Recordkeeping.

175. For failure to submit reports as required by Section IX, per report, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$300
31st through 60th day after deadline	$1,000
Beyond 60th day	$2,000

S. Requirements for Environmentally Beneficial Projects and Civil Penalties.

176. For failure to reduce NOx emissions from Source K-406 as required by Subparagraph 133.b, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$1,000
Beyond 60th day after deadline	$2,000, or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

177. For failure to comply with the applicable monitoring requirements for Source K-406 (or any replacement unit) as set forth in Paragraph 41 and Subparagraph 133.b, per day:

Period of Non-Compliance	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$1,000
Beyond 60th day after deadline	$2,000, or an amount equal to 1.2 times the economic benefit of non-compliance, whichever is greater.

178. For failure to make the BEP payment required under Paragraph 136, CRLLC shall be liable for $10,000 per day, and interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

179. For failure to make any civil penalty payment required by Paragraph 139 of this Consent Decree, CRLLC shall be liable for $10,000 per day, and interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

T. Requirement to Pay Stipulated Penalties.

180. CRLLC shall be liable for $2,500 per day, and interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a), for failure to do either of the following within sixty

(60) days after receipt of a written demand pursuant to Paragraph 181: (i) pay stipulated penalties as required by Paragraph 142 of this Consent Decree; or (ii) place the amount of stipulated penalties demanded in escrow pursuant to Paragraph 182.

U. Payment of Stipulated Penalties.

181. CRLLC shall pay stipulated penalties (as required under Paragraph 142) upon written demand by the United States or the State no later than sixty (60) days after CRLLC receives such demand. Demand from either the United States or LDEQ shall be deemed a demand from both, but the United States and LDEQ shall consult with each other prior to making a demand. Stipulated penalties owed by CRLLC shall be paid 50 percent to the United States and 50 percent to LDEQ. Stipulated penalties shall be paid to the United States and LDEQ in the manner set forth in Section X (Civil Penalty) of this Consent Decree. A demand for the payment of stipulated penalties will identify the particular violation(s) to which the stipulated penalty relates, the stipulated penalty amount the United States or LDEQ is demanding for each violation (as can be best estimated), the calculation method underlying the demand, and the grounds upon which the demand is based. After consultation with each other, the United States and LDEQ may, in their unreviewable discretion, waive payment of any portion of stipulated penalties that may accrue under this Consent Decree.

V. Stipulated Penalties Dispute.

182. Should CRLLC dispute the United States' and/or LDEQ's demand for all or part of a stipulated penalty, it may avoid the imposition of a stipulated penalty for failure to pay a stipulated penalty under Paragraph 180 by placing the disputed amount demanded in a commercial escrow account pending resolution of the matter and by invoking the dispute resolution provisions of Section XV within the time provided in Paragraph 181 for payment of

stipulated penalties. If the dispute is thereafter resolved in CRLLC's favor, the escrowed amount plus accrued interest shall be returned to CRLLC; otherwise, the United States and the LDEQ shall be entitled to the amount that was determined to be due by the Court, plus the interest that has accrued in the escrow account on such amount. The United States and LDEQ reserve the right to pursue any other non-monetary remedies to which they are legally entitled, including but not limited to, injunctive relief for CRLLC's violations of this Consent Decree.

XII. INTEREST

183. After the date on which a payment is due under this Consent Decree, CRLLC shall be liable for interest on the unpaid balance of the civil penalty specified in Section X, and for interest on any unpaid balance of stipulated penalties to be paid in accordance with Section XI. All such interest shall accrue at the rate established pursuant to 28 U.S.C. § 1961(a) -- i.e., a rate equal to the coupon issue yield equivalent (as determined by the Secretary of Treasury) of the average accepted auction price for the last auction of 52-week U.S. Treasury bills settled prior to the Date of Lodging of the Consent Decree. Interest shall be computed daily and compounded annually. Interest shall be calculated from the date payment is due under the Consent Decree through the date of actual payment. For purposes of this Section XII, interest pursuant to this Paragraph will cease to accrue on the amount of any stipulated penalty payment made into an interest bearing escrow account as contemplated by Paragraph 182 of the Consent Decree. Monies timely paid into escrow shall not be considered to be an unpaid balance under this Section.

XIII. RIGHT OF ENTRY

184. Any authorized representative of EPA or LDEQ, including independent contractors, upon presentation of credentials, shall have a right of entry upon the premises of the

facilities of the Chalmette Refinery, at any reasonable time for the purpose of monitoring compliance with the provisions of this Consent Decree, including inspecting plant equipment, and inspecting and copying all records maintained by CRLLC pursuant to the requirements of this Consent Decree or in the ordinary course of CRLLC's business that are deemed necessary by EPA or LDEQ to verify compliance with this Consent Decree. CRLLC shall retain records required under this Consent Decree for the period of the Consent Decree. Nothing in this Consent Decree shall limit the authority of EPA or LDEQ to conduct tests, inspections, or other activities under any statutory or regulatory provision.

XIV. FORCE MAJEURE

185. If any event occurs which causes or may cause a delay or impediment to performance in complying with any provision of this Consent Decree, CRLLC shall notify EPA and LDEQ in writing as soon as practicable, but in any event within ten (10) business days of the date when CRLLC first knew of the event or should have known of the event by the exercise of due diligence. If CRLLC learns, subsequent to its execution of this Consent Decree, that impacts and/or damage associated with Hurricane Katrina will or may cause a delay or impediment to performance in complying with any provision of this Consent Decree, CRLLC shall notify EPA and LDEQ in writing as soon as practicable, but in any event by the later of the two following dates: (i) within ten (10) business days of the Entry Date; or (ii) within ten (10) business days of date when CRLLC first knew or should have known by the exercise of due diligence that the relevant impact and/or damage associated with Hurricane Katrina will or may cause a delay or impediment to performance in complying with any provision of this Consent Decree. In any notice given pursuant to either of the preceding two sentences, CRLLC shall specifically reference this Paragraph 185 of this Consent Decree and describe the anticipated length of time

the delay may persist, the cause or causes of the delay, and the measures taken or to be taken by CRLLC to prevent or minimize the delay and the schedule by which those measures shall be implemented. CRLLC shall take all reasonable steps to avoid or minimize such delays. The notice required by this Section shall be effective upon the mailing of the same by certified mail, return receipt requested, to EPA and LDEQ as specified in Paragraph 232 (Notice).

186. Failure by CRLLC to substantially comply with the notice requirements of Paragraph 185 as specified above shall render this Section XIV (Force Majeure) voidable by the United States, in consultation with the State, as to the specific event for which CRLLC has failed to comply with such notice requirement, and, if voided, is of no effect as to the particular event involved.

187. The United States, after consultation with the State, shall notify CRLLC in writing regarding its claim of a delay or impediment to performance within thirty (30) days of receipt of the force majeure notice provided under Paragraph 185.

188. If the United States, after consultation with the State, agrees that the delay or impediment to performance has been or will be caused by circumstances beyond the control of CRLLC, including any entity controlled by CRLLC, and that CRLLC could not have prevented the delay by the exercise of due diligence, the Parties shall stipulate to an extension of the required deadline(s) for all requirement(s) affected by the delay by a period equivalent to the delay actually caused by such circumstances or such other period as may be appropriate under the circumstances. Such stipulation shall be filed as a modification to the Consent Decree pursuant to the modification procedures established in this Consent Decree. CRLLC shall not be liable for stipulated penalties for the period of any such delay.

189. If the United States, after consultation with the State, does not accept CRLLC's claim of a delay or impediment to performance, CRLLC must submit the matter to the Court for resolution to avoid payment of stipulated penalties, by filing a petition for determination with the Court. In the event the United States and the State do not agree, the position of the United States on the force majeure claim shall become the final Plaintiffs' position. Once CRLLC has submitted this matter to the Court, the United States and the State shall have twenty (20) business days to file their responses to the petition. If the Court determines that the delay or impediment to performance has been or will be caused by circumstances beyond the control of CRLLC, including any entity controlled by CRLLC, and that the delay could not have been prevented by CRLLC by the exercise of due diligence, CRLLC shall be excused as to that event(s) and delay (including stipulated penalties), for all requirements affected by the delay for a period of time equivalent to the delay caused by such circumstances or such other period as may be determined by the Court.

190. CRLLC shall bear the burden of proving that any delay in meeting any requirement(s) of this Consent Decree was caused by or will be caused by circumstances beyond its control, including any entity controlled by it, and that it could not have prevented the delay by the exercise of due diligence. CRLLC shall also bear the burden of proving the duration and extent of any delay(s) attributable to such circumstances. An extension of one compliance date based on a particular event may, but will not necessarily, result in an extension of a subsequent compliance date or dates.

191. Unanticipated or increased costs or expenses associated with the performance of CRLLC's obligations under this Consent Decree shall not constitute circumstances beyond its control, or serve as the basis for an extension of time under this Section XIV.

192. Notwithstanding any other provision of this Consent Decree, this Court shall not draw any inferences nor establish any presumptions adverse to either Party as a result of CRLLC serving a force majeure notice or the Parties' inability to reach agreement.

