IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, and THE STATE OF INDIANA, STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON, Plaintiff-Intervenors, v. BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY Defendants.	)	Civil No. 2:96 CV 095 RL Magistrate Judge Rodovich

CONSENT DECREE

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CONSENT DECREE

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 that defendant BP Exploration & Oil Co (“BPX&O”) has violated and continues to violate the requirements of the Clean Air Act and the regulations promulgated thereunder at its petroleum refinery at Toledo, Ohio;

WHEREAS, the United States further alleges that defendant Amoco Oil Company (“Amoco”) has violated and continues to violate the requirements of the Clean Air Act and the regulations promulgated thereunder at the petroleum refineries it owns and operates at Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia;

WHEREAS, the United States further alleges that Atlantic Richfield Company ("Arco”) has violated and continues to violate the requirements of the Clean Air Act and the regulations promulgated thereunder at the petroleum refineries it owns and operates at Cherry Point, Washington and Carson, California;

WHEREAS, the United States alleges that BPX&O, Amoco, and Arco, violated and continue to violate the following statutory and regulatory provisions:

1) Prevention of Significant Deterioration ("PSD") requirements at Part C of Subchapter I of the Clean Air Act (the "Act"), 42 U.S.C. §§ 7470-7492, 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. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. § 51.165, Part 51, Appendix S, and § 52.24 (“PSD/NSR Regulations”) for fuel gas combustion devices and fluid catalytic cracking unit catalyst regenerators for NOx, SO_2, sulfur bearing compounds, CO and PM;

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

3) Leak Detection and Repair ("LDAR") regulations found at 40 C.F.R. Part 60 Subparts VV and GGG, under Section 111 of the Act, and 40 C.F.R. Part 63, Subparts F, H, and CC, under Section 112(d) of the Act ("LDAR Regulations"); and

4) National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Benzene Waste, 40 C.F.R. Part 61, Subpart FF, and Section 112(q) of the Act ("Benzene Waste NESHAP Regulations").

WHEREAS, the United States also alleges with respect to the refineries identified above that BPX&O, Amoco, and Arco ("hereinafter collectively referred to as "BP"), been, and continue to be, in violation of the state implementation plans ("SIPs") and other state rules adopted by the states in which the aforementioned refineries are located to the extent that such plans or rules that implement, adopt or incorporate the above-described federal requirements;

WHEREAS, the United States further alleges that Amoco has violated and continues to violate the Resource Conservation and Recovery Act ("RCRA") Permitting, Closure, Post-Closure and Financial Assurance requirements at its Whiting, Indiana refinery for the spent bender catalyst waste pile set forth at 40 C.F.R. Part 264, Subparts G, H, L which are incorporated by reference in 329 IAC 3.1-9-1, and Part 270 which are incorporated by reference in 329 IAC 3.1-13-1. In addition, the United States further alleges that Amoco has failed to make an adequate waste determination of the spent treating clay waste at its Whiting refinery in violation of 40 C.F.R. § 262.11 and 329 IAC 3.1-7-2-1;

WHEREAS, pursuant to Section 325(c)(1) of the Emergency Planning and Community Right-to-Know Act ("EPCRA"), 42 U.S.C. § 11045(c)(1), and Section 109(c) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.

S. C. § 9609(c), the United States alleges upon information and belief, that BP violated Section 313 of EPCRA, 42 U.S.C. § 11023, and Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and the regulations promulgated thereunder;

WHEREAS, the United States specifically alleges that Amoco has failed to timely submit a Form R for Ammonia at its Whiting refinery in violation of Section 313 of EPCRA, 42 U.S.C. § 11023;

WHEREAS, State of Ohio, State of Indiana, and the Northwest Air Pollution Authority, Washington ("Plaintiff-Intervenors") have sought to intervene in this matter alleging violations of their respective applicable SIP provisions and other state rules incorporating and implementing the foregoing federal requirements;

WHEREAS, the Texas Natural Resource Conservation Commission ("TNRCC") has expressed general approval of the terms of the Consent Decree;

WHEREAS, the United States and BP agree that the injunctive relief and environmental projects (or measures) identified in the Consent Decree will reduce: 1) nitrogen oxide emissions from the covered petroleum refineries by approximately of 22,000 tons annually; 2) sulfur dioxide emissions from the covered refineries by approximately 27,300 tons annually; and 3) emissions of volatile organic compounds and particulate matter ("PM");

WHEREAS, with respect to the provisions of Paragraph 22 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 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, the United States recognizes that Malfunctions, as defined in 40 C.F.R. § 60.2, of SRUs or of Upstream Process Units may result in Flaring of Acid Gas or Sour Water Stripper Gas on occasion, 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 these Units in a manner consistent with good air pollution control practice for minimizing emissions during these periods;

WHEREAS, the United States recognizes that the combustion in a flare subject to 40 C.F.R. § 60.104(a)(1) of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions does not violate 40 C.F.R. § 60.104(a)(1);

WHEREAS, with respect to Paragraph 22 of the Consent Decree, BP maintains that: (i) Flaring is not regulated with respect to sulfur dioxide emissions except for flares subject to 40 C.F.R. § 60.104(a)(1); and (ii) 40 C.F.R. § 60.104(a)(1) applies only to flares that are otherwise subject to NSPS and that are maintained to combust Acid Gases or Sour Water Stripper Gases on a continuous basis as a part of normal refinery operations;

WHEREAS, by entering into this Consent Decree BP is committed to pro-actively resolving environmental concerns related to its operations;

WHEREAS, consistent with this pro-active environmental commitment, and notwithstanding its belief that many of the United States' claims lacked a basis in law or fact, representatives of BP agreed to discuss with the United States achieving, without resort to litigation, a responsible, environmentally beneficial, cost-effective and comprehensive resolution of all the United States' claims at the aforementioned refineries;

WHEREAS, these discussions have resulted in the settlement embodied in the Consent Decree;

WHEREAS, BPX&O, Amoco, and Arco, waived any applicable Federal or state requirements of statutory notice of the alleged violations;

WHEREAS, it is the intent of the Parties to resolve through this Consent Decree the matters set forth in Paragraph 73 of the Consent Decree ("Effect of Settlement");

WHEREAS, by agreeing to entry of the Consent Decree, neither BPX&O, Amoco, nor Arco, makes any admission of law or fact with respect to any of the allegations set forth in the Consent Decree or the amended complaint filed herewith and each defendant denies any violation by such defendant of any law or regulation identified herein;

WHEREAS, notwithstanding the foregoing reservations, BPX&O, Amoco, and Arco, the United States, and the Plaintiff-Intervenor States agree that: a) settlement of the matters set forth in the amended complaint filed herewith in accordance with the Consent Decree is in the best interests of the Parties and the public; and b) entry of the 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 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 Paragraph 73 of the Consent Decree ("Effect of Settlement"), 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 Section 113(b) and 167 of the CAA, 42 U.S.C. § 7413(b) and 7477. BPX&O, Amoco, and Arco consent to the personal jurisdiction of this Court and waive any objections to venue in this District. The United States' complaint states a claim upon which relief may be granted for injunctive relief and civil penalties against BP these same provisions of the CAA. Further, the United States and BP agree that this Court has jurisdiction over the RCRA Whiting claims under Sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925, and of the alleged EPCRA claims under Sections 325(a), (b), and (c) of EPCRA, 42 U.S.C. § 11045(a), (b), and (c). Authority to bring this suit is vested in the United States Department of Justice by 28 U.S.C. §§ 516 and 519, Section 305 of the CAA, 42 U.S.C. § 7605, Section 325 of EPCRA, 42 U.S.C. § 11045, and Section 109(c) of CERCLA, 42 U.S.C. § 9609(c). Venue is proper in the Northern District of Indiana pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), and 28 U.S.C. §§ 1391(b) and (c), and 1395(a).

2. Notice of the commencement of this action has been given to: a) State of Washington, State of California, State of North Dakota, State of Utah, State of Ohio, State of Indiana, the Commonwealth of Virginia, and State of Texas, as required by Section 113(b) of the CAA, 42 U.S.C. § 7413(b); and b) the State of Indiana as required by Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2).

3. Arco is a corporation doing business at Cherry Point, Washington and Carson, California. Amoco is a corporation doing business at Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia. BPX&O is a corporation doing business at Toledo, Ohio. BPX&O, Amoco, and Arco operate petroleum refineries at each

of these eight locations. BPX&O, Amoco, and Arco have their principal operating offices in Chicago, Illinois.

4. Each company is a "person" within the meaning of Section 302(e) of the CAA, 42 U.S.C. § 7602(e), and Section 329(7) of EPCRA, 42 U.S.C. § 11049(7). Amoco is also a "person" within the meaning of Section 1003(15) of RCRA, 42 U.S.C. § 6902(15).

5. For purposes of the Consent Decree, BPX&O, Amoco, and Arco waive all objections to jurisdiction and venue.

II. APPLICABILITY

6. The provisions of the Consent Decree shall apply to, and be binding upon (a) Amoco, with respect to the Mandan Facility, the Salt Lake City Facility, the Texas City Facility, the Whiting Facility, and the Yorktown Facility; (b) Arco, with respect to the Carson Facility and the Cherry Point Facility; and (c) BPX&O, with respect to the Toledo Facility. In addition, with respect to each such Facility, the Consent Decree shall be binding upon each such company's respective officers, directors, successors, and assigns, and upon the United States, and the particular States that execute this Consent Decree. BP 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 any of the refineries that are subject of the Consent Decree upon the execution by the transferee of a modification to the Consent Decree, making the terms and conditions of the Consent Decree that apply to such refinery applicable to the transferee. The Parties shall file that modification with the Court promptly upon such transfer. In the event of any such transfer of ownership or other interest in any refinery, BP shall be released from the obligations and liabilities of this Consent Decree provided that, at the time of such transfer, the transferee has the financial and technical ability to assume and has contractually agreed to assume these obligations and liabilities.

7. Defendants agree to be bound by this Consent Decree and not to contest its validity in any subsequent proceeding to implement or enforce its terms.

8. Effective from the Date of Entry of the Consent Decree until its termination, BP agrees that its refineries identified above are covered by this Consent Decree. Effective from the Date of Lodging of the Consent Decree, BP shall give written notice of the Consent Decree to any successors in interest prior to transfer of ownership or operation of any portion of any petroleum refinery that is the subject of the Consent Decree and shall provide a copy of the Consent Decree to any successor in interest. BP shall notify the United States in accordance with the notice provisions set forth in Paragraph 83, of any successor in interest at least thirty (30) days prior to any such transfer.

9. The undersigned representatives certify that they are fully authorized to enter into the Consent Decree on behalf of the Parties, and to execute and to bind such Parties to the Consent Decree.

10. Each defendant shall provide a copy of the Consent Decree to each consulting firm and contracting firm that it retains to perform the work, or any material portion thereof, described in the Consent Decree, upon execution of any contract relating to such work, and shall provide a copy to each consulting firm and contracting firm that the defendant has already retained no later than thirty (30) days after the Date of Entry of the Consent Decree. In addition, each defendant shall provide a copy of all relevant and applicable schedules for implementation of the provisions of this Consent Decree to the vendor(s) supplying the control technology systems and emissions reducing additives required by this Consent Decree.

III. OBJECTIVES

11. It is the purpose of the Parties in entering this Consent Decree to further the objectives of the CAA as described at Section 101 of CAA, 42 U.S.C. § 7401, Sections 301-330 of EPCRA, 42 U.S.C. §§ 11001-11050, and Section 103(a) of CERCLA, 42 U.S.C. § 9603(a)**,** and with respect to the Whiting Facility, it is the intention of Amoco and the United States to further the purposes of RCRA, as described at Section 1002 of RCRA, 42 U.S.C. § 6902.

IV. DEFINITIONS

12. Unless otherwise defined herein, terms used in the Consent Decree shall have the meaning given to those terms in the CAA, and the regulations promulgated thereunder. In addition, terms used in the Consent Decree in the provisions that relate specifically to obligations under RCRA, EPCRA, and CERCLA shall have the meaning given to those statutes and implementing regulations promulgated thereunder.

13. The following terms used in the Consent Decree shall be defined for purposes of the Consent Decree and the reports and documents submitted pursuant thereto as follows:

A. "Acid Gas" shall mean any gas that contains hydrogen sulfide and is generated at a refinery by the regeneration of an amine scrubber solution.

B. "Air Quality Control Region" shall mean an area designated under Section 107(c) of the Clean Air Act as necessary or appropriate for the attainment and maintenance of ambient air quality standards.

C. [Reserved]

D. "BP" shall mean:

i. With respect to the Mandan, Salt Lake City, Texas City, Whiting and Yorktown Facilities, Amoco Oil Company ("Amoco"), its successors and assigns, and its officers, directors, and employees in their capacities as such;

ii. With respect to the Carson and Cherry Point Facilities, Atlantic Richfield Company ("Arco"), its successors and assigns, and its officers, directors, and employees in their capacities as such; and

iii. With respect to the Toledo Facility, BP Exploration and Oil, Inc. ("BPX&O"), its successors and assigns, and its officers, directors, and employees in their capacities as such.

For the sake of convenience, the foregoing companies are, at times, referred to either separately or collectively as "BP" in this Decree; however, neither that fact, nor any other aspect

of this Decree is intended, nor shall it be construed, to affect or alter in any way the existing corporate structure of each company, or of its relationship(s) to its respective or collective parent(s), co-subsidiaries, or subsidiaries.

E. "Calendar quarter" shall mean the three month period ending on March 31st, June 30th, September 30th, and December 31st.

F. “Carson Facility” shall mean the facility owned and operated by Arco at Carson, California.

G. “CEMS” shall mean continuous emissions monitoring system.

H. “Cherry Point Facility” shall mean the facility owned and operated by Arco at Cherry Point, Washington.

I. “Consent Decree” or “Decree” shall mean this Consent Decree, including any and all appendices attached to the Consent Decree.

J. “CO” shall mean the pollutant carbon monoxide.

K. “Current generation” ultra low-NOx burner shall mean those burners currently on the market that are designed to achieve a NOx emission rate of 0.03 to 0.04 lb/mmBTU with consideration given for variations in specific heater operating conditions such as air preheat, fuel composition and bridgewall temperature.

L. "Date of Lodging of the Consent Decree" shall mean the date the Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Northern District of Indiana.

M. "Date of Entry of the Consent Decree" shall mean the date the Consent Decree is approved or signed by the United States District Court Judge.

N. "Day" or "Days" as used herein shall mean a calendar day or days.

O. “FCCU” or “FCU” as used herein shall mean a fluidized catalytic cracking unit.

P. “Fuel Oil” shall mean any non-gaseous fossil fuel.

Q. "Flaring" shall mean, for purposes of this Consent Decree, the combustion of Acid Gas or Sour Water Stripper Gas in a 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 Decree of Acid Gas or Sour Water Stripper Gas.

R. "Flaring Device" shall mean any device at the refineries which are the subject of this Consent Decree that is used for the purpose of combusting Acid Gas and/or Sour Water Stripper Gas, except facilities in which gases are combusted to produce sulfur or sulfuric acid. The Flaring Devices currently in service at the refineries have been identified in the Appendix G to the Consent Decree. To the extent that, during the duration of the Consent Decree, any covered refinery utilizes Flaring Devices other than those specified herein for the purpose of combusting Acid Gas and/or Sour Water Stripper Gas, those Flaring Devices shall be covered under this Consent Decree.

S. "Flaring Incident" shall mean the continuous or intermittent combustion of Acid Gas and/or Sour Water Stripper Gas 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; provided, however, that if five-hundred (500) pounds or more of sulfur dioxide have been emitted in a twenty-four (24) hour period and Flaring continues into subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), each period of which results in emissions equal to, or in excess of five-hundred (500) pounds of sulfur dioxide, then only one Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the Flaring Incident. Appendix D to the Consent Decree provides examples of the application of this definition.

T. "Hydrocarbon Flaring" shall mean the combustion, in a Hydrocarbon Flaring Device of refinery process gases other than Acid Gas, Sour Water Stripper Gas, or Tail Gas.

U. “Hydrocarbon Flaring Device" shall mean a flare device used to safely control (through combustion) any excess volume of a refinery process gas other than Acid Gas, Sour Water Stripper Gas, and/or Tail Gas.

V. “Malfunction” shall mean any 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.

W. “Mandan Facility” shall mean the facility owned and operated by Amoco at Mandan, North Dakota.

X. “Next Generation” ultra low-NOx burner shall mean those burners new to the market that are designed to a achieve a NOx emission rate of 0.012 to 0.015 lb/mmBTU, with consideration given for variations in specific heater operating conditions such as air preheat, fuel composition and bridgewall temperature.

Y. “NOx” shall mean the pollutant nitrogen oxides.

Z. “NOx adsorbing catalyst” shall mean an FCCU additive that is commercially available and substantially equivalent in cost and effectiveness to the catalyst currently being developed and marketed as “DeNOx Catalyst” by Grace-Davison, Inc.

AA. “Paragraph” shall mean a portion of this Consent Decree identified by an arabic numeral.

BB. “PM” shall mean the pollutant particulate matter.

CC. "Parties" shall mean each of the signatories to the Consent Decree.

DD. “Root Cause” shall mean the primary cause of a Flaring Incident as determined through a process of investigation; provided, however, that if a Flaring Incident encompasses multiple releases of sulfur dioxide, the “Root Cause” may encompass multiple primary causes.

EE. “Salt Lake Facility” shall mean the facility owned and operated by Amoco at Salt Lake City, Utah.

FF. "Scheduled Maintenance" shall mean any shutdown of any emission unit or control equipment that BP schedules at least fourteen (14) days in advance of the shutdown for the purpose of undertaking maintenance of such unit or control equipment.

GG. "Shutdown" shall mean the cessation of operation of an affected facility for any purpose.

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

II. "Startup" shall mean the setting in operation of an affected facility for any purpose.

JJ. "SO_2" shall mean the pollutant sulfur dioxide.

KK. "Sulfur Recovery Plant" shall mean a process unit which recovers sulfur from hydrogen sulfide by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide. The SRPs currently in service at the refineries (except Toledo) are identified in Appendix G to the Consent Decree.

LL. "Tail Gas Unit" ("TGU") shall mean an oxidation control system followed by incineration, a reduction control system whether or not followed by incineration, and any other alternative technology for reducing emissions of sulfur compounds from an SRP.

MM. "Texas City Facility" shall mean the facility owned and operated by Amoco at Texas City, Texas.

NN. "Toledo Facility" shall mean the facility owned and operated by BPX&O at Toledo, Ohio.

OO. [Reserved]

PP. "Upstream Process Units" shall mean all amine contractors, amine scrubbers, and sour water strippers at the refineries that are subject to the Consent Decree, as well as all process units at these refineries that produce gaseous or aqueous waste streams that are processed at amine contractors, amine scrubbers, or sour water strippers.

QQ. "Whiting Facility" shall mean the facility owned and operated by Amoco at Whiting, Indiana.

RR. "Yorktown Facility" shall mean the facility owned and operated by Amoco at Yorktown, Virginia.

V. AFFIRMATIVE RELIEF/ENVIRONMENTAL PROJECTS (OR MEASURES)

14. **NOx Emission Reductions from FCCUs and CO**: BP shall install control technologies and demonstrate the use of additives to reduce and control NOx emissions from its FCCUs, as set forth below:

A. **Installation of Selective Catalytic Reduction ("SCR"):**

i. Texas City Facility's FCCU 2:

a. BP shall complete installation and begin operation of an SCR system at its Texas City Facility's FCCU 2 no later than December 31, 2005. BP shall design the system to reduce emissions of NOx from the FCCU as much as feasible in a manner consistent with standards of good engineering practice. Consistent with the foregoing, the SCR system for the Texas City Facility FCCU 2 shall be designed to achieve a NOx concentration of 20 parts per million by volume, dry basis ("ppmvd") (at 0% oxygen) or lower.

b. BP shall submit to EPA the process design specifications for the SCR system at Texas City FCCU 2 no later than 18 months prior to December 31, 2005. BP and EPA agree to consult on development of the proposed process design specifications for each SCR system prior to submission of BP's proposed process design specifications. The proposed design shall, at a minimum, consider the design parameters identified in Appendix E to the Consent Decree, which is incorporated as if fully set forth herein. Within sixty (60) days of receipt of EPA's comments on the proposed design, BP shall modify the proposed design to address EPA's comments, and submit the design to EPA for final approval. Upon receipt of EPA's final approval of the design BP shall implement the design.

c. BP will demonstrate the performance of the SCR system over a six-month period. The six-month demonstration shall begin no later than three (3) months after the completion of the installation of the SCR for Texas City Facility FCCU 2 in 2005. During the demonstration period, BP shall optimize the performance of the SCR system and shall consider the effect of the operating considerations identified in Appendix E to the Consent Decree. No later than sixty (60) days after the completion of the demonstration, BP shall report to EPA the results of the six-month demonstration as required by Paragraph 14.F of this Consent Decree. In its report, BP may propose a final NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. EPA will use this information, CEMS data collected during the demonstration, the information identified in Paragraph 14.F, and all other available and relevant information to establish representative NOx emissions limits for the Texas City Facility FCCU 2 in accordance with Paragraph 14.F.ii. EPA may set a limit less stringent than 20 ppmvd (at 0% oxygen) if it determines that 20 ppmvd (at 0% oxygen) is not achievable in practice based on its review of data and information of the actual performance of the Texas City Facility FCCU 2 and consideration of the factors listed in Paragraph 14.F. Should BP reduce NOx emissions at this unit below 20 ppmvd (at 0% oxygen), EPA may establish an emissions limit more stringent than the 20 ppmvd (at 0% oxygen). BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than December 31, 2005, BP shall use a NOx CEMS to monitor performance of FCCU 2 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

d. For the period June 30, 2001 until the commencement of operation of the SCR system, BP shall reduce NOx emissions from the Texas City Facility FCCU 2 by use of low-NOx combustion promoter (if and when CO promoter is used) and NOx adsorbing catalyst additive in accordance with Appendix F to achieve an interim concentration-based limit to be set by EPA in accordance with Paragraph 14.F.ii. BP will demonstrate the performance of the catalyst additives at the optimized rate over a twelve-month period. The twelve-month demonstration at the optimized rate shall begin no later than September 30, 2001. Prior to beginning the twelve- month demonstration, BP shall notify EPA of the optimized catalyst addition rate. During the demonstration, BP shall add catalyst additive according to the requirements of Paragraph 14.E of this Consent Decree. No later than sixty (60) days after the completion of the twelve-month demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 14.F of this Consent Decree. In its report, BP may propose an interim NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. From and after the date this report is submitted to EPA, BP shall comply with its proposed emissions limit until EPA sets a final interim limit. EPA will use the information provided by BP in its report, CEMS data collected during the demonstration, and all other available and relevant information to establish representative NOx interim emissions limits for the Texas City Facility FCCU 2 in accordance with Paragraph 14.F.ii. Beginning no later than June 30, 2001, BP shall use a NOx CEMS to monitor performance of FCCU 2 and to report compliance with the terms and conditions of the Consent Decree. BP shall comply with the final interim emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the final interim emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than forty-five (45) days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period.

e. BP shall comply with the final interim limit set by EPA under this Paragraph 14.A.i.d until such time as BP proposes an emissions limit under Paragraph 14.A.i.c, at which time the final

interim emissions limit or the emissions limit proposed by BP under Paragraph 14.A.i.c, whichever is more stringent, shall apply until such time as BP is required to comply with the emissions limit set by EPA under Paragraph 14.A.i.c.

ii. Whiting Facility's FCU 600:

a. BP shall complete installation and begin operation of an SCR system at its Whiting Facility's FCU 600 no later than the turnaround in calendar year 2003. BP shall design the system to reduce emissions of NOx from the FCCU regenerator as much as feasible in a manner consistent with good engineering practices. Consistent with the foregoing, the SCR system for the Whiting Facility's FCU 600 shall be designed to achieve a NOx concentration of 20 ppmvd (at 0% oxygen) or lower.

b. BP shall submit to EPA the process design specifications for the SCR system at Whiting Facility's FCU 600 no later than 18 months prior to the turnaround in calendar year 2003. BP and EPA agree to consult on development of the proposed process design specifications for each SCR system prior to submission of BP's proposed process design specifications. The proposed design shall, at a minimum, consider the design parameters identified in Appendix E to the Consent Decree, which is incorporated as if fully set forth herein. Within sixty (60) days of receipt of EPA's comments on the proposed design, BP shall modify the proposed design to address EPA's comments, and submit the design to EPA for final approval. Upon receipt of EPA's final approval of the design BP shall implement the design.

c. BP will demonstrate the performance of the SCR system over a six-month period. The six month demonstration shall begin no later than three (3) months after the completion of the installation of the SCR for Whiting Facility's FCU 600. During the demonstration period, BP shall optimize the performance of the SCR system and shall consider the effect of the operating considerations identified in Appendix E to the Consent Decree. No later than sixty (60) days after the completion of the demonstration, BP shall report to EPA the results of the six month demonstration as required by Paragraph 14.F of this Consent Decree. In its report, BP may propose

a final NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. EPA will use this information, CEMS data collected during the demonstration, the information identified in Paragraph 14.F, and all other available and relevant information to establish representative NOx emissions limits for the Whiting Facility's FCU 600 in accordance with Paragraph 14.F.ii. EPA may set a limit less stringent than 20 ppmvd (at 0% oxygen) if it determines that 20 ppmvd (at 0% oxygen) is not achievable in practice based on its review of data and information of the actual performance of the Whiting Facility's FCU 600 and consideration of the factors listed in Paragraph 14.F. Should BP reduce NOx emissions at this unit below 20 ppmvd (at 0% oxygen), EPA may establish an emissions limit more stringent than 20 ppmvd (at 0% oxygen). BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than the turnaround in calendar year 2003, BP shall use a NOx CEMS to monitor performance of Whiting FCU 600 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

B. **Installation of Selective Non-Catalytic Reduction ("SNCR") - Toledo, Ohio**

Toledo, Ohio FCCU:

i. BP shall install and begin operation of an SNCR system no later than the turnaround of the Toledo FCCU in calendar year 2003. The SNCR system for the Toledo Facility shall be designed to reduce NOx emissions as much as feasible in a manner consistent with good engineering practices. Consistent with the foregoing, the SNCR system for the Toledo FCCU shall be designed to achieve a NOx concentration in the exhaust from the FCCU regenerator of 20 ppmvd

(0% oxygen) or lower. The SNCR system for the Toledo FCCU shall be operated by BP in an effort to achieve 20 ppmvd (at 0% oxygen).

ii. BP shall submit to EPA the process design specifications for the SNCR system at Toledo no later than 18 months prior to the turnaround of the Toledo FCCU in calendar year 2003. BP and EPA agree to consult on development of the proposed process design specifications for the SNCR system prior to submission of BP's final proposed process design specifications. The proposed design shall, at a minimum, consider the design parameters identified in Appendix E to the Consent Decree, which is incorporated as if fully set forth herein. Within sixty (60) days of receipt of EPA's comments on the proposed design, BP shall modify the proposed design to address EPA's comments, and submit the design to EPA for final approval. Upon receipt of EPA's final approval of the design BP shall implement the design.

iii. BP will demonstrate the performance of the SNCR system over a six-month period. The six-month demonstration shall begin no later than three (3) months after the completion of the installation of the SNCR for Toledo FCCU. During the demonstration period, BP shall optimize the performance of the SNCR system and shall consider the effect of the operating considerations identified in Appendix E to the Consent Decree. No later than sixty (60) days after the completion of the demonstration, BP shall report to EPA the results of the six-month demonstration as specified in Paragraph 14.F of this Consent Decree. In its report, BP may propose a final NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. EPA will use this information, CEMS data collected during the demonstration, the information identified in Paragraph 14.F, and all other available and relevant information to establish representative NOx emissions limits for the Toledo FCCU in accordance with Paragraph 14.F.ii. EPA may set a limit less stringent than 20 ppmvd (at 0% oxygen) if it determines that 20 ppmvd (at 0% oxygen) is not achievable in practice based on its review of data and information on the actual performance of the Toledo FCCU and consideration of the factors listed in Paragraph 14.F. Should BP reduce NOx emissions at this unit below 20 ppmvd (at 0% oxygen), EPA may establish an emissions limit more

stringent than 20 ppmvd (at 0% oxygen). BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than the turnaround in calendar year 2003, BP shall use a NOx CEMS to monitor performance of the Toledo FCCU and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

C. **Applications of Use of Low NOx Combustion Promoter and NOx Adsorbing Catalyst Additive**

i. Carson, California FCCU: No later than December 31, 2002, BP shall begin to add low-NOx combustion promoter (if and when CO promoter is used) and NOx adsorbing catalyst additive to the Carson FCCU in accordance with Appendix F. BP will demonstrate the performance of the catalyst additives at an optimized addition rate over a twelve-month period to yield the lowest NOx concentration feasible at that optimized rate. The twelve-month demonstration at the optimized rate shall begin no later than March 30, 2003. Prior to beginning the twelve-month demonstration, BP shall notify EPA of the optimized additive addition rate. During the demonstration, BP shall add catalyst in accordance with the requirements of Paragraph 14. E of the Consent Decree. During the demonstration, BP shall continue to use SO_2 adsorbing catalyst additive. In addition, during the demonstration, BP shall use NOx adsorbing catalyst additive without low-NOx combustion promoter (if and when CO promoter is used), to separately quantify the emission reducing affect of the low NOx combustion promoter (if and when CO promoter is used) and the NOx adsorbing catalyst. No later than sixty (60) days after the completion of the twelve-month demonstration, BP shall report to EPA the results of the demonstration as required by Paragraph 14.F of this Consent Decree. In its report, BP may propose a NOx emissions limit based on a 3-hour rolling average and

a 365-day rolling average. From and after the date this report is submitted to EPA, BP shall comply with its proposed respective emissions limit for the Carson FCCU unit until EPA sets a final limit. EPA will use actual performance data from the demonstration, the information in BP's report, CEMS data collected during the demonstration, the information identified in Paragraph 14.F, and all other available and relevant information to establish representative NOx emissions limits for the Carson FCCU. EPA will set such limits in accordance with Paragraph 14.F.ii. BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than December 31, 2002, BP shall use a NOx CEMS to monitor performance of the Carson FCCU and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon a s practicable.

ii. Texas City FCCU 1 and FCCU 3, and the Whiting FCU 500: BP shall begin adding NOx adsorbing catalyst in conjunction with low-NOx combustion promoter (if and when CO promoter is used) in accordance with Appendix F at the following FCCUs by no later that the dates indicated: 1) December 31, 2001 for Texas City FCCU 3; 2) March 31, 2002 for Whiting FCU 500; and 3) The end of the turnaround in 2003 for Texas City FCCU 1. For each FCCU, BP will demonstrate the performance of the catalyst additives at the optimized rate over a twelve-month period to yield the lowest NOx concentration feasible at that optimized rate. Each twelve-month demonstration of the optimized catalyst addition rates shall begin no later than three (3) months after the respective dates specified above. Prior to beginning each twelve-month demonstration at the aforementioned FCCU/FCUs, BP shall notify EPA of the optimized additive addition rate for each of them. During each demonstration, BP shall add catalyst in accordance with the

requirements of Paragraph 14. E of the Consent Decree. No later than sixty (60) days after the completion of each twelve-month demonstration, BP shall report to EPA the results of that demonstration as required by Paragraph 14.F of this Consent Decree. In its reports, BP may propose a NOx emissions limit for the covered FCCU/FCU based on a 3-hour rolling average and a 365-day rolling average. From and after the date its reports is submitted to EPA for each FCCU/FCU units, BP shall comply with its proposed emissions limits for that FCCU/FCU until EPA sets a final limit for that FCCU/FCU. EPA will use the FCCU/FCU's actual performance data from the demonstration, the information in BP's reports, CEMS data collected during the demonstrations, the information identified in Paragraph 14.F, and all other available and relevant information to establish representative NOx emissions limits for each FCCU/FCU. EPA will set such limits in accordance with Paragraph 14.F.ii. BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than the dates specified above for beginning addition of additives at each FCCU/FCU, BP shall use a NOx CEMS to monitor performance of the respective FCCU/FCU during the life of the Consent Decree and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

D. **SCR and SNCR Design and Optimization During Demonstration –** Proposed designs of SCR and SNCR systems under this Consent Decree shall, at a minimum, consider the parameters listed in Appendix E to the Consent Decree, which is incorporated into this document as if fully set forth herein. BP shall at all times optimize the operation of the SCR and SNCR systems it is required to install under the terms of the Consent Decree.

E. **Rates for Low-NOx Combustion Promoter Substitution and NOx Adsorbing Catalyst Addition:** The amounts of low-NOx combustion promoter and NOx adsorbing catalyst additives that will be added to the FCCUs under the programs referenced in Paragraphs 14.B and 14.C will be determined in accordance with Appendix F.

