

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
BEAUMONT DIVISION

UNITED STATES OF AMERICA	§	
	§	No. 1:24-CR-39
v.	§	
	§	
TPC GROUP LLC	§	

JOINT FACTUAL STATEMENT

INTRODUCTION

1. The United States of America and defendant TPC Group LLC (“defendant”), agree that this Joint Factual Statement is true and accurate and provides a sufficient factual basis for the guilty plea in the above-captioned case. If this case were to proceed to trial, the United States could have proven each and every element of the charge set forth in the Information filed in this case and the facts contained in this Joint Factual Statement beyond a reasonable doubt.
2. The United States of America, the defendant, and the defendant’s attorneys each hereby acknowledge the following contains accurate facts supporting the Plea Agreement between the defendant and the United States, and that while these facts are sufficient to support a conviction of the charge in the Information, they do not represent the entirety of the evidence collected by the United States.

THE DEFENDANT

3. The defendant is incorporated in Texas and has a principal office in Houston, Texas. It has multiple facilities including one in Port Neches, Jefferson County, Texas, referred to as the Port Neches Operations facility (“TPC PNO facility”). In 2019, the TPC PNO facility

produced hydrocarbon derivatives including 1,3-butadiene ("Butadiene"), which is primarily used to manufacture synthetic rubber and resins.

THE EXPLOSION

4. In the early morning of November 27, 2019, an explosion and chemical release occurred at the TPC PNO facility resulting in the evacuation of approximately 50,000 people, offsite property damage of approximately \$133 million, and the release of 11,337,920 pounds of extremely hazardous substances, among other damages to human health and the environment. Four employees and one contractor suffered injuries including concussions, burns, perforated eardrums, tinnitus, and cracked teeth.
5. The explosion occurred at the South Unit of the TPC PNO facility. A secondary explosion followed, and a series of fires erupted at the facility and emitted contaminants into the air. As a result of the explosions, mandatory evacuations were ordered for residents within a four-mile radius of the facility, voluntary orders to shelter in place were issued for residents in the surrounding area, and local schools were closed for multiple days to allow buildings to be cleaned, repaired, and inspected.

THE CAUSE OF THE EXPLOSION

6. Butadiene, a hazardous chemical and extremely flammable liquid and vapor, is used in the production of tires, latexes, and plastics. Butadiene can form into a hard and insoluble white crystalline polymer known as "popcorn polymer." Popcorn polymer can form when oxygen reacts with Butadiene and can grow at a constantly accelerating rate which has the potential to cause serious or catastrophic events, including explosions and fires. The growth of popcorn polymer, which will continue unless otherwise inhibited, is particularly common in piping systems with little or no flow or turbulence, known as "deadlegs."

Diethylhydroxylamine ("DEHA") is a chemical solution commonly applied by Butadiene

producers to the production stream to inhibit the growth of popcorn polymer in process equipment.

7. The November 27, 2019, explosion at the TPC PNO facility was caused by the uninhibited growth of popcorn polymer in a line from one of the facility's towers (designated as S4D4A) to an out-of-service pump (designated as S4G7). The popcorn polymer ruptured a pipe that then released highly flammable Butadiene into a production unit, which ignited and exploded.
8. Pump S4G7 stopped operating on or about June 22, 2019, and the defendant took the pump out of service on or about September 6, 2019. Subsequently, the defendant's employees noted in operator logs on at least seven occasions that the pump was out of service. Removal of pump S4G7 from service created a deadleg in the line from tower S4D4A to the pump.
9. The TPC PNO facility had a written operating procedure to address the potential for popcorn polymer growth in deadlegs. The procedure required the injection of DEHA, a popcorn polymer inhibitor, into deadlegs and/or the monthly operation of a pump to flush the line. This procedure was entitled "Dead Legs in High Purity Butadiene Service."
10. However, the defendant knowingly failed to take necessary preventative measures after removing the pump from service to ensure that popcorn polymer would not grow in the resulting deadleg, including implementing its own written operating procedures entitled "Dead Legs in High Purity Butadiene Service."

KNOWLEDGE OF DANGERS OF POPCORN POLYMER

11. In 1999, prior to TPC's ownership of the facility, a process equipment line at the TPC PNO facility ruptured due to the formation and growth of popcorn polymer. The defendant knew this incident occurred.

12. TPC employees and contractors provided training informing others of the hazards of popcorn polymer formation specifically noting that it “can cause fires, explosions, and equipment damage, and can result in environmental incidents, safety issues, and lost production.” The training and communications specifically noted the risks of popcorn polymer in dead legs stating “[d]eadlegs promote butadiene polymer popcorn formation.”