193. As part of the resolution of any matter submitted to this Court under this Section XIV, the Parties by agreement, or the Court, by order, may in appropriate circumstances extend or modify the schedule for completion of work under the Consent Decree to account for the delay in the work that occurred or will occur as a result of any delay or impediment to performance agreed to by the United States or approved by this Court. CRLLC shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule.

XV. RETENTION OF JURISDICTION / DISPUTE RESOLUTION

194. This Court shall retain jurisdiction of this matter for the purposes of implementing and enforcing the terms and conditions of the Consent Decree and for the purpose of adjudicating all disputes – including, but not limited to, determinations under Section V (Affirmative Relief) of the Consent Decree – among the Parties that may arise under the provisions of the Consent Decree, until the Consent Decree terminates in accordance with Section XVIII (Termination).

195. The dispute resolution procedure set forth in this Section XV shall be available to resolve all disputes arising under this Consent Decree, except only as otherwise provided in Section XIV regarding force majeure, provided that the Party making such application has made a good faith attempt to resolve the matter with the other Party.

196. Dispute resolution shall be commenced by one of the Parties under the Consent Decree by giving written notice to another Party advising of a dispute pursuant to this Section

XV. The notice shall describe the nature of the dispute, and shall state the noticing Party's position with regard to such dispute. The Party receiving such a notice shall acknowledge receipt of the notice and the Parties shall expeditiously schedule a meeting to discuss the dispute informally not later than fourteen (14) days after the receipt of such notice.

197. Disputes submitted to dispute resolution shall, in the first instance, be the subject of informal negotiations between the Parties. Such period of informal negotiations shall not extend beyond thirty (30) calendar days from the date of the first meeting between representatives of the Parties, unless the Parties agree that this period should be extended.

198. In the event that the Parties are unable to reach agreement during such informal negotiation period, the United States or the State, as applicable, shall provide CRLLC with a written summary of its position regarding the dispute. The position advanced by the United States or the State, as applicable, shall be considered binding unless, within forty-five (45) calendar days of CRLLC's receipt of the written summary of the United States' or the State's position, CRLLC files with the Court a petition which describes the nature of the dispute. The United States and/or the State shall respond to the petition within forty-five (45) calendar days of filing.

199. In the event that the United States and the State make differing determinations or take differing actions that affect CRLLC's rights or obligations under this Consent Decree, the determination or action of the United States shall control.

200. Where the nature of the dispute is such that a more timely resolution of the issue is required, the time periods set forth in this Section XV may be shortened upon motion of one of the Parties to the dispute.

201. The Parties do not intend that the invocation of this Section XV by a Party cause the Court to draw any inferences nor establish any presumptions adverse to either Party as a result of invocation of this Section or their inability to reach agreement.

202. As part of the resolution of any dispute submitted to dispute resolution, the Parties, by agreement, or this Court, by order, may, in appropriate circumstances, extend or modify the schedule for completion of work under this Consent Decree to account for the delay in the work that occurred as a result of dispute resolution. CRLLC shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule.

XVI. EFFECT OF SETTLEMENT

203. **Definitions**. For purposes of this Section XVI, the following definitions apply:

a. "Applicable NSR/PSD Requirements" shall mean:

(i) PSD requirements at Part C of Subchapter I of the Act, 42 U.S.C. § 7475, and the regulations promulgated thereunder at 40 C.F.R. §§ 52.21 and 51.166, as amended from time to time;

(ii) "Plan Requirements for Non-Attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7502-7503, and the regulations promulgated thereunder at 40 C.F.R. §§ 51.165 (a) and (b); 40 C.F.R. Part 51, Appendix S; and 40 C.F.R. § 52.24, as amended from time to time;

(iii) Any Title V regulations that implement, adopt, or incorporate the specific regulatory requirements identified above, as amended from time to time; and

(iv) Any applicable state or local laws or regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified above regardless of whether such state or local laws or regulations have been formally approved by EPA as being a part of the applicable state implementation plan.

b. "Applicable NSPS Subparts A and J Requirements" shall mean the standards, monitoring, testing, reporting and recordkeeping requirements, found at 40 C.F.R.

§§ 60.100 through 60.109 (Subpart J), relating to a particular pollutant and a particular affected facility, and the corollary general requirements found at 40 C.F.R. §§ 60.1 through 60.19 (Subpart A) that are applicable to any affected facility covered by Subpart J.

c. "Benzene Waste NESHAP Requirements" shall mean the requirements imposed by the National Emission Standard for Benzene Waste Operations, 40 C.F.R. Part 61, Subpart FF, and any applicable state, regional, or local regulations that implement, adopt or incorporate the Benzene Waste NESHAP.

d. "CERCLA/EPCRA Requirements" shall mean the reporting requirements for a given release of a hazardous substance imposed by Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004.

e. "EMOC" shall mean ExxonMobil Oil Corporation (formerly known as Mobil Oil Corporation). EMOC owned and/or operated the Chalmette Refinery from on or about December 21, 1988 until about October 31, 1997, when the refinery was acquired by CRLLC. Subject to the terms and conditions of a written operating agreement, EMOC has continued to operate the Chalmette Refinery for and on behalf of CRLLC since the CRLLC acquisition.

f. "LDAR Requirements" shall mean the requirements relating to equipment in light liquid service and gas and/or vapor service set forth at 40 C.F.R. Part 60, Subpart GGG; 40 C.F.R. Part 61, Subparts J and V; and 40 C.F.R. Part 63, Subparts F, H, and CC; and any applicable state, regional, or local regulations or State Implementation Plan requirements that implement, adopt or incorporate those federal regulations or set similar standards.

g. "Post-Lodging Compliance Dates" shall mean any dates in this Section XVI after the Date of Lodging (and/or after the Entry Date). Post-Lodging Compliance Dates

include dates certain (e.g., "December 31, 2005"), dates after Lodging represented in terms of time after the Date of Lodging or the Entry Date (e.g., "180 days after the Date of Lodging" or "180 days after the Entry Date"), and dates after Lodging represented by actions taken (e.g., "Date of Certification"). The Post-Lodging Compliance Dates represent the dates by which work is required to be completed or an emission limit is required to be met under the applicable provisions of this Consent Decree.

h. "Subpart QQQ Requirements" shall mean the requirements imposed by 40 C.F.R. Part 60, Subpart QQQ.

204. **Liability Resolution regarding the Applicable NSR/PSD Requirements.** With respect to emissions of the following pollutants from the following units, entry of this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the United States and the State for alleged violations of the Applicable NSR/PSD Requirements resulting from construction or modification from the date of the pre-Lodging construction or modification up to the following dates:

Unit	Pollutant	Date
Chalmette FCCU	SO_2	December 31, 2006
	NOx	Either: (i) June 30, 2007, if compliance with the Final NOx Limit is achieved under Subparagraph 12.b.(1); or (ii) December 31, 2008, if compliance with the Final NOx Limit is achieved under Subparagraph 12.b.(2)
All Combustion Devices listed in Appendix A	NOx	December 31, 2009
All heaters and boilers other than those in Appendix A	NOx	Entry Date

All heaters and boilers listed in Appendix C	SO_2	Dates listed in or derived from Appendix C
All heaters and boilers other than those listed in Appendix C	SO_2	Entry Date
All Other Fuel Gas Combustion Devices listed in Appendix D	SO_2	Dates listed in or derived from Appendix D

205. **Conditional Resolution of Liability for PM Emissions Under the Applicable NSR/PSD Requirements.** With respect to emissions of PM from the Chalmette FCCU, if and when CRLLC accepts an emission limit of 0.5 pound PM per 1000 pounds of coke burned for the Chalmette FCCU pursuant to Paragraph 22 and demonstrates compliance by conducting a performance test representative of normal operating conditions for the Chalmette FCCU, then all civil liability of CRLLC and EMOC to the United States and to the State shall be resolved for alleged violations of the Applicable NSR/PSD Requirements relating to PM emissions at the Chalmette FCCU resulting from pre-Lodging construction or modification of the Chalmette FCCU.

206. **Conditional Resolution of Liability for CO Emissions Under the Applicable NSR/PSD Requirements.** With respect to emissions of CO from the Chalmette FCCU, if and when CRLLC accepts the following long-term and short-term emission limits at the Chalmette FCCU pursuant to Paragraph 28 and demonstrates compliance using CEMS at the Chalmette FCCU, then all civil liability of CRLLC and EMOC to the United States and to the State shall be resolved for alleged violations of the Applicable NSR/PSD Requirements relating to CO emissions at the Chalmette FCCU resulting from pre-Lodging construction or modification of the Chalmette FCCU:

Long-term limit: 150 ppmvd CO on a 365-day rolling average basis at 0% O_2

Short-term limit: 250 ppmvd CO on a 24-hour rolling average basis at 0% O_2

207. **Reservation of Rights regarding Applicable NSR/PSD Requirements: Release for Violations Continuing After the Date of Lodging Can be Rendered Void**. Notwithstanding the resolution of liability in Paragraphs 204, 205, and 206, the release of liability by the United States and the State to CRLLC and EMOC for alleged violations of the Applicable NSR/PSD Requirements during the period between the Date of Lodging of the Consent Decree and the Post-Lodging Compliance Dates shall be rendered void for a particular emissions unit if CRLLC materially fails to comply with the obligations and requirements of Subsections V.A - V.D and V.F for that unit; provided, however, that the release in Paragraphs 204, 205, and 206, shall not be rendered void if CRLLC remedies such material failure and pays any stipulated penalties due as a result of such material failure.