F. **Demonstration Reporting and Emission Limit Determination**:

i. As required by Paragraphs 14.A, 14.B, and 14.C, BP shall report the results of the demonstrations to EPA for its review and approval. Each report shall include, in addition to the information required specifically in Paragraphs 14.A, 14.B, and 14.C, hourly average NOx and O_2 concentrations at the point of either emission to the atmosphere or compliance monitoring, regenerator flue gas temperature and flow rate, coke make rate, FCCU feed rate, total fresh catalyst addition rate, and NOx adsorbing catalyst addition rate (if any). With respect to installation of SCR and SNCR systems, BP also shall provide flue gas temperature and NOx and O_2 concentrations at the inlet to the control device, reductant addition rate, and flow rate. The NOx and O2 concentrations at the inlet to the SCR or SNCR systems may be determined by process analyzer(s) calibrated in accordance with the manufacturer's recommendations. In addition, to the extent available BP shall also provide information on the NOx and O_2 concentrations after the regenerator, and, where there is a CO boiler, before and after the CO boiler. The obligation to collect data on NOx and O_2 concentrations at points upstream of the point of emission to the atmosphere shall terminate upon completion of the demonstrations. The data or measurements required by this Paragraph shall be reported to EPA in both electronic and hard copy format.

ii. EPA, in consultation with BP and the appropriate state agency, will determine the NOx concentration limits based on the level of demonstrated performance during the test period, expected process variability, reasonable certainty of compliance, and any other available pertinent information (e.g., catalyst life).

G. **CEMS**: All CEMS installed and operated pursuant to this agreement will be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40

C.F.R. § 60.11, § 60.13, and Part 60 Appendix F. These CEMS will be used to demonstrate compliance with emission limits.

H. **CO Emissions Control:** BP shall limit carbon monoxide ("CO") emissions from the FCCUs subject to this Consent Decree in accordance with this Paragraph 14.H:

i. By no later than the Date of Entry of the Consent Decree, the Salt Lake City FCCU and the Texas City FCCU 1 shall comply with all applicable requirements of 40 C.F.R. Subpart A and J as those requirements relate to CO emissions from FCCUs.

ii. By no later than December 31, 2001, the Carson FCCU, the Mandan FCCU, the Texas City FCCUs 2 and 3, the Toledo FCCU, the Whiting FCUs 500 and 600, and the Yorktown FCCU shall measure and record hourly average CO concentrations. Process analysers calibrated in accordance with manufacturer's recommendations may be used for this purpose.

iii. By no later than December 31, 2001, the Mandan FCCU, the Toledo FCCU, and the Yorktown FCCU shall limit CO emissions to 500 ppmvd one-hour average.

iv. BP shall limit CO emissions from the Carson FCCU, Texas City FCCU 2 and FCCU 3, and Whiting FCU 500, and Whiting FCU 600 to 500 ppmvd, one-hour average on the schedules set forth below:

a. Texas City FCCU 2 and the Whiting FCU 600 By no later than the date on which each FCCU is required to comply with the final NOx limit established by EPA pursuant to Paragraph 14. F. above, BP shall limit CO emissions from that FCCU to 500 ppm, 1-hour average. The NOx emission limitation established for each of these FCCUs pursuant to Paragraph 14.F. shall not be set at a level that would cause that FCCU to either exceed the 500 ppm CO limit or to have to install additional controls to meet that CO limit.

b. Carson FCCU and Whiting FCU 500: By no later than the date on which each FCCU is required to comply with the NOx limit established by EPA pursuant to Paragraph 14. F. above, BP shall, at a minimum, limit CO emissions from that

FCCU to 500 ppmvd, 24-hour average and shall make an effort to limit CO emissions to 500 ppmvd, 1-hour average. In all events, BP shall limit CO emissions to 500 ppmvd, 1-hr average by no later than December 31, 2004. The NOx emission limitation established for each of these FCCUs pursuant to Paragraph 14.F. shall not be set at a level that would cause that FCCU to exceed, or to have to install additional controls in order to meet, either the interim or final CO limits.

c. Texas City FCCU 3: By no later than December 31, 2004, BP shall limit CO emissions from Texas City FCCU 3 to 500 ppmvd, 1-hour average. The NOx emission limitation established for this FCCU pursuant to Paragraph 14.F. shall not be set at a level that would cause an increase in CO emissions above the 500 ppmvd, 1-hour average.

v. The CO limits established pursuant to this Paragraph 14.H. shall not apply during periods of startup, shutdown or malfunction of the FCCUs or the CO control equipment, if any, provided that during startup, shutdown or malfunction BP shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

15. **NOx Emissions Reductions from Heaters and Boilers:**

A. BP shall install NOx emission control technology on certain specified heaters and boilers at its eight refineries. The heaters and boilers proposed for control by BP shall be selected in accordance with the requirements of this Paragraph.

B. No later than the fourth anniversary of the Date of Lodging of the Consent Decree, BP shall complete installation of controls on at least two-thirds (2/3) of the heat input capacity of the universe of its heaters and boilers that are to be controlled under the terms of Paragraph 15.C

through 15.E of the Consent Decree. No later than the fourth anniversary of the Date of Lodging of the Consent Decree, BP shall propose a schedule for installation of the controls for the remaining one-third (1/3) of the heat input capacity of the heaters and boilers that are required to be controlled under Paragraphs 15.C through 15.E.

C. BP shall select the heaters and boilers that shall be controlled at each of its eight refineries. The heaters and boilers selected by BP for future control, together with the heaters and boilers on which controls identified in Paragraph 15.D have already been installed, must represent a minimum of 59.5% of BP's system-wide heater and boiler heat input capacity in mmBTU/hr for those heaters and boilers greater than 40 mmBTU/hr, which for purposes of this Consent Decree is represented by BP to be approximately 38,391 mmBTU/hr across the eight refineries. Further, not less than 30% of the heater and boiler heat input capacity for heaters and boilers greater than 40 mmBTU/hr at any individual refinery must be controlled in accordance with Paragraph 15.D. Where BP affirmatively demonstrates to EPA's satisfaction that it is technically infeasible to install NOx controls for heaters/boilers to meet the 30% minimum requirement for any of its petroleum refineries, BP shall make up any shortfall by achieving NOx reductions corresponding to the shortfall from other sources at the refinery where the infeasibility was demonstrated, which may include external credit purchases in the same Air Quality Control Region.

D. BP shall select one or any combination of the following methods for control of NOx emissions from individual heaters or boilers selected by BP pursuant to Paragraph 15.C:

i. SCR or SNCR;

ii. "current generation" or "next generation" ultra-low NOx burners;

iii. other technologies which BP demonstrates to EPA's satisfaction will reduce NOx emissions to .04 lbs. per mmBTU or lower;

iv. permanent shut down of heaters and boilers with revocation of all operating permits; or

v. modification of operating permits to include federally enforceable requirements limiting operations to emergency situations (e.g., failure or inability of First Energy to supply steam to the Toledo refinery), provided, however, that, any heater or boiler

controlled under this provision shall not be counted toward satisfaction of the requirements of Paragraph 15.C above, but shall be counted in determining whether the requirements of Paragraph 15.E are satisfied.

E. Following installation of all controls required by Paragraph 15.C, BP shall demonstrate that the allowable emissions from the controlled heaters and boilers at the eight refineries owned by BP satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final})_i \quad \sum_{i=1}^{n} (E_{Baseline})_i - 9{,}632 \text{ tons}$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i:

and

$(E_{Baseline})_i$ = The ton per year actual emissions shown in Appendix A for controlled heater or boiler i.

F. BP shall receive a premium of 1.5 times the mmBTU/hr for each of the heaters and boiler for which it elects to install next generation ultra-low NOx burners to meet the 59.5% requirements of Paragraphs 15.C.

G . i. Appendix A to this Consent Decree provides the following information for each of the eight refineries subject to this Consent Decree: (a) a listing of all heaters and boilers with firing capacities greater than 40 mmBTU/hr; (b) the baseline actual emission rate in lbs/mmBTU, tons per year, and (c) BP's initial identification of the heaters and boilers that are either already controlled or are likely to be controlled in accordance with Paragraph 15. C.

ii. Within ninety (90) days of the Date of Lodging, BP shall provide EPA with an updated version of Appendix A identifying the heaters and boilers that are expected to be controlled in calendar year 2001. To the extent known at the time, this update shall also include, for each heater or boiler expected to be controlled during calendar year 2001, the following information:

a. The baseline actual emission rate in lbs/mmBTU, and the basis for that estimate,

b. The actual firing rate used in the baseline calculation and the averaging period used to determine that firing rate;

c. The proposed NOx emission control technology to be installed on each such heater or boiler;

d. The projected allowable emission rate in lbs/mmBTU, tons per year, and the basis for that projection.

BP shall expeditiously begin installation of controls on the heaters and boilers identified in this update.

iii. On or before December 31, 2001, and on or before December 31 of each subsequent year until all controls required by Paragraph 15.C. have been installed, BP shall provide EPA with further updates of Appendix A ("the Annual Heater and Boiler Update Report"). Each such Annual Heater and Boiler Update Report shall include the following:

a. For each heater and boiler on which controls specified in Paragraph 15.D. have already been installed, the NOx emission control technology installed, the measured NOx emission rate in lbs/mmBTU, and the method by which that emission rate was determined;

b. An identification of the additional heaters and boilers on which controls meeting the requirements of Paragraph 15.D. are expected to be installed in the next calendar year, and, insofar as known at the time the report is prepared, the proposed NOx emission control technology to be installed on each such heater or boiler, the projected emission rate in lbs/mmBTU, and the basis for that projection;

c. The additional heaters and boilers on which controls are expected to be installed in future years in order to meet the requirements of Paragraph 15.C.;

d. A demonstration that control of the heaters and boiler identified pursuant to subparagraphs (a) – (c) above meet the requirements of Paragraph 15.C; and

e. An estimate of annual emissions, demonstrated through statistically significant random sampling, of the remaining heaters and boilers identified on Appendix A that are not anticipated to be controlled pursuant to the requirements of this Paragraph.

H. Within ninety (90) days of the date of installation of each control technology for which BP seeks recognition under Paragraphs 15.C. and E, BP shall conduct an initial performance test for NOx and CO. In addition, BP shall install, operate, and calibrate a NOx CEMS on BP's largest 35 heaters/boilers being controlled under this paragraph that do not have NOx CEMS as of the Date of Entry of the Consent Decree.

I. No later than ninety (90) days after the Date of Entry of the Consent Decree, BP shall propose to EPA for its review and approval a plan for accurately and reliably monitoring the performance of its heaters and boilers greater than 100 mmBTU/hr at which such defendant elects to install controls pursuant to Paragraph 15.C and at which there is no NOx CEMS. The monitoring addressed by each plan shall include, at a minimum, excess air or combustion O2, air preheat temperature where applicable, and burner preventive maintenance monitoring. Within thirty (30) days of receipt of EPA's comments on the proposal(s), BP shall modify the proposals to address EPA's comments, and submit the proposal to EPA for final approval. Upon receipt of EPA's final approval of the proposal BP shall implement the proposal, upon installation of controls at each of the heaters and boilers controlled under Paragraph 15.C but not equipped with CEMs..

J. BP shall demonstrate "next generation" ultra low-NOx burners so as to achieve 10 ppmvd (at 0% oxygen) NOx levels on Coker B-203 heater at the Texas City Facility. BP shall demonstrate next generation ultra low-NOx burners, as defined above, for a six (6) month demonstration period beginning no later than six (6) months after the Date of Lodging of the Consent Decree. BP shall operate the new burners to achieve the lowest feasible emissions of NOx. BP shall monitor performance of the heater with next generation technology by use of a CEMS, and shall report emissions results on a monthly basis no later than thirty (30) days following the month in which the monitoring occurred. BP shall prepare a written evaluation of the next generation low-NOx burner

demonstration, which shall include a discussion of effectiveness, economic and technical feasibility, and identification of the cost of installation. BP shall submit its report to EPA no later than sixty (60) days after completion of the six-month demonstration. BP shall not submit a claim of "Confidential Business Information" covering any aspect of the report, and acknowledges that the information in the report, and perhaps the report itself, will be made available for public distribution.

K. The requirements of this Section do not exempt BP from complying with any and all Federal, state and local requirements which may require technology upgrade based on actions or activities occurring after the Date of Lodging of the Consent Decree.

L. If BP proposes to transfer ownership of any refinery subject to Paragraphs 15. C. and E. before the requirements of those paragraphs have been met, BP shall notify EPA of that transfer and shall submit a proposed allocation to that refinery of its share of control percentage and tonnage reduction requirements of those Paragraphs that will apply individually to that refinery after such transfer. EPA shall approve that allocation so long as it ensures that the overall requirements of Paragraphs 15.C., 15.D, and 15.E will be met.

16. **SO_2 Emission Reductions from FCCUs**: BP shall install technologies and demonstrate the use of additives to reduce and control SO_2 emissions from the FCCUs at its eight refineries covered by this Consent Decree as follows:

A. **Installation of Wet Gas Scrubbers ("WGS")**

i. **Whiting FCU 500**:

a. BP shall complete installation and begin operation of a WGS technology (or alternative control) at its Whiting FCU 500 no later than the turnaround in calendar year 2006. Except as provided in Paragraph 16.C.ii., the WGS system for the Whiting FCU 500 shall be designed to achieve a SO_2 concentration of 25 ppmvd (at 0% oxygen) or lower on a 365-day rolling average basis and 50 ppmvd (at 0% oxygen) on a 7 day rolling average basis.

b. BP shall submit to EPA the process design specifications for the WGS system at Whiting FCU 500 no later than 18 months prior to the turnaround in calendar year 2006. BP and EPA agree to consult on the development of the proposed process design specifications for each WGS system prior to submission of BP's final proposed process design specifications. The proposed design shall, at a minimum, consider the design parameters identified in Appendix E to the Consent Decree, which is incorporated as if fully set forth herein. Within sixty (60) days of receipt of EPA's comments on the proposed design, BP shall modify the proposed design to address EPA's comments, and submit the design to EPA for final approval. Upon receipt of EPA's final approval of the design BP shall implement the design.

c. BP will demonstrate the performance of the WGS system over a six-month period. The six-month demonstration shall begin no later than three (3) months after the completion of the installation of the WGS for Whiting FCU 500 during the turnaround in calendar year 2006. During the demonstration period, BP shall optimize the performance of the WGS system, and consider the effect of the operating considerations identified in Appendix E to the Consent Decree. No later than sixty (60) days after the completion of the demonstration, BP shall report to EPA the results of the six-month demonstration as specified in Paragraph 16.E of this Consent Decree. In its report, BP may propose a final emissions limit for SO_2 based on a 7-day rolling average and a 365-day rolling average. EPA will use this information, CEMS data collected during the demonstration, the information identified in Paragraph 16.E, and all other available and relevant information to establish representative SO_2 emissions limits for the Whiting FCU 500 in accordance with Paragraph 16.E.ii. EPA may set a limit less stringent than 25 ppmvd (at 0% oxygen) if it determines that such limit is not achievable in practice based on its review of data and information of the actual performance of the Whiting FCU 500 and consideration of the factors listed in Paragraph 16.E. Should BP reduce SO_2 emissions at this unit below 25 ppmvd (at 0% oxygen), EPA may establish an emissions limit more stringent than 25 ppmvd (at 0% oxygen). BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA,

provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than September 30, 2001, BP shall use a SO_2 CEMS at all times to monitor performance of Whiting FCCU 500 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

d. For the from period December 31, 2001 until commencement of operation of the WGS system, BP shall reduce SO_2 emissions from the Whiting FCU 500 by use of SO_2 adsorbing catalyst additive in accordance with Appendix F. BP will demonstrate performance of the SO_2 adsorbing catalyst additive in accordance with Appendix F over a 12-month period. The 12-month demonstration shall begin no later than December 31, 2001. No later than sixty (60) days after the completion of the 12-month demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall either agree to an interim SO_2 limit of 117 ppmvd (at 0% oxygen) on a 365-day rolling average basis or propose an alternative 365-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date this report is submitted, BP shall comply with its proposed emission limit until EPA sets a final interim limit. EPA will use the information provided by BP in its report, CEMS data collected during the demonstration, and all other available and relevant information to establish representative SO_2 interim emission limits for the Whiting FCU 500 in accordance with Paragraph 16.E.ii and Appendix F, provided however, that this limit may not be more stringent than 117 ppm (at 0% O2) on a 365-day rolling average. BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more

stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period At all times during the demonstration period, BP shall optimize the levels of catalyst addition rates according to the criteria identified in Paragraph 16.G, below. BP shall monitor SO_2 emissions and demonstrate compliance during this interim period at the Whiting FCU 500 through use of a CEMS.

e. BP shall comply with the final interim limit set by EPA under Paragraph 16.A.i.d until such time as BP proposes an emissions limit under Paragraph 16.A.i.c, at which time the final interim emissions limit or the emissions limit proposed by BP under Paragraph 16.A.i.c, whichever is more stringent, shall apply until such time as BP is required to comply with the emissions limit set by EPA under Paragraph 16.A.i.c.

ii. **Texas City FCCU 3**:

a. BP shall complete installation and begin operation of a WGS technology (or alternative control) at its Texas City FCCU 3 no later than the turnaround in calendar year 2006. Except as provided in Paragraph 16.C.ii, the WGS system for the Texas City FCCU 3 shall be designed to achieve a SO_2 concentration of 25 ppmvd (at 0% oxygen) or lower on a 365-day rolling average basis and 50 ppmvd (at 0% oxygen) on a 7-day rolling average basis.

b. BP shall submit to EPA the process design specifications for the WGS system at Texas City FCCU 3 no later than 18 months prior to the turnaround in calendar year 2006. BP and EPA agree to consult on the development of the proposed process design specifications for each WGS system prior to submission of BP's final proposed process design specifications. The proposed design shall, at a minimum, consider the design parameters identified in Appendix E to the Consent Decree, which is incorporated as if fully set forth herein. Within sixty (60) days of receipt of EPA's comments on the proposed design, BP shall modify the proposed design to address EPA's comments, and submit the design to EPA for final approval. Upon receipt of EPA's final approval of the design BP shall implement the design.

c. BP will demonstrate the performance of the WGS system over a six-month period. The six-month demonstration shall begin no later than three (3) months after the completion of the installation of the WGS for Texas City FCCU 3 during the turnaround in calendar year 2006. During the demonstration period, BP shall optimize the performance of the WGS system, and shall consider the effect of the operating considerations identified in Appendix E to the Consent Decree. No later than sixty (60) days after the completion of the demonstration, BP shall report to EPA the results of the six-month demonstration as specified in Paragraph 16.E of this Consent Decree. In its report, BP may propose a final emissions limit for SO_2 based on a 7-day rolling average and a 365-day rolling average. EPA will use this information, CEMS data collected during the demonstration, the information identified in Paragraph 16.E, and all other available and relevant information to establish representative SO_2 emissions limits for the Texas City FCCU 3 in accordance with Paragraph 16.E.ii. EPA may set a limit less stringent than 25 ppmvd (at 0% oxygen) if it determines that such limit is not achievable in practice based on its review of data and information of the actual performance of the Texas City FCCU 3 and consideration of the factors listed in Paragraph 16.E. Should BP reduce SO_2 emissions at this unit below 25 ppmvd (at 0% oxygen), EPA may establish an emissions limit more stringent than 25 ppmvd (at 0% oxygen). BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than June 30, 2001, BP shall use a SO_2 CEMS to monitor performance of FCCU 3 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

d. For the period June 30, 2001 until commencement of operation of the WGS system, BP shall reduce SO_2 emissions from the Texas City FCCU 3 by use of SO_2 adsorbing catalyst additive in accordance with Appendix F. BP will demonstrate performance of the SO_2 adsorbing catalyst additive at the addition rate determined in accordance with Appendix F over a 12-month period. The 12-month demonstration shall begin no later than June 30, 2001. No later than sixty (60) days after the completion of the 12-month demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall either agree to an interim SO_2 limit of 117 ppmvd (at 0% oxygen) on a 365-day rolling average basis or propose an alternative 365-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration and is consistent with the provisions of Paragraph 16.E.ii. and Appendix F. From and after the date this report is submitted, BP shall comply with its proposed emission limit until EPA sets a final interim limit. EPA will use the information provided by BP in its report, CEMS data collected during the demonstration, and all other available and relevant information to establish representative SO_2 interim emission limits for Texas City FCCU 3 in accordance with Paragraph 16.E.ii and Appendix F, provided however, that this limit may not be more stringent than 117 ppm (at 0% O2) on a 365-day rolling average. BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. At all times during the demonstration period, BP shall optimize the levels of catalyst addition rates according to the criteria identified in Paragraph 16.G, below. BP shall monitor SO_2 emissions and demonstrate compliance during this interim period at the Texas City FCCU 3 through use of a CEMS.

e. BP shall comply with the final interim limit set by EPA under Paragraph 16.A.ii.d until such time as BP proposes an emissions limit under Paragraph 16.A.ii.c, at which time the final interim emissions limit or the emissions limit proposed by BP under Paragraph 16.A.ii.c, whichever is more stringent, shall apply until such time as BP is required to comply with the emissions limit set by EPA under Paragraph 16.A.ii.c.

iii. **Mandan FCCU**:

a. BP shall complete installation and begin operation of a WGS technology (or alternative control) at its Mandan FCCU no later than December 31, 2006, unless BP makes the election in Paragraph 16.A.iv.f, in which case BP shall complete installation and begin operation of a WGS technology (or alternative control) at its Mandan FCCU no later than December 31, 2004. Except as provided in Paragraph 16.C.ii., the WGS system for the Mandan FCCU shall be designed to achieve a SO_2 concentration of 25 ppmvd (at 0% oxygen) or lower on a 365-day rolling average basis, and 50 ppmvd (at 0% oxygen) on a 7-day rolling average basis.

b. BP shall submit to EPA the process design specifications for the WGS system at Mandan FCCU no later than 18 months prior to the date installation is required. BP and EPA agree to consult on the development of the proposed process design specifications for each WGS system prior to submission of BP's final proposed process design specifications. The proposed design shall, at a minimum, consider the design parameters identified in Appendix E to the Consent Decree, which is incorporated as if fully set forth herein. Within sixty (60) days of receipt of EPA's comments on the proposed design, BP shall modify the proposed design to address EPA's comments, and submit the design to EPA for final approval. Upon receipt of EPA's final approval of the design BP shall implement the design.

c. BP will demonstrate the performance of the WGS system over a six-month period. The six-month demonstration shall begin no later than three (3) months after the completion of the installation of the WGS for Mandan FCCU. During the demonstration period, BP shall optimize the performance of the WGS system, and shall consider the effect of the operating considerations

identified in Appendix E to the Consent Decree. No later than sixty (60) days after the completion of the demonstration, BP shall report to EPA the results of the six-month demonstration as specified in Paragraph 16.E of this Consent Decree. In its report, BP may propose a final emissions limit for SO_2 based on a 7-day rolling average and a 365-day rolling average. EPA will use this information, CEMS data collected during the demonstration, the information identified in Paragraph 16.E, and all other available and relevant information to establish representative SO_2 emissions limits for the Mandan FCCU in accordance with Paragraph 16.E.ii. EPA may set a limit less stringent than 25 ppmvd (at 0% oxygen) if it determines that 25 ppmvd (at 0% oxygen) is not achievable in practice based on its review of data and information of the actual performance of the Mandan FCCU and consideration of the factors listed in Paragraph 16.E. Should BP reduce SO_2 emissions at this unit below 25 ppmvd (at 0% oxygen), EPA may establish an emissions limit more stringent than 25 ppmvd (at 0% oxygen). BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than June 30, 2002, BP shall use a SO_2 CEMS to monitor performance of the Mandan FCCU and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

d. For the period June 30, 2002 until commencement of operation of the WGS system, BP shall reduce SO_2 emissions from the Mandan FCCU by use of SO_2 adsorbing catalyst additive in accordance with Appendix F. BP will demonstrate performance of the SO_2 adsorbing catalyst additive at the addition rate determined in accordance with Appendix F over a 12-month period. The 12-month demonstration shall begin no later than June 30, 2002. No later than sixty (60) days after the completion of the 12-month demonstration, BP shall report to EPA the results of the

demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall propose a 365-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration and is consistent with the provisions of Paragraph 16.E.ii. and Appendix F. In such report, BP also shall propose a 7-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date this report is submitted, BP shall comply with its proposed emission limit until EPA sets a final interim limit. EPA will use the information provided by BP in its report, CEMS data collected during the demonstration, and all other available and relevant information to establish representative SO_2 interim emission limits for the Mandan FCCU in accordance with Paragraph 16.E.ii and Appendix F. At all times during the demonstration period, BP shall optimize the levels of catalyst addition rates according to the criteria identified in Paragraph 16.E, below. BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. BP shall monitor SO_2 emissions and demonstrate compliance during this interim period at the Mandan FCCU through use of a CEMS.

e. BP shall comply with the final interim limit set by EPA under Paragraph 16.A.iii.d until such time as BP proposes an emissions limit under Paragraph 16.A.iii.c, at which time the final interim emissions limit or the emissions limit proposed by BP under Paragraph 16.A.iii.c, whichever is more stringent, shall apply until such time as BP is required to comply with the emissions limit set by EPA under Paragraph 16.A.iii.c.

f. If BP elects to install and commence operating the WGS system required by Paragraph 16.A.iii.a. by no later than December 31, 2004, the provisions of Paragraph 16.A.iii.d. and e. regarding interim usage of SO_2 adsorbing catalyst additive shall not apply.

B. **Use of SO_2 Adsorbing Catalyst Additive and/or Hydro-Treatment**:

i. Salt Lake City: By no later than the Date of Entry of the Consent Decree, BP shall maintain sulfur oxides emissions calculated as sulfur dioxide to the atmosphere less than or equal to 9.8 kg/1,000 kg coke burn-off on a 7-day rolling average basis in accordance with 40 C.F.R. § 60.104(b)(2).

ii. Whiting FCU 600 and Yorktown FCCU: BP shall initiate twelve-month demonstrations of SO_2 adsorbing catalyst additive by no later than June 30, 2003 for Whiting FCU 600 and by no later than December 31, 2001 for Yorktown FCCU. BP will demonstrate performance of the SO_2 adsorbing catalyst for each FCCU at the addition rate determined for each FCCU in accordance with Appendix F over a 12-month period. No later than sixty (60) days after the completion of each 12-month demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall propose a 365-day rolling average concentration-based emission limit for each FCCU that is consistent with Paragraph 16.E.ii and the applicable provisions of Appendix F. In such report, BP also shall propose a 7-day rolling average concentration-based SO_2 emission limit for each FCCU that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration for each FCCU and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date each this report is submitted, BP shall comply with its proposed emission limit for the covered FCCU until EPA sets a final interim limit. At all times during the demonstration periods, BP shall optimize the levels of catalyst addition rates according to Paragraph 16.D, below. Beginning no later than June 30, 2003, for Whiting FCU 600 and no later than September 30, 2001, for Yorktown, BP shall use SO_2 CEMS to monitor performance of each FCCU and to report compliance with the terms and conditions of the Consent Decree. EPA will use the information provided by BP in its reports, CEMS data

collected during the demonstration, the information BP is required to submit in Paragraph16.E, and all other available and relevant information to establish representative SO_2 emission limits for Whiting FCU 600 and Yorktown FCCU in accordance with Paragraph 16.E.ii and Appendix F, provided however, that these limits may not be more stringent than 25 ppmvd (at 0% O2) on a 365-day rolling average. BP shall comply with the emissions limits set by EPA at the time such emissions limits are set by EPA, provided that if the emissions limit established by EPA for a particular FCCU is more stringent than the limit proposed by BP for that FCCU, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period.

iii. Carson FCCU, Texas City FCCU 2, and Toledo FCCU: BP shall initiate 12-month demonstrations of SO_2 adsorbing catalyst additive in accordance with Appendix F and in conjunction with continued hydrotreatment of FCCU feed at existing levels by no later than June 30, 2001 for Carson FCCU; by no later than December 31, 2001 for Texas City FCCU 2; and by no later than June 30, 2001 for Toledo FCCU. For each FCCU, BP will demonstrate performance of the combination of FCCU feed hydrotreatment and SO_2 adsorbing catalyst additive at the addition rate determined in accordance with Appendix F over a 12-month period. No later than sixty (60) after the completion of each 12-month demonstration, BP shall report to EPA the results of that demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall propose a 365-day rolling average concentration-based emission limit for the covered FCCU that is consistent with Paragraph 16.E.ii and the applicable provisions of Appendix F. In such report, BP also shall propose a 7-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration for that FCCU and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date each report is submitted, BP shall comply with its proposed emission limit for the FCCU covered by that report until EPA sets a final interim limit for that FCCU. During the demonstration periods, BP

shall optimize the levels of catalyst additive addition rates according to Paragraph 16.D, below. EPA will use the information provided by BP in its reports, CEMS data collected during the demonstration, the information BP is required to submit in Paragraph16.E, and all other available and relevant information to establish representative SO_2 emission limits for Carson FCCU, Texas City FCCU 2, and Toledo FCCU in accordance with Paragraph 16.E.ii and Appendix F, provided however, that these limits may not be more stringent than 25 ppm (at 0% O2) on a 365-day rolling average. BP shall comply with the emissions limits set by EPA at the time such emissions limits are is set by EPA, provided that if the emissions limit established by EPA for a particular FCCU is more stringent than the limit proposed by BP for that FCCU, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period. Beginning no later than June 30, 2001, for Toledo and Carson and no later than September 30, 2001, for Texas City FCCU 2, BP shall use SO_2 CEMS to monitor performance of each FCCU and to report compliance with the terms and conditions of the Consent Decree.

iv. Texas City FCCU 1: BP shall continue to reduce SO_2 emissions from FCCU 1 by continued hydrotreatment of feed at existing levels and shall demonstrate the reductions through operation of a CEMS. After a six-month demonstration project designed to demonstrate the emission reductions being achieved by existing levels of hydrotreatment, EPA will determine the SO_2 emission limits for the Texas City FCCU 1 in accordance with Paragraph 16.E.ii. The demonstration project shall commence no later than June 2001. BP shall comply with the emissions limit set by EPA at the time such emissions limit is set by EPA, provided that if the emissions limit established by EPA is more stringent than the limit proposed by BP, BP shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If BP disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period.

C. **WGS Design**

i. Except as provided in Paragraph 16.C.ii., BP shall design the WGS controls to achieve the concentration-based SO_2 emissions limits identified in this Paragraph 16.A. The proposed process designs shall, at a minimum, consider the parameters listed in Appendix E to the Consent Decree, which is incorporated into this document as if fully set forth herein. The process designs approved by EPA shall become fully enforceable through this Consent Decree as if set forth fully herein.

ii. Where BP can demonstrate that for a particular FCCU the total installed cost for a WGS designed to achieve 25 ppmvd (at 0% oxygen) measured as a 365-day rolling average is more than 5% above the then-current baseline cost for a WGS designed to achieve 90% removal of SO_2, it may propose an alternative to the 25 ppmvd (at 0% oxygen) design target emission level. The alternative design target emission level shall be the design emission level that is expected to be achieved by a WGS having a total installed cost of 5% above the total installed cost of a WGS designed to achieve 90% removal of SO_2 but no lower than 90% removal. Upon EPA's approval of the alternative design emission level, BP shall proceed with the preparation of process design specifications for WGS systems or an alternative control technology designed to meet the new alternative design emission level and shall submit those design specifications to EPA for approval in accordance with and on the schedules provided for in the applicable subparagraph of Paragraph 16.A.

D. **WGS Optimization**: For the six-month period immediately following installation and start-up, BP agrees to optimize the performance of the WGS (or alternative controls) at Mandan, Texas City FCCU 3, and Whiting FCU 500, and shall consider the operating considerations identified in Appendix E to the Consent Decree ("optimization study"). The results of the optimization study will be used by EPA, among other things, to determine the final SO_2 emission limits for the respective FCCUs. As part of each optimization study, BP shall conduct performance testing and monitoring for each of its FCU/FCCUs. BP shall submit the results of such testing and monitoring to EPA in an optimization study report. Each report shall identify operational

requirements related to maximum reductions in SO_2 concentrations in the regenerator flue gas at the scrubber outlets of each FCU/FCCU. In addition, each report may include a proposed emission limit that is based on performance of the control system and is consistent with the provisions of Paragraph 16.E.ii. of the Consent Decree. Should BP reduce the SO_2 emissions at these units below 25 ppmvd (at 0% oxygen), BP shall agree to the more stringent emission limits and shall reduce emissions to the performance levels demonstrated by the optimization studies. If an alternative control technology is installed, in lieu of a wet gas scrubber, the design emission level determined in Paragraph 16.C.ii cannot be relaxed, but can be made more stringent based on actual performance of the control technology during the demonstration and the considerations outlined in Appendix E.

E. **Demonstration and Emissions Limit Determination**:

i. BP shall report the results of the demonstrations required by this Paragraph to EPA for its review and approval. Each report(s) shall include, at a minimum, regenerator flue gas temperature and flow rate, coke make rate, FCCU feed rate, total fresh catalyst addition rate, SO_2 adsorbing catalyst additive addition rate, and hourly average SO_2 and O_2 concentrations at the point of emission to the atmosphere, and where a WGS or alternative add-on control technology has been installed, at the inlet to that WGS or alternative control technology. The SO_2 and O_2 concentrations at the point of emission to the atmosphere shall be determined by CEMS. The SO_2 and O_2 concentrations at the inlet to the WGS or alternative add-on control technology may be determined by process analyzer(s) calibrated in accordance with the manufacturer's recommendations; provided, however, that BP's obligation to monitor SO_2 and O_2 concentrations at the inlet to the WGS or alternative add-on control technology shall terminate upon completion of the optimization studies required by Paragraph 16.D. In addition to the foregoing, BP shall also include the following information in its reports to the extent that it is available: FCCU feed sulfur content pre- and post-hydrotreatment, percent of feed that is hydrotreated, SO_2 and O_2 concentrations after the FCCU regenerator and where there is a CO Boiler, after the CO Boiler. The data or measurements

required by this Paragraph shall be reported to EPA in both electronic and hard copy format. BP shall submit the reports required by this Paragraph no later than sixty (60) days after completion of the demonstrations. EPA will use this information as well as CEMS emissions data collected during the demonstration to determine SO_2 emission limits.

ii. EPA, in consultation with BP and the appropriate state agency will determine the SO_2 concentration limits and averaging times for each FCCU subject to this Paragraph based on the level of demonstrated performance during the test period, expected process variability, reasonable certainty of compliance, and any other available pertinent information.