KNOWLEDGE OF POPCORN POLYMER PROBLEM

13. At various times relevant to the Information filed in this case, TPC recognized that popcorn polymer was forming at the TPC PNO facility. A number of employees at TPC Group were aware of this problem, including supervisory employees and corporate officers.
14. On or about February 25, 2019, the defendant prepared a “Project Charter” to remove equipment from service that was viewed as contributing to the popcorn polymer issues, stating in part: “[f]or many years,” the TPC PNO facility “has endured significant popcorn polymer excursions.”
15. In May 2019, employees discussed via email the historic accumulation of popcorn polymer at the TPC PNO facility, prior popcorn polymer incidents at other industry facilities that resulted in explosions and an observation that “[m]aintenance people working on the strainers stated that the popcorn amount is gradually getting worse” due to increased summertime temperatures that facilitate the growth of popcorn polymer.
16. In July and August 2019, employees observed popcorn polymer plugging in a variety of equipment at the TPC PNO facility and were working with a contractor to develop a plan to identify the source of the popcorn polymer and address it. For one of these plugging events, an employee noted that the “quantity of polymer is such that this would be considered a significant popcorn polymer event.”

17. In September 2019, a TPC employee emailed other employees stating: “[o]perations claimed popcorn” was found in a reboiler, which was a “known issue” “but appears to be worse now,” and also discovered a “significant deadleg,” adding that deadlegs “create an extreme environment where stagnant butadiene monomer can react with either existing popcorn polymer seeds or rust to form popcorn polymer.”
18. In many communications in October 2019, employees noted issues with popcorn polymer plugging in various pieces of equipment. For example, on October 1, 2019, an employee stated via email that “[w]e are seeing a rapid increase of polymer fouling.” TPC employees noted that some of the popcorn polymer appeared to be old/inactive, while others appeared to be “[i]ndicative of an active popcorn polymer growth event,” and identified several areas “where polymer blockage has occurred since May 2019.”
19. In November 2019, TPC employees and contractors again identified issues with popcorn polymer plugging in pieces of equipment. Samples of the popcorn polymer identified were taken to be analyzed by a lab. One employee noted “it is very possible we have a huge amount of polymer in the towers.” TPC installed temporary filters to allow for the removal of popcorn polymer from the process equipment, but employees noted that they were “changing filters non stop and they are also full.”
20. On or about November 23, 2019, a lid “blew off” an unlabeled drum of popcorn polymer resulting in an employee report of “respiratory issues.” Related to this incident, a “Non-Conformance Summary” stated “[a]s the operator loosened the lid, the gas pressure in the barrel caused the lid to pop off. Popcorn sprayed out of the barrel and covered the operator.” Employees expressed concern about the fact that employees involved in clearing the filters were not wearing proper protective equipment.

21. On November 25, 2019, employees discussed the popcorn polymer issues that they were experiencing at the TPC PNO facility noting that it was “different from other polymer we have experienced.” They further stated that “[from what operators are saying, it sinks in water, has a lot of BD [Butadiene] entrapped with it, fluffy, absorbs water.”
22. On November 26, 2019, an employee stated via email that there had been “difficulty flowing” through a valve “due to polymer” and identified several other areas where popcorn polymer had formed, including photographs depicting the presence of popcorn polymer.
23. That same day, employees noted that “[t]he polymer has reduced significantly since increasing DEHA and removing nitrite injection (water source)” and that “[c]leaning of filters is now on a 12 hour frequency . . . [and] looks to of [sic] subsided.” The incident occurred the next day at 12:54 am.

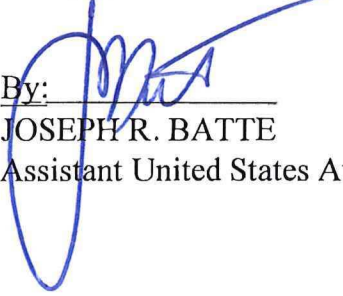
ACKNOWLEDGMENTS

TODD KIM
ASSISTANT ATTORNEY GENERAL
ENVIRONMENT and NATURAL RESOURCES DIVISION

By: 
CHRISTOPHER J. COSTANTINI
Senior Trial Attorney

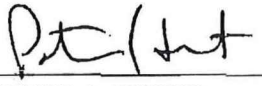
Date: April 29, 2024

DAMIEN M. DIGGS
UNITED STATES ATTORNEY
EASTERN DISTRICT OF TEXAS

By: 
JOSEPH R. BATTE
Assistant United States Attorney

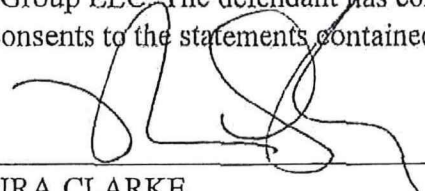
Date: 4/29/2024

I have been authorized by a corporate resolution of Defendant TPC Group LLC to sign this Joint Factual Statement. I have read this document, discussed it with counsel, and understand and agree with all its provisions both individually and totally.

By: 
PATRICK A. HURT
Vice-President and General Counsel
TPC Group LLC

Date: April 24, 2024

We are counsel for the defendant TPC Group LLC. We have carefully discussed every part of this Joint Factual Statement with the authorized representatives of the defendant TPC Group LLC. The defendant has conveyed to us that it understands this document and consents to the statements contained in it.

By: 
NADIRA CLARKE
LILY N. CHINN
KATHERINE BARAJAS
DANIELLE PAIGE LABORDE
Hogan Lovells US LLP
Attorneys for Defendant

Date: April 24, 2024