208. **Exclusions from Release Coverage Regarding Applicable NSR/PSD Requirements: Construction and/or Modification Not Covered by Paragraph 204, 205, and 206.** Notwithstanding the resolution of liability in Paragraphs 204, 205, and 206, nothing in this Consent Decree precludes the United States and/or the State from seeking from CRLLC or EMOC, injunctive relief, penalties, or other appropriate relief for violations by CRLLC or EMOC of the Applicable NSR/PSD Requirements resulting from construction or modification that: (i) commenced prior to or commences after the Date of Lodging of the Consent Decree for pollutants or units not covered by the Consent Decree; or (ii) commences after the Date of Lodging of the Consent Decree for units covered by this Consent Decree.

209. **Evaluation of Applicable PSD/NSR Requirements Must Occur.** Increases in emissions from units covered by this Consent Decree, where the increases result from the

Post-Lodging construction or modification of any units within the Chalmette Refinery, are beyond the scope of the release in Paragraphs 204, 205, and 206, and CRLLC must evaluate any such increases in accordance with the Applicable PSD/NSR Requirements.

210. **Resolution of Liability Regarding Applicable NSPS Subparts A and J Requirements.** With respect to emissions of the following pollutants from the following units, entry of this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the United States and the State for alleged violations of the Applicable NSPS Subparts A and J Requirements from the date that claims of the United States and the State resulting from pre-Lodging construction or modification (including reconstruction) accrued up to the following dates:

Unit	Pollutant	Date
Chalmette FCCU	SO_2	December 31, 2006
	PM	Entry Date
	CO	Entry Date
	Opacity	Date of receipt of AMP approval
All heaters and boilers listed in Appendix C	SO_2	Dates listed in or derived from Appendix C
All heaters and boilers other than those listed in Appendix C	SO_2	Entry Date
All Other Fuel Gas Combustion Devices listed in Appendix D	SO_2	Dates listed in or derived from Appendix D
Chalmette SRP	SO_2	Entry Date
Chalmette Refinery Flare 1	SO_2	March 31, 2007
Chalmette Refinery Flare 2	SO_2	March 31, 2007

The parties acknowledge that, between the Entry Date and December 31, 2008, the Chalmette SRP will be required to comply with an Interim Mass Emission Limit established pursuant to Subparagraph 51.b.

211. **Reservation of Rights regarding Applicable NSPS Subparts A and J Requirements: Release for NSPS Violations Occurring After the Date of Lodging Can be Rendered Void.** Notwithstanding the resolution of liability in Paragraph 210, the release of liability by the United States and the State to CRLLC and EMOC for alleged violations of any Applicable NSPS Subparts A and J Requirements that occurred between the Date of Lodging and the Post-Lodging Compliance Dates shall be rendered void for a particular emissions unit if CRLLC materially fails to comply with the obligations and requirements of Subsections V.E, V.G, V.H, V.I, V.J, and V.K, and Paragraphs 44-46 and 48-49 for that unit; provided, however, that the release in Paragraph 210 shall not be rendered void if CRLLC remedies such material failure and pays any stipulated penalties due as a result of such material failure.

212. **Prior NSPS Applicability Determinations.** Nothing in this Consent Decree shall affect the status of any FCCU, fuel gas combustion device, or sulfur recovery plant currently subject to NSPS as previously determined by any federal, state, or local authority or any applicable permit.

213. **Resolution of Liability Regarding CERCLA/EPCRA Requirements for Pre-Lodging Acid Gas Flaring Incidents.** Upon receipt by EPA of CRLLC's CERCLA/EPCRA Compliance Review Report submitted pursuant to Paragraph 78, this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the United States and the State for alleged violations of CERCLA/EPCRA Requirements associated with SO_2 and H_2S releases resulting from pre-Lodging Acid Gas Flaring Incidents at the Chalmette Refinery that CRLLC has

identified in its CERCLA/EPCRA Compliance Review Report and corrected as required by Paragraph 78.

214. **Resolution of Liability Regarding Benzene Waste NESHAP Requirements.** Entry of this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the United States and the State for alleged violations of Benzene Waste NESHAP Requirements at the Chalmette Refinery that either: (i) commenced and ceased prior to the Consent Decree Entry Date; or (ii) are based on events identified in the BWON Compliance Review and Verification Report required under Paragraph 82 and are corrected pursuant to the requirements of Paragraph 83.

215. **Resolution of Liability Regarding LDAR Requirements.** Entry of this Consent Decree shall resolve the civil liability of CRLLC and EMOC to the United States and the State for alleged violations of LDAR Requirements at the Chalmette Refinery that either: (i) commenced and ceased prior to the Consent Decree Entry Date; or (ii) are based on events that are identified in the LDAR Initial Audit Report required under Subparagraph 101.b and are corrected pursuant to the requirements of Paragraph 102.

216. **Resolution of Liability Regarding NSPS Subpart QQQ Requirements.** Entry of this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the United States and the State for alleged violations of Subpart QQQ Requirements at the Chalmette Refinery that: (i) commenced and ceased prior to the Consent Decree Entry Date; and/or (ii) are based on events that are identified in the Subpart QQQ Compliance Review Report and corrected pursuant to the requirements of Subsection V.O.

217. **Reservation of Rights Regarding CERCLA/EPCRA Requirements, Benzene Waste NESHAP Requirements, LDAR Requirements, and Subpart QQQ Requirements.** Notwithstanding the resolution of liability in Paragraphs 213, 214, 215, and 216, nothing in this Consent Decree precludes the United States and/or the State from seeking from CRLLC or EMOC civil penalties and/or injunctive relief and/or other equitable relief for violations by CRLLC or EMOC for a violation of CERCLA/EPCRA Requirements, Benzene Waste NESHAP Requirements, LDAR Requirements, or Subpart QQQ Requirements that either (i) commenced prior to the Consent Decree Entry Date and continued after the Entry Date; or (ii) commenced after the Consent Decree Entry Date:

i. if CRLLC fails to identify any such violation of CERCLA/EPCRA Requirements in its CERCLA/EPCRA Compliance Review Report and correct such violation as required by Paragraph 78;

ii. if CRLLC fails to identify any such violation of Benzene Waste NESHAP Requirements in its BWON Compliance Review and Verification Report under Paragraph 82 and correct such violation as required by Paragraph 83;

iii. if CRLLC fails to identify any such violation of LDAR Requirements in its LDAR Initial Audit Report required under Subparagraph 101.b and correct such violation as required by Paragraph 102; or

iv. if CRLLC fails to identify any such violation of Subpart QQQ Requirements in its Subpart QQQ Compliance Review Report and correct such violation as required by Subsection V.O.

218. **Resolution of Liability for Certain Other Alleged Violations**.

a. Claims Alleged in Certain EPA Notices of Violation and Findings of Violation. Entry of this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the United States and to the State for the alleged past violations set forth in: (i) EPA's Notice of Violation relating to the Chalmette Refinery (dated December 20, 2001); and (ii) EPA's Notice

of Violation and Finding of Violation relating to the Chalmette Refinery (dated August 20, 2002).

b. Additional Claims Concerning the Chalmette Refinery. Entry of this Consent Decree shall resolve all civil liability of CRLLC and EMOC to the State for the following alleged past violations concerning the Chalmette Refinery:

(1) Violations at the Chalmette Refinery alleged in LDEQ Notice of Potential Penalty dated September 27, 2001, Enforcement Tracking No. MM-PP-01-0008 and Agency Interest No. 1376;

(2) Violations at the Chalmette Refinery alleged in LDEQ Consolidated Compliance Order and Notice of Potential Penalty dated May 15, 2002, Enforcement Tracking No. WE-CN-02-0005 and Agency Interest No. 1376; and

(3) Violations at the Chalmette Refinery alleged in LDEQ Consolidated Compliance Order and Notice of Potential Penalty dated May 20, 2003, Enforcement Tracking No. MM-CN-02-0108 and Agency Interest No. 1376; and

(4) The alleged past violations at the Chalmette Refinery specified in Appendix F.

c. Certain Other Matters. This Consent Decree does not address the matters included in the LDEQ Administrative Order on Consent captioned In the Matter of Chalmette Refining, L.L.C., Agency Interest No. 1376 (Tracking No. AE-AOA-05-0109), and the United States expressly reserves any and all rights with respect to such matters.

219. **Audit Policy.** Nothing in this Consent Decree is intended to limit or disqualify CRLLC or EMOC, on the grounds that information was not discovered and supplied voluntarily, from seeking to apply EPA's Audit Policy or any state audit policy to any violations or

non-compliance that CRLLC and/or EMOC discovers during the course of any investigation, audit, or enhanced monitoring that CRLLC is required to undertake pursuant to this Consent Decree.