F. **SO_2 Adsorbing Catalyst Additive:** The amounts of SO_2 adsorbing catalyst additive to be added to the FCCUs under the programs referenced in Paragraphs 16.B shall be determined in reference to the criteria set forth in Appendix F.

G. **CEMS**: All CEMS installed and operated pursuant to this agreement will be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 C.F.R. §§ 60.11, 60.13 and Part 60 Appendix F. These CEMS will be used to demonstrate compliance with emission limits.

17. **SO_2 Emissions Reductions from Heaters and Boilers**: BP shall undertake the following measures to reduce SO_2 emissions from refinery heaters and boilers by eliminating or minimizing the burning of fuel oil and restricting H_2S in refinery fuel gas as follows:

A. **Elimination of Oil Burning in Heaters and Boilers**

i. Mandan Facility: As expeditiously as possible, but in no event later than March 31, 2001, BP shall eliminate all fuel oil burning at the heaters and boilers located at its Mandan refinery, except:

a. during periods of documented natural gas curtailment;

b. as necessary to ensure that the Mandan Facility can use fuel oil during periods of natural gas curtailment; and

c. in connection with firing acid soluble oil at the Alkylation Unit.

ii. Yorktown Facility: On or before June 1, 2001, BP shall eliminate all fuel oil burning at the heaters and boilers located at its Yorktown refinery.

iii. Salt Lake City Facility: On or before June 1, 2002, BP shall eliminate all fuel oil burning at the heaters and boilers located at its Salt Lake City refinery.

iv. Whiting Facility: On or before June 1, 2003, BP shall eliminate all fuel oil burning at the heaters and boilers located at its Whiting refinery.

B. **Annual Report:** No later than by June 30th of each year, BP shall submit an annual report certifying and verifying its compliance with this Paragraph 17.A. The report shall include, at a minimum, the amounts and sulfur content of oil burned in any refinery heater and boiler.

C. **NSPS Applicability To Heaters and Boilers:**

i. By no later than the Date of Entry of the Consent Decree, all heaters and boilers at the Carson, Salt Lake City, Texas City, and Yorktown Facilities shall be considered affected facilities for purposes of 40 C.F.R. Part 60, Subpart J, and shall comply with all requirements of 40 C.F.R. Part 60, Subparts A and J as those Subparts apply to fuel gas combustion devices.

ii. By no later than December 31, 2001, all heaters and boilers at the Whiting Facility shall be considered affected facilities for purposes of 40 C.F.R. Part 60, Subpart J, and shall comply with all requirements of 40 C.F.R. Part 60, Subparts A and J as those Subparts apply to fuel gas combustion devices.

iii. By no later than September 30, 2003, all heaters and boilers at the Mandan and Toledo Facilities shall be considered affected facilities for purposes of 40 C.F.R. Part 60, Subpart J, and shall comply with all requirements of 40 C.F.R. Part 60, Subparts A and J as those Subparts apply to fuel gas combustion devices.

iv. By no later than September 30, 2005, all heaters and boilers at the Cherry Point Facility shall be considered affected facilities for purposes of 40 C.F.R. Part 60, Subpart J, and shall comply with all requirements of 40 C.F.R. Part 60, Subparts A and J as those Subparts apply to fuel gas combustion devices.

v. In the interim period between December 31, 2001, and the dates on which NSPS becomes applicable to the heaters and boilers at the Cherry Point, Mandan, and Toledo Facilities pursuant to Paragraphs 17.C.iii, and iv above, BP shall not burn in any heater or boiler at the those facilities any refinery fuel gas that has a volume weighted, rolling 3-hour average H_2S concentration greater than 0.10 grains per dry standard cubic foot, except during periods of startup, shutdown or malfunction of the refinery fuel gas amine systems provided that BP shall to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source The following gas streams shall be excluded from the requirements of this Paragraph 17.C.v:

a. For Cherry Point: vacuum tower vent gas burned at the crude unit heater;

b. For Mandan: 1). fuel gas from the Ultraformer D-13 fuel gas drum, and 2) fuel gas from the Alkylation Unit D-10 depropanizier overhead accumulator drum;

c. For Toledo: vacuum 2 vent gas currently burned in the crude vac 2 furnace; and

vii. Beginning no later than December 31, 2001, except for the fuel gas streams identified in Paragraph 17.C.vi.a-c, BP shall monitor the H_2S content of all fuel gas streams burned in any heater and boiler at each of the refineries the subject of this Consent Decree.

viii. All CEMS installed and operated pursuant to this agreement will be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 C.F.R. §§ 60.11, 60.13 and Part 60 Appendix F. These CEMS will be used to demonstrate compliance with emission limits.

D. **Incinerators:**

i. By no later than twenty-four (24) months after the Date of Entry of the Consent Decree, BP shall measure or calculate the concentrations of H_2S in any fuel gas to be burned in, and the quantity and concentrations of SO_2 emissions from, the following incinerators:

a. Truck and marine loading vapor recovery incinerators at each of BP's refineries as of the Date of Lodging of the Consent Decree;

b. Groundwater remediation incinerator at Whiting;

c. Wastewater treatment plant NESHAP control incinerator at Texas City; and

d. RCRA hazardous waste management incinerator at Whiting.

ii. By no later than the scheduled turnaround of the TGU in 2003 for the Carson Facility identified in Paragraph 21.B.i of the Consent Decree, BP shall measure or calculate the concentrations of H_2S in, and the quantity and concentrations of SO_2 emissions from the combustion of, the sulfur truck loading rack off gases and foul air gas waste streams in the Carson SRP's Thermal Oxidizer identified in Appendix G, Part B.1(f) as "Process 13:Sulfur Recovery – System 6: Thermal Oxidizers."

iii. BP shall report the results of the quantification required by Paragraph 17.D.i to EPA by no later than twenty-four months from the Date of Entry of the Consent Decree. The report submitted by BP shall demonstrate that the sampling and analysis conducted by BP pursuant to this Paragraph 17.D is representative of the fuel gas burned in, and the SO_2 emissions from, the aforementioned identified incinerators during the preceding twenty-four (24) month period. After reviewing the data, EPA may determine whether additional monitoring and controls are required under the NSPS, 40 C.F.R. Part 60, Subparts A and J. In making such determination, EPA will consider whether monitoring or control requirements under other applicable provisions of Federal law are adequate.

iv. BP shall report the results of the quantification required by Paragraph 17.D.ii to EPA by no later than the end of the scheduled TGU turnaround in 2003 at the Carson Facility identified in Paragraph 21.B.i. The report submitted by BP shall demonstrate that the sampling and analysis

conducted by BP pursuant to this Paragraph 17.D.ii is representative of the fuel gas in, and the SO_2 emissions associated with, the wastestreams identified in Paragraph 17.D.ii during the period from the Date of Lodging of the Consent Decree to the end of the scheduled TGU turnaround in 2003 at the Carson Facility identified in Paragraph 21.B.i. After reviewing the data, EPA may determine whether additional monitoring and controls are required under the NSPS, 40 C.F.R. Part 60, Subparts A and J. In making such determination, EPA will consider whether monitoring or control requirements under other applicable provisions of Federal law are adequate.

v. Notwithstanding any other provision of this Consent Decree, the United States and BP reserve their respective rights and interpretations as to the applicability of 40 C.F.R. Part 60, Subparts A and J, to the incinerators and wastestreams identified in this Paragraph 17.D. The United States' position as to the applicability of NSPS Subparts A and J to fuel gas combustion devices ("FGCDs") and/or flares is contained, in part, in a Letter to Phillip E. Guillemette, Koch Refining Company from Ken Gigliello, U.S. EPA, dated December 2, 1999 (the "Koch letter"). BP reserves its arguments with respect to the applicability of the Koch letter and reserves its right to appeal or contest those interpretations in any forum.

vi. With respect to the incinerators identified in this Paragraph 17.D.i, BP agrees that it will not, and can not, use Paragraph 73 of this Consent Decree as a defense to a claim that such incinerators are an NSPS "affected facility." Likewise, with respect to the wastestreams identified in this Paragraph 17.D.ii, BP agrees that it will not, and can not, use Paragraph 73 of this Consent Decree as a defense to a claim that NSPS applies to those wastestreams or the units associated with such wastestreams.

18. **Particulate Matter Controls (Yorktown and Toledo) and Hydrocarbon Flaring**

A. **Yorktown – Particulate Emissions -- FCCU**: BP shall reduce total particulate emissions at the Yorktown FCCU to 1 pound per 1,000 pounds of coke burned . BP shall achieve these reductions through installation of an electrostatic precipitator. BP shall meet this limit by no later than six months after the planned 2006 shutdown.

B. **Toledo – Particulate Emissions:** BP shall reduce total particulate emissions at the Toledo FCCU to 1 pound per 1,000 pounds of coke burned. BP shall achieve these reductions through installation of an electrostatic precipitator. BP shall meet this limit by no later than six months after the planned 2007 shutdown.

C. **Hydrocarbon Flaring:**

i. BP shall prepare and submit as expeditiously as possible to EPA for review Hydrocarbon Flaring Pollutant Minimization Plans ("HCFPMP") for each refinery that are intended to reduce the number, duration and quantity of pollutants emitted through Hydrocarbon Flaring. Such plans shall be implemented no later than two (2) years following the Date of Lodging of this Consent Decree. Each such HCFPMP shall include, but not be limited to, the following:

a. An identification and date (where practicable) of planned activities (including start-up, shut-down, scheduled maintenance, turnarounds, and other events outside the day-to-day operation of the refinery). Such plans shall take into account past experience with such activities at the refinery;

b. Where practicable, an estimate of the expected duration of such events, and their estimated impact on releases of SO_2 and other pollutants from hydrocarbon flaring;

c. Procedures to minimize the likelihood of hydrocarbon flaring and the resulting emissions of SO_2 and other pollutants from such events;

ii. BP will provide EPA with an annual report identifying specific actions taken to implement and comply with the plan's requirements. In addition, BP agrees to report the release of any SO_2 that exceeds the reportable quantity under CERCLA and EPCRA that is associated with such events, and to comply with all other applicable reporting requirements under federal, state or local law. BP agrees to cooperate with EPA when requested to verify emissions of SO_2 and other pollutants from scheduled activities covered by the HCFPMP.

iii. Nothing in Paragraph 18.C shall be interpreted to be a statement as to the applicability of NSPS Subparts A and J, 40 C.F.R. Part 60, to BP's FGCDs or flares. Likewise, nothing in

Paragraph 18.C shall be interpreted to either be an indication that BP's FGCDs or flares are currently in compliance with Subparts A and J, or that by complying with the terms of Paragraph 18.C, BP's FGCDs or flares will be in compliance with Subparts A and J. The United States' position as to the applicability of NSPS Subparts A and J to FGCDs and/or flares is contained, in part, in the "Koch Letter. BP reserves its arguments with respect to the applicability of the Koch letter and reserves its right to appeal or contest those interpretations in any forum.

19. **Benzene Waste NESHAP**: BP shall undertake the following measures to minimize or eliminate fugitive benzene waste emissions at each of the refineries that are the subject of the Consent Decree. Unless otherwise stated, all actions shall commence during calendar year 2001.

A. **Facility Current Compliance Status:** In addition to the provisions of the enhanced program set forth in this Paragraph 19 of the Consent Decree, BP shall comply with the compliance options specified below:

i. BP's Carson Facility, Cherry Point Facility, Texas City Facility, and Yorktown Facility shall comply with the compliance option set forth at 40 C.F.R. § 61.342(c), utilizing the exemptions set forth in 40 C.F.R. § 61.342(c)(2) and (c)(3)(ii) (herein referred to as the "2Mg compliance option").

ii. BP's Whiting Facility and Toledo Facility shall comply with the compliance option set forth at 40 C.F.R. § 61.342(e) ("6BQ compliance option").

B. **Facility Compliance Status Changes:** During the effective life of the Consent Decree, BP shall not change the compliance status of any facility from the 6BQ compliance option to the 2Mg compliance option. Any change in compliance strategy not expressly prohibited by this Paragraph 19.B must be accomplished in accordance with the regulatory provisions set forth in the Benzene Waste NESHAP.

C. If at any time from the Date of Lodging of the Consent Decree to its termination date the Salt Lake City or Mandan facilities are determined to have total annual benzene quantities ("TABs") greater than 10 Mg/yr, BP shall not utilize the 2 Mg compliance option.

D. **Waste Streams Audits:** BP shall conduct an audit of each facility's waste stream inventory and TAB calculation. The audit shall include, but not be limited to: i) an accounting of each waste stream at each facility (i.e., slop oil, tank water draws, spent caustic, desalter rag layer dumps, desalter vessel process sampling points, other sample wastes, maintenance wastes, and turnaround wastes); and ii) a review of the methods used to determine annual waste quantities. Sampling of the waste streams is not required for this audit; previous analytical data or documented knowledge of waste streams may be used, 40 C.F.R. § 61.355 (c)(2).

E. **Schedule for Waste Streams Audits:** The audits required by Paragraph 19.D, above, shall be conducted pursuant to the following schedule:

i. No later than 180 days from the Date of Lodging of the Consent Decree, BP shall conduct the first phase of the audits at each of its refineries. This shall include, but not be limited to, a review of each facility's waste operations to ensure all waste streams are accounted for, and a review of flow calculation and/or measurements for each waste stream.

ii. No later than thirty (30) days after completion of the first phase of each audit, BP shall submit the preliminary audit report(s) to EPA.

iii. Based on EPA's review of each preliminary audit report, EPA will submit to BP a list of up to twenty (20) waste streams per facility for sampling for benzene concentration.

iv. BP shall sample all waste streams identified by EPA no later than ninety (90) days from the date of receipt of EPA's list of waste streams for sampling.

v. The results of the sampling conducted pursuant to paragraphs iii and iv., above, shall be used by BP to calculate the TAB or uncontrolled benzene quantities for each of defendant's respective facilities subject to this Consent Decree. The final results of this audit, including the final TAB calculations shall be submitted to EPA no later than ninety (90) days after the date of completion of the sampling.

F. **Carbon Canisters:** BP shall comply with either Paragraph 19.F.i, or Paragraph 19.F.ii, below, at all locations at such defendant's refineries which are the subject of this Consent Decree

where a carbon canister(s) is utilized as the control device under the Benzene Waste NESHAP. BP shall notify EPA within ninety (90) days of the Date of Lodging of the Consent Decree which option it chooses to implement for each carbon canister:

i. Installation of primary and secondary carbon canisters:

a. By the end of the first full calendar year after the Date of Lodging of the Consent Decree, BP shall install primary and secondary carbon canisters and operate them in series.

b. Beginning no later than the Date of Lodging of the Consent Decree, BP shall monitor for breakthrough between the primary and secondary carbon canisters at times when there is actual flow to the carbon canister, in accordance with the frequency specified in 40 C.F.R. § 61.354(d).

c. BP shall replace the secondary carbon canisters with fresh carbon canisters immediately when VOC breakthrough of 50 ppm is detected. The original secondary carbon canister or a new carbon canister will be used as the new primary carbon canister. For this subparagraph, immediately means within twenty-four (24) hours.

d. BP shall maintain a supply of fresh carbon canisters at each facility at all times.

e. Until installation of the second carbon canister all monitoring shall be conducted as specified in Paragraph 19.F.ii.

ii. Utilizing single carbon canisters

a. Beginning no later than the Date of Lodging of the Consent Decree, BP shall monitor for breakthrough from the carbon canisters at times when there is actual flow to the carbon canister, in accordance with the frequency specified in 40 C.F.R. § 61.354(d).

b. For the single canister option, canisters will be replaced immediately when breakthrough is determined as follows:

i. For canisters less than or equal to 55 gallon drum size, breakthrough is any reading of VOC above background;

ii. For canisters larger than 55 gallons, breakthrough is defined as either:

1. 50 ppm VOC; or
2. 1 ppm benzene. To use 1 ppm benzene, canisters must be monitored for VOC. When a reading of 10 ppm VOC is detected, monitoring for benzene must be conducted on the following schedule:
   Daily if the historical replacement interval is two weeks or less, or
   Monday, Wednesday and Friday, if the historical replacement interval is greater than two weeks.

c. For purposes of this Subparagraph 19.F.(ii), the term immediately shall be defined to mean: Within eight (8) hours for canisters with historical replacement intervals of two weeks or less; or Within twenty-four (24) hours for canisters with a historical replacement interval of more than two weeks.

d. BP shall maintain a supply of fresh carbon canisters at each facility at all times.

e. Single carbon canisters can be replaced with a dual system at any time provided EPA is notified and single canister monitoring is continued until the second canister is installed. BP shall notify EPA of such replacement in its next quarterly report submitted pursuant to Section VIII of the Consent Decree.

iii. Records for 19.F.i and 19.F.ii shall be maintained in accordance with 40 C.F.R. § 61.356(j)(10).

G. **Annual Program:** BP shall establish an annual program of reviewing process information for each facility that is the subject of this Consent Decree, including but not limited to construction projects, to ensure that all new benzene waste streams are included in each facility's waste stream inventory.

H. **Laboratory Audits:** BP shall conduct audits of all laboratories that perform analysis of its benzene waste NESHAP samples to ensure that proper analytical and quality assurance procedures are followed. No later than 180 days after the Date of Lodging of the Consent Decree,

BP shall conduct the audit(s) of the laboratories used by 2 of its refineries. BP shall complete audits of the laboratories used by the remaining refineries within twelve (12) months of the Date of Lodging of the Consent Decree. During the life of the Consent Decree, BP shall conduct subsequent laboratory audits for each refinery every two (2) years, or prior to using a new lab for analysis of benzene samples.

I. **Benzene Spills:** BP shall review all CERCLA reportable spills within each facility that is the subject of the Consent Decree to determine if benzene waste was generated. BP shall account for all benzene wastes generated through such spills in its respective TAB calculation. For any facility that is the subject of the Consent Decree with TABs greater than or equal to 10 Mg/yr, BP shall account for all benzene wastes generated through such spills that are not managed solely in controlled waste management units in its respective 2 Mg/yr or 6 Mg/yr calculation, as appropriate.

J. **Training:** For each facility that is the subject of the Consent Decree, BP shall:

i. Develop and implement annual training for all employees required to take benzene waste samples;

ii. Establish standard operating procedures for all control equipment used to comply with the Benzene Waste NESHAP and include them in annual training for operators assigned to this equipment; and

iii. Ensure that employees with companies hired to perform the requirements of this Paragraph 19 of the Consent Decree are properly trained to implement the provisions of this Paragraph.

K. **Waste/Slop Oil Management**: Within six (6) months of the Date of Lodging of the Consent Decree, BP shall maintain records of waste/slop oil movements for waste streams (organic or aqueous) which are not controlled, as identified in the plan prepared by each refinery. EPA may review the plan and recommend revisions to add uncontrolled waste streams resulting from waste/slop oil movements, in accordance with the provisions of 40 C.F.R. Part 61, Subpart FF.

L. **Sampling (less than 10 Mg/yr):** For refineries with TABs that are less than 10 Mg/yr, BP shall:

i. Conduct annual sampling of all waste streams that contributed 0.05 Mg/yr or more to the previous year's TAB calculation; and

ii. Conduct a quarterly "end of the line" benzene determination. No later than three (3) months after the Date of Lodging of the Consent Decree, BP shall submit a plan to EPA for approval that contains proposed sampling locations and methods for flow calculations to be used in the quarterly benzene determination. The sampling shall begin during the first full calendar quarter after BP receives written approval from EPA of the BP sampling plan required by this Paragraph.

iii. A preliminary evaluation to identify potential sample locations, determine "end of the line" benzene sample locations, and review available oil movement transfer documentation will be conducted jointly with BP and EPA personnel at the Salt Lake City Facility within sixty (60) days of the Date of Lodging of this Consent Decree.

M. **Sampling (2 Mg/yr):** For any refinery that is subject to this Consent Decree and is complying with the 2 Mg/yr compliance option (40 C.F.R. § 61.342(c)(3)(ii)), BP shall:

i. Include in the annual benzene waste NESHAPs report, a list of all uncontrolled waste streams at the facility, the benzene content of each of these streams, and the annual flow;

ii. Conduct a quarterly "end of the line" benzene determination. Within four (4) months after the Date of Lodging of the Consent Decree, BP shall submit a plan to EPA for approval that contains proposed sampling locations and methods for flow calculations to be used in the quarterly benzene determination. The sampling shall begin during the first full calendar quarter after BP receives written approval from EPA of its submitted sampling plan.

iii. Sample all uncontrolled waste streams that count toward the 2 Mg/yr calculation and contain greater than 0.05 Mg/yr of benzene on a quarterly basis. This sampling shall begin during the first full calendar quarter after the Date of Lodging of the Consent Decree. After two years,

EPA will evaluate the quarterly sampling results to determine the appropriateness of an alternative sampling frequency; and

iv. Measure quarterly the concentration of all waste streams that qualify for the 10 ppm exemption (see 40 C.F.R. § 61.342(c)(2)) and contain greater than 0.1 Mg/yr of benzene. This sampling shall begin during the first full calendar quarter after the Date of Lodging of the Consent Decree. After two years, EPA will evaluate the quarterly sampling results to determine the appropriateness of less frequent sampling.

N. **Sampling (6 Mg/yr):** For refineries that are complying with the 6 Mg/yr compliance option (40 C.F.R. § 61.342(e)), BP shall:

i. Conduct a quarterly "end of the line" benzene determination. Within four (4) months after the Date of Lodging of the Consent Decree, BP shall submit a plan to EPA for approval that contains proposed sampling locations and methods for flow calculations to be used in the quarterly benzene determination. The sampling shall begin during the first full calendar quarter after BP receives written approval from EPA of the sampling plans required by this Paragraph; and

ii. Sample all uncontrolled waste streams that count toward the 6 Mg/yr calculation and contain greater than 0.05 Mg/yr of benzene on an annual basis. This sampling shall begin during the first full calendar year after the Date of Lodging of this Consent Decree.

O. **Groundwater Conveyance Systems:** BP shall manage all groundwater conveyance systems located at each refinery that is the subject to this Paragraph in accordance with, and to the extent required by, 40 C.F.R. § 61.342(a).

P. **Miscellaneous Measures:** BP shall implement the following compliance measures in Paragraphs 19.P.i, 19.P.iii, 19.P.iv, and 19.P.v at all refineries that have a TAB greater than 10 Mg/yr, and shall implement compliance measure in Paragraph 19.P.ii at each Facility subject to the Consent Decree:

i. BP shall conduct monthly visual inspections of all water traps within its individual drain systems that are subject to the Benzene Waste NESHAP;

ii. BP shall identify/mark all area drains that are segregated stormwater drains;

iii. BP shall monitor all conservation vents on process sewers for detectable leaks on a weekly basis; and

iv. BP shall conduct quarterly monitoring of oil/water separators in benzene service in accordance with the "no detectable leaks" provision in 40 C.F.R. § 61.347.

v. BP shall account for and include in the TAB all slop oil recovered from its oil/water separators or sewer system until recycled or put into a feed tank, in accordance with 40 C.F.R. § 61.342(a). All tanks handling waste benzene shall meet the control standards specified in 40 C.F.R. § 61.343 or § 61.351 , provided that tanks designated P1 and P2 at the Whiting Facility shall meet the tank control standard at 40 C.F.R. § 61.343; installation of controls shall be completed for one tank within twenty-four (24) months of the Date of Lodging of the Consent Decree, and for the second tank within thirty (30) months of the Date of Lodging of this Consent Decree.

Q. **Projects/Investigations:** By no later than the end of the first full calendar year after the Date of Lodging of the Consent Decree, BP shall evaluate the following at each facility that is the subject of the Consent Decree, including, but not limited to, each project's feasibility and estimated cost for implementation:

i. Installation of closed loop sampling devices on all waste and process streams that are greater than 10 ppm benzene and contain greater than 0.01 megagrams per year (Mg/yr) benzene; and

ii.. Installation of new sample points at all locations where routine process sampling points are not easily accessible.

iii. BP shall submit a report for each of its facilities summarizing the results of the evaluations of the projects identified in Paragraph 19.Q.i and ii above, within sixty (60) days after the date of completion of each study. These reports shall include at a minimum, the feasibility of each project, the estimated cost of completion, BP's decision as to whether or not to implement

each project at each facility, and the basis for deciding not to implement the project at each facility, as appropriate.

R. **Progress Reports:** BP shall submit for each of its facilities subject to this Paragraph progress reports to EPA in accordance with the requirements specified in Section VIII of the Consent Decree (Recordkeeping and Reporting) detailing the steps it has taken to install secondary carbon canisters as required by Paragraph 19.F, if this option is chosen by any of the refineries, and the initial laboratory audits required by Paragraph 19.H.

S. **Reports Re: Canisters:** For any refinery subject to this Consent Decree for which BP initially chooses to install secondary carbon canisters pursuant to paragraph 19.F.i, above, BP shall submit a project completion report to EPA within thirty (30) days of completing the installation of all of the secondary carbon canisters at each facility. This report shall include a list of all locations within the facility where secondary canisters were installed, the installation date of each secondary canister, and the date that each secondary canister was put into operation. For each refinery subject to this Consent Decree for which BP chooses to comply with Paragraph 19.F.ii, above, BP shall submit quarterly reports to EPA detailing the results of breakthrough monitoring and carbon canister change-out. This report shall include for each carbon canister: i) the date(s) and approximate time when breakthrough was first detected; and ii) for each breakthrough event, the date and time when carbon canister change-out occurred.

T. **Reports Re: Audits:** No later than thirty (30) days after the date of completion of the initial lab audits for each facility specified in paragraph 19.H, BP shall submit for each such facility a report to EPA summarizing the results. This report shall include, but not be limited to, identification of all labs audited, a description the methods used in the audit, and the results of the audit.

U. **Reports Re: Training:** No later than (60) days after the Date of Lodging of the Consent Decree, BP shall submit a report to EPA detailing the training that will be implemented at each such facility pursuant to Paragraph 19.J, above.

V. **Quarterly Report:** Beginning no later than the first full calendar quarter after the Date of Lodging of the Consent Decree, BP shall submit a report to EPA that includes the following information for each Facility subject to this Consent Decree. This report shall be due no later than forty-five (45) days after the end of each calendar quarter.

i. For refineries complying with the 2Mg compliance option, the results of the quarterly sampling conducted pursuant to Paragraphs 19.M.iii and 19.M.iv, above. This shall include a list of all waste streams sampled and all results of benzene analysis for each waste stream.

ii. For each refinery, the results of the quarterly end of the line sampling conducted pursuant to Paragraphs 19.L.ii, 19.M.ii, and 19.N.i, above.

iii. BP shall use all sampling results and approved flow calculation methods pursuant to paragraphs 19.L.ii, 19.M.ii, and 19.N.i, above, to calculate and report a quarterly and a rolling calendar year value for each refinery against the 10 Mg TAB (for refineries whose TAB is less than 10 Mg/yr historically), or the 2Mg or 6BQ compliance options. Rolling calendar year values cannot be calculated until four quarterly sampling events have been completed.

iv. If the quarterly calculation for a facility made pursuant to this Paragraph 19.V.iii, above, exceeds: a) 2.5 Mg for refineries with TABs historically less than 10 Mg/yr, b) 0.5 Mg for refineries complying with the 2 Mg compliance option, or, c) 1.5 Mg for refineries complying with the 6 BQ compliance option, then BP shall include for each such refinery a summary and schedule of the activities planned to minimize benzene wastes at such facility for the rest of the calendar year to ensure that the calendar year calculation complies with the 10 Mg TAB calculation, or the 2Mg or 6BQ compliance options.

v. If any rolling annual calculation for any facility made pursuant to Paragraph 19.V.iii, above, exceeds (1) 10 Mg for refineries with TABs historically less than 10 Mg/yr, (2) 2 Mg for refineries complying with the 2 Mg compliance option, or (3) 6 Mg for refineries complying with the 6 BQ compliance option, then BP shall include for each such refinery a summary and schedule

of the activities planned to minimize benzene wastes at such facility to ensure that the calendar year calculation complies with the Benzene Waste NESHAP.

vi. For a refinery complying with the 6 Mg compliance option, the results of the annual sampling conducted pursuant to Paragraph 19.N.ii, above, shall be included with the report submitted for the fourth calendar quarter each year. These results shall include a list of all waste streams sampled and all results of benzene analysis for each waste stream

vii. BP shall identify all labs used during the quarter for analysis of benzene waste samples collected from its refineries pursuant to this Paragraph and provide the date of the most recent audit of each lab.

20. **Leak Detection and Repair ("LDAR")**: Pursuant to this Paragraph, BP shall undertake at each Facility subject to this Consent Decree the following measures to minimize or eliminate fugitive emissions from certain equipment at its refineries in accordance with the schedule set forth below.

A. **Written Facility-Wide Program**: No later than 120 days from the Date of Lodging of this Consent Decree, BP shall develop and maintain a written facility-wide program for LDAR compliance at its refineries. Each facility-wide program shall include at a minimum: an overall facility-wide leak rate goal that will be achieved on a process unit-by-process unit basis, identification of all valves and pumps that have the potential to leak volatile organic compounds or hazardous organic pollutants, in accordance with 40 C.F.R. Part 60, Subpart GGG, and 40 C.F.R. Part 63, Subpart CC, within process areas that are owned and maintained by each facility; procedures for identifying leaking pumps and valves within process areas that are owned and maintained by each facility; procedures for identifying leaking components; procedures for identifying and including new valves and pumps in the LDAR program; and standards for new equipment that it intends to install to minimize leaks or replace chronic leakers. BP shall implement this program on a facility-wide basis.

B. **Training:** No later than one year from the Date of Lodging of the Consent Decree, BP shall implement the following training programs at each facility subject to this Paragraph:

i. For new LDAR personnel, BP shall provide and require LDAR training prior to each employee beginning work in the LDAR group;

ii. For all LDAR personnel, BP shall provide and require completion of annual LDAR training; and

iii. For all other applicable facility operations personnel, BP shall provide and require annual review courses including relevant aspects of LDAR monitoring.

C. **LDAR Audits**: Beginning immediately upon the Date of Lodging of the Consent Decree, BP shall implement at each of the facilities subject to this Paragraph, the following audit programs focusing on comparative monitoring, records review, tagging, data management, and observation of the actual LDAR technicians' calibration and monitoring techniques:

i. BP shall conduct a third party audit of each Facility's LDAR program at least once every four (4) years. The first third party audit for half of the facilities shall be conducted no later than one year from the Date of Lodging of the Consent Decree. The remaining Facilities shall be audited within two years of the Date of Lodging of the Consent Decree.

ii. BP shall conduct internal audits of each Facility's LDAR program according to the broad framework approved by EPA. These audits shall be conducted by sending the personnel familiar with the LDAR Program and its requirements from one or more BP facilities to audit another BP Facility. The first of these internal LDAR audits shall be conducted no later than two years from the date of the initial third-party audit required in Paragraph C.i. above, and conducted every four years thereafter for the length of the Decree.

iii. To ensure that audits occur every two years, third-party and internal audits shall be separated by two years.

D. **Leak Definition**: BP shall utilize the following internal leak definitions, unless permit(s) or other regulations require use of lower leak definitions:

i. No later than two (2) years after the Date of Lodging of the Consent Decree, BP shall utilize an internal leak definition of 500 ppm for all block valves (i.e., any non-control valves). BP may continue to report leak rates against the applicable regulatory leak definition, or use the lower leak rate definition for reporting purposes. BP shall record, track, repair, and remonitor all leaks at each facility subject to this Paragraph above this internal leak definition, but will have thirty (30) days to make repairs on and remonitor leaks that are greater than the internal leak definitions set in this Paragraph and less than the applicable regulatory leak definition.

ii. No later than two (2) years from the Date of Lodging of the Consent Decree, BP shall utilize an internal leak definition of 500 ppm for control valves. For a period of at least three (3) years following the utilization of this internal leak definition of 500 ppm for control valves, BP shall record, track, remonitor, and repair all leaks at each facility subject to this Paragraph above this internal leak definition, but will have thirty (30) days to make repairs on and remonitor leaks that are greater than the internal leak definition set in this Paragraph and less than the applicable regulatory leak definition.

E. **Reevaluation of Internal Leak Definition for Control Valves:** No later than thirty (30) months from the date the control valve monitoring at 500 ppm commences, BP shall submit a report to EPA that quantifies emissions, emission reductions, leak rate trends, and costs related to this leak definition. Following review of such report, EPA will determine whether to continue to require BP to use the above-referenced internal leak definition for control valves.

F. **Monitoring of Pumps:** No later than 120 days after the Date of Lodging of the Consent Decree, BP shall record actual readings from monitoring of all pumps at the facilities subject to this Paragraph for a period of at least three (3) calendar years, using an internal leak definition of 2,000 ppm. 0No later than thirty (30) months after BP begins recording and monitoring all pumps, BP shall submit a report to EPA for the facilities subject to this Paragraph that quantifies projected repair costs, estimated emission reduction and trends. After reviewing the report, EPA will determine if pumps will be monitored and repaired at the 2000 ppm leak definition.

G. **First Attempt at Repairs on Valves:** Beginning no later than ninety (90) days after the Date of Lodging of the Consent Decree, BP shall make a "first attempt" at repair on any valve that is subject to monitoring pursuant to this Paragraph that has a reading greater than 100 ppm of volatile organic compounds, excluding control valves and other valves and pumps that LDAR personnel are not authorized to repair. BP shall record, track and remonitor leaks above the internal leak definitions as specified above in Paragraph 20.D. However, BP shall immediately re-monitor all valves that LDAR personnel attempted to repair to ensure that the leaks have not been made worse. After two years, EPA will reassess this program to determine if continuing this first attempt at repair is appropriate.

H. **LDAR Monitoring Frequency:** No later than two (2) years from the Date of Lodging of the Consent Decree, BP shall implement more frequent monitoring of all valves by choosing one of the following options on a process unit by process unit basis:

i. Quarterly monitoring with no ability to skip periods. This option cannot be chosen for process units subject to the HON or the modified-HON option in the Refinery MACT.

ii. Sustainable skip period program (see attached Appendix H);

iii. For process units complying with the sustainable skip period program set forth in Paragraph 20.H.ii, above, EPA, the State or local agency may require BP to implement more frequent monitoring of valves if the leak rate determined during an EPA, State or local inspection demonstrates that more frequent monitoring is appropriate. In evaluating whether the leak rate demonstrates that more frequent monitoring of valves is appropriate, EPA or the State will determine the leak rate based on the total number of valves in the process unit, rather than the total number of valves monitored during the inspection.

iv. Previous process unit monitoring results may be used to determine the initial skip period interval provided that each valve has been monitored using the 500 ppm leak definition.

v. Process units monitored in the skip period alternative method may not revert to quarterly monitoring if the most recent monitoring period demonstrates that more than two percent of the valves were found leaking under the internal leak definition.

I. **Dataloggers:** No later than two (2) years from the Date of Lodging of the Consent Decree, BP shall use dataloggers and/or electronic data storage for LDAR monitoring required under this Paragraph for such defendant's facilities, in accordance with operational specifications to be separately proposed by BP and approved by EPA. BP will have the ability to use paper logs where necessary or more feasible (i.e., small rounds, remonitoring, or when dataloggers are not available or broken). BP shall create (if not already created) and maintain an electronic database for storage and reporting of data collected pursuant to this Paragraph. BP shall ensure for each of its facilities that such collected monitoring data includes a time/date stamp for all monitoring events.

J. **Subcontracted Programs:** Beginning from no later than the Date of Lodging of the Consent Decree, if BP subcontracts its LDAR monitoring program at a facility, BP shall require its LDAR contractors to conduct a quality assurance/quality control ("QA/QC") review of all data before turning it over to the facility and to provide the facility with daily reports of its monitoring activity.

K. **LDAR Personnel**: No later than the Date of Lodging of the Consent Decree, BP shall establish a program that will hold LDAR personnel accountable for LDAR performance and provide incentives for leak rate improvements. BP shall maintain a position within each facility (or under contract) responsible for LDAR coordination, with the authority to implement improvements.

L. **Adding New Valves and Pumps**: No later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall establish a tracking program for maintenance records to ensure that valves and pumps added to each facility during maintenance/construction are integrated into the LDAR program.

M. **Monitoring After Turnaround or Maintenance**: BP shall have the option of monitoring affected valves and pumps within process units after completing a documented

maintenance, startup, or shutdown activity without having the results of the monitoring count as a scheduled monitoring activity, provided that BP monitor according to the following schedule:

i. Event involving 1000 or fewer affected valves and pumps -- monitor within one (1) week of the documented maintenance, start-up, or shutdown activity;

ii. Event involving greater than 1000 but fewer than 5000 affected valves and pumps -- monitor within two (2) weeks of the documented maintenance, start-up, or shutdown activity; and

iii. Event involving greater than 5000 affected valves and pumps -- monitor within four (4) weeks of the documented maintenance, start-up, or shutdown activity.

N. **Calibration Drift Assessment**: Beginning no later than the Date of Lodging of the Consent Decree, BP shall conduct calibration drift assessments of the LDAR monitoring equipment in accordance with 40 C.F.R. Part 60, EPA Reference Test Method 21, at a minimum, at the end of each monitoring shift. BP agrees that if any calibration drift assessment after the initial calibration shows a drift of more than 10%, BP shall re-monitor all valves and pumps that were monitored since the last calibration and that had readings greater than 100 ppm.

O. **Delay of Repair:** Beginning no later than the Date of Lodging of the Consent Decree, for any valve BP is required under the applicable regulations to place on the "delay of repair" list for repair, BP shall:

i. Require sign-off by the unit supervisor that the component is technically infeasible to repair without process unit shutdown before the component is eligible for inclusion on the "delay of repair" list;

ii. Establish a leak level of 50,000 ppm at which it will undertake extraordinary efforts to fix the leak of greater than 50,000 ppm, rather than put the component on the “delay of repair” list, unless there is a safety or major environmental concern posed by repairing the leak in this manner. For valves, extraordinary efforts/ repairs shall be defined as non-routine repair methods, such as the drill and tap;

iii. Include valves and pumps that are placed on the “delay of repair” list in its regular LDAR monitoring, and make extraordinary efforts to repair the component if the leak reaches 50,000 ppm; and

iv. Undertake extraordinary efforts to repair valves and pumps that have been on the "delay of repair" list for a period of 3 years and leaking at a rate of 10,000 ppm, unless there is a safety or major environmental concern posed by repairing the leak in this manner.

P. **Completion Reports**: No later than 120 days from the Date of Lodging of the Consent Decree, BP for each Facility subject to this Consent Decree, shall submit a report to EPA certifying that Paragraphs 20.G., 20.J., 20.K., 20.L., 20.N., and 20.O have been implemented. No later than 150 days from the Date of Lodging of the Consent Decree, BP shall submit a report to EPA certifying that Paragraph 20.A has been completed. This report shall also include a description of the accountability/incentive programs that are developed pursuant to Paragraph 20.K.

Q. **Reports Re: Training**: Within thirty (30) days after implementing the training programs pursuant to paragraph 20.B. above, BP shall submit to EPA a certification for each Facility subject to this Consent Decree that the training has been implemented. Such certification shall include a description of the different training programs implemented.

R. **Reports Re: Audits:** BP shall submit annual reports to EPA for each Facility subject to this Consent Decree with the results of the audits conducted pursuant to Paragraph 20.C. These reports shall include a description of changes BP plans to implement based on the results of the audits. The initial annual report shall be due by January 31 of the year following the first calendar year during which such defendant has conducted monitoring for at least three calendar quarters pursuant to this paragraph. Subsequent annual reports shall be due on January 31 of each subsequent year during the life of this Consent Decree.

S. **Quarterly Reports**: BP shall submit quarterly monitoring reports to EPA with the results of the LDAR monitoring performed for each of its facilities. This report shall include for such facility a list of the process units monitored during the quarter, whether each process unit is

complying with quarterly monitoring or the sustainable skip period program, the number of valves and pumps monitored in each unit, the number of valves and pumps found leaking, and the projected date of the next monitoring event. This report shall also include for such facility a list of all valves and pumps currently on the delay of repair list and the date each component was put on such list.

21. **NSPS Applicability Re: Sulfur Recovery Plant**: Beginning no later than the Date of Lodging of the Consent Decree, BP agrees that the Sulfur Recovery Plants ("SRP") at Cherry Point, Carson, Texas City, Toledo, Whiting, and Yorktown shall be subject to NSPS Subpart J as affected facilities and shall comply with all requirements of 40 C.F.R. Subparts A and J, except as provided below. Furthermore, NSPS Subparts A and J shall apply in accordance with 21.B.iii.h and 21.B.iv.h, respectively to either the Mandan or Salt Lake City SRPs in the event that the sulfur input to either SRP exceeds 20 long tons in any calendar day. BP reserves the right to assert that the data showing that the sulfur input to the SRP exceeds 20 long tons in any twenty-four hour averaging period is neither accurate nor reliable.

A. **Sulfur Pit Emissions**: BP shall re-route all NSPS SRP sulfur pit emissions for the Cherry Point, Carson, Texas City, Toledo, Whiting, and Yorktown Facilities such that they are treated, monitored, and included as part of the SRP's emissions subject to the NSPS Subpart J limit for SO_2, 40 C.F.R. § 60.104(a)(2), by no later than the first turnaround of the applicable Claus train that occurs more than six (6) months after the Date of Lodging of the Consent Decree. BP agrees to control the sulfur pit emissions at Mandan and Salt Lake City by continuing to route sulfur pit emissions to their respective incinerators at the Mandan and Salt Lake City SRPs.

B. **Sulfur Recovery Plants ("SRP")**:

i. Carson

a. By no later than the Date of Lodging of the Consent Decree, BP shall, for all periods of operation of the SRP, comply with 40 C.F.R. § 60.104(a)(2), except during periods of startup,

shutdown or malfunction of the SRP or malfunction of the TGU and as provided in Paragraph 21.B.i.e. and f.

b. By no later than the Date of Lodging of the Consent Decree, BP shall comply with all other applicable SRP NSPS requirements including applicable monitoring, record keeping, reporting and operating requirements of the SRP NSPS regulations.

c. At all times, including periods of startup, shutdown, and malfunction, BP shall, to the extent practicable, operate and maintain its SRP, its TGUs, and any supplemental control devices in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required in 40 C.F.R. § 60.11(d).

d. By no later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall submit to EPA for EPA's approval, a Plan for Maintenance and Operation of its SRP, TGU, Supplemental Control Devices, and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions (Operation and Scheduled Maintenance Plan). The Plan shall provide for continuous operation between scheduled maintenance turnarounds for minimization of emissions from the SRP. Such Plan shall include, but not be limited to, sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus trains, TGU, and any supplemental control device to coincide with scheduled turnarounds of major upstream sulfur producing units. Upon EPA's approval, BP shall comply with the Operation and Scheduled Maintenance Plan at all times, including periods of start up, shut down, and malfunction of the SRP. BP may make reasonable modifications to the Operation and Scheduled Maintenance Plan approved under this Paragraph, provided that BP provides EPA with a copy of the modification. EPA need not approve a proposed modification made in good faith. The requirements of Paragraph 21.B.i.d. shall apply until the completion of the scheduled turnaround in 2003.

e. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraph 21.B.i.a. if, during the period from the Date of Lodging of the Consent Decree to the

scheduled TGU turnaround in 2003, the SO_2 emissions from each incinerator stack do not exceed 250 ppm on a rolling 12-hour average for greater than 7.5 % of the operating time for the SRP (8749 12-hour periods in a year) for any rolling 12- month period. If, however, prior to 2003, BP re-routes the emissions from its three uncontrolled sulfur pits to its incinerators and continues to route the currently controlled sulfur pit emissions to its incinerator, then BP will not be in violation of the provisions of Paragraph 21.B.i.a. during the period from the completion of that re-routing to the scheduled TGU turnaround in 2003 if the SO_2 emissions from each incinerator stack do not exceed 300 ppm on a rolling 12-hour average for greater than 7.5 % of the operating time for the SRP for any rolling 12-month period. Excess emissions attributed to startup, shutdown and malfunction shall not be counted as exceedances, and excess emissions occurring at both TGU Incinerator stacks during the same 12-hour period shall be counted as one exceedance. In no event shall the foregoing be read to excuse BP from complying with the terms of Paragraph 21.B.i.a by the completion of the scheduled TGU turnaround in 2003.

f. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraphs 21.B.i.a. during one scheduled 21-day turnaround of the TGU No. 2 during the period from the Date of Entry of the Consent Decree to the end of the scheduled turnaround in 2003, if BP demonstrates full compliance with the provisions of the Operation and Scheduled Maintenance Plan required by Paragraph 21.B.i.d., and does not exceed a sulfur dioxide emission limit of 500 ppm on a rolling 12-hour basis from the TGU No. 1 incinerator stack.

g. During the period from the Date of Lodging of the Consent Decree to the completion of the scheduled turnaround in 2003, BP shall implement a program to investigate the cause of all sulfur dioxide emission limit exceedances from the incinerator stack(s) where the sulfur dioxide emissions exceed 250 ppm on a rolling 12-hour average (or 300 ppm in the event that BP re-routes all emissions from all four sulfur pits to its incinerators, as set forth in Paragraph 21.B.i.e.) for 12 consecutive hours as determined from any combination of 12-hour periods in excess of the limit from either incinerator stack. By no later than thirty (30) days following the end of a 12 consecutive

hour sulfur dioxide emission limit exceedance from the incinerator stack(s), BP shall submit to EPA's Air and Radiation Division for Regions 5 and 9, a report that sets forth the following:

1. The date and time that the emission limit exceedance started and ended;

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

3. The steps, if any, that BP took to limit the duration and/or quantity of sulfur dioxide emissions;

4. A detailed analysis that sets forth the cause of the emission limit exceedance, to the extent determinable;

5. An analysis of the measures, if any, that are available to reduce the likelihood of a recurrence of an emission limit exceedance from the same cause or contributing causes in the future. 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, operational, and maintenance changes shall be evaluated. If BP concludes that corrective action(s) is (are) required under this paragraph, 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 BP concludes that corrective action is not required under this paragraph, the report shall explain the basis for that conclusion;

6. 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 this paragraph shall be submitted; provided, however, that if BP has not submitted a report or a series of reports containing the information required to be submitted under this paragraph within 45 days (or such additional time as U.S. EPA may allow) after the due date for the initial report for the Flaring Incident, stipulated penalties shall apply;

7. 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 Subparagraph, then, by no later than thirty (30) days after completion of the implementation of corrective action(s), BP shall submit a report identifying the corrective action(s) taken and the dates of commencement and completion of implementation.

ii. Cherry Point:

a. By no later than the Date of Lodging of the Consent Decree, BP shall, for all periods of operation of the SRP, comply with 40 C.F.R. § 60.104(a)(2), except during periods of startup, shutdown or malfunction of the SRP or malfunction of the TGU and as provided in Paragraph 21.B.ii.f., g. and h.

b. By no later than the Date of Lodging of the Consent Decree, BP shall comply with all other applicable SRP NSPS requirements including applicable monitoring, record keeping, reporting and operating requirements of the SRP NSPS regulations.

c. BP shall install a second TGU or equivalent control technology to ensure continuous compliance with the NSPS emission standards by no later than the planned refinery turnaround in 2006. In addition, BP shall reroute the vent from the sour water stripper tank from the SRP incinerator to some other point upstream of the SRP by no later than eighteen (18) months from the Date of Lodging of the Consent Decree.

d. At all times, including periods of startup, shutdown, and malfunction, BP shall, to the extent practicable, operate and maintain its SRP, its TGU and any supplemental control devices in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required in 40 C.F.R. § 60.11(d).

e. By no later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall submit to EPA for EPA's approval, a Plan for Maintenance and Operation of its SRP, TGU, Supplemental Control Devices, and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions (Operation and Scheduled Maintenance Plan). The Plan shall provide for continuous operation of its SRP and TGU between scheduled maintenance turnarounds for minimization of emissions. Such Plan shall include, but not be limited to, sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus trains, TGU, and any supplemental control device to coincide with scheduled turnarounds of major upstream sulfur producing units. Upon EPA's approval, BP shall comply with the Operation and Scheduled Maintenance Plan at all times, including periods of start up, shut down, and malfunction of the SRP. BP may make reasonable modifications to the Operation and Scheduled Maintenance Plan approved under this Paragraph, provided that BP provides EPA with a copy of the modification. EPA need not approve a proposed modification made in good faith. The

requirements of Paragraph 21.B.ii.e. shall apply until BP completes the activities required by Paragraph 21.B.ii.c.

f. During the 24-month period commencing from the Date of Lodging of the Consent Decree, BP will not be in violation of the provisions of Paragraph 21.B.ii.a. if the emissions from the TGU do not exceed 550 ppm of SO_2 (at 0% oxygen) based on a rolling 12-hour average. If, during the last six months of the 24-month period, BP demonstrates that the refinery is unable to limit its emissions from its TGU to 250 ppm or less of SO_2 (at 0% oxygen) based on a rolling 12-hour average, when operating in full compliance with its Operation and Scheduled Maintenance Plan and its obligation to minimize emissions through implementation of good air pollution control practices as required in 40 C.F.R. § 60.11(d), EPA may adjust the emission limit to reflect an emission limit that BP can reasonably meet under such operating and maintenance conditions, but in no event shall that limit be greater than 550 ppm of SO_2. If EPA adjusts the emission limit by notifying BP in writing, then BP will not be in violation of the provisions of Paragraph 21.B.iii.a. if the emissions from the TGU do not exceed that adjusted limit during the period commencing from 24 months after the Date of Lodging of the Consent Decree to the date of installation of the second TGU or equivalent control technology, but no later than the planned refinery turnaround in 2006. In no event shall the foregoing be read to excuse BP from complying with the terms of Paragraph 21.B.ii.a by the planned refinery turnaround in 2006.

g. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraphs 21.B.ii.a. or d. during a scheduled turnaround of the TGU during the period from the Date of Lodging of the Consent Decree to the installation of the second TGU as scheduled in the Consent Decree, if BP demonstrates compliance with the provisions of the Operation and Scheduled Maintenance Plan required by Paragraph 21.B.ii.e., and the Root Cause of the excess emissions is due to the performance of the scheduled maintenance.

h. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraphs 21.B.ii.a. during a twenty-one (21) day scheduled turnaround of the sour water flash

drum tank in or around April 2001, if the sulfur dioxide emissions from the TGU do not exceed 1000 ppm based on a rolling 12-hour average.

iii. Mandan:

a. BP shall comply with a 95% recovery efficiency requirement for all periods of operation except during periods of startup, shutdown, or malfunction of the SRP. In addition, BP shall not exceed a sulfur dioxide emission limit of 2.11 tons/day from the SRP except during periods of startup, shutdown, or malfunction of the SRP. The 95% recovery efficiency will be determined on a daily basis; however, compliance will be determined on a rolling 30-day average basis. BP shall determine the percent recovery by measuring the flow rate and concentration of hydrogen sulfide in the feed streams going to the SRU and by measuring the sulfur dioxide emissions with the CEMS at the SRU incinerator. The flow rate will be determined continuously; the hydrogen sulfide concentration will be determined quarterly for the first 6 quarters from the Date of Lodging of the Consent Decree and at least semiannually thereafter (samples may be collected as manual grabs or through remote monitoring). The flow rate and hydrogen sulfide concentration values will be used to determine the daily feed rate. BP shall install and commence operation of the CEMS at the SRU incinerator no later than July 31, 2001.

b. BP shall complete an SRP optimization study at Mandan no later than one hundred twenty (120) days after the Date of Lodging of the Consent Decree. (For purposes of Paragraphs 21.B. and C. only, the "SRP" includes the amine unit, the sour water stripper, the SRU and the SRU tail gas incinerator.) The optimization study shall meet the requirements set forth at Paragraph 21.C. BP shall submit a copy of the optimization study report and a schedule for implementing the recommendations in the report to EPA Region 8 and the State of North Dakota. BP shall implement the physical improvements and operating parameters recommended in the study to optimize performance of the SRP in accordance with the proposed schedule.

c. BP shall operate the Mandan SRP at all times in accordance with the good engineering management practices as recommended in the optimization study to ensure compliance with the 95% efficiency requirement and the emission limit.

d. No later than six (6) months after the date of completion of the optimization study, BP shall conduct a test to demonstrate compliance with the 95% recovery efficiency and the emission limit requirements. BP shall submit a copy of the test protocol to EPA Region 8 and the State of North Dakota for review and comment not less than 30 days before the scheduled test date.

e. Beginning with the calendar quarter in which BP installs the CEMS on the SRU incinerator, BP shall submit a quarterly report to Region 8 and the State of North Dakota showing all daily percent sulfur recovery values, the rolling 30-day sulfur recovery average, all daily emissions (tons/day) as recorded by a CEMS, the operating parameters established in the SRP optimization study, and the daily feed (calculated from daily flow rate and quarterly hydrogen sulfide concentration) to the SRU.

f. By no later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall submit to EPA for EPA's approval, a Plan for Maintenance and Operation of its SRP and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions (Operation and Scheduled Maintenance Plan). The Plan shall provide for continuous operation between scheduled maintenance turnarounds for minimization of emissions from the SRP. Such Plan shall include, but not be limited to, sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus train to coincide with scheduled turnarounds of major upstream sulfur producing units. Upon EPA's approval, BP shall comply with the Operation and Scheduled Maintenance Plan at all times, including periods of start up, shut down, and malfunction of the SRP. BP may make reasonable modifications to the Operation and Scheduled Maintenance Plan approved under this Paragraph, provided that BP provides EPA with a copy of the modification. EPA need not approve a proposed modification made in good faith. The requirements of Paragraph 21.B.iii.f. shall apply for the life of the Consent Decree.

g. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraphs 21.B.iii.a. or c. during defined periods of scheduled maintenance of the SRP, if BP demonstrates compliance with the requirements of the optimization study set forth in Paragraphs 21.B.iii.b. and C. and the Operation and Scheduled Maintenance Plan required by Paragraph 21.B.iii.f., and the Root Cause of the excess emissions is due to the performance of the scheduled maintenance.

h. No later than one hundred and twenty (120) days from the date the sulfur input to the Mandan SRP exceeds twenty (20) long tons in any calendar day, BP shall submit to EPA a proposed schedule to comply with all applicable NSPS provisions, including the installation of a Tail Gas Unit. Any schedule proposed by BP shall require BP to be in compliance with all applicable NSPS regulatory requirements no later than thirty (30) months from the date the sulfur input to that SRP exceeded twenty (20) long tons in any calendar day; provided, however that BP and the United States agree that if there is a dispute as to the accuracy or reliability of the data indicating that the sulfur input to the Mandan SRP exceeded the twenty (20) long tons per day, then the deadlines for submission of the compliance schedule and achieving compliance with the NSPS shall be extended by the period of the dispute. BP shall notify EPA in writing if during any calendar day monitoring of the sulfur input to the Mandan SRP indicates that the sulfur input to the SRP exceeds twenty (20) long tons for that calendar day. The notice required by the preceding sentence shall include such monitoring data. To the extent that BP believes that such monitoring data is neither accurate nor reliable BP shall so notify the United States and provide the basis(es) for such an assertion.

iv. Salt Lake City:

a. BP shall comply with a 95% recovery efficiency requirement for all periods of operation except during periods of startup, shutdown, or malfunction of the SRP. In addition, BP shall not exceed a sulfur dioxide emission limit of 1.68 tons/day from the SRP except during periods of startup, shutdown, or malfunction of the SRP. The 95% recovery efficiency will be determined on a daily basis; however, compliance will be determined on a rolling 30-day average basis. BP shall

determine the percent recovery by measuring the flow rate and concentration of hydrogen sulfide in the feed streams going to the SRU and by measuring the sulfur dioxide emissions with the CEMS at the SRU incinerator. The flow rate will be determined continuously; the hydrogen sulfide concentration will be determined quarterly for the first 6 quarters from the Date of Lodging of the Consent Decree and at least semiannually thereafter (samples may be collected as manual grabs or though remote monitoring). The flow rate and hydrogen sulfide concentration values will be used to determine the daily feed rate.

b. BP shall complete an SRP optimization study at Salt Lake City no later than ninety (90) days after the Date of Lodging of the Consent Decree. (For purposes of Paragraphs 21.B. and C only, the "SRP" includes the amine unit, the sour water stripper, the SRU and the SRU tail gas incinerator.) The optimization study shall meet the requirements set forth in Paragraph 21.C. BP shall submit a copy of the optimization study report and a schedule for implementing the recommendations in the report to EPA Region 8 and the State of Utah. BP shall implement the physical improvements and operating parameters recommended in the study to optimize performance of the SRP in accordance with the proposed schedule.

c. BP shall operate the Salt Lake City SRP at all times in accordance with the good engineering management practices recommended in the optimization study to ensure compliance with the 95% efficiency requirement and the emission limit.

d. No later than six (6) months after the date of completion of the optimization study, BP shall conduct a test to demonstrate compliance with the 95% recovery efficiency and emission limit requirements. BP shall submit a copy of the test protocol to EPA Region 8 and the State of Utah for review and comment not less than 30 days before the scheduled test date.

e. BP shall submit a quarterly report to Region 8 and the State of Utah showing all daily percent sulfur recovery values, the rolling 30-day sulfur recovery average, all daily emissions (tons/day) as recorded by a CEMS, the operating parameters established in the optimization

operating study, and the daily feed (calculated from daily flow rate and quarterly hydrogen sulfide concentration) to the SRU.

f. By no later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall submit to EPA for EPA's approval, a Plan for Maintenance and Operation of its SRP and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions (Operation and Scheduled Maintenance Plan). The Plan shall provide for continuous operation between scheduled maintenance turnarounds for minimization of emissions from the SRP. Such Plan shall include, but not be limited to, sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus train to coincide with scheduled turnarounds of major upstream sulfur producing units. Upon EPA's approval, BP shall comply with the Operation and Scheduled Maintenance Plan at all times, including periods of start up, shut down, and malfunction of the SRP. BP may make reasonable modifications to the Operation and Scheduled Maintenance Plan approved under this Paragraph, provided that BP provides EPA with a copy of the modification. EPA need not approve a proposed modification made in good faith. The requirements of Paragraph 21.B.iv.f. shall apply for the life of the Consent Decree.

g. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraphs 21.B.iv.a. or c. during defined periods of scheduled maintenance of the SRP, if BP demonstrates compliance with the requirements of the optimization study set forth in Paragraphs 21.B.iv.b. and C. and the Operation and Scheduled Maintenance Plan required by Paragraph 21.B.iv.f., and the Root Cause of the excess emissions is due to the performance of the scheduled maintenance.

h. No later than one hundred and twenty (120) days from the date the sulfur input to the Salt Lake City SRP exceeds twenty (20) long tons in any calendar day, BP shall submit to EPA a proposed schedule to comply with all applicable NSPS provisions, including the installation of Tail Gas Unit. Any schedule proposed by BP shall require BP to be in compliance with all applicable NSPS regulatory requirements no later than thirty (30) months from the date the sulfur input to that

SRP exceeded twenty (20) long tons in any calendar day; provided, however that BP and the United States agree that if there is a dispute as to the accuracy or reliability of the data indicating that the sulfur input to the Mandan SRP exceeded the twenty (20) long tons per day, then the deadlines for submission of the compliance schedule and achieving compliance with the NSPS shall be extended by the period of the dispute. BP shall notify EPA in writing if during any calendar day monitoring of the sulfur input to the Salt Lake City SRP indicates that the sulfur input to the SRP exceeds twenty (20) long tons for that calendar day. The notice required by the preceding sentence shall include such monitoring data. To the extent that BP believes that such monitoring data is neither accurate nor reliable, BP shall so notify the United States and provide the basis(es) for such an assertion.

v. Texas City

a. By no later than the Date of Lodging of the Consent Decree, BP shall, for all periods of operation of the SRP, comply with 40 C.F.R. § 60.104(a)(2), except during periods of startup, shutdown or malfunction of the SRP or malfunction of the TGU, and with all applicable SRP NSPS requirements including applicable monitoring, record keeping, reporting and operating requirements of the SRP NSPS regulations.

b. At all times, including periods of startup, shutdown, and malfunction, BP shall, to the extent practicable, operate and maintain its SRP, its TGU, and any supplemental control devices in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required in 40 C.F.R. § 60.11(d).

vi. Whiting

a. By no later than the Date of Lodging of the Consent Decree:

1. BP shall comply with 40 C.F.R. § 60.104(a)(2) during all periods of operation of the SRP other than periods of startup, shutdown or malfunction of the SRP or malfunction of the TGU.

2. Notwithstanding subparagraph (1) above, for the interim period between the Date of Lodging of the Consent Decree and the applicable deadline under subparagraph b. below, BP shall

be permitted to schedule and perform maintenance on the TGU without shutting down the SRP or the refinery processes that produce feed to the SRP if BP satisfies all of the following conditions:

(i.) BP will be permitted to perform maintenance on the TGU for a period not to exceed twenty-one (21) days;

(ii.) BP will complete the necessary connections for the supplemental TGU during the time period that BP is performing maintenance on the TGU. If it is technically infeasible for BP to complete the necessary connections for the supplemental TGU during the scheduled maintenance on the TGU, BP will complete the necessary connections at a later time, provided, however, that BP must complete both the maintenance on the TGU and the necessary connections for the supplemental TGU within a total of twenty-one (21) days;

(iii.) BP shall provide EPA with written notice at least fourteen (14) days prior to the scheduled maintenance on the TGU. The notice shall be sent by overnight mail to Region V at the address set forth in Section XVI. The notice shall state the reasons for the maintenance; shall indicate that BP has implemented preventive measures in accordance with Subparagraph d. below and Appendix J ("Whiting Refinery Good Engineering Practices to Increase Reliability of Existing TGU"); and shall indicate that BP has and will implement good air pollution control practices in accordance with its plan for minimizing emissions as submitted and approved pursuant to Paragraph 21.vi.4.c;

(iv.) BP agrees that it will complete the scheduled maintenance on the TGU and the necessary connections for the supplemental TGU within twenty-one (21) days. Stipulated penalties will not be assessed during this time period; however, stipulated penalties, as set for in Paragraph 45.B of this Consent Decree will apply if BP exceeds the twenty-one day time period; and

(v.) During the scheduled maintenance on the TGU BP shall comply with its plan for ensuring good air pollution control practices for minimizing emissions.

3. At all times, including periods of startup, shutdown, and malfunction, BP shall, to the extent practicable, operate and maintain the Whiting SRP, its TGU and any supplemental control

devices on the SRP in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required by 40 C.F.R. § 60.11(d); and

4. BP shall comply with all applicable monitoring, record keeping, reporting, operating, and emission limit requirements of the NSPS SRP regulations. With respect to monitoring emissions from the standby incinerator, BP shall immediately comply with an alternative monitoring protocol once it is approved by EPA. If EPA disapproves of BP's proposed alternative monitoring protocol, BP shall install and operate a CEMS on the standby incinerator within one hundred eighty (180) days of receiving notice of EPA's disapproval, or entry of the consent decree, whichever is later. If BP uses the standby incinerator during the life of this Consent Decree, BP shall submit to EPA and the State of Indiana reports detailing the length of time that the standby incinerator was used, the amount of sulfur dioxide emissions emitted into the atmosphere during such time, the reasons for the use of the standby incinerator, and the corrective actions taken to minimize sulfur dioxide emissions from the standby incinerator. These reports shall comply with all the requirements of 40 C.F.R. §§ 60.7(c) and 60.105(e)(4).

b. By no later than March 2002, BP shall install on the SRP a supplemental TGU or alternative control technology to ensure continuous compliance with the NSPS emission standard at all times other than periods of startup, shutdown or malfunction of the SRP or malfunction of the TGU.

c. By no later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall submit to EPA for EPA's approval, a Plan for Maintenance and Operation of its SRP and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions (Operation and Scheduled Maintenance Plan). The Plan shall provide for continuous operation between scheduled maintenance turnarounds for minimization of emissions from the SRP. Such Plan shall include, but not be limited to, sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus train to coincide with scheduled turnarounds of major upstream sulfur producing units. Upon EPA's approval, BP shall comply with the

Operation and Scheduled Maintenance Plan at all times, including periods of start up, shut down, and malfunction of the SRP. BP may make reasonable modifications to the Operation and Scheduled Maintenance Plan approved under this Paragraph, provided that BP provides EPA with a copy of the modification. EPA need not approve a proposed modification made in good faith. The requirements of Paragraph 21.B.vi.c. shall apply for the life of the Consent Decree.

d. BP shall implement preventive measures to ensure reliability of the TGU. These measures may include regular caustic washing to prevent plugging of the reactor tower, continuous liquid injection of Stretford catalyst and filtering of the circulating solution to prevent solids buildup.

vii. Yorktown

a. By no later than the Date of Lodging of the Consent Decree, BP shall, for all periods of operation of the SRP, comply with 40 C.F.R. § 60.104(a)(2), except during periods of startup, shutdown or malfunction of the SRP or malfunction of the TGU and as provided in Paragraph 21.B.vii.f., and with all applicable SRP NSPS requirements including monitoring, record keeping, reporting and operating requirements of the SRP NSPS regulations.

b. BP shall install a TGU or equivalent control technology to ensure continuous compliance with the NSPS emission standards by no later than the planned refinery turnaround in 2006.

c. At all times, including periods of startup, shutdown, and malfunction, BP shall, to the extent practicable, operate and maintain its SRP, its TGU, and any supplemental control devices in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required in 40 C.F.R. § 60.11(d).

d. BP shall complete an SRP optimization study at Yorktown no later than ninety (90) days after the Date of Lodging of the Consent Decree, for the purpose of ensuring that the 3-stage Claus sulfur recovery train, at its present turn down ratio, achieves a maximum sulfur recovery rate. The optimization study shall meet the requirements set forth in Paragraph 21.C. BP shall submit a copy of the optimization study report and a schedule for implementing the recommendations in the report

to EPA Region 3 and the State of Virginia. BP shall implement the physical improvements and operating parameters recommended in the study to optimize performance of the SRP in accordance with the proposed schedule.

e. By no later than sixty (60) days from the Date of Lodging of the Consent Decree, BP shall submit to EPA for EPA's approval, a Plan for Maintenance and Operation of its SRP, the planned TGU, Supplemental Control Devices, and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions (Operation and Scheduled Maintenance Plan). The Plan shall provide for continuous operation between scheduled maintenance turnarounds for minimization of emissions from the SRP. Such Plan shall include, but not be limited to, sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus trains, TGU, and any supplemental control device to coincide with scheduled turnarounds of major upstream sulfur producing units. Upon EPA's approval, BP shall comply with the Operation and Scheduled Maintenance Plan at all times, including periods of start up, shut down, and malfunction of the SRP. BP may make reasonable modifications to the Operation and Scheduled Maintenance Plan approved under this Paragraph, provided that BP provides EPA with a copy of the modification. EPA need not approve a proposed modification made in good faith. The requirements of Paragraph 21.B.vii.e. shall apply for the life of the Consent Decree.

f. For purposes of this Consent Decree, BP will not be in violation of the provisions of Paragraph 21.B.vii.a., during the period from the Date of Lodging of the Consent Decree to the installation of the TGU, if BP demonstrates compliance with the requirements of the optimization study set forth in Paragraph 21.B.vii.d. and Paragraph 21.C. and the Operation and Scheduled Maintenance Plan required by Paragraph 21.B.vii.e. Furthermore, BP will not be in violation of the provisions of Paragraphs 21.B.vii.a. and Paragraph 21.B.vii.d. during scheduled maintenance of the SRP, if BP demonstrates full compliance with the requirements of the optimization study set forth in Paragraphs 21.B.vii.d. and C. and the Operation and Scheduled Maintenance Plan required by Paragraph 21.B.vii.e., and where the Root Cause of the excess emissions is due to the performance

of scheduled maintenance of the SRP. Prior to installation of the TGU, BP will submit quarterly reports to EPA Region 3 of its SO_2 emissions as monitored by its current monitoring equipment.