220. **Claim/Issue Preclusion.** In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, penalties, or other appropriate relief relating to CRLLC for alleged violations of the PSD/NSR, NSPS, NESHAP, and/or LDAR requirements, not identified in this Section XVI of the Consent Decree and/or the Complaint:

a. CRLLC and/or EMOC shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, or claim-splitting. Nor may CRLLC and/or EMOC assert, or maintain, any other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case. Nothing in the preceding sentences is intended to affect the ability of CRLLC and/or EMOC to assert that the claims are deemed resolved by virtue of this Section XVI of the Consent Decree.

b. The United States and State may not assert or maintain that this Consent Decree constitutes a waiver or determination of, or otherwise obviates, any claim or defense whatsoever, or that this Consent Decree constitutes acceptance by CRLLC and/or EMOC of any interpretation or guidance issued by EPA related to the matters addressed in this Consent Decree.

221. **Imminent and Substantial Endangerment.** Nothing in this Consent Decree shall be construed to limit the authority of the United States of the State to undertake any action against any person, including CRLLC and/or EMOC, to abate or correct conditions which may

present an imminent and substantial endangerment to the public health, welfare, or the environment.

XVII. GENERAL PROVISIONS

222. **Other Laws.** Except as specifically provided by this Consent Decree, nothing in this Consent Decree shall relieve CRLLC of its obligations to comply with all applicable federal, state and local laws and regulations. Subject to Section XVI, nothing contained in this Consent Decree shall be construed to prevent or limit the rights of the United States or the State to seek or obtain other remedies or sanctions available under other federal, state or local statutes or regulations, by virtue of CRLLC's violation of the Consent Decree or of the statutes and regulations upon which the Consent Decree is based, or for CRLLC's and/or EMOC's violations of any applicable provision of law, other than the specific matters resolved herein. This shall include the right of the United States and the State to invoke the authority of the Court to order CRLLC's compliance with this Consent Decree in a subsequent contempt action.

223. **Post-Permit Violations.** Nothing in this Consent Decree shall be construed to prevent or limit the right of the United States or the State to seek injunctive or monetary relief for violations of permits issued as a result of the procedure required under Subsection V.Q of this Decree; provided, however, that with respect to monetary relief, the United States or the State must elect between filing a new action for such monetary relief or seeking stipulated penalties under this Consent Decree, if stipulated penalties also are available for the alleged violation(s).

224. **Compliance with Certain Emission Limits.**

a. For the purposes of determining compliance with rolling average limits required under this Consent Decree: (i) at least 365 days is required after the initial compliance

date for an applicable 365-day rolling average limit in order to have sufficient data to evaluate compliance with such 365-day rolling average limit; and (ii) at least 7 days is required after the initial compliance date for an applicable 7-day rolling average limit in order to have sufficient data to evaluate compliance with a 7-day rolling average limit. Accordingly: (i) each applicable 365-day rolling average limit shall become enforceable commencing 365 days after the date set forth in this Consent Decree as the date by which CRLLC shall begin complying with such limit; and (ii) each applicable 7-day rolling average limit set out above shall become enforceable commencing 7 days after the date set forth in this Consent Decree as the date by which CRLLC shall begin complying with such limit.

b. If CRLLC proposes to use an alternative monitoring plan to monitor the Chalmette FCCU's compliance with an applicable emission limit during certain specified periods – as provided by Paragraphs 13, 17, or 29 – then CRLLC shall use its best efforts to submit a timely and complete application for approval of the proposed alternative monitoring plan, so that EPA can act on the application in a timely fashion. CRLLC shall use the proposed alternative monitoring plan to monitor compliance, if necessary, while EPA is considering CRLLC's application (such as if there is a period of Malfunction while the application remains under EPA review). If EPA approves any such proposed alternative monitoring plan, CRLLC shall use the EPA-approved alternative monitoring plan to monitor compliance during the specified periods, as provided by Paragraphs 13, 17, or 29. If EPA disapproves a proposed alternative monitoring plan, CRLLC shall submit to EPA for approval a substitute plan for compliance monitoring within ninety (90) days of receiving notice of the disapproval. Such substitute plan may include a revised alternative monitoring plan application, physical or operational changes to the equipment, or additional or different monitoring.

225. **Startup, Shutdown, Malfunction.** Notwithstanding the provisions of this Consent Decree regarding startup, shutdown, and Malfunction, this Consent Decree does not exempt CRLLC from the requirements of state laws and regulations or from the requirements of any permits or plan approvals issued to CRLLC, as these laws, regulations, permits, and/or plan approvals may apply to startups, shutdowns, and Malfunctions at the Chalmette Refinery.

226. **Failure of Compliance.** The United States or the State do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that CRLLC's complete compliance with the Consent Decree will result in future compliance with the provisions of the Clean Air Act and/or Louisiana Air Control Law, La. Rev. Stat. Ann. §§ 30:2051-2065. Notwithstanding the review or approval by the United States or the State, including their applicable state agencies, of any plans, reports, policies or procedures formulated pursuant to the Consent Decree, CRLLC shall remain solely responsible for compliance with the terms of the Consent Decree, all applicable permits, and all applicable federal, state and local laws and regulations, except as provided in Section XIV (Force Majeure).

227. **Service of Process.** CRLLC hereby agrees to accept service of process by mail with respect to all matters arising under or relating to the Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including but not limited to, service of a summons. The persons identified by CRLLC at Paragraph 232 (Notice) are authorized to accept service of process with respect to all matters arising under or relating to the Consent Decree.

228. **Post-Lodging/Pre-Entry Obligations**. Obligations of CRLLC under this Consent Decree to perform duties scheduled to occur after the Date of Lodging of the Consent Decree, but prior to the Entry Date, shall be legally enforceable on and after the Entry Date.

Liability for stipulated penalties, if applicable, shall accrue for violation of such obligations and payment of such stipulated penalties may be demanded by the United States and/or the State as provided in this Consent Decree, provided that stipulated penalties that may have accrued between the Date of Lodging of the Consent Decree and the Entry Date may not be collected unless and until this Consent Decree is entered by the Court.

229. **Costs**. Each Party to this action shall bear its own costs and attorneys' fees.

230. **Public Documents**. All information and documents submitted by CRLLC to EPA and LDEQ pursuant to this Consent Decree shall be subject to public inspection in accordance with the respective statutes and regulations that are applicable, unless subject to legal privileges or protection or identified and supported as business confidential in accordance with the respective state or federal statutes or regulations.

231. **Public Notice and Comment.** The Parties agree that the Consent Decree may be entered upon compliance with the public notice procedures set forth at 28 C.F.R. § 50.7, and upon notice to this Court from the United States Department of Justice requesting entry of the Consent Decree. The United States reserves the right to withdraw or withhold its consent to the Consent Decree if public comments disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Further, the Parties acknowledge and agree that final approval by the State, through the LDEQ, and entry of this Consent Decree is subject to the requirements of La. Rev. Stat. Ann. § 30:2050.7, which provides for public notice of this Consent Decree in newspapers of general circulation and the official journals of parishes in which CRLLC facilities are located, an opportunity for public comment, consideration of any comments, and concurrence by the State Attorney General.

232. **Notice.** Unless otherwise provided herein, notifications to or communications between the Parties shall be deemed submitted on the date they are postmarked. Notifications and communications shall be sent by U.S. Mail, postage pre-paid, or private courier service, except for notices under Section XIV (Force Majeure) and Section XV (Retention of Jurisdiction/Dispute Resolution) which shall be sent by overnight mail or by certified or registered mail, return receipt requested. Each report, study, notification or other communication of CRLLC shall be submitted as specified in this Consent Decree, with copies to EPA Headquarters, EPA Region 6, and the LDEQ. If the date on which a notification or other communication is due falls on a Saturday, Sunday or legal holiday, the deadline for such submission shall be enlarged to the next business day. Except as otherwise provided herein, all reports, notifications, certifications, or other communications required under this Consent Decree to be submitted or sent to the United States, EPA, the State and/or CRLLC shall be addressed as follows:

As to the United States:

Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, DC 20044-7611
Reference Case No. 90-5-2-1-07030/2

As to EPA:

EPA Headquarters:

U.S. Environmental Protection Agency
Director, Air Enforcement Division
Office of Regulatory Enforcement
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 2242-A
Washington, DC 20460

with a hard copy to
Director, Air Enforcement Division
Office of Regulatory Enforcement
c/o Matrix Environmental & Geotechnical Services
215 Ridgedale Avenue
Florham Park, NJ 07932

and an electronic copy to
neichlin@matrixengineering.com
foley.patrick@epa.gov

EPA Region 6:

Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

As to the State of Louisiana:

Peggy M. Hatch
Administrator, Enforcement Division
Office of Environmental Compliance
Louisiana Department of Environmental Quality
P.O. Box 4312
Baton Rouge, LA 70821-4312

As to CRLLC:

Refinery Manager
Chalmette Refining, L.L.C.
P.O. Box 1007
Chalmette, LA 70044-1007

Refinery Attorney
Chalmette Refining, L.L.C.
P.O. Box 1007
Chalmette, LA 70044-1007

SHE Manager
Chalmette Refining, L.L.C.
P.O. Box 1007
Chalmette, LA 70044-1007

Any Party may change either the notice recipient or the address for providing notices to it by serving all other parties with a notice setting forth such new notice recipient or address.