C. **Optimization Studies:** The optimization studies required for Mandan, Salt Lake City, and Yorktown shall meet the following requirements:

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, in the SRP;

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. Each study shall be conducted to optimize the performance of the Claus trains in light of the actual characteristics of the feeds to the SRUs.

22. **Acid and Sour Water Stripper Gas Flaring:** For all BP refineries subject to this Consent Decree not including the Toledo Facility, BP agrees to implement a program to investigate the cause of Flaring Incidents, correct the conditions that have caused or contributed to such Flaring

Incidents, and minimize the flaring of acid and sour water stripper gases from each of the covered refineries, as set forth below.

A. **Investigation and Reporting**

i. No later than thirty (30) days following the end of a Flaring Incident, BP (not including the Toledo Facility) shall submit to EPA's Air and Radiation Division of Region 5, the Air and Radiation Division of the EPA regional office in which the facility is located, and the appropriate State office, a report that sets forth the following:

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

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

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

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

e. An analysis of the measures, if any, that are available to reduce the likelihood of a recurrence of a Flaring Incident resulting from the same Root Cause or contributing causes in the future. 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, operational, and maintenance changes shall be evaluated. If BP concludes that corrective action(s) is (are) required under Subparagraph 22.B, 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 BP concludes that corrective action is not required under Subparagraph 22.B, the report shall explain the basis for that conclusion;

f. A statement that: (i) specifically identifies each of the grounds for stipulated penalties in Subparagraphs 22.C.i.a and 22.C.i.b of this Decree and describes whether or not the Flaring Incident falls under any of those grounds; (ii) if a Flaring Incident falls under Subparagraph 22.C.i.c of this Decree, describes which Subparagraph (22.C.i.c.1 or 22.C.i.c.2) applies and why; and (iii) if a Flaring Incident falls under either Subparagraph 22.C.i.b or Subparagraph 22.C.i.c.2, states whether or not BP asserts a defense to the Flaring Incident, and if so, a description of the defense; and

g. 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 this Subparagraph 22.A.i.d and 22.A.i.e shall be submitted; provided, however, that if BP has not submitted a report or a series of reports containing the information required to be submitted under this Subparagraph within 45 days (or such additional time as U.S. EPA may allow) after the due date for the initial report for the Flaring Incident, the stipulated penalty provisions of Paragraph 47 shall apply, but BP shall retain the right to dispute, under the Dispute Resolution Section of this Decree, any demand for stipulated penalties that was issued as a result of BP's failure to submit the report required under this Subparagraph within the time frame set forth. Nothing in this Subparagraph shall be deemed to excuse BP from its investigation, reporting, and corrective action obligations under this Section for any Flaring Incident which occurs after a Flaring Incident for which BP has requested an extension of time under this Subparagraph.

h. 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 Subparagraph, then, by no later than thirty (30) days after completion of the implementation of corrective action(s), BP shall submit a report identifying the corrective action(s) taken and the dates of commencement and completion of implementation.

i. The requirements of Paragraphs 22.A.i.e. to h of this Paragraph do not apply to Flaring Incidents that occur at the Yorktown, Mandan, or Salt Lake City Facilities during periods of scheduled maintenance of the SRPs at those facilities (and during the shut downs and start-ups associated with scheduled maintenance) if, and to the extent that, BP demonstrates, in the report required by this Paragraph 22.A., that no root cause other than the shutdown contributed more than 500 pounds of SO_2 in any 24-hour period (as provided in the definition of "Flaring Incident") to the Flaring Incident and that the Facility was complying with the applicable Operation and Scheduled Maintenance Plan required by Paragraphs 21.B.iii.f., 21.B.iv.f., and 21.B.vii.f., respectively, during such periods of scheduled maintenance and the associated shut down and start-up of such SRPs. The requirements of Paragraphs 22.A.i.e. to h of this Paragraph do apply to the portion of any Flaring Incident that occurs at the Yorktown, Mandan, or Salt Lake City Facilities during periods of scheduled maintenance of the SRPs at those facilities (and during the shut downs and start-ups associated with scheduled maintenance) if, and to the extent, that a root cause other than the shutdown of the SRP during scheduled maintenance contributes more than 500 pounds of SO_2 in any 24-hour period (as provided in the definition of "Flaring Incident") to the Flaring Incident.

B. **Corrective Action**

i. In response to any Flaring Incident, other than those excepted in Paragraph 22.A.i.i, above, BP (not including the Toledo Facility) as expeditiously as practicable, shall take 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 contributing causes of that Flaring Incident.

ii. If EPA does not notify BP in writing within sixty (60) days of receipt of the report(s) required by Subparagraph 22.A.i that it objects to one or more aspects of BP's proposed corrective action(s), if any, and schedule(s) of implementation, if any, then that (those) action(s) and schedule(s) shall be deemed acceptable for purposes of BP's compliance with Subparagraph 22.B.i of this Decree. EPA does not, however, by its consent to the entry of this Consent Decree or by its failure to object to any corrective action that BP may take in the future, warrant or aver in any manner that any of BP's corrective actions in the future shall result in compliance with the provisions of the Clean Air Act or its implementing regulations. Notwithstanding EPA's review of any plans, reports, corrective measures or procedures under this Paragraph 22, BP shall remain solely responsible for non-compliance with the Clean Air Act and its implementing regulations. Nothing in this Paragraph 22 shall be construed as a waiver of EPA's rights under the Clean Air Act and its regulations for future violations of the Act or its regulations.

iii. If EPA does object, in whole or in part, to BP's proposed corrective action(s) and/or its schedule(s) of implementation, or, where applicable, to the absence of such proposal(s) and/or schedule(s), it shall notify BP of that fact within sixty (60) days following receipt of the report(s) required by Subparagraph 22.A.i above. If BP and EPA cannot agree on the appropriate corrective action(s), if any, to be taken in response to a particular Flaring Incident, either Party may invoke the Dispute Resolution provisions of Section XIV of the Consent Decree.

iv. Nothing in Paragraph 22 shall be construed to limit BP's right to take such corrective actions as it deems necessary and appropriate immediately following a Flaring Incident or in the period during preparation and review of any reports required under this Section.

C. **Stipulated Penalties**

i. The provisions of this Paragraph 22.C.i.a-c shall apply to each Facility subject to the Consent Decree except for the Toledo Facility. The provisions of Paragraph 22.C.ii.a-c are intended to implement the process outlined in the logic diagram attached hereto as Appendix D to this Consent Decree. These provisions shall be interpreted and construed, to the maximum extent

feasible, to be consistent with that Attachment. However, in the event of a conflict between the language of Paragraph 22 and Appendix D, the language of this Paragraph shall control.

a. The stipulated penalty provisions of Paragraph 47 shall apply to any Flaring Incident for which the Root Cause was one or more or the following acts, omissions, or events:

1. Error resulting from careless operation by the personnel charged with the responsibility for the SRPs, TGUs, or Upstream Process Units;

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

3. For BP's Yorktown Facility:

i. Hotspots in SRU during startup or shutdown due to fluctuating heating value of fuel used in the reactor;
ii. Corrosion of existing expansion joints;
iii. Upsets of existing V-4 SRP tower.

4. For BP's Mandan Facility:

i. Pressure surges due to high flow from the sour water stripper;
ii. Training deficiencies.

5. For BP's Salt Lake Facility:

i. Flame out due to existing air ratio controller failure.

Except for a force majeure event, BP shall have no defenses to a demand for stipulated penalties for a Flaring Incident falling under this Subparagraph 22.C.i.a.

b. The stipulated penalty provisions of Paragraph 47 shall apply to any Flaring Incident that either:

1. 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; or

2. Causes the total number of Flaring Incidents in a rolling twelve (12) month period to exceed five (5).

In response to a demand by the United States for stipulated penalties, the United States and BP both agree that BP shall be entitled to assert a Malfunction defense with respect to any Flaring Incident falling under this Subparagraph. In the event that a dispute arising under this Subparagraph is brought to the Court pursuant to the Dispute Resolution provisions of this Decree, nothing in this

Subparagraph is intended or shall be construed to stop BP from asserting that, in addition to the Malfunction Defense, Startup, Shutdown, and upset defenses are available for Acid Gas or Sour Water Stripper Gas Flaring Incidents under 40 C.F.R. § 60.104(a)(1), nor to stop the United States from asserting its view that such defenses are not available. In the event that a Flaring Incident falls under both Paragraph 22.C.i.a and Paragraph 22.C.i.b , then Paragraph 22.C.i.a shall apply.

c. With respect to any Flaring Incident other than those identified in Paragraphs 22.C .i.a and 22.C.i.b, the following provisions shall apply:

1. First Time: If the Root Cause of the Flaring Incident was not a recurrence of the same Root Cause that resulted in a previous Flaring Incident that occurred since the effective date of this Decree, then:

   i. If the Root Cause of the 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 Flaring Incidents;

   ii. If the Root Cause of the Flaring Incident was not sudden and infrequent, and was reasonably preventable through the exercise of good engineering practice, then BP shall implement corrective action(s) pursuant to Paragraph 22.B.i. Subsection B of this Section.

2. Recurrence: If the Root Cause is a recurrence of the same Root Cause that resulted in a previous Flaring Incident that occurred since the Effective Date of this Consent Decree, then BP shall be liable for stipulated penalties under Paragraph 47 of the Consent Decree unless:

   i. the Flaring Incident resulted from a Malfunction, or

   ii. the Root Cause previously was designated as an agreed-upon malfunction under Subparagraph 22.C.i.c.1.(i); provided, however, that in the event that a dispute arising under this Subparagraph is brought to the Court pursuant to the Dispute Resolution provisions of this Decree, nothing in this Subparagraph is intended or shall be construed to stop BP from asserting its view that, in addition to a Malfunction Defense, Startup, Shutdown, and upset defenses are available for Acid Gas or Sour Water Stripper Gas Flaring Incidents under 40 C.F.R. § 60.104(a)(1), nor to stop the United States from asserting its view that such defenses are not available.

d. Other than for a Malfunction or Force Majeure, if no acid gas Flaring Incident or violation of the final emission limit for that refinery established under Paragraph 21 occurs at a refinery for a rolling 36 month period, then the stipulated penalty provisions of Paragraph 47 no

longer apply at that refinery. EPA may elect to reinstate the stipulated penalty provision if BP has a 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 life of this Consent Decree for that refinery.

e. The provisions of this Paragraph 22.C.i, and the stipulated penalty provisions of Paragraph 47 shall not apply to the Flaring Incidents excepted in Paragraph 22.A.i.i of this Consent Decree.

D. **Miscellaneous**

i. **Calculation of the Quantity of Sulfur Dioxide Emissions Resulting from Flaring.** For purposes of Paragraph 22 of this Consent Decree, the quantity of sulfur dioxide emissions resulting from Flaring shall be calculated by the following formula: Tons of Sulfur Dioxide = $[FR][TD][Conc H_2S][8.44 \times 10^{-5}]$. The quantity of Sulfur Dioxide 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 Sulfur Dioxide emitted shall be rounded to 10.1 tons.) For purposes of determining the occurrence of, or the total quantity of Sulfur Dioxide emissions resulting from, a Flaring Incident that is comprised of intermittent Flaring, the quantity of Sulfur Dioxide emitted shall be equal to the sum of the quantities of sulfur dioxide flared during each such period of intermittent Flaring.

ii. **Calculation of the Rate of Sulfur Dioxide Emissions During Flaring**. For purposes of Paragraph 22 of this Consent Decree, the rate of sulfur dioxide emissions resulting from Flaring shall be expressed in terms of pounds per hour, and shall be calculated by the following formula: $ER = [FR][Conc H_2S][0.169]$. 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 sulfur dioxide per hour, the emission rate shall be rounded to 20.0 pounds of sulfur dioxide per hour; for a calculation that results in an emission rate of 20.05 pounds of sulfur dioxide per hour, the emission rate shall be rounded to 20.1.)

iii. **Meaning of Variables and Derivation of Multipliers used in the Equations in Subparagraphs 22.D.i and 22.D.ii:**

ER	=	Emission Rate in pounds of Sulfur Dioxide per hour
FR	=	Average Flow Rate to Flaring Device(s) during Flaring, in standard cubic feet per hour
TD	=	Total Duration of Flaring in hours
$Conc H_2S$	=	Average Concentration of Hydrogen Sulfide in gas during Flaring (or immediately prior to Flaring 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 Flaring Device(s) -- that is, "FR" -- shall be as measured by the relevant flow meter. Hydrogen sulfide concentration -- that is, "ConcH_2S" -- shall be determined from the SRP feed gas analyzer. In the event that either 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 Subparagraph 22.A.i shall include the data used in the calculation and an explanation of the basis for any estimates of missing data points.

iv. Any disputes under the provisions of this Paragraph 22 shall be resolved in accordance with the Dispute Resolution section of the Consent Decree.

23. **RCRA Injunctive Measures for Whiting Facility**:

BP agrees to implement the RCRA compliance measures specified in this Paragraph 23, and certifies that the Whiting Facility is now otherwise in compliance with the requirements of RCRA set forth in the Complaint.

A. BP shall immediately upon the effective date of this Consent Decree (except as otherwise specified in this Decree), cease any treatment, storage, or disposal of any hazardous waste at the Whiting Facility except such treatment, storage, or disposal that is in compliance with the schedule, procedures, interim plans or requirements specified in this Decree; the applicable standards for hazardous waste treatment, storage, and disposal facilities; and/or permits issued by IDEM and/or EPA for the Facility.

B. BP agrees to close, and provide post-closure care, as appropriate, for the following unit at the Whiting Facility: the former spent bender catalyst waste pile area located in the Lake Berry tank field ("Management Unit"). The approximate location, size and shape of the Management Unit is shown on the map attached to this Consent Decree as Appendix I. The closure and post-closure activities shall be in accordance with all of the relevant requirements of Title 329 Indiana Administrative Code 3.1-9-1, (40 C.F.R. Part 264) Subparts G and H, and any other relevant requirements applicable to closure and post closure activities, unless specified otherwise in this Section.

C. In closing the Management Unit, BP may, to the extent allowed by IDEM:

1) incorporate work that BP is otherwise required to perform under this Consent Decree; and

2) incorporate these closure activities into the Remedial Measures that are being undertaken at the Facility pursuant to the IDEM Consent Order with Amoco dated December 4, 1995 (IDEM Consent Order). It is the intention of the parties that the activities performed pursuant to this Consent Decree shall be coordinated with activities under the IDEM Consent Order to prevent duplicative, conflicting or overlapping requirements to the extent practicable and allowed by law; provided, however, that nothing in this Paragraph shall be construed to modify any schedule set forth in this Consent Decree or attachments, or to limit

the authority of EPA under this Consent Decree to require BP to timely complete all activities.

D. Within sixty (60) days of entry of this Consent Decree, BP shall submit to IDEM for review pursuant to the Indiana Hazardous Waste Program a RCRA closure plan and contingent post-closure plan (Closure Plans) for the Management Unit. BP shall concurrently submit a copy of the Closure Plans to EPA. The Closure Plans shall comply with applicable requirements of Title 329 IAC 3.1-9-1, and shall contain an enforceable work plan and schedule for the project completion. BP may incorporate into the Closure Plans sampling information from its previous removal action in the affected area.

E. Subject to the approval of IDEM, BP's Closure Plans may provide that completion of closure of the Management Unit may be incorporated into the Remedial Measures set out in the IDEM Consent Order.

F. The Closure Plans shall be subject to approval, disapproval, or modification by IDEM in accordance with Title 329 IAC 3.1-9-1, (40 C.F.R. Part 264) Subpart G. Within sixty (60) days after receiving any notification of disapproval from IDEM, BP shall submit to IDEM revised plans which respond to all identified deficiencies. Upon receipt of approval or approval with modification, BP shall implement the terms of the Closure Plans in accordance with the requirements and the schedule contained therein, and with Title 329 IAC 3.1-9-1. BP shall submit a copy of the approved Closure Plans to EPA within five (5) days of receipt.

G. Within sixty (60) days of completion of closure of the Management Unit, BP shall submit to IDEM, with a copy to EPA, a certification, in accordance with Title 329 IAC 3.1-9-1, that the closure was completed in accordance with the approved Closure Plans.

H. Within sixty (60) days of entry of this Consent Decree, BP shall submit to IDEM, with a copy to EPA, certification that it has established financial assurance mechanisms for closure and any post-closure care for the Management Unit, and that those mechanisms meet all the

requirements of Title 329 IAC 3.1-9-1. The certification shall include a description of the financial assurance mechanism(s).

I. Within sixty (60) days of entry of this Consent Decree, BP shall demonstrate and certify to IDEM and EPA adequate financial liability coverage for bodily injury and property damage to third parties caused by sudden and non-sudden accidental occurrences arising from the operation of the Management Unit, and management of hazardous waste and hazardous constituents in connection with the Whiting Facility. The financial liability coverage shall meet all the requirements of Title 329 IAC 3.1-9-1, 3.1-9-2(9), and 3.1-15. The certification shall include a description of the financial liability coverage mechanism(s).

J. Nothing in this Consent Decree shall be construed to limit the right of BP under Indiana law to contest IDEM's determinations regarding any plan or certification submitted pursuant to this Consent Decree.

K. All reports, plans, submissions, and notifications to EPA required by this Section of the Consent Decree shall be submitted to the persons at U.S. EPA, Region 5, IDEM and Respondent at the addresses specified in Paragraph 82 of this Consent Decree.

L. For the sampling and analysis of the spent treating clay at the Number 4C Treating Plant, BP shall continue to comply with the terms of "Solid Waste Sampling Guideline - Sampling Bender Process Clay for Lead Content Determination" as revised 9/97, or a subsequent revision approved by IDEM.

M. If any required action has not been taken or completed in accordance with any requirement of this Paragraph of the Consent Decree, within ten (10) calendar days after the due date, BP shall notify EPA of the failure, the reason for the failure, and the proposed date for compliance.

N. Stipulated Penalties shall apply as provided in Paragraph 48 of this Consent Decree.

O. Notwithstanding any other provision of this Consent Decree, an enforcement action may be brought pursuant to Section 7003 of RCRA or other statutory authority where the handling,

storage, treatment, transportation or disposal of solid or hazardous waste at this Facility may present an imminent and substantial endangerment to human health or the environment.

24. **EPCRA Audits**

A. Each Facility subject to this Consent Decree may elect to perform an audit of its compliance with the statutory and regulatory obligations of Section 103(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. § 9603(a), and Sections 304, 311, 312 and 313 of EPCRA, 42 U.S.C. §§ 11004, 11021, 11022, and 11023. By no later than sixty (60) days from the Date of Entry of this Decree, each Facility electing to perform an audit pursuant to this Paragraph shall so notify EPA in writing.

B. Audits performed pursuant to this Paragraph may cover all potential CERCLA 103(a) and EPCRA Section 304, 311, 312 and 313 obligations from reporting year 1996 through, and including, the reporting year 2000. Reporting obligations under EPCRA and CERCLA include, but are not limited to: 1) potential failures to make required release reporting notifications to appropriate authorities under CERCLA 103 and EPCRA 304; 2) potential failures to submit EPCRA Section 311, 312, and 313 reports; and 3) potential failures to submit accurate and timely EPCRA Section 311, 312, and 313 reports.

C. The audits may be performed by either an outside contractor or qualified internal staff. BP may, where appropriate, consult with EPA regarding the scope of the proposed audit for any of the refineries which BP has chosen to audit.

D. Each Facility electing to conduct an audit under this Paragraph shall submit a final Audit Report by no later than six months from the Date of Entry of the Consent Decree to:

Tom Marvin
United States Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20004

The Audit Report shall describe the processes, procedures, and methodology used to conduct the audit; clearly identify any CERCLA 103 and EPCRA Section 304, 311, 312 and 313 violations

or potential violations discovered at the Facility through the audit; and, describe any and all measures taken to correct the disclosed violations and prevent repeated violations. In the event that the Facility elects to conduct a comprehensive facility-wide review of all its EPCRA and CERCLA reporting obligations it may have up to twelve (12) months to submit its final Audit Report to EPA.

E. The Audit Report shall be signed by an appropriate company official and the following certification shall directly precede such signature:

> I certify that the facilities identified in this Final Audit Report are currently in full compliance with Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. § 9603, and Sections 304, 311, 312 and 313, of the EPCRA, 42 U.S.C. §§ 11004, 11021, 11022, and 11023, and their respective implementing regulations.

F. Violations and potential violations reported in an audit conducted in accordance with this Paragraph and corrected by the date of the Audit Report shall be deemed to satisfy the requirements of EPA's Audit Policy. Once EPA has made the determination that an audit conducted by BP was consistent with the requirements of this Paragraph, EPA will notify BP in writing. BP shall thereupon be released from past civil liability for all violations or potential violations disclosed and corrected in accordance with this Paragraph 24, and contained in EPA's notification.

G. BP agrees to cooperate as required by EPA to determine that the requirements of this Paragraph 24 have been met.

H. The following violations are not eligible for disclosure under this Paragraph:

i. Possible violations at BP's Whiting refinery relating to events surrounding the release of coker gas oil from the Whiting refinery on February 23, 1999;

ii. Possible violations at BP's Cherry Point refinery relating to violations and possible violations identified during EPA's July 1999 multi-media compliance inspection of that facility;

iii. Any violation that was the subject of a citizen suit filed before the Date of Entry of this Consent Decree;

iv. Any violation of a requirement in an existing Federal or state consent decree;

v. Any violation that resulted in serious harm or imminent and substantial endangerment to the environment or public health; and

vi. Any criminal violation.

VI. PERMITTING

25. **Construction**: BP agrees to obtain all appropriate federally enforceable permits for the construction of the pollution control technology or installation of equipment to be installed required to meet the above pollution reductions.

26. **Operation**: As soon as practicable following the Date of Lodging of the Consent Decree, but in no event later than twelve (12) months following the Date of Lodging, BP shall submit applications to incorporate the emission limits and schedules set out in Paragraphs 14 - 18 and 21 of this Consent Decree into minor or major new source review permits or other permits (other than Title V permits) which are federally enforceable and, upon issuance of such permits shall file any applications necessary to incorporate the requirements of those permits into the Facility's Title V permit. As soon as practicable, but in no event later than thirty (30) days after the establishment of any emission limitations under Paragraphs 14, 15, 16, and 21 of the Consent Decree, BP shall submit applications to incorporate those emission limitations into minor or major new source review permits or other permits (other than Title V permits) which are federally enforceable and, upon issuance of such permits shall file any applications necessary to incorporate the requirements of those permits into the Facility's Title V permit. The Parties agree that incorporation of the requirements of this Decree into Title V permits may be by "administrative amendment" under 40 C.F.R. 70.7(d) and analogous state Title V rules.

27. **PSD and Major Non-Attainment Credits**

A. This Paragraph 27 sets forth the exclusive process for generating and using the NOx and SO_2 emissions reductions required by this Decree as credits for PSD netting and major non-attainment offsets. The provisions of this Paragraph are for purposes of this Consent Decree only and, except as hereinafter provided, may not be used or relied upon by BP or any other entity,

including any party to this Consent Decree, for any purpose other than as set forth herein. Except as provided in this Paragraph, BP will neither generate nor use any NOx and/or SO_2 emission reductions resulting from any projects conducted pursuant to this Consent Decree as credits or offsets in any PSD, major nonattainment and/or minor NSR permit or permit proceeding. However, nothing in this Paragraph of the Consent Decree shall be construed to limit the generation and use of emissions credits respecting NOx and/or SO_2 emission reductions that are either more stringent than the emissions limits established under the Consent Decree or achieved from sources not covered under the Consent Decree, as well as reductions of any other pollutant at any source (e.g., CO). Such emission reductions are outside the scope of this Paragraph and may be used for netting and offset credit in determining PSD/NSR applicability, as implemented by the appropriate permitting authority or EPA. Furthermore, nothing in this Paragraph is intended to obviate BP's obligations to comply with 40 C.F.R. Parts 51 and 52, (or 40 C.F.R. §§ 51.165 and 52.21), including rules pertaining to PSD netting and major non-attainment offsets, or to comply with any relevant SIP approved PSD or major non-attainment NSR program.

B. **Generating NOx and SO_2 Emission Credits**

i. For purposes of this Consent Decree, emissions credits for PSD netting and major non-attainment offsets may only be generated as follows: (1) by a unit which is a "netting/offset generating unit", as defined in Paragraph 27.B.ii, on or before December 31, 2003; or (2) by cessation of oil burning as set forth in Paragraph 27.C.ii.b. Such credits may be applied and used only at the refinery where they were generated.

ii. For purposes of this Consent Decree, the term "netting/offset generating unit" shall mean: for FCCU's - for NOx, compliance with a NOx emission limitation of 20 ppm, at 0% oxygen (365-day rolling average); for SO_2, compliance with a SO_2 emission limitation of 25 ppm at 0% oxygen (365-day rolling average); and for Heaters and Boilers - for NOx, compliance with a NOx emission limitation of 0.04 lbs per mmBTU (three hour average where no NOx CEMS and a 365-day rolling average where there are CEMS); for SO_2, compliance with a SO_2 emission limitation of

160 ppm H_2S in fuel gas (three hour average) and no oil burning at such unit. In addition, and notwithstanding the foregoing, the Carson FCCU, Texas City FCCU 2, Toledo FCCU, Whiting FCU 600, and Yorktown FCCU shall each be deemed to be a netting/offset generating units with regard to SO_2 regardless of the SO_2 emission level achieved pursuant to Paragraph 16.B.

iii. Emissions reduction credits generated by each netting/offset generating unit shall be the difference between such unit's baseline actual emissions for a representative two year period prior to implementation of the controls required by this Consent Decree, and its allowable emissions at the time the reductions are proposed to be used for netting or offset purposes as limited by the percentages expressed and the limitations on use set forth in Paragraph 27.C.

iv. To be applied or used under this Paragraph, BP must make any such emissions reduction federally enforceable. Such emissions reductions are creditable for five years from their date of generation and shall survive the termination of this Consent Decree.

C. **Using NOx and SO_2 Emission Credits and Offsets**

i. NOx-Specific Requirements and Limitations:

BP may use no more than ten percent (10%) of the NOx emission reduction credits generated by NOx netting/offset generating units for netting and/or offsets of any increases in NOx emissions that result from installing or modifying Lower Sulfur Fuels units and/or from installing or modifying units not otherwise subject to the terms of the Consent Decree, provided such new or modified unit meets the standards for a netting/offset generating unit as specified in Paragraph 27.B.ii. If necessary, BP may use up to an additional ten percent (10%) of the NOx emission reduction credits generated by NOx netting/offset generating units exclusively for netting and/or offsets of any increases in NOx emissions that result from the construction or modification of Lower Sulfur Fuels units, provided that (a) such new or modified unit meets the standards for a netting/offset generating unit as specified in Paragraph 27.B.ii., and (b) cleaner fuels will be produced prior to the applicable compliance dates for Tier II and low sulfur diesel fuel at such refinery and EPA determines that the refinery has adequate capacity (e.g., in amine units, at sulfur

recovery plants, and through tail gas units) to treat any sulfur that is generated in meeting the Tier II and low sulfur diesel fuel standards.

ii. SO_2-Specific Requirements and Limitations: BP may use no more than ten percent (10%) of the SO_2 emission reduction credits generated by elimination or reduction in oil burning in accordance with Paragraph 17 or other sources identified in this Consent Decree for netting and/or offsets of any increases in SO_2 emissions that result from the construction or modification of Lower Sulfur Fuels units that meet the standards for a netting/offset generating unit as specified in Paragraph 27.B.ii. BP may use up to 10% of the SO_2 reduction credits generated by the Carson FCCU, Texas City FCCU 2, Toledo FCCU, Whiting FCU 600, and Yorktown FCCU for any increases in SO_2 emissions that result from the construction or modification of any units that qualify as a netting/offset generating unit defined in Paragraph 27.B.ii

iii. BP will submit to EPA semi-annual reports regarding the generation and use of emission reduction credits under this Paragraph. The first such report will be submitted by January 31, 2002. Successive reports will be submitted on July 31, and January 31 of each year. Each such report shall contain the following information for each Facility subject to this Decree on a cumulative basis:

a. The quantity of credits generated since the Date of Entry of the Consent Decree and the emission unit(s) generating such credits, the date on which those credits were generated, and the basis for those determinations;

b. The quantity of credits used since the Date of Entry of the Consent Decree and the emission units to which those credits were applied;

c. To the extent known at the time the report is submitted, the additional units to which credits will be applied in the future and the estimated amount of such credits that will be used for each such unit; and

d. To the extent BP will seek to use the additional 10% of NOx credits provided for in the second sentence in Paragraph 24.C.i, the date by which clean fuels are expected to be produced at that Facility.

VII. ENVIRONMENTALLY BENEFICIAL PROJECTS

28. **FCCU and Heater and Boiler Controls:** BP and the United States agree that measures to reduce NOx and SO_2 emissions from the FCCUs and heaters and boilers at the covered petroleum refineries, to the extent that they are not otherwise required by law, shall be considered environmentally beneficial projects for penalty mitigation pursuant to the Consent Decree.

29. **Pollution Reduction:** BP shall perform the following pollution reduction projects as Supplemental Environmental Projects ("SEPs") as set forth below:

A. On or before June 1, 2002, at Yorktown, BP shall reduce emissions of SO_2 by 1,000 tpy by re-routing its sour water stripper gas from the flare to the SRU;

B. On or before June 1, 2003, at Yorktown, BP shall reduce emissions of SO_2 by 100 tpy by controlling the vacuum tower vent gas currently routed to a flare;

C. On or before December 31, 2004, at Texas City, BP shall reduce emissions of NOx by 1,600 tpy by decommissioning its cogeneration facility;

D. On or before June 1, 2002, at Yorktown, BP shall reduce emissions of NOx by 3,000 tpy by routing its sour water stripper gas to the SRU; and

E. On or before June 1, 2001, at Mandan, BP shall reduce emissions of NOx by 435 tpy by routing its sour water stripper gas from the CO boiler to the SRU.

30. By signing this Consent Decree, BP certifies that it is not required, and has no liability under any federal, state or local law or regulation or pursuant to any agreements or orders of any court, to perform or develop any of the projects identified in Paragraph 29. BP further certifies that it has not applied for or received, and will not in the future apply for or receive (1) credit as a Supplemental Environmental Project or other penalty offset in any other enforcement action for

such projects, or (2) credit for any emissions reductions resulting from such projects in any federal, state or local emissions trading or early reduction program.

31. The Calendar Quarterly Report required by Paragraph 33 of this Consent Decree for the calendar quarter in which each project identified in Paragraph 29 is completed shall contain the following information with respect to such projects:

i. A detailed description of each project 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. Certification that each project has been fully implemented pursuant to the provisions of this Consent Decree; and

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

32. BP agrees that in any public statements regarding the funding of these SEPs, BP must clearly indicate that these projects are being undertaken as part of the settlement of an enforcement action for alleged Clean Air Act violations.

VIII. REPORTING AND RECORDKEEPING

33. Beginning with the first full calendar quarter after the Date of Entry of the Consent Decree, BP shall submit to EPA within thirty (30) days after the end of each calendar quarter during the life of this Consent Decree a calendar quarterly progress report ("calendar quarterly report") covering each refinery subject to this Consent Decree and that is owned and operated by BP as of the Date of Lodging of the Consent Decree. This calendar quarterly report shall contain, for each such Refinery, the following: progress report on the implementation of the requirements of Section V (Affirmative Relief/Environmental Projects (Measures)) above; a summary of the emissions data as required by Section V of this Consent Decree for the calendar quarter; a description of any problems anticipated with respect to meeting the requirements of Section V of this Consent Decree; and a description of all environmentally beneficial projects and SEP implementation activity in

accordance with Paragraph 29 of the Consent Decree; and any such additional matters as BP believes should be brought to the attention of the United States or EPA.

34. Each portion of the calendar quarterly report which relates to a particular refinery shall be certified by either the person responsible for environmental management and compliance for that refinery, or by a person responsible for overseeing implementation of this Decree across BP, as follows:

> I certify under penalty of law that this information 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.

IX. CIVIL PENALTY

35. Within ten (10) days of the Date of Entry of the Consent Decree, BP shall pay a civil penalty of ten million dollars ($10,000,000) as follows: 1) $9.5 million of that civil penalty shall be paid to the United States by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing the USAO File Number and DOJ Case Number 90-5-2-1-07109, and the civil action case name and case number of the Northern District of Indiana. The costs of such EFT shall be BP's responsibility. Payment shall be made in accordance with instructions provided to BP by the Financial Litigation Unit of the U.S. Attorney's Office for the Northern District of Indiana. Any funds received after 11:00 a.m. (EST) shall be credited on the next business day. BP shall provide notice of payment, referencing the USAO File Number and DOJ Case Number 90-5-2-1-07109/1 and the civil action case name and case number, to the Department of Justice and to EPA, as provided in Paragraph 78 (Notice); and 2) Five Hundred Thousand Dollars ($500,000.00) to the State of Indiana. Such penalty shall be paid by check to the Indiana Environmental Management Special Fund (as authorized and created in I.C. 13-14-1 et seq.). The check shall reference the civil action case name and case number of the Northern District of Indiana and should be mailed to:

Cashier
Indiana Department of Environmental Management
100 N. Senate Ave.
P.O. Box 7060
Indianapolis, Indiana 46207-7060

The civil penalty remitted to the State of Indiana shall only be used for the monitoring and reduction of volatile organic compounds in the Whiting, Indiana area.

36. The civil penalty set forth herein is a penalty within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C. § 162(f), and, therefore, BP shall not treat this penalty payment as tax deductible for purposes of federal, state, or local law.

37. Upon the Date of Entry of the Consent Decree, 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. The United States shall be deemed a judgment creditor for purposes of collection of any unpaid amounts of the civil and stipulated penalties and interest.

X. STIPULATED PENALTIES

38. BP shall pay stipulated penalties to the United States for each failure by BP to comply with the terms of this Consent Decree as provided herein. The stipulated penalties shall be calculated in the following amounts specified in Paragraphs 39 through 50.

39. **Paragraph 14 - Requirements for NOx Emission Reductions from FCCUs**.

A. For failure to install each application of SCR at Texas City FCCU 2 and Whiting FCU 600, as required by this Consent Decree, per day:

1st through 30th day after deadline	$1250
31st through 60th day after deadline	$3000
Beyond 60th day	$5000 or an amount equal to 1.2 times the economic benefit of BP's delayed compliance, whichever is greater;

B. For failure to install each application of SNCR on Toledo FCCU, as required by this Consent Decree, per day:

1st through 30th day after deadline	$1250
31st through 60th day after deadline	$3000
Beyond 60th day	$5000 or an amount equal to 1.2 times the economic benefit of BP's delayed compliance, whichever is greater;

C. For failure to use NOx additives during the demonstration period as required by Paragraph 14 and Appendix F of the Consent Decree, per day:

1st through 30th day after deadline	$1000
31st through 60th day after deadline	$1500

Beyond 60th day after deadline $2000

D. For failure to meet the emission limits proposed by BP (final or interim) or established by EPA (final or interim) for NOx and CO pursuant to Paragraph 14, per day, per unit: $2500 for each calendar day on which the specified rolling average exceeds the applicable limit.

E. For failure to prepare and/or submit written deliverables required by Paragraph 14, per day:

1st through 30th day after deadline $200

31st through 60th day after deadline $500

Beyond 60th day after deadline $1000

F. For failure to install CEMS, per unit, per day:

1st through 30th day after deadline $500

31st through 60th day after deadline $1000

Beyond 60th day after deadline $2000 or an amount equal to 1.2 times economic benefit of delayed compliance, whichever is greater.

40. **Paragraph 15 -- Requirements for NOx Emission Reductions Heaters/Boilers.**

A. For failure to install required control technologies by the dates specified in Paragraph 15:

1st through 30th day after deadline $1500

31st through 60th day after deadline $2000

Beyond 60th day after deadline $3000

B. For failure to test emissions, per unit, per day:

1st through 30th day after deadline $400

31st through 60th day after deadline $1000

Beyond 60th day after deadline $2000

C. For failure to install CEMS, per unit, per day:

1st through 30th day after deadline $500

31st through 60th day after deadline	$1000
Beyond 60th day after deadline	$2000 or an amount equal to 1.2 times the economic benefit of delayed compliance whichever is greater.

D. For failure to submit the written deliverables required by Paragraph 15, per day:

1st through 30th day after deadline	$200
31st through 60th day after deadline	$500
Beyond 60th day	$1000

41. **Paragraph 16 - Requirements for SO_2 Emission Reductions from FCCUs.**

A. For failure to install each application of WGS Mandan FCCU, Texas City FCCU 3, and Whiting FCU 500, as required by this Consent Decree, per day:

1st through 30th day after deadline	$1250
31st through 60th day after deadline	$3000
Beyond 60th day	$5000 or an amount equal to 1.2 times the economic benefit of the delayed compliance whichever is greater

B. For failure to use SO_2 adsorbing catalyst additive and/or Hydrotreat during the demonstration period as required by Paragraph 16 and Appendix F of the Consent Decree, at each unit, per day:

1st through 30th day after deadline	$1000
31st through 60th day after deadline	$1500
Beyond 60th day	$2000

C. For failure to conduct optimization studies as required by this Consent Decree, per unit, per day:

1st through 30th day after deadline	$500
31st through 60th day after deadline	$1500

Beyond 60th day after deadline $2000

D. For failure to meet emission limits proposed by BP (final or interim) or established by EPA (final or interim) pursuant to Paragraph 16, per day, per unit: $3000 for each calendar day on which the specified rolling average exceeds the applicable limit.

42. **Paragraph 17 - Requirements for SO_2 Emission Reductions from Heaters and Boilers.**

A. For failure to cease fuel oil burning by each date specified in Paragraph 17.A of this Consent Decree, per refinery, per day:

1st through 30th day after deadline $1750

Beyond 31st day $5000

B. For burning any refinery fuel gas that contains hydrogen sulfide in excess of 0.1 grains per dry standard cubic foot on a 3-hour rolling average at any fuel gas combustion device as specified in Paragraph 17.C of this Consent Decree, per day:

1st through 30th day after deadline $5,000

Beyond 31st day $7,500

C. For failure to submit the written deliverables to EPA pursuant to this Paragraph 17 per day:

1st through 30th day after deadline $200

31st through 60th day after deadline $500

Beyond 60th day $1000

43. **Paragraph 18 - Particulate Matter Control and Hydrocarbon Flaring**

A. For failure to install each ESP at Yorktown FCCU and Toledo FCCU as required by this Consent Decree, per day:

1st through 30th day after deadline $1250

31st through 60th day after deadline $3000

Beyond 60th day	$5000 or an amount equal to 1.2 times the economic benefit of the delayed compliance whichever is greater

B. For failure to meet total particulate emissions for FCCU exhaust gas at each refinery, per day, per unit: $3000

C. For failure to develop and comply with the HCFPMP as required by Paragraph 18.C, per refinery, per day:

1st through 30th day after deadline	$500
Beyond 31st day after deadline	$1500
Beyond 60th day after deadline	$2000

D. For failure to report releases as required by Paragraph 18.D, per day of release: $3500

44. **Paragraph 19 - Requirements for Benzene Waste NESHAP Program Enhancements**

For each violation in which a frequency is specified in Paragraph 19, the amounts identified below shall apply on the first day of violation, shall be calculated for each incremental period of violation (or portion thereof), and shall be doubled beginning on the fourth consecutive, continuing period of violation. For requirements where no frequency is specified, penalties will not be doubled.

A. For failure to complete the TAB audits required by Paragraph 19.D:

$7,500 per month, per refinery

B. For refineries choosing to comply with Paragraph 19.F.i., failure to install or operate secondary carbon canisters:

$5,000 per week, per carbon canister:

C. For failure to conduct required breakthrough monitoring on carbon canisters, or for failure to monitor for breakthrough on carbon canisters during actual flow:

$1,000 per monitoring event, per refinery.

D. For failure to replace carbon canisters where both primary and secondary carbon canisters are utilized immediately upon detection of the breakthrough:

$1,000 per day, per carbon canister

E. For failure to replace carbon canisters where only single carbon canisters are utilized immediately upon detection of the breakthrough:

$2,750 per day, per carbon canister

F. For failure to conduct each lab audit required in Paragraph 19.H:

$5,000 per month, per audit

G. For failure to implement the training requirements of Paragraph 19.J:

$10,000 per quarter, per refinery

H. For failure to maintain any records required by Paragraph 19.F and 19.K of this Consent Decree:

$2,000 per record

I. For failure to conduct sampling in accordance with the sampling plans required by Paragraphs 19.L., 19.M., or 19.N:

$5,000 per week, per stream or $30,000 per quarter, per stream, whichever is greater, but not to exceed $150,000 per quarter per refinery

J. For failure to comply with the miscellaneous compliance measures set forth in Paragraph 19.P., as follows:

For P.i, monthly visual inspections: $500 per drain not inspected;

For P.ii, identify/mark segregated stormwater drains: $1,000 per week per drain;

For P.iii, weekly monitoring of vents: $500 per vent not monitored;

For P.iv, quarterly monitoring of oil/water separators: $5,000 per separator not monitored;

For P.v, if it is determined through an EPA, State, or local investigation that BP has failed to meet control standards in 40 C.F.R. §§ 61.343 or 61.351:

$10,000 per month per tank

For P.v, tanks P1 and P2 must meet control standards in 40 C.F.R. § 61.343 under the schedule for installation in 19.P.v:

$10,000 per week, per tank

K. For failure to complete either of the feasibility studies required by Paragraph 19.Q.:

$2,000 per month per study

L. For failure to submit the written deliverables required by Paragraph 19:

$1,000 per week, per report

M. If it is determined through an EPA, State, or local investigation that BP has failed to comply with Paragraph 19.E. and has not included all benzene containing waste streams in its TAB calculation, BP shall pay the following per waste stream:

for waste streams < 0.03 Mg/yr	$250
for waste streams between 0.03 and 0.1 Mg/yr	$1000
for waste streams between 0.1 and 0.5 Mg/yr	$5,000
for waste streams > 0.5 Mg/yr	$10,000

45. **Paragraph 20 - Requirements for Leak Detection and Repair Program Enhancements.**

For each violation in which a frequency is specified in Paragraph 20, the amounts identified below shall apply on the first day of violation, shall be calculated for each incremental period of violation (or portion thereof), and shall be doubled beginning on the fourth consecutive, continuing period of violation. For requirements where no frequency is specified, penalties will not be doubled.

A. For failure to implement the training programs specified in Paragraph 20.B., above:

$10,000 per month, per program, per refinery

B. For failure to conduct any of the audits described in Paragraph 20.C., above:

$5,000 per month, per audit

C. For failure to initiate an internal leak rate definition as specified in Paragraph 20.D., above: $10,000 per month per process unit

D. For failure to implement the first attempt repair program in Paragraph 20.G. or for failure to implement the new equipment standards described in Paragraph 20.J.

$10,000 per month, per refinery

E. For failure to implement the more frequent monitoring program required by Paragraph 20.H.

$10,000 per month, per unit

F. For failure to implement the accountability and incentives program in Paragraph 20.K. or for failure to implement the maintenance tracking program in Paragraph 20.L., or for failure to write a LDAR program that meets the requirements of Paragraph 20.A.: $3,750 per week, per refinery

G. For failure to use dataloggers or maintain electronic data as required by Paragraph 20.I.:

$5,000 per month, per refinery

H. For failure to conduct the calibration drift assessments or remonitor valves and pumps based on calibration drift assessments in Paragraph 20.N:

$100 per missed event per refinery

I. For failure to repair valves and pumps based on the delay of repair standards in Paragraph 20.O:

$5,000 per valve or pump

J. For failure to submit the written deliverables required by Paragraph 20:

$1,000 per week per report

K. If it is determined through an EPA, State, or local investigation that BP has failed to include all valves and pumps in its LDAR program, BP shall pay $175 per component that it had failed to include.

L. For failure to timely implement the monitoring program under Paragraph 20.H

$5,000 per week, per unit

46. **Paragraph 21 - Requirements for NSPS Applicability to SRPs, SRP Optmization and Operation and Scheduled Maintenance.**

A. For failure to re-route all SRP sulfur pit emissions to the SRP, and failure to continue to route such emissions to incinerator for Mandan and Salt Lake City, per day, per SRP:

1st through 30th day after deadline	$1000
31st through 60th day after deadline	$1750
Beyond 60th day after deadline	$4000 or an amount equal to 1.2 times the amount of delayed compliance whichever is greater

B. For failure to comply with: 1) the NSPS Subpart J emission limit or other emission limit in Paragraph 21 per SRP, per day on which the specified rolling average exceeds the applicable limit, 2) the requirement that BP propose a schedule for NSPS compliance pursuant to Paragraph 21.B.iii.h and 21.B.iv.h., and 3) the NSPS Subpart J emission limit for sulfur dioxide for Mandan and Salt Lake City, thirty (30) months after the sulfur input to the SRP exceeds twenty (20) long tons per day, per SRP:

1st through 30th day	$1500
31st through 60th day	$2000
Beyond 60th day	$2500

C. For failure to install TGU (or equivalent technology or practice), re-route tank vent gas, install CEMs, as specified in Paragraph 21.B at each refinery, per day, per unit:

1st through 30th day after deadline	$2000
Beyond 31st day after deadline	$3000
Beyond 60th day after deadline	$5000 or 1.2 times the

economic benefit of delayed compliance, whichever is greater;

D. For failure to conduct optimization studies as specified in Paragraphs 21.B. and C. at Mandan, Salt Lake City, and Yorktown refineries, per SRP, per day:

1st through 30th day after deadline	$500
Beyond 31st day after deadline	$1500
Beyond 60th day after deadline	$2000

E. For failure to develop and comply with the Operation and Scheduled Maintenance Plans as specified in Paragraph 21.B., per SRP, per day:

1st through 30th day after deadline	$500
Beyond 31st day after deadline	$1500
Beyond 60th day after deadline	$2000

F. For failure to submit written deliverables to EPA as specified in Paragraph 21.B. for Carson, Mandan, Salt Lake City, and Whiting, per refinery, per day:

1st through 30th day after deadline	$200
Beyond 31st day after deadline	$500
Beyond 60th day after deadline	$1000

47. **Paragraph 22 - Requirements for Flaring**. BP shall be liable for stipulated penalties for violations of the requirements of this Consent Decree as set forth in this paragraph.

A. For Flaring Incidents for which BP is liable under Paragraphs 22.C.i, 22.C.ii,:

Tons Emitted in Flaring 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 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 Flaring within the Flaring 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 48, only one cell within the matrix shall apply. Thus, for example, for a 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 Subparagraph applies under circumstances in which Flaring occurs intermittently during a Flaring Incident, the Flaring shall be deemed to commence at the time that the Flaring that triggers the initiation of a Flaring Incident commences, and shall be deemed to terminate at the time of the termination of the last episode of Flaring within the Flaring Incident. Thus, for example, for Flaring within a 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) no further Flaring occurs within the Flaring Incident, the Flaring within the 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.

B. For failure to timely submit any report required by Paragraph 22, or for submitting any report that does not conform to the requirements of Paragraph 22:

Period of Delay	Penalty per day
Days 1-30	$800
Days 31-60	$1,600
Over 60 days	$3,000

C. For those corrective action(s) which BP: (i) agrees to undertake following receipt of an objection by U.S. EPA pursuant to Paragraph 22.B.iii; or (ii) is required to undertake following Dispute Resolution, then, from the date of U.S. EPA's receipt of BP's report under Paragraph 22.B of this Consent Decree until the date that either (i) a final agreement is reached between U.S. EPA and BP regarding the corrective action or (ii) a court order regarding the corrective action is entered, BP shall be liable for stipulated penalties as follows:

i.

Period of Delay	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 BP's failure to implement the corrective action(s).

The decision of whether to demand as a stipulated penalty Alternative (i) or Alternative (ii) shall rest exclusively within the discretion of the United States.

D. For failure to complete any corrective action under Paragraph 22.B.i of this Decree in accordance with the schedule for such corrective action agreed to by BP or imposed on BP pursuant to the Dispute Resolution provisions of this Decree (with any such extensions thereto as to which U.S. EPA and BP may agree in writing):

Period of Delay	Penalty per day
Days 1-30	$ 1,000

Days 31-60	$ 2,000
Over 60	$ 5,000

48. **Paragraph 23 -- Requirements for RCRA Issues at Whiting**

BP shall be liable for stipulated penalties in the amounts set forth below to the United States for failure to comply with the RCRA requirements of this Consent Decree for the Whiting facility set forth in Paragraph 23, unless excused under Section XIII (Force Majeure). "Compliance" by BP shall include completion of the activities under this Consent Decree or any Work Plan or other plan or document approved under this Consent Decree in accordance with all applicable requirements of law, this Consent Decree, and any plans or other documents submitted to or approved by IDEM or EPA pursuant to this Consent Decree, and within the specified time schedules established by and approved under this Consent Decree. For noncompliance with any of the requirements of paragraph 23 identified below, the following stipulated penalties shall accrue per violation per day:

A. For failure to submit closure plan and post-closure plan:

1st through 30th day	$1000
31st through 60th day	$2500
Beyond 60th day	$5000

B. For failure to timely comply with closure plan requirements:

1st through 30th day	$1000
31st through 60th day	$2500
Beyond 60th day	$5000

C. For failure to submit of certification of closure

1st through 30th day	$200
31st through 60th day	$500
Beyond 60th day	$1000

D. For failure to provide financial assurances for closure, and post-closure care:

1st through 30th day	$500

31st through 60th day	$1250
Beyond 60th day	$2250

E. For failure to provide liability coverage:

1st through 30th day	$500
31st through 60th day	$1250
Beyond 60th day	$2250

F. For failure to conduct sampling and analysis of the spent treating clay in accordance with the sampling plan and as required by Paragraph 23.L: $2000 per sampling event per roll-off container.

G. For failure to prepare and/or submit written deliverables required by Paragraph 23 per day, per deliverable:

1st through 30th day	$350
31st through 60th day	$750
Beyond 60th day	$1500

49. **Paragraph 29 - Requirements for SEPs:**

For BP's failure to perform any one of the SEPs identified in Paragraph 29 in accordance with the EPA-approved schedule, per day, per project:

Period of Delay	Penalty per day
1st through 30th day after deadline	$500
31st through 60th day after deadline	$2000
Beyond 60th day after deadline	$2500

50. **Requirements for Reporting and Recordkeeping (Section VIII) - Report Required By Paragraph 50:**

For failure to report as required by Section VIII, per day:

Period of Delay	Penalty per day
1st through 30th day after deadline	$300

31st through 60th day after deadline	$1100
Beyond 60th day	$2000

51. **Requirements to Escrow Stipulated Penalties.** For failure to pay the civil penalty as specified in Section IX of this Consent Decree, BP shall be liable for $30,000 per day plus interest on the amount overdue at the rate specified in 28 U.S.C § 1961(a). For failure to escrow stipulated penalties as required by Paragraph 53 of this Consent Decree, BP shall be liable for $2500 per day plus interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

52. **Payment:** BP shall pay stipulated penalties upon written demand by the United States no later than sixty (60) days after BP receives such demand. Stipulated penalties shall be paid to the United States in the manner set forth in Section IX (Civil Penalty) of this Consent Decree. EPA's demand for the payment of stipulated penalties will identify the particular violation(s) to which the stipulated penalty relates, the stipulated penalty amount EPA 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.

53. **Stipulated Penalties Dispute:** Should BP dispute its obligation to pay part or all of a stipulated penalty, it may avoid the imposition of the stipulated penalty for failure to pay a penalty due to the United States, by placing the disputed amount demanded by the United States in a commercial escrow account pending resolution of the matter and by invoking the Dispute Resolution provisions of Section X within the time provided in this Paragraph 53 for payment of stipulated penalties. If the dispute is thereafter resolved in BP's favor, the escrowed amount plus accrued interest shall be returned to them, otherwise the United States shall be entitled to the escrowed amount that was determined to be due by the Court plus the interest that has accrued on such amount, with the balance, if any, returned to BP. The United States reserves the right to pursue any other non-monetary remedies to which it is entitled, including, but not limited to, additional injunctive relief for defendants' violations of this Consent Decree.

XI. INTEREST

54. BP shall be liable for interest on the unpaid balance of the civil penalty specified in Section IX, and BP shall be liable for interest on any unpaid balance of stipulated penalties to be paid in accordance with Section X. 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 Paragraph 54, interest pursuant to this Paragraph will cease to accrue on the amount of any penalty payment made into an interest bearing escrow account as contemplated by Sections IX and X of the Consent Decree. Monies timely paid into escrow shall not be considered to be an unpaid balance under this section.

XII. RIGHT OF ENTRY

55. Any authorized representative of the EPA or an appropriate state agency, including independent contractors, upon presentation of credentials, shall have a right of entry upon the premises of the facilities of BP's facilities as identified herein, 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 BP required by this Consent Decree. BP shall retain such records for the period of the Consent Decree. Nothing in this Consent Decree shall limit the authority of EPA to conduct tests and inspections under Section 114 of the Act, 42 U.S.C. § 7414, or any other statutory or regulatory provision.

XIII. FORCE MAJEURE

56. If any event occurs which causes or may cause a delay or impediment to performance in complying with any provision of this Consent Decree, BP shall notify the United States in writing as soon as practicable, but in any event within ten (10) business days of when such defendant first

knew of the event or should have known of the event by the exercise of due diligence. In this notice, BP shall specifically reference this Paragraph 56 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 such defendant to prevent or minimize the delay and the schedule by which those measures shall be implemented. BP shall adopt all necessary measures 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 the appropriate EPA Regional Office as specified in Paragraph 82, Notice.

57. Failure by BP to substantially comply with the notice requirements of Paragraph 56 as specified above shall render this Section XIII voidable by the United States as to the specific event for which such defendant has failed to comply with such notice requirement, and, if voided, is of no effect as to the particular event involved.

58. The United States shall notify BP 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 56. If the United States agrees that the delay or impediment to performance has been or will be caused by circumstances beyond the control of BP including any entity controlled by BP and that BP 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. Such stipulation shall be filed as a modification to the Consent Decree pursuant to the modification procedures established in this Consent Decree. BP shall not be liable for stipulated penalties for the period of any such delay.

59. If the United States does not accept BP's claim of a delay or impediment to performance, BP must submit the matter to the Court for resolution to avoid payment of stipulated penalties, by filing a petition for determination with the Court. Once BP has submitted this matter to the Court, the United States shall have twenty (20) business days to file its response 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 BP including any entity controlled by BP and that the delay could not have been prevented by BP by the exercise of due diligence, BP shall be excused as to that event(s) and delay (including stipulated penalties), for a period of time equivalent to the delay caused by such circumstances.

60. Each defendant asserting a claim of force majeure shall bear the burden of proving that any delay of 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 they could not have prevented the delay by the exercise of due diligence. The defendants 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 does not necessarily, result in an extension of a subsequent compliance date or dates.

61. Unanticipated or increased costs or expenses associated with the performance of the defendant's obligations under this Consent Decree shall not constitute circumstances beyond its control, or serve as a basis for an extension of time under this Section XIII. However, failure of a permitting authority to issue a necessary permit in a timely fashion is an event of force majeure where the failure of the permitting authority to act is beyond the control of the defendant and the defendant has taken all steps available to it to obtain the necessary permit including but not limited to: submitting a complete permit application; responding to requests for additional information by the permitting authority in a timely fashion; accepting lawful permit terms and conditions; and prosecuting appeals of any unlawful terms and conditions imposed by the permitting authority in an expeditious fashion.

62. 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 BP serving a force majeure notice or the Parties' inability to reach agreement.

63. As part of the resolution of any matter submitted to this Court under this Section XIII, 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 as a result of any delay or impediment to performance agreed to by the United States or approved by this Court. BP shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule.

XIV. RETENTION OF JURISDICTION/DISPUTE RESOLUTION

64. 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 among the Parties that may arise under the provisions of the Consent Decree, and until the Consent Decree terminates in accordance with Paragraph 87 of this Consent Decree (Termination).

65. The dispute resolution procedure provided by this Section XIV shall be available to resolve all disputes arising under this Consent Decree, provided that the party making such application has made a good faith attempt to resolve the matter with the other party.

66. The dispute resolution procedure required herein shall be invoked upon the giving of written notice by one of the parties to this Consent Decree to another advising of a dispute pursuant to this Section XIV. 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 from the receipt of such notice.

67. 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 United States and BP, unless it is agreed that this period should be shortened or extended.

68. In the event that the parties are unable to reach agreement during such informal negotiation period, the United States shall provide BP with a written summary of its position regarding the dispute. The position advanced by the United States shall be considered binding unless, within forty-five (45) calendar days of BP's receipt of the written summary of the United

States' position, it files with the Court a petition which describes the nature of the dispute. The United States shall respond to the petition within forty-five (45) calendar days of filing.

69. Where the nature of the dispute is such that a more timely resolution of the issue is required, the time periods set out in this Section XIV may be shortened upon motion of one of the parties to the dispute.

70. Notwithstanding any other provision of this Consent Decree, in dispute resolution, the Court shall not draw any inferences nor establish any presumptions adverse to either party as a result of invocation of this Section XIV or the Parties' inability to reach agreement.

71. 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. BP shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule.

XV. EFFECT OF SETTLEMENT

72. This Consent Decree is not a permit; compliance with its terms does not guarantee compliance with any applicable federal, state or local laws or regulations. Nothing in this Consent Decree shall be construed to be a ruling on, or determination of, any issue related to any Federal, state or local permit.

73. A. Entry of this Consent Decree shall resolve all civil liability of BP to the United States and the Plaintiff-Intervenors for the violations of the statutory and regulatory requirements identified in Paragraph 73.A. that occurred prior to the Date of Entry of the Consent Decree, and for violations of the statutory and regulatory requirements identified in Paragraph 73.A. that occurred prior to the Date of Entry of the Consent Decree and continued after the Date of Entry of the Consent Decree:

i. With respect to the FCCUs, fuel gas combustion devices and sulfur recovery plants (exclusive of the associated incinerators which have been identified by BP in Appendix G, Part B)

at the eight refineries covered by this Consent Decree, violations of the following Federal and State "New Source Review" Rules and "New Source Performance Standards" for the units covered by this Consent Decree:

a. PSD requirements at Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, with respect to only NOx, SO_2, SO_3, H_2SO_4, total reduced sulfur compounds, H_2S, PM, and CO;

b. "Plan Requirements for Non-Attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. §§ 51.165 (a) and (b), Part 51, Subpart S, and § 52.24, with respect to only NOx, SO_2, SO_3, H_2SO_4, total reduced sulfur compounds, H_2S, PM, and CO;

c. The NSPS promulgated pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, and codified at 40 C.F.R. Part 60, Subpart A ("General Provisions") and Subpart J ("Standards of Performance of Petroleum Refineries'); and

d. Any regulations of the respective Plaintiff-Intervenors' SIPs, or other state rules that implement these CAA programs; and

ii. With respect to all units at the eight refineries subject to this Consent Decree:

a. LDAR requirements promulgated under Sections 111 and 112 of the Clean Air Act, and codified at 40 C.F.R. Part 60, Subparts VV and GGG, 40 C.F.R. Part 61, Subparts J and V, and the LDAR requirements of 40 C.F.R. Part 63, Subparts F, H, and CC;

b. NESHAP for Benzene Waste, 40 C.F.R. Part 61, Subpart FF promulgated pursuant to Section 112(q) of the Act, 42 U.S.C. § 7412(q); and

c. Any applicable state regulations of the respective Plaintiff-Intervenors that implement, adopt, or incorporate the specific federal regulatory requirements identified above;

iii. As regards the claims pending in United States v. Amoco Oil Company, Civil No. 2:96 CV 095 RL (N.D. IN.) as alleged in the Amended Complaint dated June 30, 1998, and in the amended complaint filed herewith:

a. The RCRA Permitting, Closure, Post-Closure and Financial Assurance requirements for the spent bender catalyst waste pile set forth at 40 C.F.R. Part 264, Subparts G, H, L, and Part 270; RCRA hazardous waste determination requirements for the spent treating clay waste at 40 C.F.R. Part 262;

b. Section 313 of the EPCRA; and

c. Any Indiana regulations incorporating or implementing the foregoing federal requirements.

iv. With respect to the sulfur recovery plant incinerators identified by BP in Appendix G, Part B, for those gas streams combusted in the sulfur recovery plant(s) or identified in Paragraph 21 of the Consent Decree for violation of the laws identified in Paragraph 73.A.i.a-d.

B. With respect to the incinerators identified in Paragraph 17.D.i of this Consent Decree, entry of this Consent Decree shall resolve the civil liability of BP to the United States and the Plaintiff-Intervenors for the violations of the statutory and regulatory requirements that occurred prior to the twenty-four (24) months after the Date of Entry of the Consent Decree for the following:

a. PSD requirements at Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, with respect to only NOx, SO_2, SO_3, H_2SO_4, total reduced sulfur compounds, H_2S, PM, and CO;

b. "Plan Requirements for Non-Attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. §§ 51.165 (a) and (b), Part 51, Subpart S, and § 52.24, with respect to only NOx, SO_2, SO_3, H_2SO_4, total reduced sulfur compounds, H_2S, PM, and CO;

c. The NSPS promulgated pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, and codified at 40 C.F.R. Part 60, Subpart A ("General Provisions") and Subpart J ("Standards of Performance of Petroleum Refineries'); and

d. Any regulations of the respective Plaintiff-Intervenors SIPs, or other state rules that implement these CAA programs.

C. With respect to the wastestreams identified in Paragraph 17.D.ii of this Consent Decree, entry of this Consent Decree shall resolve the civil liability of BP to the United States and the Plaintiff-Intervenors for the violations of the statutory and regulatory requirements that occurred prior to the scheduled TGU turnaround in 2003 for the Carson Facility for the following:

a. PSD requirements at Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, with respect to only NOx, SO_2, SO_3, H_2SO_4, total reduced sulfur compounds, H_2S, PM, and CO;

b. "Plan Requirements for Non-Attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. §§ 51.165 (a) and (b), Part 51, Subpart S, and § 52.24, with respect to only NOx, SO_2, SO_3, H_2SO_4, total reduced sulfur compounds, H_2S, PM, and CO;

c. The NSPS promulgated pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, and codified at 40 C.F.R. Part 60, Subpart A ("General Provisions") and Subpart J ("Standards of Performance of Petroleum Refineries'); and

d. Any regulations of the respective Plaintiff-Intervenors SIPs, or other state rules that implement these CAA programs.

D. **EPCRA:** Paragraph 24 of this Consent Decree shall govern the release by the United States of any claims brought pursuant to the provisions of EPCRA or Section 103(a) of CERCLA, 42 U.S.C. § 9603(a).

E. **Reservation re: Incinerators**: The terms of this Consent Decree shall apply to only those incinerators specifically identified in Paragraph 17.D and covered by Paragraph 73.B, and the incinerators identified in Appendix G, Part B and covered by Paragraph 73.A.iv.

F. **General Reservation of Rights:** Nothing in this Consent Decree precludes the United States from seeking from BP injunctive relief, penalties, or other appropriate relief for violations by such defendant of PSD/NSR and NSPS that: 1) pre-date the Date of Entry of the Consent Decree for units not covered by the Consent Decree; or 2) that arise after the Date of Entry of the Consent Decree for any units. Nothing in this Consent Decree precludes the United States from seeking from BP injunctive relief, penalties, or other appropriate relief for violations of NESHAP and/or LDAR requirements that post-date the Date of Entry of the Consent Decree for any units at its respective refineries.

G. **Reservation Re: NSPS Applicability**: Nothing in this Consent Decree shall affect the status of any FCCU, fuel gas combustion device, and sulfur recovery plant currently subject to NSPS as previously determined by any Federal, state, or local authority or any applicable permit. Any FCCU, fuel gas combustion devices, or sulfur recovery plant that is modified or re-constructed after the Date of Entry of the Consent Decree so as to qualify as an "affected facility" under 40 C.F.R. §§ 60.14 and 60.15, respectively, will be considered an "affected facility" for purposes of NSPS.