233. **Approvals.** All EPA approvals or comments required under this Consent Decree shall be made in writing. All State approvals shall be sent from the offices identified in Paragraph 232 (Notice).

234. **Paperwork Reduction Act.** The United States has determined that the information required to be maintained or submitted pursuant to this Consent Decree is not subject to the Paperwork Reduction Act of 1980, 44 U.S.C. §§ 3501 et seq.

235. **Consent Decree Modifications.** The Consent Decree contains the entire agreement of the Parties and shall not be modified by any prior oral or written agreement, representation or understanding. Prior drafts of the Consent Decree shall not be used in any action involving the interpretation or enforcement of the Consent Decree. Non-material modifications to this Consent Decree shall be in writing and shall be effective when signed by EPA and CRLLC. For the purpose of this Paragraph, non-material modifications include, but are not be limited to: (i) any modifications to the frequency of reporting obligations; and (ii) any

modifications to schedules that do not extend the ultimate date for compliance with emissions limitations following the installation of control equipment or the completion of a catalyst additive program. The United States will file non-material modifications with the Court on a periodic basis. Material modifications to this Consent Decree shall be in writing, signed by EPA, LDEQ, and CRLLC, and shall be effective upon approval by the Court.

XVIII. TERMINATION

236. **Prerequisites to Termination.** This Consent Decree shall be subject to termination upon motion by the United States, in consultation with the State, or CRLLC (under the procedure identified in Paragraph 238). Prior to either party seeking termination, CRLLC shall have completed and satisfied all of the following requirements with respect to this Consent Decree:

i. installation of control technology systems as specified in this Consent Decree;

ii. compliance with all provisions contained in this Consent Decree, which compliance may be established for specific parts of the Consent Decree in accordance with Paragraph 237, below;

iii. payment of all penalties and other monetary obligations due under the terms of the Consent Decree; no penalties or other monetary obligations due hereunder can be outstanding or owed to the United States or the State;

iv. completion of the SEPs and the payment for BEPs required by Section VIII;

v. application for and receipt of permits incorporating the surviving emission limits and standards established under Subsection V.Q; and

vi. operation for at least one year of each unit in compliance with the emission limits established herein, and certification of such compliance for each unit within the first six (6) month period progress report following the conclusion of the compliance period.

237. **Certification of Completion**.

a. Prior to moving for termination, CRLLC may certify completion of one or more of the following Subsections of the Consent Decree, provided that all of the related requirements have been satisfied:

i. Subsections V.A - V.E, relating to FCCUs;

ii. Subsection V.F, relating to Combustion Units;

iii. Subsection V.G, relating to Heaters, Boilers and Other Fuel Gas Combustion Devices;

iv. Subsections V.H, relating to SRPs;

v. Subsections V.I - V.K, relating to Flaring;

v. Subsection V.M, relating to Benzene Waste NESHAP;

vi. Subsection V.N, relating to LDAR; and

vi. Section VIII, relating to Environmentally Beneficial Projects.

b. Within 90 days after CRLLC concludes that any of the parts of the Consent Decree identified in this Paragraph 237 have been completed, CRLLC may submit a written report to the Parties listed in Paragraph 232 (Notice) describing the activities undertaken and certifying that the applicable Paragraphs have been completed in full satisfaction of the requirements of this Consent Decree, and that CRLLC is in substantial and material compliance with all of the other requirements of the Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of CRLLC:

> To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

c. Upon receipt of CRLLC's certification, EPA, after reasonable opportunity for review and comment by LDEQ, shall notify CRLLC whether the requirements set forth in the applicable Paragraphs have been completed in accordance with this Consent Decree. The parties recognize that ongoing obligations under such Paragraphs remain and necessarily continue (e.g., reporting, record keeping, training, auditing requirements), and that CRLLC's certification is that it is in current compliance with all such obligations.

i. If EPA concludes that the requirements have not been fully complied with, EPA shall notify CRLLC as to the activities that must be undertaken to complete the applicable Paragraphs of the Consent Decree. CRLLC shall perform all activities described in the notice, subject to its right to invoke the dispute resolution procedures set forth in Section XV (Dispute Resolution).

ii. If EPA concludes that the requirements of the applicable Paragraphs have been completed in accordance with this Consent Decree, EPA will so certify in writing to CRLLC. This certification shall constitute the certification of completion of the applicable Paragraphs for purposes of this Consent Decree.

d. Nothing in Subparagraph 237.c shall preclude the United States or the State from seeking stipulated penalties for a violation of any of the requirements of the Consent Decree regardless of whether a Certification of Completion has been issued under Paragraph 237. In addition, nothing in Subparagraph 237.c shall permit CRLLC to fail to implement any ongoing obligations under the Consent Decree regardless of whether a Certification of Completion has been issued with respect to Paragraph 237 of the Consent Decree.

238. **Termination Procedure.** At such time as CRLLC believes that it has satisfied the requirements for termination set forth in Paragraph 236, CRLLC shall certify such compliance and completion to the United States and the State in writing as provided in Paragraph 232 (Notice). Unless, within 120 days of receipt of CRLLC's certification under this Paragraph, either the United States or the State objects in writing with specific reasons, CRLLC

may move this Court for an order that this Consent Decree be terminated. If either the United States or the State objects to the certification by CRLLC under this Paragraph, then the matter shall be submitted to the Court for resolution under Section XV (Retention of Jurisdiction/Dispute Resolution) of this Consent Decree. In such case, CRLLC shall bear the burden of proving that this Consent Decree should be terminated.

239. Termination of this Consent Decree shall not terminate the obligations specified by Paragraph 123.

XIX. SIGNATORIES

240. Each of the undersigned representatives certifies that he or she is fully authorized to enter into the Consent Decree on behalf of such Parties, and to execute and to bind such Parties to the Consent Decree. This Consent Decree may be signed in counterparts.

Dated and entered this _____ day of _____, 2005

_____
UNITED STATES DISTRICT JUDGE

THE UNDERSIGNED PARTY enters into this Consent Decree in:
United States v. Chalmette Refining, L.L.C. (E.D. La.)

FOR THE UNITED STATES OF AMERICA

Date: _____

_____
KELLY A. JOHNSON
Acting Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice
Washington, DC 20530

Date: _____

_____
RANDALL M. STONE
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044-7611

JIM LETTEN
United States Attorney
for the Eastern District of Louisiana

THOMAS WATSON
Assistant United States Attorney

THE UNDERSIGNED PARTY enters into this Consent Decree in:
United States v. Chalmette Refining, L.L.C. (E.D. La.)

FOR THE U.S. ENVIRONMENTAL
PROTECTION AGENCY

Date: _____

_____
GRANTA Y. NAKAYAMA
Assistant Administrator for
Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

THE UNDERSIGNED PARTY enters into this Consent Decree in:
United States v. Chalmette Refining, L.L.C. (E.D. La.)

FOR THE STATE OF LOUISIANA

CHARLES C. FOTI, JR.
Attorney General

Date: _____ _____
Assistant Attorney General
Louisiana Department of Justice
P.O. Box 94005
Baton Rouge, LA 70804-9005

FOR THE LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Date: _____ _____
HAROLD LEGGETT, Ph.D.
Assistant Secretary
Office of Environmental Compliance
Louisiana Department of Environmental Quality
P.O. Box 4312
Baton Rouge, LA 70821-4301

Date: _____ _____
TED R. BROYLES, II
Attorney III
Office of the Secretary
Legal Affairs Division
Louisiana Department of Environmental Quality
P.O. Box 4302
Baton Rouge, LA 70821-4302

THE UNDERSIGNED PARTY enters into this Consent Decree in:
United States v. Chalmette Refining, L.L.C. (E.D. La.)

FOR DEFENDANT
CHALMETTE REFINING, L.L.C.

Date: _____

_____
J.A. Stroink
Refinery Manager
Chalmette Refining, L.L.C.
P.O. Box 1007
Chalmette, LA 70044-1007

Appendix A: Baseline Information on Chalmette Refinery Combustion Units Greater than 40 mmBtu/hr

Unit	Source	Maximum Heat Input Capacity, mmBtu/hr (HHV)	2000/2001 NOx Emission Rate, lb/mmBtu (HHV)	2000/2001 Average Annual Utilization Rate, mmBtu/hr (HHV)	2000/2001 Average NOx, TPY
Utilities	F-402	320	0.176	206	158.4
Utilities	F-806	159	0.333	75	92.9
Utilities	F-809	300	0.149	187	122.5
Utilities	F-810	300	0.151	176	116.2
No. 1 Crude	F-1	88	0.092	45	18.1
No. 1 Crude	F-5	154	0.118	138	71.7
No. 1 Crude	F-6	154	0.141	141	87.1
No. 1 Coker	F-2800	53	0.127	52	28.6
Ref. Fract.	F-1105	130	0.181	119	94.6
Sulfolane	F-1201	120	0.149	118	76.5
Isomerization	F-600	50	0.139	49	29.8
Orthoxylene	F-1600	68	0.121	47	25.1
Orthoxylene	F-3001	135	0.170	113	84.0
TDU	F-4201	86	0.049	52	11.3
TDU	F-4202	44	0.045	24	4.8
HDC	F-2303	88	0.113	56	27.9
HDC	F-2304	50	0.103	19	8.8
#1 Reformer	F-7501-7	301	0.223	264	258.6
#3 Reformer	F-2501	164	0.131	100	57.5
#3 Reformer	F-2502	164	0.123	100	53.9
#3 Reformer	F-2503	50	0.111	24	11.6
#3 Reformer	F-2506	158	0.113	83	41.1
HDS	F-3300	40	0.124	44	21.2
HDS	F-3301	48	0.136	36	21.4
No. 2 Crude	F-7401	136	0.106	151	70.0
No. 2 Crude	F-7410	160	0.083	91	33.2
No. 2 Crude	F-7601	95	0.162	54	27.9
No. 2 Coker	F-8101	175	0.134	138	80.8
CFHT	F-7701	55	0.099	17	7.5
FCC	F-7801	56	0.075	39	5.9
Alky	F-7901	108	0.067	43	12.7
TOTALS		4008			1761

Note: All NOx factors were developed using a combination of burner emission factors, manufacturer design information, performance testing, and monitoring data where available. Where the actual emissions may have exceeded the 2000/2001 allowable emissions, the “2000/2001 Average NOx” column reflects the lower, allowable emissions figure.

Appendix B: PEMS Program Requirements

PREDICTIVE EMISSIONS MONITORING SYSTEMS FOR HEATERS AND BOILERS WITH CAPACITIES BETWEEN 150 AND 100 mmBTU/HR

A Predictive Emissions Monitoring Systems ("PEMS") is a mathematical model that predicts the gas concentration of NO_x in the stack based on a set of operating data. Consistent with the CEMS data frequency requirements of 40 C.F.R. Part 60, the PEMS shall calculate a pound per million BTU value at least once every 15 minutes, and all of the data produced in a calendar hour shall be averaged to produce a calendar hourly average value in pounds per million BTU.

The types of information needed for a PEMS are described below. The list of instruments and data sources shown below represent an ideal case. However at a minimum, each PEMS shall include continuous monitoring for at least items 3-5 below. CRLLC will identify and use existing instruments and refinery data sources to provide sufficient data for the development and implementation of the PEMS.

Instrumentation:

1. Absolute Humidity reading (one instrument per refinery, if available)

2. Fuel Density, Composition and/or specific gravity - On line readings (it may be possible if the fuel gas does not vary widely, that a grab sample and analysis may be substituted)

3. Fuel flow rate

4. Firebox temperature

5. Percent excess oxygen

6. Airflow to the firebox (if known or possibly estimated)

7. Process variable data - steam flow rate, temperature and pressure - process stream flow rate, temperature & pressure, etc.

Computers & Software:

Relevant data will be collected and stored electronically, using computers and software. The hardware and software specifications will be specified in the source-specific PEMS.

Calibration and Setup:

1. Data will be collected for a period of 7 to 10 days of all the data that is to be used to construct the mathematical model. The data will be collected over an operating range that represents 80% to 100% of the normal operating range of the heater/boiler;

2. A "Validation" analysis shall be conducted to make sure the system is collecting data properly;

3. Stack Testing to develop the actual emissions data for comparison to the collected parameter data; and

4. Development of the mathematical models and installation of the model into the computer.

The elements of a monitoring protocol for a PEMS will include:

1. Applicability

    a. Identify source name, location, and emission unit number(s);

    b. Provide expected dates of monitor compliance demonstration testing.

2. Source Description

    a. Provide a simplified block flow diagram with parameter monitoring points and emission sampling points identified (e.g., sampling ports in the stack);

    b. Provide a discussion of process or equipment operations that are known to significantly affect emissions or monitoring procedures (e.g., batch operations, plant schedules, product changes).

3. Control Equipment Description

    a. Provide a simplified block flow diagram with parameter monitoring points and emission sampling points identified (e.g., sampling ports in the stack);

    b. List monitored operating parameters and normal operating ranges;

    c. Provide a discussion of operating procedures that are known to significantly affect emissions (e.g., catalytic bed replacement schedules).

4. Monitoring System Design

   a. Install, calibrate, operate, and maintain a continuous PEMS;

   b. Provide a general description of the software and hardware components of the PEMS, including manufacturer, type of computer, name(s) of software product(s), monitoring technique (e.g., method of emission correlation). Manufacturer literature and other similar information shall also be submitted, as appropriate;

   c. List all elements used in the PEMS to be measured (e.g., pollutant(s), other exhaust constituent(s) such as O_2 for correction purposes, process parameter(s), and/or emission control device parameter(s));

   d. List all measurement or sampling locations (e.g., vent or stack location, process parameter measurement location, fuel sampling location, work stations);

   e. Provide a simplified block flow diagram of the monitoring system overlaying process or control device diagram (could be included in Source Description and Control Equipment Description);

   f. Provide a description of sensors and analytical devices (e.g., thermocouple for temperature, pressure diaphragm for flow rate);

   g. Provide a description of the data acquisition and handling system operation including sample calculations (e.g., parameters to be recorded, frequency of measurement, data averaging time, reporting units, recording process);

   h. Provide checklists, data sheets, and report format as necessary for compliance determination (e.g., forms for record keeping).

5. Support Testing and Data for Protocol Design

   a. Provide a description of field and/or laboratory testing conducted in developing the correlation (e.g., measurement interference check, parameter/emission correlation test plan, instrument range calibrations);

   b. Provide graphs showing the correlation, and supporting data (e.g., correlation test results, predicted versus measured plots, sensitivity plots, computer modeling development data).

6. Initial Verification Test Procedures

a. Perform an initial relative accuracy test (RA test) to verify the performance of the PEMS for the equipment's operating range. The PEMS must meet the relative accuracy requirement of the applicable Performance Specification in 40 C.F.R. Part 60, Appendix B. The test shall utilize the test methods of 40 C.F.R. Part 60, Appendix A;

b. Identify the most significant independently modifiable parameter affecting the emissions. Within the limits of safe unit operation, and typical of the anticipated range of operation, test the selected parameter for three RA test data sets at the low range, three at the normal operating range and three at the high operating range of that parameter, for a total of nine RA test data sets. Each RA test data set should be between 21 and 60 minutes in duration;

c. Maintain a log or sampling report for each required stack test listing the emission rate;

d. Demonstrate the ability of the PEMS to detect excessive sensor failure modes that would adversely affect PEMS emission determination. These failure modes include gross sensor failure or sensor drift;

e. Demonstrate the ability to detect sensor failures that would cause the PEMS emissions determination to drift significantly from the original PEMS value;

f. The PEMS may use calculated sensor values based upon the mathematical relationships established with the other sensors used in the PEMS. Establish and demonstrate the number and combination of calculated sensor values which would cause PEMS emission determination to drift significantly from the original PEMS value.

7. Quality Assurance Plan

a. Provide a list of the input parameters to the PEMS (e.g., transducers, sensors, gas chromatograph, periodic laboratory analysis), and a description of the sensor validation procedure (e.g., manual or automatic check);

b. Provide a description of routine control checks to be performed during operating periods (e.g., preventive maintenance schedule, daily manual or automatic sensor drift determinations, periodic instrument calibrations);

c. Provide minimum data availability requirements and procedures for supplying missing data (including specifications for equipment outages for QA/QC checks);

d. List corrective action triggers (e.g., response time deterioration limit on pressure sensor, use of statistical process control (SPC) determinations of problems, sensor validation alarms);

e. List trouble-shooting procedures and potential corrective actions;

f. Provide an inventory of replacement and repair supplies for the sensors;

g. Specify, for each input parameter to the PEMS, the drift criteria for excessive error (e.g., the drift limit of each input sensor that would cause the PEMS to exceed relative accuracy requirements);

h. Conduct a quarterly electronic data accuracy assessment tests of the PEMS;

i. Conduct semiannual RA tests of the PEMS. Annual RA tests may be conducted if the most recent RA test result is less than or equal to 7.5%. Identify the most significant independently modifiable parameter affecting the emissions. Within the limits of safe unit operation and typical of the anticipated range of operation, test the selected parameter for three RA test data pairs at the low range, three at the normal operating range, and three at the high operating range of that parameter for a total of nine RA test data sets. Each RA test data set should be between 21 and 60 minutes in duration.

8. PEMS Tuning

a. Perform tuning of the PEMS provided that the fundamental mathematical relationships in the PEMS model are not changed.

b. Perform tuning of the PEMS in case of sensor recalibration or sensor replacement provided that the fundamental mathematical relationships in the PEMS model are not changed.