H. **Claim/Issue Preclusion:** In any subsequent administrative or judicial proceeding initiated by the United States or the States for injunctive relief, penalties, or other appropriate relief relating to BP for violations of the PSD/NSR, NSPS, NESHAP, and/or LDAR requirements:

i. BP shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the States in the subsequent proceeding were or should have been brought in the instant case. The United States' specifically reserves its position that NSPS Subparts A and J applies to the fuel gas combustion devices at the

defendants' refineries as described in, and covered by, the Koch Letter. Nothing in the preceding sentence is intended to modify the coverage of Paragraph 73.A.i.

ii. The United States and Plaintiff-Intervenor States may not assert or maintain, that this Consent Decree constitutes a waiver or determination of, or otherwise obviates, any claim or defense whatsoever, or constitutes acceptance by BP of any interpretation or guidance issued by EPA related to the matters addressed in this Consent Decree including, but not limited to, the interpretations contained in the Koch Letter, and BP specifically reserves any and all objections they may have with respect to any such guidance and interpretations.

XVI. GENERAL PROVISIONS

74. **Other Laws**: Except as specifically provided by this Consent Decree, nothing in this Consent Decree shall relieve BP of its obligation to comply with all applicable Federal, state and local laws and regulations. Subject to Paragraph 73, nothing contained in this Consent Decree shall be construed to prevent or limit the United States' rights to seek or obtain other remedies or sanctions available under other Federal, state or local statutes or regulations, by virtue of defendants' violation of the Consent Decree or of the statutes and regulations upon which the Consent Decree is based, or for defendants' violations of any applicable provision of law, other than the specific matters resolved herein. This shall include the United States' right to invoke the authority of the Court to order BP's compliance with this Consent Decree in a subsequent contempt action.

75. **Failure of Compliance:** The United States does not, by its consent to the entry of Consent Decree, warrant or aver in any manner that BP's complete compliance with the Consent Decree will result in compliance with the provisions of the CAA, 42 U.S.C. §§ 7401-7671q or RCRA, 42 U.S.C. §§ 6901-6992k. Notwithstanding EPA's review or approval by the United States of any plans, reports, policies or procedures formulated pursuant to the Consent Decree, BP shall remain solely responsible for compliance with the terms of the Consent Decree, all applicable permits, all applicable Federal, state and local regulations, and except as provided in Section XIII,

Force Majeure, shall not raise as a defense to any proceeding brought by the United States to enforce this Consent Decree any act or omission of the United States.

76. **Severability:** It is the intent of the Parties hereto that the clauses hereof are severable, and should any clause(s) be declared by a court of competent jurisdiction to be invalid and unenforceable, the remaining clauses shall remain in full force and effect.

77. **Service of Process:** BP 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. BP shall identify, on the attached signature page, the name and address of an agent who is authorized to accept service of process with respect to all matters arising under or relating to the Consent Decree.

78. **Post-Lodging/Pre-Entry Obligations:** Obligations of BP under the provisions of this Consent Decree to perform duties scheduled to occur after the Date of Lodging of the Consent Decree, but prior to the Date of Entry of the Consent Decree, shall be legally enforceable from the Date of Entry of the Consent Decree. 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 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 Date of Entry of the Consent Decree may not be collected by the United States unless and until Consent Decree is entered by the Court.

79. **Costs**: Each party to this action shall bear its own costs and attorneys' fees.

80. **Public Documents**: All information and documents submitted by BP to the United States pursuant to this Consent Decree shall be subject to public inspection, unless subject to legal privileges or protection or identified and supported as business confidential by BP in accordance with 40 C.F.R. Part 2.

81. **Public Notice and Comment:**: The Parties agree to the Consent Decree and 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 U.S. 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.

82. **Notice**. Unless otherwise provided herein, notifications to or communications with the United States or defendants shall be deemed submitted on the date they are postmarked and sent either by overnight receipt mail service or by certified or registered mail, return receipt requested. Except as otherwise provided herein, all reports, notifications, certifications, or other communications required or allowed under this Consent Decree to be submitted or delivered to the United States, EPA, the States, BP 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

United States Attorney
Northern District of Indiana
Assistant United States Attorney
1001 Main Street
Suite A
Dyer, Indiana 46311

As to EPA:

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

EPA Region 3:

Director
Air Protection Division
U.S. Environmental Protection Agency, Region 3
1650 Arch Street, 3AP00
Philadelphia, PA 19103

EPA Region 5:

Air and Radiation Division
U.S. EPA, Region 5
77 West Jackson Blvd. (AE-17J)
Chicago, IL 60604
Attn: Compliance Tracker

and

Office of Regional Counsel
U.S. EPA, Region 5
77 West Jackson Blvd. (C-14J)
Chicago, IL 60604

EPA Region 6:

Director, Compliance Assurance and
Enforcement Division
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

EPA Region 8:

Technical Enforcement Program Air Director
Mail Code ENF-T
Office of Enforcement, Compliance and Environmental Justice
U.S. Environmental Protection Agency
999 18th Street, Suite 300
Denver, CO 80202-2466

EPA Region 9:

Director, Air Division (Air-1)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

EPA Region 10:

Director
Air Division

U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

The State of Indiana:

Felicia A. Robinson
Assistant Commissioner
Office of Enforcement
Indiana Department of Environmental Management
100 N. Senate
P.O. Box 6015
Indianapolis, IN 46206-6015

Northwest Air Pollution Authority, Washington:

Valerie Lagen
Northwest Air Pollution Authority
1600 South Second Street
Mt. Vernon, WA 98273-5202

The State of Ohio:

Joseph P. Koncelik
Deputy Director of Legal Affairs
Ohio Environmental Protection Agency
122 South Front Street, Columbus, Ohio 43215

As to BP Corporation:

Richard J. Glaser
Director
Project Sunshine
BP Corporation
2815 Indianapolis Boulevard
Whiting, IN 46394-0710

and

David L. Bell
Senior Counsel
BP America, Inc.
200 East Randolph St.
Mail Code 2205
Chicago, IL 60601

83. 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. In

addition, the nature and frequency of reports required by the Consent Decree may be modified by mutual consent of the parties. The consent of the United States to such modification must be in the form of a written notification from the Department of Justice.

84. **The Paperwork Reduction Act**: 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.

85. **Modification**. 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. Except as specified in Paragraph 83, the Consent Decree may not be amended or modified except by written order of this Court. Any modification of the Consent Decree by the Parties shall be in writing and approved by the Court before it shall be deemed effective.

XVII. TERMINATION

86. When BP has met the requirements set forth below for termination of part or all of this Consent Decree, it may seek termination of part or all of the Consent Decree as applicable by certifying to the United States, that:

A. **For Paragraphs 14 (FCCU NOx and CO), 16 (FCCU SO_2), 17 (H&B SO_2), and/or 18 A and B (ESPs):**

i. The controls required by the Paragraph have been installed;

ii. The studies required by the Paragraph have been completed, submitted to EPA, and approved by EPA (to the extent EPA's approval is required);

iii. The final emission limits prescribed by the Paragraph have been established and/or become effective and have been incorporated into major or minor new source review permits or other federally enforceable permits, as well as applications for incorporation into its Title V permit;

iv. The Facility demonstrates that it has been in compliance with those emission limits for twelve consecutive months; and

v. All stipulated penalties due from the Facility with respect to that Paragraph have been paid.

Certification made under this Paragraph 86.A may be made on a refinery-by-refinery, paragraph-by-paragraph basis.

B. **For Paragraph 15 (H&B NOx):**

i. The Facility has installed controls meeting the requirements of Paragraph 15.C;

ii. The Facility has completed reporting, testing, and monitoring to the extent required by Paragraphs 15.G and H, and demonstrates that it has been in compliance with applicable NOx emission limits for twelve consecutive months;

iii. All stipulated penalties due from BP with respect to Paragraph 15 have been paid; and

iv. BP demonstrates that it has met the system-wide requirements of Paragraphs 15.C. and 15.E.

C. **For Paragraphs 19 (BWN) and 20 (LDAR)**. No earlier than December 31, 2008, for any facility covered by this Consent Decree provided that separately with respect to Paragraph 19 and Paragraph 20: 1) the defendant has demonstrated substantial compliance with the programs of the Paragraph for which the defendant is certifying compliance; and 2) all stipulated penalties due with respect to the Paragraph that the defendant is certifying compliance have been paid.

D. **For Paragraphs 18.C (HC Flaring):** No earlier than December 31, 2005, for any facility covered by this Consent Decree, provided that: 1) BP has demonstrated substantial compliance with the program in Paragraph 18.C; and 2) all stipulated penalties due with respect to Paragraph 18.C have been paid.

E. **For Paragraphs 21 (SRPs)**: For any refinery covered by this Consent Decree, provided that the refinery has: 1) demonstrated compliance with all of the activities and requirements of Paragraph 21; 2) achieved the final emissions limit specified in Paragraph 21 at its SRP for twelve (12) consecutive months; 3) incorporated that limit into a major or mnior NSR permit or other federally enforceable permit and has applied for incorporation into the Facility's Title V permit application and other applicable permits (including state operating permit); and 4) paid all stipulated penalties due from it with respect to Paragraph 21.

F. **For Paragraph 22 (AG Flaring)**: No earlier than December 31, 2008, for any refinery covered by this Consent Decree provided that the refinery has: 1) demonstrated compliance with all of the activities and requirements (including reporting and corrective action) required by Paragraph 22; and 2) paid all stipulated penalties due from it with respect to Paragraph 22.

G. **For the Entire Consent Decree**: The Consent Decree shall terminate in its entirety with respect to a given Facility once the following have occurred:

a. The Civil Penalty imposed by Section IX has been paid in full; and

b. Any requirements applicable to the Facility under Paragraph 29 (SEPs) have been satisfied; and

c. The requirements applicable to the Facility for termination of Paragraphs 14 through 22, as set forth above, have been satisfied.

87. If BP believes it has satisfied the requirements for termination of one or more Paragraphs referenced in Paragraph 86.A through D, above, it shall so certify to the United States, and unless the United States objects in writing with specific reasons within sixty (60) days of receipt of the certification, the United States shall move the Court to terminate the Consent Decree with respect to that/those Paragraphs. If the United States objects to the BP's certification, then the matter shall be submitted to the Court for resolution under Section XIII ("Dispute Resolution") of

this Consent Decree. In such case, BP shall bear the burden of proving that this Consent Decree should be terminated. Obligations under this Consent Decree may not terminate absent express written approval of the Court.

XVIII. SIGNATORIES

88. The undersigned representatives of BP certify that the below representatives are fully authorized to enter into the terms and conditions of the Consent Decree.

Dated and entered this _____ day of _____, 2001.

_____

UNITED STATES DISTRICT JUDGE

WE HEREBY CONSENT to the entry of the Consent Decree in United States, et al. v. BP Exploration & Oil Co., et al., Civil No. _____, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: _____

_____
LOIS J. SCHIFFER
Assistant Attorney General
Environment and Natural Resources Division

Date: _____

_____
ADAM M. KUSHNER
Senior Counsel
DIANNE SHAWLEY
Senior Attorney
FRANCES ZIZILA
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources
Division

United States Attorney for the Northern District of Indiana

Date: _____

By: _____
Assistant United States Attorney

Date: _____

_____
STEVEN A. HERMAN
Assistant Administrator for Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

WE HEREBY CONSENT to the entry of the Consent Decree in United States, et al. v. BP Exploration & Oil Co., et al., Civil No. _____, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR THE STATE OF INDIANA:

Date: _____

_____
OFFICE OF THE GOVERNOR
PRINTED NAME

Date: _____

_____
LORI F. KAPLAN
Commissioner
Indiana Department of the Environmental Management

Approved as to form and legality:

Karen Freeman-Wilson
Attorney General, State of Indiana

By: _____
Title:

Office of the Attorney General
Indiana Government Center
5th Floor
402 N. Washington Street
Indianapolis, Indiana 46204

WE HEREBY CONSENT to the entry of the Consent Decree in United States, et al. v. BP Exploration & Oil Co., et al., Civil No. _____, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR THE STATE OF OHIO:

BETTY D. MONTGOMERY
ATTORNEY GENERAL OF OHIO

Date: _____ _____

Brian F. Zima
Assistant Attorney General
Office of the attorney general
Environmental Enforcement Section
30 East Broad Street
25th Floor
Columbus, OH 43215

Counsel for Christopher Jones, Director
for Environmental Protection

WE HEREBY CONSENT to the entry of the Consent Decree in United States, et al. v. BP Exploration & Oil Co., et al., Civil No. _____, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR THE NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON:

Date: _____ _____

WE HEREBY CONSENT to the entry of the Consent Decree in United States, et al. v. BP Exploration & Oil Co., et al., Civil No. _____, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY CORPORATION:

Date: _____ _____

Cynthia J. Warner
Business Unit Leader
Yorktown Refinery
Amoco Oil Company

APPENDIX A
BP'S LIST OF HEATERS AND BOILERS
(beginning next page)

APPENDIX B
[RESERVED]

APPENDIX C
[RESERVED]

APPENDIX D
FLARING LOGIC DIAGRAM

APPENDIX E

PARAGRAPHS 14.D AND 16.A.v DESIGN AND OPERATING CRITERIA

All air pollution control equipment designed pursuant to this appendix will be designed and built in accordance with accepted engineering practice and any regulatory requirements that may apply.

I. Selective Catalytic Reduction (SCR)

A. Design Considerations

1. Catalyst

    a. Type
    b. Size/Pitch
    c. Volume of Initial Charge
    d. Operating Life
    e. Periodic Mid-Run Replacement
    f. Complete Change Out Schedule

2. Reactor

    a. Reactor Volume
    b. Internal Configuration
    c. Location in Process Train
    d. Soot Blowers
    e. Pressure Drop

3. Reductant Addition

    a. Type (Anhydrous Ammonia, Aqueous Ammonia, or Urea)
    b. Reductant Addition Rates
    c. Diluent Type and Rate
    d. Flow Distribution Manifold
    e. Injection Grid / Nozzles

i. Number
ii. Size
iii. Location
iv. Controls

g. Ammonia Slip

4. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations
e. Inlet/Outlet CO/H2O/O_2 Concentrations
g. Inlet/Outlet Particulate/Ash Loading and Characteristics

5. Efficiency

a. Designed to Outlet NOx Concentration
b. Designed to Efficiency

6. Safety Considerations

B. Operating Considerations

1. Catalyst

a. Periodic Mid-Run Replacement to Maintain Efficiency
b. Complete Change Out

2. Reactor

a. Operation of Soot Blowers
b. Pressure Drop

3. Reductant Addition

a. Reductant Addition Rates
b. Ammonia Slip

4. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations
e. Inlet/Outlet CO/H2O/O_2 Concentrations
g. Inlet/Outlet Particulate/Ash Loading and Characteristics

5. Efficiency

a. Actual Outlet NOx Concentration
b. Actual Removal Efficiency

6. Safety Considerations

II. Selective Non-Catalytic Reduction

A. Design Considerations

1. Reductant Addition

a. Type (Anhydrous Ammonia, Aqueous Ammonia, or Urea)
b. Primary and Enhanced Reductant Addition Rates
c. Diluent Type and Rate
d. Flow Distribution Manifold
e. Injection Grid / Nozzles
    i. Number
    ii. Size

iii. Location
iv. Controls

f. Ammonia Slip

4. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations
e. Inlet/Outlet CO/H2O/O_2 Concentrations
f. Inlet/Outlet Particulate/Ash Loading and Characteristics

5. Efficiency

a. Designed to Outlet NOx Concentration
b. Designed to Removal Efficiency

6. Safety Considerations

B. Operating Considerations

1. Reductant Addition

a. Reductant Addition Rates
b. Ammonia Slip

2. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations

e. Inlet/Outlet CO/H2O/O_2 Concentrations
f. Inlet/Outlet Particulate/Ash Loading and Characteristics

3. Efficiency

a. Actual Outlet NOx Concentration
b. Actual Removal Efficiency

6. Safety Considerations

III. Wet Gas Scrubber

A. Design Considerations

1. Absorber Vessel

a. Volume
b. Dimensions
c. Pressure Drop
d. Internal Configuration
e. Location in Process Train

2. Scrubbing Liquor

a. Type (Caustic or Lime)
b. Scrubbing Liquor Blowdown/Makeup
c. Scrubbing Liquor Circulation Rate
d. Scrubbing Liquor pH

3. Flue Gas Characteristics

a. Inlet/Outlet SO_2/SO3 Concentrations
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range

d. Inlet/Outlet Particulate Loading and Characteristics

4. Efficiency

a. Designed to Outlet SO_2/SO3 Concentration
b. Designed to Removal Efficiency

5. Safety Considerations

B. Operating Considerations

1. Scrubbing Liquor

a. Type (Caustic or Lime)
b. Scrubbing Liquor/Caustic Blowdown/Makeup
c. Scrubbing Liquor Circulation Rate
d. Scrubbing Liquor pH

2. Flue Gas Characteristics

a. Inlet/Outlet SO_2/SO3 Concentrations
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet Particulate Loading and Characteristics

3. Efficiency

a. Actual Outlet SO_2/SO3 Concentration
b. Actual Removal Efficiency

4. Safety Considerations

APPENDIX F

DETERMINING CATALYST ADDITIVE ADDITION RATES

I. Low-NOx CO Promoter Usage for Carson FCCU, Texas City FCCU2 and FCCU3, and Whiting FCCU 500

The routine usage of conventional CO promoter shall be optimized at the typical mix (i.e., based on historical usage) of conventional CO promoter activities, to minimize the usage, and eliminate over usage, of conventional CO promoter while retaining the basic effectiveness of CO promoter. Usage of low-NOx CO promoter shall replace usage of conventional CO promoter at the same rate as the established optimized rate of conventional CO promoter. The basic effectiveness of low-NOx CO promoter at the optimized rate shall be evaluated to determine whether the following basic criteria are met:

Afterburn is controlled and regenerator temperature and CO levels are adequately maintained;

Temperature excursions are brought under control adequately; and

A measurable NOx reduction occurs.

If the low-NOx CO promoter cannot meet the basic criteria, its addition rate shall be increased up to a maximum of two times the optimized conventional CO promoter rate at the typical mix (i.e., based on historical usage) of conventional CO promoter activities. If at two times the optimized conventional CO promoter rate, the low-NOx CO promoter is not effective in meeting the basic criteria, the usage of the low-NOx CO promoter may be discontinued.

II. NOx Adsorbing Catalyst Additive Addition Rates for Carson FCCU, Texas City FCCU1 and FCCU3, and Whiting FCCU 500

Initial NOx adsorbing catalyst additive addition shall be 0.6 weight percent of total fresh catalyst addition rate.(% additive to be determined on a monthly average basis). Once steady state has been achieved, the effect on NOx emissions of this rate shall be evaluated. NOx adsorbing catalyst additive addition shall be increased at increments of 0.2 weight percent of total fresh catalyst additions up to 2.0 weight percent, and, once steady state has been achieved for each increment, the effect on NOx emissions and annual cost shall be evaluated. If at any increment of NOx adsorbing catalyst addition, the total annualized cost-effectiveness of the NOx adsorbing catalyst additive used exceeds $10,000 per ton of NOx removed, the NOx adsorbing catalyst additive addition rate used to determine the final emission limit shall remain at that level.

III. SO_2 Adsorbing Catalyst Additive Addition Rates for Whiting FCCU 600, Yorktown FCCU, Carson FCCU, Texas City FCCU 2, Toledo FCCU

For each FCCU required to use SO_2 adsorbing catalysts additive under Paragraphs 16.A. (interim limits) or 16.B. (final limits), the optimized addition rate for SO_2 adsorbing catalyst additive shall be as follows:

A. For Texas City FCCU 3, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 117 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) a maximum addition rate of 5.0% by weight of total fresh catalyst additions.

B. For Whiting FCU 500, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 117 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) a maximum addition rate of 7.5% by weight of total fresh catalyst additions.

C. For Carson FCCU, Texas City FCCU 2 and Toledo FCCU, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis in which case BP shall agree to accept a limit of 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) a maximum addition rate of 5.0% by weight of total fresh catalyst additions.

D. For Whiting FCU 600 and Yorktown FCCU, the minimum addition rate shall be the monthly average rate necessary to achieve an 80% reduction in uncontrolled SO_2 emissions (i.e., including the reduction achieved by any hydrotreating of the FCCU feed) on a 365-day rolling average basis. Notwithstanding the foregoing, the optimized SO_2 catalyst additive addition rate for Whiting FCU 600 and Yorktown FCCU shall be the lowest of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis in which case BP shall agree to accept a limit of 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) the addition rate at which BP demonstrates to EPA's satisfaction that increasing the addition rate by an additional 0.2% (by weight) of total fresh catalyst additions results in an incremental reduction of SO_2 of less than 2 lbs. SO_2 per pound of additive, but in no event less than 7.5% (by weight) of total fresh catalyst additions; or

(3) a maximum addition rate of 10.0% by weight of total fresh catalyst additions, except that if the addition of SO_2 adsorbing catalyst additive at this maximum rate limits the FCCU feedstock processing rate or conversion capability in a manner that cannot be reasonably compensated for by the adjustment of other parameters, the maximum addition rate shall be reduces to a level at which the additive no longer interferes with the FCCU processing or conversion rate; provided, however, that in no case, shall the maximum addition rate be less than 7.5 weight percent.

E. For Mandan FCCU, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU achieves a 50% reduction in uncontrolled SO_2 emissions; or

(2) a maximum addition rate of 5.0% by weight of total fresh catalyst additions.

APPENDIX G

ACID/SOUR WATER STRIPPER GAS FLARING DEVICES AND SRPS (AND ASSOCIATED COMPONENTS) CURRENTLY IN SERVICE

A. **"Flaring Devices"**

1. Carson Refinery

   (a) The South Area Flare, designated by the South Coast Air Quality Management District as ID# C1302.

   (b) FCC Flare (Device ID #C1305)

   (c) Hydrocracker Flare (Device ID #C1308)

2. Cherry Point Refinery

   (a) the Low Pressure Flare, designated in the Refinery Washington State Emission report as emission point #17;

   (b) the High Pressure Flare designated in Refinery Washington State Emission report as emission point #18; and

3. Mandan Refinery

   (a) SRU Flare, designated by the North Dakota Department of Health (NDDH) as "Sulfur Recovery Unit Emergency Flare", source O

   (b) The Mandan CO Furnace, designated by the NDDH as "Heat Research CO Burning Crude Heater", source B

4. Salt Lake City Refinery

   The Fuel Gas Desulfurization Unit/Sour Water Stripper (FGDU/SWS) flare, designated per Approval Order DAQE-008-00 by the State of Utah as PS#11

5. Texas City Refinery

(a) SRU Torch No. 1, designated by the State of Texas in the permit as Emission Point Number (EPN) 381

(b) SRU Torch No. 2, designated by the State of Texas in the permit as EPN 383

6. Whiting Refinery

The #2 SRU Flare designated by IDEM as permit #45-08-93-0575;

7. Yorktown Refinery

The Refinery main flare designated by the Virginia Department of Environmental Quality as Point No. 026;

B. **"Sulfur Recovery Plant" Components**

1. Carson Refinery

(a) Process 13: Sulfur Recovery – System 1: Claus Sulfur Recovery Facility "A"

(b) Process 13: Sulfur Recovery – System 2: Claus Sulfur Recovery Facility "B"

(c) Process 13: Sulfur Recovery – System 3: Claus Sulfur Recovery Facility "C"

(d) Process 13: Sulfur Recovery – System 4: Claus Sulfur Recovery Facility "D"

(e) Process 13: Sulfur Recovery – System 5: Claus Tail Gas Treating Unit No. 2

(f) Process 13: Sulfur Recovery – System 6: Thermal Oxidizers

(g) Process 13:Sulfur Recovery – System 7: Claus Tail Gas Treating Unit;

2. Cherry Point Refinery

(a) the Existing Sulfur Plant, composed of two trains, constructed under permit issued June 8, 1970 by the Northwest Air Pollution Authority;

(b) the Existing Tail Gas Unit constructed under permit issued by Northwest Air Pollution Authority, on March 13, 1974; and

(c) the Sulfur Incinerator, designated as emission point #16 in the Refinery Washington State Emission Report;

3. Mandan Refinery

The Claus Sulfur Recovery Unit installed pursuant to an August 1983 Permit to Construct issued by the North Dakota Department of Health;

4. For Salt Lake City Refinery, the Claus Sulfur Recovery Unit/Tail Gas Incinerator (SRU/TGI), (1 stack), designated per the Approval Order DAQE-008-00 by the State of Utah as PS #10;

5. Texas City Refinery

(a) Claus Sulfur Recovery Units, designated A, B, C, and D

(b) Scot Tail Gas Treatment Units, designated C and D

(c) SRU Incinerators, designated C and D, vented to a single stack, designated by the State of Texas in the permit as Emission Point Number (EPN) 384;

6. Whiting Refinery

Three Claus trains; one Beavon Stretford tail gas treating unit commonly shared by the three Claus trains, and the standby incinerator; Designated by Indiana Department of Environmental Management as Permit # 45-08-93-0571

7. Yorktown Refinery

One Claus train designated by the Virginia Department of Environmental Quality as Point No. 007

APPENDIX H
SUSTAINABLE SKIP PERIOD MONITORING PROGRAM

The following skip rules will apply in lieu of 40 C.F.R.§ 63.168(d)(2) - (4) and 40 C.F.R. § 60.483-2(b)(2) - (3).

1. BP may move to less frequent monitoring on a unit-by-unit basis using the following criteria:

    a. At process units that have less than 2 percent leaking valves for 2 consecutive months, the owner or operator shall monitor each valve once every quarter, beginning with the next quarter.

    b. After 2 consecutive quarterly leak detection periods with the percent of leaking valves less than or equal to 1 percent, the owner or operator may elect to monitor each valve once every 2 quarters.

    c. After 3 consecutive semi-annual leak detection periods with the percent of valves leaking less than or equal to 0.5 percent, the owner or operator may elect to monitor each valve once every 4 quarters.

2. BP must return to more frequent monitoring on a unit-by-unit basis using the following criteria:

    a. If a process unit on a quarterly, semi-annual or annual monitoring schedule has a leak percentage greater than or equal to 2 percent in any single detection period, the owner or operator shall monitor each valve no less than every month, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

    b. If a process unit on a semi-annual or annual monitoring schedule has a leak percentage greater than or equal to 1 percent, but less than 2 percent in any single detection period, the owner or operator shall monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

    c. If a process unit on an annual monitoring schedule has a leak percentage greater than or equal to 0.5 percent but less than 1 percent in any single detection period, the owner or operator shall monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

APPENDIX I
WHITING RCRA DIAGRAM

APPENDIX J

WHITING REFINERY
GOOD ENGINEERING PRACTICES
TO INCREASE RELIABILITY OF EXISTING TGU

This appendix sets forth measures developed by BP to maximize reliability of the existing Tail Gas Unit ("TGU") with the objective of avoiding a planned shutdown of the TGU prior to the shut down necessary to tie in the supplemental TGU.

RELIABILITY OF EXISTING TGU

BP's Whiting Refinery has conducted Root Cause Failure Analyses ("RCFA") of past reliability problems encountered at the TGU. The primary failure mechanism is plugging of the T-502 Absorber Tower. Based on the RCFA process, BP has taken the following measures, which include both hardware changes and preventive maintenance practices:

1. Caustic Wash Procedures: Plugging in the T-502 absorber tower has historically resulted in loss of contacting performance in the absorber. Two root causes have been identified and addressed. First, the Whiting Refinery now implements hot, on-line caustic washing of the tower. Initially, the Refinery washed the tower approximately 12 times over a very short period of time. Now, as a preventive measure, the Refinery washes the tower approximately two times a week. This preventive maintenance has significantly reduced pressure drop across the tower and has improved contacting efficiency to near "start of run" performance.

Second, BP replaced the T-501 quench tower heat exchangers. A performance loss and high exit gas temperature had been contributing to the plugging in T-502.

2. Filter Press Solids Control: BP's Whiting Refinery has taken two steps to minimize the contribution of solids to the plugging of the T-502 reactor. First, the refinery has installed, and is in the process of starting up, a system for continuous liquid injection of Stretford catalyst to replace the bulk, solids addition system used historically. Second, the Refinery is experimenting with a system that filters the circulating solution to remove solids. The Refinery is also considering an alternative system designed to filter the sulfur froth prior to melting. This latter system would reduce the formation of solids.

Act ("CAA" or the Act), 42 U.S.C. § 7413(b), for alleged environmental violations at the petroleum refineries at the following locations: a) BPX&O: Toledo, Ohio; b) Amoco: Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia; and c) Arco: Cherry Point, Washington and Carson, California.

2. Upon information and belief, these eight refineries have been and are in violation of EPA's regulations implementing the following Clean Air Act statutory and regulatory requirements applicable to the petroleum refining industry: Prevention of Significant Deterioration ("PSD"), Part C of Title I of the Act, 42 U.S.C. § 7470-7492, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, and Nonattainment New Source Review, Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. § 51.165, Part 51, Appendix S, and § 52.24 ("PSD/NSR Regulations"); New Source Performance Standards ("NSPS"), 40 C.F.R. Part 60, Subpart J; Leak Detection and Repair ("LDAR"), 40 C.F.R. Parts 60 and 63; National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Benzene, 40 C.F.R. Part 61; and the California, Indiana, Louisiana, North Dakota, Ohio, Texas, Utah, Virginia, and Washington state implementation plans ("SIPs") which incorporate and/or implement the above-listed federal regulations.

3. In addition the United States alleges that BPX&O, Amoco, and Arco have violated and are in violation of the following federal environmental statutes and their implementing regulations: the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9603(a); the Emergency Planning and Community Right to Know Act ("EPCRA"), 42 U.S.C. § 11004(a) and the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901, et. seq.

4. The United States seeks an injunction ordering BPX&O, Amoco, and Arco to comply with the above statutes and the laws and regulations promulgated thereunder, and civil

penalties for Defendants' past and ongoing violations.

JURISDICTION AND VENUE

5. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1345 and 1355; Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Sections 109(c) and 113(b) of CERCLA, 42 U.S.C. §§ 9609(c) and 9613(b); Sections 325(a), (b), and (c) of EPCRA, 42 U.S.C. § 11045(a), (b), and (c); and Sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925.

6. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c), and 1395(a); Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), because certain of the violations alleged herein occurred at the Whiting refinery, which is located in this district. In addition, upon information and belief, the Defendants agree to venue in this Court.

NOTICE TO STATE

7. Notice of the commencement of this action has been given to: a) State of Washington, State of California, State of North Dakota, State of Utah, State of Ohio, State of Indiana, the Commonwealth of Virginia, State of Texas, and the State of Louisiana as required by Section 113(b) of the CAA, 42 U.S.C. § 7413(b); and b) the State of Indiana as required by Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2).

DEFENDANTS

8. Arco is a corporation doing business at Cherry Point, Washington and Carson, California.

9. Amoco is a corporation doing business at Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia.

10. BPX&O is a corporation doing business at Toledo, Ohio.

11. Each company is a "person" as defined in Section 302(e) of the CAA, 42 U.S.C. §7602(e); Section 101(21) of CERCLA, 42 U.S.C. § 9601 (21); Section 329(7) of EPCRA, 42 U.S.C. §11049(7); Section 1004(15) of RCRA, 42 U.S.C. §6903(15); and applicable federal and state regulations promulgated pursuant to these statutes.

STATUTORY AND REGULATORY BACKGROUND
CLEAN AIR ACT REQUIREMENTS

12. The Clean Air Act established a regulatory scheme designed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. Section 101(b)(1) of the Act, 42 U.S.C. § 7401(b)(1).

13. Section 109 of the Act, 42 U.S.C. § 7409, requires the Administrator of EPA to promulgate regulations establishing primary and secondary national ambient air quality standards ("NAAQS" or "ambient air quality standards") for certain criteria air pollutants. The primary NAAQS are to be adequate to protect the public health, and the secondary NAAQS are to be adequate to protect the public welfare, from any known or anticipated adverse effects associated with the presence of the air pollutant in the ambient air.

14. Section 110 of the Act, 42 U.S.C. § 7410, requires each state to adopt and submit to EPA for approval a State Implementation Plan ("SIP") that provides for the attainment and maintenance of the NAAQS.

15. The Indiana SIP was originally approved by the Administrator on May 31, 1972 (37 Fed. Reg. 10862 (1972)).

16. Under Section 107(d) of the Act, 42 U.S.C. § 7407(d), each state is required to designate those areas within its boundaries where the air quality is better or worse than the NAAQS for each criteria pollutant, or where the air quality cannot be classified due to insufficient data. These designations have been approved by EPA and are located at 40 C.F.R.

Part 81. An area that meets the NAAQS for a particular pollutant is classified as an "attainment" area; one that does not is classified as a "non-attainment" area.

17. The Administrator has designated the portion of Lake County, Indiana, where the Amoco Whiting Refinery is located, as nonattainment for ozone and sulfur dioxide. This designation is codified at 40 C.F.R. § 81.315.

18. Prevention of Significant Deterioration/New Source Review:

Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492, sets forth requirements for the prevention of significant deterioration ("PSD") of air quality in those areas designated as attaining the NAAQS standards. These requirements are designed to protect public health and welfare, to assure that economic growth will occur in a manner consistent with the preservation of existing clean air resources and to assure that any decision to permit increased air pollution is made only after careful evaluation of all the consequences of such a decision and after public participation in the decision-making process. These provisions are referred to herein as the "PSD program."

19. Section 165(a) of the Act, 42 U.S.C. § 7475(a), prohibits the construction and subsequent operation of a major emitting facility in an area designated as attainment unless a PSD permit has been issued. Section 169(1) of the Act, 42 U.S.C. § 7479(1), defines "major emitting facility" as a source with the potential to emit 250 tons per year (tpy) or more of any air pollutant.