Appendix C: NSPS Subpart J Compliance Schedule for Certain Heaters and Boilers

Combustion Device	Compliance Date [1/]
F-7901 Alkyl Reboiler	Submit AMP by no later than 180 days after Entry Date for Merox vent stream (DSO offgas)
Reformer Heater F-7504	Submit AMP by no later than 180 days after Entry Date for Reformer #1 regen lock hopper vent stream
Reformer Heater F-7505	Submit AMP by no later than 180 days after Entry Date for Reformer #1 regen lock hopper vent stream

[1/] As provided by Consent Decree Subparagraph 45.c, where this Appendix C refers to an AMP submittal date rather than a final compliance date, CRLLC will submit an AMP application for the listed device by the date specified, and the device shall become an affected facility on the date that CRLLC receives EPA's approval of the relevant AMP.

Appendix D: NSPS Subpart J Compliance Schedule for Other Fuel Gas Combustion Devices

Combustion Device	Compliance Date [2/]
Marine Vapor Recovery Flare No. 3 (Emission Point 68)	Submit AMP by no later than 180 days after Entry Date
API Thermal Oxidizer	Submit AMP by no later than 180 days after Entry Date

[2/] As provided by Consent Decree Subparagraph 45.c, where this Appendix D refers to an AMP submittal date rather than a final compliance date, CRLLC will submit an AMP application for the listed device by the date specified, and the device shall become an affected facility on the date that CRLLC receives EPA's approval of the relevant AMP.

Appendix E:

Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas

Refinery fuel gas streams/systems eligible for the Alternative Monitoring Plan (AMP) should be inherently low in H_2S content, and such H_2S content should be relatively stable. The refiner requesting an AMP should provide sufficient information to allow for a determination of appropriateness of the AMP for each gas stream/system requested. Such information should include, but need not be limited to:

- A description of the gas stream/system to be considered including submission of a portion of the appropriate piping diagrams indicating the boundaries of the gas stream/system, and the affected fuel gas combustion device(s) to be considered and an identification of the proposed sampling point for the alternative monitoring;

- A statement that there are no crossover or entry points for sour gas (high H_2S content) to be introduced into the gas stream/system. (This should be shown in the piping diagrams);

- An explanation of the conditions that ensures low amounts of sulfur in the gas stream (i.e., control equipment or product specifications) at all times;

- The supporting test results from sampling the requested gas stream/system using appropriate H_2S monitoring (i.e., detector tube monitoring following the Gas Processor Association's: Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, 1986 Revision), at minimum:

    - for frequently operated gas streams/systems - two weeks of daily monitoring (14 samples);

    - for infrequently operated gas streams/systems, 7 samples shall be collected unless other additional information would support reduced sampling.

    Note: All samples are grab samples.

- A description of how the two weeks (or seven samples for infrequently operated gas streams/systems) of monitoring results compares to the typical range of H_2S concentration (fuel quality) expected for the gas stream/system going to the affected fuel gas combustion device. (e.g., The two weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out, and, therefore, should be representative of typical operating conditions affecting H_2S content in the gas stream going to the loading rack flare);

- Identification of a representative process parameter that can function as an indicator of a stable and low H_2S concentration for each fuel gas stream/system, (e.g., review of gasoline sulfur content as an indicator of sulfur content in the vapors directed to a loading rack flare);

- Suggested process parameter limit for each stream/system, the rationale for the parameter limit and the schedule for the acquisition and review of the process parameter data. The refiner will collect the proposed process parameter data in conjunction with the testing of the fuel gas stream's stable and low H_2S concentration.

The following shall be used for measuring H_2S in fuel gas within these types of AMPs unless the refiner requests, in writing, approval of an alternative methodology:

- Conduct H_2S measurement using detector tubes ("length-of-stain tube" type measurement);

- Detector tube ranges 0-10/0-100 ppm (N =10/1) shall be used for routine testing; and

- Detector tube ranges 0-500 ppm shall be used for testing if measured concentration exceeds 100 ppm H_2S.

<u>Data Range and Variability Calculation and Acceptance Criteria</u>

For each step of the monitoring schedule, sample range and variability will be determined by calculating the average plus 3 standard deviations for that test data set.

- If the average plus 3 standard deviations for the test data set is less than 81 ppm H_2S, the sample range and variability are acceptable and the refiner can proceed to the next step of the monitoring schedule.

  Note: 81 ppm is one-half the maximum allowable fuel gas standard under NSPS Subpart J, and the Agency believes that using 81 ppm acceptance criteria provides a sufficient margin for ensuring that the emission limit is not exceeded under normal operating conditions.

- If the data shows an unacceptable range and variability at any step (the average plus 3 standard deviations is equal to or greater than 81 ppm H_2S), then move to Step 7. Agency approval is required to proceed to the next step if the average plus 3 standard deviations is between 81 ppm and 162 ppm H_2S. As an example, approval may be granted based on a review of the test data and any pertinent information which demonstrates that sample variability during the test period was due to unusual circumstances. Supplemental test data may be taken to demonstrate that process variability is within the plan requirements. Data may be removed from the variability calculations for cause after agency approval.

- For Steps 3 and 4, if the data shows an unacceptable range and variability (the average plus 3 standard deviations is equal to or greater than 81 ppm H_2S), the source will drop back to the previous step's monitoring schedule.

- If at any time, one detector tube sample value is equal to or greater than 81 ppm H_2S, then begin sampling as specified in Step 6. Note: Standard deviation cannot be calculated for a data set containing one point.

Monitoring Schedule for Approved AMPs

For gas streams which must meet product specifications for sulfur content, one time only detection tube sampling along with a certification that the gas stream is subject to product or pipeline specifications is sufficient for the AMP. If the gas stream composition changes (i.e., new gas sources are added), or if the gas stream will no longer be required to meet product or pipeline specifications, then the gas stream must be resubmitted for approval under the AMP.

The following are examples of streams needing one time only monitoring:

- Certified commercial grade natural gas;
- Certified commercial grade LPG;
- Certified commercial grade hydrogen;
- Gasoline vapors from a loading rack that only loads gasoline meeting a product specification for sulfur content.

For other gas streams, the H_2S content of each refinery fuel gas stream/system with an approved AMP shall be monitored per the following schedule:

Step 1:

The refiner will monitor the selected process parameter for each stream/system, according to the established process parameter monitoring or review schedule approved by the agency in the AMP, and at times when conducting H_2S detector tube sampling.

Step 2:

The refiner will conduct random detector tube sampling twice per week for each stream/system for a period of six months (52 samples). For fuel gas streams infrequently generated and combusted in affected fuel gas combustion devices (i.e., less frequent than bi-weekly), detector tube samples shall be taken each time the fuel gas stream is generated and combusted. A total of at least 24 samples shall be collected for infrequently generated gas streams. Monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H_2S testing. Move to Step 3 if the calculated range and variability of the data meets the established acceptance criteria. Submit test data (raw measurements plus calculated average and variability) to the agency quarterly.

Step 3:

The refiner will conduct random H_2S sampling once per quarter for a period of six quarters (6 samples) with a minimum of 1 month between samples. A minimum of 9 samples are required for infrequently generated and combusted fuel gas streams before proceeding to Step 4. Continue to monitor and record the selected process parameter in accordance with the

established schedule, and at times when conducting H_2S testing. Move to Step 4 if the calculated range and variability of the data meets the established acceptance criteria. Submit test data (raw measurements plus calculated average and variability) to the agency quarterly.

Step 4:

The refiner will conduct random H_2S sampling twice per year for a period of two years (4 samples); sample randomly in the 1st and 3rd quarters with a minimum of 3 months between samples. Continue to monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H_2S testing. Move to Step 5 if the calculated range and variability of the data meets the established criteria. Submit test data (raw measurements plus calculated average and variability) to the agency semiannually.

Step 5:

The refiner will continue to conduct testing on semi-annual basis. Testing is to occur randomly once every semiannual period with a minimum of 3 months between samples. Continue to monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H_2S testing. If any one sample is equal to or greater than 81 ppm H_2S, then proceed to the sampling specified in Step 7. Note: Standard deviation cannot be calculated for a data set containing one point.

Step 6:

If, at any time, the selected process parameter data indicates a potential change in H_2S concentration, or a single detector tube sample value is equal to or greater than 81 ppm H_2S, then the fuel gas stream shall be sampled with detector tubes on a daily basis for 7 days (or for infrequently generated gas streams - 7 samples during the same period of an indicated change in H_2S concentration, or as otherwise approved by the agency). If the average detector tube result plus 3 standard deviations for those seven samples is less than 81 ppm H_2S, the date and value of change in the selected process parameter indicator and the sample results shall be included in the next quarterly report, and the refiner shall resume monitoring in accordance with the schedule of the current step. If the average plus 3 standard deviations for those seven samples is equal to or greater than 81 ppm H_2S, sampling shall follow the requirements of Step 7.

Step 7:

If sample detector tube data indicates a potential for the emission limit to be exceeded (the average plus 3 standard deviations is equal to or greater than 81 ppm H_2S), as determined in the Data Range and Variability Calculation and Acceptance Criteria or in Step 6, the refiner shall notify the agency of those results before the end of the next business day following the last sample day. The fuel gas stream shall subsequently be tested daily for a two week period (or 14 samples during the same event or as otherwise approved by the agency for infrequently generated gas streams). After the two week period is complete, sampling will continue once per week, until the agency approves a revised sampling schedule or makes a determination to

withdraw approval of the gas stream/system from the AMP. Note: At any time, a detector tube value in excess of the 162 ppm limit is evidence that the emission standard has been exceeded.

General Provisions of Approved AMPs

Upon agency request, the refiner shall conduct a test audit for any gas stream with an approved AMP. The audit shall consist of daily detector tube samples collected over a one week period (7 samples). For fuel gas streams infrequently generated and combusted in affected fuel gas combustion devices, an audit shall consist of 3 consecutive sampling events. (e.g., Rail loading may occur once per month, an audit would consist of 3 consecutive loading events.) The United States Environmental Protection Agency, with due notice, reserves the right to withdraw approval of the AMP for any gas stream/system.

The source shall keep records of the H_2S detector tube test data and the representative process parameter data and fuel source for at least two years.

If a new fuel gas stream is introduced into a fuel gas stream with an approved AMP, the refiner shall again apply for an AMP and repeat Steps 1 - 5.

Example:

An AMP Application for a Hydrogen Plant PSA Off-Gas Stream Combusted Exclusively in the Hydrogen Plant Process Heater:

Process Description

Hydrogen production for the refinery by the steam methane reforming process. CO_2 is the primary impurity in the hydrogen produced; small amounts of CO and methane are also present. Unpurified hydrogen is passed over molecular sieve absorbent beds to remove these impurities. The off gas from regeneration of the absorbent beds is called PSA off-gas. It is sent to the hydrogen plant heater to recover heat and control CO emissions.

Piping Diagrams

Piping diagrams should be supplied to show monitoring location and to demonstrate that there is no potential for cross over or entry points for sour gas.

Basis for PSA Off-Gas Low H_2S Content

Since PSA off-gas is a byproduct of hydrogen purification, any H_2S in the PSA purge gas must come from the hydrogen unit feed. Levels of H_2S in the PSA gas are negligible because H_2S must be controlled to prevent deactivation of the unit's catalyst. H_2S is a permanent catalyst poison. The hydrogen unit has 2 scrubbers to remove H_2S poisoning. The scrubbers are operated in series. The lead scrubber must exhibit at least a 70% reduction in H_2S content. If not, the scrubber is taken off line and the absorbent is replaced. After the absorbent is replaced, the scrubber is placed on line as the second scrubber in series. This maximizes the amount of H_2S

removal and assures maximum scrubbing potential when one scrubber is off line for absorbent replacement.

Process Parameter Monitoring and Suggested Process Parameter Limit

Operation of the scrubbers is checked on a monthly basis with detector tubes. The feed gas H_2S content is measured at the inlet and outlet of the lead scrubber. If natural gas is used as hydrogen plant feed; both readings are below the 1 ppm detection limit. If refinery fuel gas is the feed gas, 30 ppm to 40 ppm H_2S is normally detected at the inlet. A lead scrubber outlet reading of 10 -12 ppm H_2S would trigger absorbent replacement. The suggested process parameter limit is 20 ppm H_2S at the lead H_2S absorber outlet. Absorber outlet H_2S measurements will be taken in conjunction with the PSA gas measurements during Steps 2 and 3.

Appendix F: Additional Claims Concerning the Chalmette Refinery Referenced in Consent Decree Subparagraph 218.b.(4)

As provided by Consent Decree Subparagraph 218.b, entry of the Consent Decree shall resolve all civil liability of CRLLC to the Applicable Co-Plaintiff for the following alleged past violations at the Chalmette Refinery:

A. All alleged past violations of La. Admin. Code tit. 33, V § 1115 and La. Admin. Code tit. 33, V §1511.B based on CRLLC's self-reported failure to design, construct, maintain, and operate the facility to minimize the possibility of an unplanned release of hazardous waste K050 heat exchanger bundle cleaning sludge on or before March 31, 2004;

B. All alleged past violations of La. Admin. Code tit. 33, III § 905 based on CRLLC's self-reported release of sulfur dioxide, nitric oxide, and nitrogen dioxide on September 5, 2003 during a flaring event caused by failure to maintain a three-way pressure control valve in proper working order;

C. All alleged past violations of La. Admin. Code, tit. 33, III § 905 based on CRLLC's self-reported release of sulfur dioxide and nitric oxide on October 1, 2003 caused by an unexpected shutdown of Waste Gas Compressor Number 3 (K-402) and Number 4 (K-406) due to a break in an instrument air line to the compressor controls;

D. All alleged past violations of La. Admin. Code tit. 33, III § 905 based on CRLLC's self-reported release of hydrogen sulfide and volatile organic compounds on October 4, 2003 due to flare outages for three short intervals during the cooldown process for a planned equipment shutdown and maintenance activities on CRLLC's Cat Feed Hydrotreater;

E. All alleged past violations of La. Admin. Code tit. 33, III § 905 based on CRLLC's self-reported release of sulfur dioxide and nitric oxide on November 25, 2003 during a flaring event that occurred when a frozen liquid drain line for discharge knock-out drum C-439 caused several system pressure safety valves to discharge to the flare;

F. All alleged past violations of La. Admin. Code tit. 33, III § 905 based on CRLLC's self-reported release of volatile organic compounds on April 14, 2004 due to a No. 2 Flare outage caused by accidental extinguishment of the pilot flame and a malfunction of the pilot igniter transformer;

G. All alleged past violations of La. Admin. Code tit. 33, III § 905 based on CRLLC's self-reported release of hydrogen sulfide, sulfur dioxide, and nitric oxide on August 19, 2004 during a flaring event at the No. 1 Flare caused by an incorrect set point for Amine Stripper Overhead pressure control valve 82PC013B;

H. All alleged past violations of La. Admin. Code tit. 33, III § 5122 and 40 C.F.R. § 63.119(e)(1) based on CRLLC's self-reported failure, at times during the reporting period from January 1 through June 30, 2003, to operate and maintain several storage

vessel carbon control devices as required to reduce inlet emissions of total organic hazardous air pollutants by 95 percent or greater;

I. All alleged past violations of La. Admin. Code tit. 33, III § 5122 and 40 C.F.R. §§ 63.113(a)(1) and 63.152(c)(2)(ii) based on CRLLC's self-reported failure to reduce Group 1 process vent emissions of organic hazardous air pollutants using a flare on May 7, 2004 and June 16, 2004;

J. All alleged past violations of La. Admin. Code tit. 33, III § 5122 and 40 C.F.R. §§ 63.113(a)(1) and 63.11(b)(5) based on CRLLC's self-reported failure to maintain Flare No. 2 with a flame present on April 14, 2004 during startup after a planned maintenance on the No. 2 Flare;

K. All alleged past violations of La. Admin. Code tit. 33, III § 5122 and 40 C.F.R. §§ 63.113(a)(2) based on CRLLC's self-reported failure to control emissions of hazardous air pollutants from a Group 1 process vent on the Orthoxylene Unit's splitter tower accumulation drum before March 17, 2003; and

L. All alleged past violations of La. Admin. Code tit. 33, III § 1305.A based on CRLLC's observed failure to take all reasonable precautions to prevent the airborne release of particulate matter from the Chalmette Refinery's coke barn during a January 2005 LDEQ Air Quality inspection.

Appendix G: Summary of the Understanding Between LDEQ and the Louisiana Wildlife and Fisheries Foundation Relating to CRLLC's Payment for Beneficial Environmental Projects Under Consent Decree Paragraph 136

LDEQ and the Louisiana Wildlife and Fisheries Foundation (the "Foundation") have agreed that the $2,000,000 payable by CRLLC under Consent Decree Paragraph 136 will be used exclusively for the acquisition or acquisitions of coastal lands which are: (a) important as fish and wildlife habitat, or (b) important to the enhancement of the state's coastal restoration effort, or both. Expenditures by the Foundation shall be limited to the purchase price of the land; reasonable and appropriate expenses which are necessary for the purchase, such as costs of appraisal and survey and reasonable closing costs; and the reasonable and necessary or prudent costs associated with restoration or nourishment of the lands. The Foundation will select the lands to be purchased based upon the recommendations of the Secretary of the Louisiana Department of Wildlife and Fisheries.

The Foundation is a non-profit, public charitable foundation, tax exempt under Section 501(c) (3) of the Internal Revenue Code. It was chartered in 1995, and its sole mission is to support the mission and programs of the Louisiana Department of Wildlife and Fisheries (the "Department") and the Louisiana Wildlife and Fisheries Commission (the "Commission") including promotion, development, expansion and improvement of the facilities of the Department and Commission. Toward that end, the Foundation exists to encourage public conservation and enjoyment of wildlife and fish resources, and to increase the agencies' usefulness to the citizens to the state of Louisiana. The Foundation provides a means for individuals and corporations to become partners with the Department and the Commission in the conservation of Louisiana's fish and wildlife resources, and has spearheaded a multitude of projects including cooperative endeavors with state and federal agencies and the private sector for fish and wildlife enhancement.

Once acquisition of the above referenced lands has been accomplished, the Foundation will execute an act (or acts) of donation(s) of said lands to the Department and the Commission. The Department and Commission will then establish the lands as a wildlife management area, wildlife refuge or other natural area; or will enter into cooperative endeavors with other state agencies for the protection, management and conservation of the said lands consistent with the above stated purposes.