20. As set forth at 40 C.F.R. § 52.21(k), the PSD program generally requires a person who wishes to construct or modify a major emitting facility in an attainment area to demonstrate, before construction commences, that construction of the facility will not cause or contribute to air pollution in violation of any ambient air quality standard or any specified incremental amount.

21. As set forth at 40 C.F.R. § 52.21(i), any major emitting source in an attainment

area that intends to construct a major modification must first obtain a PSD permit. "Major modification" is defined at 40 C.F.R. § 52.21(b)(2)(i) as meaning any physical change in or change in the method of operation of a major stationary source that would result in a significant net emission increase of any criteria pollutant subject to regulation under the Act. "Significant" is defined at 40 C.F.R. § 52.21(b)(23)(i) in reference to a net emissions increase or the potential of a source to emit any of the following criteria pollutants, at a rate of emissions that would equal or exceed any of the following: for ozone, 40 tons per year of volatile organic compounds (VOCs); for carbon monoxide (CO), 100 tons per year; for nitrogen oxides (NOx), 40 tons per year; for sulfur dioxide (SO_2), 100 tons per year, (hereinafter "criteria pollutants").

22. As set forth at 40 C.F.R. § 52.21(j), a new major stationary source or a major modification in an attainment area shall install and operate best available control technology ("BACT") for each pollutant subject to regulation under the Act that it would have the potential to emit in significant quantities.

23. Section 161 of the Act, 42 U.S.C. § 7471, requires state implementation plans to contain emission limitations and such other measures as may be necessary, as determined under the regulations promulgated pursuant to these provisions, to prevent significant deterioration of air quality in attainment areas.

24. A state may comply with Section 161 of the Act, 42 U.S.C. § 7471, either by being delegated by EPA the authority to enforce the federal PSD regulations set forth at 40 C.F.R. § 52.21, or by having its own PSD regulations approved as part of its SIP by EPA, which must be at least as stringent as those set forth at 40 C.F.R. § 51.166.

25. Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515, sets forth provisions which direct States to include in their SIPs requirements to provide for reasonable progress towards attainment of the NAAQS in nonattainment areas. Section § 172(c)(5) of the Act, 42 U.S.C.

§ 7502(c)(5), provides that these SIPs shall require permits for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area, in accordance with Section 173 of the Act, 42 U.S.C. § 7503, in order to facilitate "reasonable further progress" towards attainment of the NAAQS.

26. Section 173 of Part D of the Act, 42 U.S.C. § 7503, requires that in order to obtain such a permit the source must, among other things: (a) obtain federally enforceable emission offsets at least as great as the new source's emissions; (b) comply with the lowest achievable emission rate as defined in Section 171(3) of the Act, 42 U.S.C. § 7501(3); and (c) analyze alternative sites, sizes, production processes, and environmental control techniques for the proposed source and demonstrate that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

27. As set forth in 40 C.F.R. § 52.24, no major stationary source shall be constructed or modified in any nonattainment area as designated in 40 C.F.R. Part 81, Subpart C ("nonattainment area") to which any SIP applies, if the emissions from such source will cause or contribute to concentrations of any pollutant for which a NAAQS is exceeded in such area, unless, as of the time of application for a permit for such construction, such plan meets the requirements of Part D, Title I, of the Act.

28. A state may comply with Sections 172 and 173 of the Act by having its own nonattainment new source review regulations approved as part of its SIP by EPA, which must be at least as stringent as those set forth at 40 C.F.R. § 51.165.

29. Flaring and New Source Performance Standards. – Section 111(b)(1)(A) of the CAA, 42 U.S.C. § 7411(b)(1)(A), requires the Administrator of U.S. EPA to publish a list of categories of stationary sources that emit or may emit any air pollutant. The list must include any

categories of sources which are determined to cause or significantly contribute to air pollution which may endanger public health or welfare.

30. Section 111(b)(1)(B) of the CAA, 42 U.S.C. § 7411(b)(1)(B), requires the Administrator of U.S. EPA to promulgate regulations establishing federal standards of performance for new sources of air pollutants within each of these categories. "New sources" are defined as stationary sources, the construction or modification of which is commenced after the publication of the regulations or proposed regulations prescribing a standard of performance applicable to such source. 42 U.S.C. § 7411(a)(2).

31. Pursuant to Section 111(b)(1)(A) of the CAA, 42 U.S.C. § 7411(b)(1)(A), U.S. EPA has identified petroleum refineries as one category of stationary sources that cause, or contribute significantly to, air pollution that may reasonably be anticipated to endanger public health or welfare.

32. Pursuant to Section 111(b)(1)(B) of the CAA, 42 U.S.C. § 7411(b)(1)(B), U.S. EPA promulgated Standards of Performance for New Stationary Sources (commonly referred to as "New Source Performance Standards" or "NSPS") for various industrial categories, including petroleum refineries. NSPS requirements for petroleum refineries are codified at 40 C.F.R. Part 60, Subpart J, §§ 60.100-60.109.

33. The provisions of 40 C.F.R. Part 60, Subpart J, apply to specified "affected facilities," including, inter alia, Claus sulfur recovery plants that have a capacity greater than 20 long tons per day and that commenced construction or modification after October 4, 1976, and all fluid catalytic cracking unit catalyst regenerators and fuel gas combustion devices that commenced construction or modification after June 11, 1973. 40 C.F.R. § 60.100(a),(b).

34. 40 C.F.R. § 60.102(a) prohibits the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator of (1) particulate matter in excess of 1.0 kg/1000 kg

(1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator, and (2) gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one hour period; except as provided for in 40 C.F.R. § 60.102(b).

35. 40 C.F.R. § 60.103(a) prohibits the discharge into the atmosphere from any catalytic cracking unit catalyst regenerator any gases that contain carbon monoxide ("CO") in excess of 500 ppm by volume (dry basis).

36. Pursuant to 40 C.F.R. § 60.104(b), the owner or operator of each affected fluid catalytic cracking unit catalyst regenerator shall comply with one of the following conditions set forth in 40 C.F.R. § 60.104(b)(1), (2), or (3).

37. 40 C.F.R. § 60.104(a)(2) prohibits sulfur recovery plants subject to 40 C.F.R. Part 60, Subpart J with reduction control systems followed by incineration from discharging in excess of 250 ppm by volume (dry basis) of SO_2 at zero percent excess air. 40 C.F.R. § 60.104(a)(2) prohibits sulfur recovery plants subject to 40 C.F.R. Part 60, Subpart J with reduction control systems not followed by incineration from discharging in excess of 300 ppm by volume of reduced sulfur compounds and in excess of 10 ppm by volume of hydrogen sulfide, each calculated as ppm SO_2 by volume (dry basis) at zero percent excess air.

38. 40 C.F.R. § 60.104(a)(1) prohibits the burning in any fuel gas combustion device any fuel gas that contains hydrogen sulfide in excess of 230 milligrams per dry standard cubic meter, or, stated in terms of grains per dry standard cubic foot, 0.10. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from the emission limit of 40 C.F.R. § 60.104(a)(1).

39. Pursuant to Section 111(b) of the CAA, 42 U.S.C. § 7411(b), U.S. EPA has promulgated general NSPS provisions, codified at 40 C.F.R. Part 60, Subpart A, §§ 60.1-60.19, that apply to owners or operators of any stationary source that contains an "affected facility"

subject to regulation under 40 C.F.R. Part 60.

40. 40 C.F.R. § 60.11(d) requires that at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

41. Section 111(e) of the CAA, 42 U.S.C. § 7411(e), prohibits the operation of any new source in violation of an NSPS applicable to such source. Thus, a violation of an NSPS is a violation of Section 111(e) of the CAA.

42. Whenever any person has violated, or is in violation of, any requirement or prohibition of any applicable New Source Performance Standard, Section 113(b) of the CAA, 42 U.S.C. § 7413(b), authorizes the United States to commence a civil action for a permanent or temporary injunction, and/or for a civil penalty of up to $25,000 per day for each such violation occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69369, up to $27,500 per day for violations occurring on or after January 31, 1997.

43. Leak Detection and Repair. - Section 112 of the CAA, 42 U.S.C. § 7412, requires EPA to promulgate emission standards for certain categories of sources of hazardous air pollutants ("National Emission Standards for Hazardous Air Pollutants" or "NESHAPs") Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA promulgated national emission standards for equipment leaks (fugitive emission sources). Those regulations are set forth at 40 C.F.R. Parts 61 Subpart J and V, and Part 63 Subparts F (National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry), H (NESHAP for Equipment Leaks) and CC (NESHAP for Petroleum Refineries). Pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, EPA promulgated

regulations set forth at 40 C.F.R Part 60 Subparts VV and GGG.

44. The focus of the LDAR program is the refinery-wide inventory of all possible leaking valves, the regular monitoring of those valves to identify leaks, and the repair of leaks as soon as they are identified.

45. Indiana SIP – Indiana Air Pollution Control Board Rule ("Indiana Rule") 326 IAC 8-4-8 sets forth standards which regulate volatile organic compound leaks ("fugitive emissions") from components within a petroleum refinery. This rule was approved as part of the Federally enforceable SIP for the State of Indiana on March 6, 1992, and became effective on April 6, 1992 (57 Fed. Reg. 8086 (1992)).

46. Benzene Waste NESHAP. - The CAA requires EPA to establish emission standards for each "hazardous air pollutant" ("HAP") in accordance with Section 112 of the CAA, 42 U.S.C. § 7412.

47. In March 1990, EPA promulgated national emission standards applicable to benzene-containing wastewaters. Benzene is a listed HAP and a known carcinogen. The benzene waste regulations are set forth at 40 C.F.R. Part 61, Subparts FF, (National Emission Standard for Benzene Waste Operations). Benzene is a naturally-occurring constituent of petroleum product and petroleum waste and is highly volatile. Benzene emissions can be detected anywhere in a refinery where the petroleum product or waste materials are exposed to the ambient air.

48. Pursuant to the benzene waste NESHAP, refineries are required to tabulate the total annual benzene ("TAB") content in their wastewater. If the TAB is over 10 megagrams, the refinery is required to elect a control option that will require the control of all waste streams, or control of certain select waste streams.

49. Pursuant to Section 113(b) of the CAA, 42 U.S.C. §7413(b), the United States

may commence a civil action for injunctive relief and civil penalties for violations of the Act, not to exceed $25,000 per day of violation for violations of the CAA. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69369, civil penalties of up to $27,500 per day per violation may be assessed for violations occurring on or after January 30, 1997.

CERCLA/EPCRA Requirements

50. Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), requires a person in charge of a facility to immediately notify the National Response Center of a release of a hazardous substance from such facility in an amount equal to or greater than the amount determined pursuant to Section 102 of CERCLA, 42 U.S.C. § 9602 (the "reportable quantity").

51. Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), provides that any person who violates the notice requirements of Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), shall be liable to the United States for civil penalties in an amount not to exceed $25,000 per day for each day the violation continues, and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69369, civil penalties of up to $27,500 per day for the first violation, and $82,500 per day for any second or subsequent violations, may be assessed for violations occurring on or after January 30, 1997.

52. Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), requires the owner and operator of a facility at which a hazardous chemical is produced, used, or stored, to immediately notify the State Emergency Response Commission ("SERC") and the Local Emergency Planning Committee ("LEPC") of certain specified releases of a hazardous or extremely hazardous substance.

53. Section 304(c) of EPCRA, 42 U.S.C. § 11004(c), requires that, as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C.

§ 11004(a), the owner or operator shall provide a written followup emergency notice providing certain specified additional information.

54. Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), provides that any person who violates any requirement of Section 304 of EPCRA, 42 U.S.C. § 11004, shall be liable to the United States for civil penalties in an amount not to exceed $25,000 per day for each day the violation continues, and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69369, civil penalties of up to $27,500 per day for the first violation, and $82,500 per day for any second or subsequent violations, may be assessed for violations occurring on or after January 30, 1997.

55. Section 313(a), (b), (c) and (f) of EPCRA, 42 U.S.C. § 11023(a), (b), (c) and (f) requires owners or operators of facilities with 10 or more full-time employees, and that are in Standard Industrial Classification Codes 20 through 39, to submit a toxic chemical release form for each toxic chemical (listed in the regulations at 40 C.F.R. § 372.65) that was manufactured, processed, in a quantity greater than 25,000 pounds during calendar years 1989 and after or otherwise used in a quantity greater than 10,000 pounds during any calendar year (40 C.F.R. 372.25(a) and (b). The toxic chemical release forms for the calendar year are due on or before July 1 of the following year.

56. Pursuant to Section 329(4) of EPCRA, 42 U.S.C. § 11049(4), and 40 C.F.R. § 372.3, a "facility" is "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by or under common control with, such person)."

57. Pursuant to Section 313 (b)(1)(C) of EPCRA, 42 U.S.C. § 11023(b)(1)(C), "manufacture" means "to produce, prepare, import, or compound a toxic chemical."

58. The regulation at 40 C.F.R. § 372.3 states that the term manufacture "also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use or disposal of another chemical or mixture of chemicals, including a toxic chemical that is separated from that other chemical or mixture of chemicals as a byproduct, and a toxic chemical that remains in that other chemical or mixture of chemicals as an impurity."

59. Section 325(c)(1) of EPCRA, 42 U.S.C. § 11045(c)(1), provides that any person who violates any requirement of Section 312 or 313 of EPCRA, 42 U.S.C. §§ 11022 and 11023, shall be liable to the United States for civil penalties in an amount not to exceed $25,000 for each such violation.

60. Section 325(c)(3) of EPCRA, 42 U.S.C. § 11045(c)(3), provides that each day a violation described in Paragraph (1) continues shall constitute a separate violation.

RCRA Requirements

61. RCRA establishes a comprehensive federal program for the regulation of the generation, storage, transportation, treatment, and disposal of hazardous wastes. Pursuant to its authority under RCRA, U.S. EPA has promulgated regulations at 40 C.F.R. Parts 260-272 which are applicable to facilities and persons that generate, store, treat, transport, and dispose of hazardous waste.

62. Pursuant to Sections 3001 through 3004 of RCRA, 42 U.S.C. §§ 6922-6924, the Administrator of U.S. EPA ("Administrator") promulgated regulations establishing substantive standards governing persons who generate (Section 3002), transport (Section 3003) and who treat, store or dispose of hazardous wastes (Section 3004). Standards for governing the generation, transportation, or hazardous waste treatment, storage or disposal ("TSD") became effective on November 19, 1980 and are found generally at 40 C.F.R. Parts 262-265.

63. Pursuant to Section 3001(a) and (b) of RCRA, 42 U.S.C. § 6921(a) and (b), the

Administrator identified and listed hazardous wastes. Pursuant to this authority, the Administrator has identified two categories of hazardous waste that are subject to regulation under RCRA: 1) wastes that are specifically "listed" as hazardous wastes in the regulations, 40 C.F.R. §§ 261.31-261.33; and 2) wastes that exhibit the characteristic of ignitability, corrosivity, reactivity or toxicity, as defined in 40 C.F.R. §§ 261.21-261.24.

64. Section 3005 of RCRA, 42 U.S.C. § 6925, generally prohibits the operation of any hazardous waste facility except in accordance with a permit. The Administrator has established regulations governing permits which are found at 40 C.F.R. Part 270.

65. The regulations governing the generation of hazardous wastes are found at 40 C.F.R. Part 262.

66. The regulations governing the treatment, storage or disposal ("TSD") of hazardous wastes are found at 40 C.F.R. Parts 264 and 265.

67. Pursuant to Section 3006 of RCRA, 42 U.S.C. § 6926, the Administrator may authorize a state to administer the RCRA hazardous waste management program in lieu of the federal program when he or she deems the state program to be substantially equivalent.

68. The Administrator authorized the State of Indiana to carry out a hazardous waste program in lieu of many, but not all, portions of the federal program on January 31, 1986 (51 Fed. Reg. 3953 (1986)).

69. Pursuant to Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2), the United States is authorized to enforce the regulations promulgated by an authorized state, including the State of Indiana.

70. RCRA Section 3008(a), 42 U.S.C. § 6928(a), provides that the Administrator may commence a civil action for injunctive relief whenever he or she determines that any person is in violation of any of RCRA's hazardous waste management requirements. RCRA Section 3008(g),

42 U.S.C. § 6928(g), provides for the assessment of civil penalties up to $25,000 per violation for each day of each violation.

FIRST CLAIM FOR RELIEF
(CAA PSD/NSR Violations at FCCUs)

71. Paragraphs 1 through 49 are realleged and incorporated by reference as if fully set forth herein.

72. EPA has conducted investigations of one or more of Defendants' petroleum refineries, which included site inspections, review of permitting history and emissions data, and analysis of other relevant information concerning Defendants' construction and operation of their respective facilities. Based on the results of EPA's investigation, information and belief, the United States alleges that Defendants have modified the FCCU's, SRPs, and heaters and boilers, at their respective refineries.

73. Upon information and belief, each modification was a "major modification" within the meaning of 40 C.F.R. § 52.21(b)(2) to Defendants' existing major stationary sources that have or would have resulted in a significant net emissions increase of NOx, SO_2, PM and CO.

74. Since their initial construction or major modification of the Defendants' facilities, Defendants have been in violation of Section 165(a) of the CAA, 42 U.S.C. § 7475(a), and 40 C.F.R. § 52.21, and the corresponding state implementation plans, by failing to undergo PSD/NSR review for their FCCUs, SRPs, and heaters and boilers, by failing to obtain permits, and failing to install the best available control technology for the control of NOx, SO_2, PM, and CO emissions.

75. Unless restrained by an Order of the Court, these violations of the CAA and the implementing regulations will continue.

76. As provided in 42 U.S.C. § 7413(b), Defendants' violations, as set forth above, subject it to injunctive relief and civil penalties of up to $25,000 per day for each violation of the Act prior to January 31, 1997, and pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69369, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 31, 1997.

SECOND CLAIM FOR RELIEF
(CAA/NSPS Violations at FCCUs)

77. Paragraphs 1 through 49 are realleged and incorporated by reference as if fully set forth herein.

78. EPA has conducted investigations of one or more of Defendants' petroleum refineries, which included site inspections, review of permitting history and emissions data, and analysis of other relevant information concerning Defendants' construction and operation of their respective facilities obtained from Defendants. The United States alleges the following based on the results of EPA's investigation, information and belief:

79. 40 C.F.R. § 60.102(a) prohibits the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator of (1) particulate matter in excess of 1.0 kg/1000 kg (1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator, and (2) gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one hour period; except as provided for in 40 C.F.R. § 60.102(b).

80. 40 C.F.R. § 60.103(a) prohibits the discharge into the atmosphere from any

catalytic cracking unit catalyst regenerator any gases that contain carbon monoxide ("CO") in excess of 500 ppm by volume (dry basis).

81. Pursuant to 40 C.F.R. § 60.104(b), the owner or operator of each affected fluid catalytic cracking unit catalyst regenerator shall comply with one of the standards for sulfur oxides set forth in 40 C.F.R. § 60.104(1), (2) or (3).

82. Based upon information and belief, Defendants have violated 40 C.F.R. §§ 60.102(a), 60.103(a) and/or 60.104(b), and thus Section 111 of the CAA, at one or more of their FCCU catalyst regenerators, by not complying with the emissions standards set forth in those sections.

83. Unless restrained by an order of the Court, these violations of the CAA and the implementing regulations will continue.

84. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation Defendants are subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

THIRD CLAIM FOR RELIEF - CAA
(Failure to Conduct Performance Evaluation of CEMS on Tail Gas Unit)
(Whiting facility)

85. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

86. The regulation at 40 C.F.R. § 60.13(c) requires that owners or operators of an

affected facility conduct a performance evaluation of continuous emission monitoring systems ("CEMS") during any performance test required under 40 C.F.R. § 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 C.F.R. Part 60.

87. On October 2, 1990, EPA promulgated a rule requiring Claus sulfur recovery plants in Petroleum Refineries subject to 40 C.F.R. Part 60 to install and operate CEMS. (55 Fed. Reg. 40171 (1990)). Sources affected by this rulemaking were given one year, or until October 2, 1991, to install and operate hydrogen sulfide CEMS and/or reduced sulfur CEMS.

88. On October 2, 1990, EPA promulgated 40 C.F.R. § 60.105(a)(6) requiring Claus sulfur recovery plants with reduction control systems not followed by incineration to conduct performance evaluations under § 60.13(c) by using Performance Specification 5 in addition to other methods.

89. Since 1981, Amoco had operated a reduced sulfur CEMS on the stack of the tail gas unit of the Claus sulfur recovery plant at the refinery which was not followed by incineration.

90. Amoco did not conduct the required performance evaluation on the reduced sulfur CEMS located on the tail gas unit by the effective date of the regulation codified at 40 C.F.R. § 60.105(a)(6).

91. Amoco failed to conduct a performance evaluation of the reduced sulfur CEMS located on the tail gas unit in violation of the regulations at 40 C.F.R. § 60.13(c) and 40 C.F.R. § 60.105(a)(6).

92. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to

a civil penalty of not more than $25,000 per day for each day that Amoco failed to conduct a performance evaluation of the reduced sulfur CEMS located on the tail gas unit as required by 40 C.F.R. § 60.13(c) and 40 C.F.R. § 60.105(a)(6), and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

FOURTH CLAIM FOR RELIEF - CAA
(Failure to Have A CEMS on Tail Gas Incinerator)
(Whiting facility)

93. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

94. 40 C.F.R. § 60.105(a)(5), requires that sulfur dioxide CEMS shall be installed, calibrated, maintained and operated by owners and operators of Claus sulfur recovery plants with oxidation control systems or reduction control systems followed by incineration.

95. The regulation at 40 C.F.R. § 60.13(g) requires that when the effluent from one affected facility is released to the atmosphere through more than one emission point, the owner or operator shall install an applicable CEMS on each separate effluent unless the installation of fewer systems is approved by the Administrator.

96. Amoco has a tail gas incinerator which has the capability to combust tail gases from the Claus sulfur recovery plant and which emits sulfur dioxide.

97. Amoco's tail gas incinerator does not have a sulfur dioxide CEMS.

98. Amoco has failed to monitor all emission points as required by the regulation at 40 C.F.R. § 60.13(g) by failing to install a sulfur dioxide CEMS on the tail gas incinerator in violation of the regulation at 40 C.F.R. § 60.13(b) and § 60.105(a)(5).

99. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco failed to comply with the CAA due to its failure to install a sulfur dioxide CEMS on the tail gas incinerator, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg.

69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

100. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. §§ 60.13(b) and (g) and § 60.105(a)(5) by failing to install a sulfur dioxide CEMS on the tail gas incinerator and failing to monitor the effluent emitted from the tail gas incinerator into the atmosphere.

FIFTH CLAIM FOR RELIEF - CAA
(Failure to Conduct Performance Evaluation of CEM Required to Be Installed on the Tail Gas Incinerator)
(Whiting facility)

101. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

102. The regulation at 40 C.F.R. § 60.13(c) requires that owners or operators of an affected facility conduct a performance evaluation of the CEMS during any performance test required under 40 C.F.R. § 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 C.F.R. Part 60.

103. The regulation at 40 C.F.R. § 60.13(b) requires that all CEMS shall be installed and operational prior to conducting a performance test on a subject source under 40 C.F.R. § 60.8.

104. Amoco did not conduct a performance evaluation on the sulfur dioxide CEMS that was required to be installed on the tail gas incinerator.

105. Amoco failed to conduct a performance evaluation of the sulfur dioxide CEMS required to be installed on the tail gas incinerator in violation of the regulation at 40 C.F.R.

§ 60.13(c).

106. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulations at 40 C.F.R. § 60.13(c), by failing to conduct a performance evaluation of the sulfur dioxide CEMS that was required to be installed on the tail gas incinerator and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134, and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

107. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. § 60.13(c) by failing to conduct a performance evaluation of the sulfur dioxide CEMS on the tail gas incinerator.

SIXTH CLAIM FOR RELIEF - CAA
(Failure to Submit Excess Emissions Reports For Emissions from Tail Gas Unit)
(Whiting facility)

108. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

109. The regulation at 40 C.F.R. § 60.7(c) requires that each owner or operator required to install a CEMS shall submit an excess emissions and monitoring systems performance report ("excess emission report") to the Administrator semiannually, except in certain situations outlined in 40 C.F.R. § 60.7(c), which would require more frequent reporting.

110. The regulation at 40 C.F.R. § 60.7(c)(4) requires that when no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or

adjusted, such information shall be stated in the report.

111. Pursuant to 40 C.F.R. § 60.7(c), Amoco was required to submit an excess emission report summarizing data from the reduced sulfur CEMS on the tail gas unit for the period ending December 31, 1991, by January 30, 1992. Amoco failed to submit such report until October 5, 1992.

112. Amoco's failure to submit an excess emission report summarizing data from the reduced sulfur CEMS on the tail gas unit until October 5, 1992 is a violation of the regulation at 40 C.F.R. § 60.7(c).

113. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulation at 40 C.F.R. § 60.7(c) for its delay in submitting an excess emission report for the reduced sulfur CEMS on the tail gas unit and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

SEVENTH CLAIM FOR RELIEF - CAA
(Failure to Submit Excess Emissions Reports for Emissions from Tail Gas Incinerator)
(Whiting facility)

114. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

115. Amoco has failed to submit any excess emission reports for the sulfur dioxide CEMS that was required to be installed on the tail gas incinerator.

116. Amoco's failure to submit any excess emission reports relating to a sulfur dioxide

CEMS that was required to be installed on the tail gas incinerator is a violation of 40 C.F.R. § 60.7(c).

117. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. § 60.7(c) by failing to submit excess emission reports for the sulfur dioxide CEMS required to be installed on the tail gas incinerator.

118. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulation at 40 C.F.R. § 60.7(c) by failing to submit excess emission reports for the sulfur dioxide CEMS required to be installed on the tail gas incinerator and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

EIGHTH CLAIM FOR RELIEF - CAA
(Failure to Continuously Monitor and Record Emissions from Fuel Gas Combustion Devices)
(Whiting facility)

119. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

120. The regulation at 40 C.F.R. § 60.105(a)(3) sets forth provisions which require the owner or operator of fuel gas combustion devices subject to 40 C.F.R. § 60.104(a)(1) to continuously monitor and record the concentration by volume of sulfur dioxide emissions into the atmosphere.

121. The regulation at 40 C.F.R. § 60.105(a)(4) provides that, in place of the sulfur

dioxide CEMS required by 40 C.F.R. § 60.105(a)(3), an owner or operator may install an instrument for continuously monitoring and recording the concentration of hydrogen sulfide ("H_2S") in fuel gases before being burned in any subject fuel gas combustion device.

122. Amoco has four hydrogen sulfide continuous monitors installed on the fuel lines that feed its NSPS subject fuel gas combustion devices at its facility.

123. Amoco failed to continuously monitor and record the concentration of H_2S released from its fuel gas combustion devices.

124. Amoco's failure to continuously monitor and record the concentration of hydrogen sulfide in fuel gases combusted in the fuel gas combustion devices is a violation of the regulation at 40 C.F.R. § 60.105(a).

125. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulation at 40 C.F.R. § 60.105(a) by failing to continuously monitor and record the concentration of hydrogen sulfide in fuel gases combusted in its fuel gas combustion devices and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

NINTH CLAIM FOR RELIEF - CAA
(CAA/NSPS: 40 C.F.R. § 60.104(a)(2))
(Discharging Gases from the SRP in violation of 40 C.F.R. § 60.104(a)(2))
(Whiting facility)

126. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

127. The regulation at 40 C.F.R. § 60.104(a)(2) prohibits the discharge of any gases into the atmosphere from any Claus sulfur recovery plant in excess of i) 250 ppm by volume of sulfur dioxide (on a dry basis at zero percent excess air) for Claus sulfur recovery plants with oxidation control systems or reduction control systems followed by incineration; or ii) 300 ppm by volume of reduced sulfur compounds and 10 ppm by volume of hydrogen sulfide (each calculated as ppm SO_2 by volume on a dry basis at zero percent excess air) for Claus sulfur recovery plants with reduction control systems not followed by incineration.

128. The regulation at 40 C.F.R. § 60.8(c) states in part that emissions in excess of the level of the applicable emission limit during periods of startup, shutdown and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

129. Since 1981 Amoco has operated a Claus sulfur recovery plant with two routes to the atmosphere for its emissions. One route treats emissions in a Stretford unit, which is a reduction control device not followed by incineration. Emissions through this route are in the form of reduced sulfur compounds, including hydrogen sulfide. The other route oxidizes emissions from the Claus sulfur recovery plant in an incinerator. Emissions from this route are in the form of sulfur dioxide.

130. Since at least 1993, Amoco has, on occasion, emitted gases from the Claus sulfur recovery plant during periods other than startups, shutdowns and malfunctions, that were in excess of the applicable emission limitation in 40 C.F.R. § 60.104(a)(2).

131. Amoco's emissions from the Claus sulfur recovery plant in excess of the

applicable emission limitation in 40 C.F.R. § 60.104(a)(2) during periods other than startup, shutdown and malfunction constitute a violation of 40 C.F.R. § 60.104(a)(2).

132. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

TENTH CLAIM FOR RELIEF - CAA
(Failure to Operate and Maintain Equipment In A Manner Consistent with Good Air Pollution Control Practice)
(Whiting facility)

133. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

134. The regulation at 40 C.F.R. § 60.11(d) requires at all times, including periods of startup, shutdown and malfunction, that owners and operators operate and maintain any affected facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

135. Amoco has failed to maintain its Claus sulfur recovery plant and its associated air pollution control equipment, in a manner consistent with good air pollution control practice by shutting down the tail gas unit while continuing to operate all or part of the Claus sulfur recovery plant, resulting in emissions that exceed the regulatory standard.

136. On numerous occasions since at least 1993, Amoco did not at all times, including

periods of startup, shutdown, and malfunction, maintain and operate, to the extent practicable, its Claus sulfur recovery plaint, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, as required by 40 C.F.R. § 60.11(d) and Section 111(e) of the CAA, 42 U.S.C. § 7411(e).

137. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

ELEVENTH CLAIM FOR RELIEF
(Incomplete Excess Emissions Reports (EERs))
(Whiting facility)

138. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

139. The regulation at 40 C.F.R. § 60.7(c) requires that each owner or operator required to install a CEMS to submit an excess emissions and monitoring systems performance report (excess emissions report) to the Administrator semiannually, except in certain situations outlined in 40 C.F.R. § 60.7(c), which would require more frequent reporting.

140. The regulations at 40 C.F.R. § 60.7(c)(1) and (2) require that the excess emissions reports include, among other things, the date and time of commencement and completion of each time period of excess emissions; the magnitude of excess emissions; specific identification of

each period of excess emissions that occurred during startups, shutdowns and malfunctions of the affected facility; the nature and cause of any malfunctions (if known); and the corrective action taken or preventative measures adopted.

141. Based on information provided by Amoco, there have been numerous incidents since at least 1993 that have resulted in emissions exceedances from the Claus sulfur recovery plant that have been omitted from its excess emissions reports.

142. Amoco's failure to include the information required by 40 C.F.R. § 60.7(c)(1) and (2) for all incidents resulting in excess emissions from the affected facility, i.e., the Claus sulfur recovery plant, is a violation of the regulations at 40 C.F.R. § 60.7(c)(1) and (2).

143. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

TWELFTH CLAIM FOR RELIEF - CAA
(Circumvention)
(Whiting facility)

144. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

145. The regulation at 40 C.F.R. § 60.12 prohibits any owner or operator subject to 40 C.F.R. Part 60 from building, erecting, installing or using any article, machine, equipment or

process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.

146. Amoco is the owner and operator of a Claus sulfur recovery plant located at its Whiting refinery which is subject to 40 C.F.R. Part 60, Subpart J.

147. Amoco's Claus sulfur recovery plant is equipped with two separate routes to the atmosphere for its emissions. One route emits offgases from the Claus sulfur recovery plant that are treated by a Stretford unit and released through a stack equipped with a continuous emission monitoring system. The other route emits offgases from the Claus sulfur recovery plant through a tail gas incinerator that is not equipped with a continuous emission monitoring system on its stack.

148. Since at least 1993, Amoco has, on occasion, emitted gases from the Claus sulfur recovery plant through the tail gas incinerator that are in violation of the applicable emission standard found in 40 C.F.R. Part 60, Subpart J.

149. Amoco has failed to report these excess emissions to U.S. EPA and has frequently stated in its excess emission reports during the time periods of these releases that there are "no excursions".

150. By utilizing the unmonitored tail gas incinerator as an emission point for the Claus sulfur recovery plant, Amoco has concealed emissions from the U.S. EPA that constitute violations of the applicable emission standard. This is a violation of 40 C.F.R. § 60.12.

151. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of

up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

152. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. § 60.12.

THIRTEENTH CLAIM FOR RELIEF
(CAA/NSPS: 40 C.F.R. § 60.104(a)(2))
Discharging Gases from the SRP in violation of 40 C.F.R. § 60.104(a)(2)

153. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

154. Each Defendant is the "owner or operator," within the meaning of Section 111(a)(5) of the CAA, 42 U.S.C. § 7411(a)(5), and 40 C.F.R. § 60.2, of one or more facilities referred to as a sulfur recovery plant ("SRP"), located at each of their refineries.

155. The SRP is a "Claus sulfur recovery plant" as defined in 40 C.F.R. § 60.101(i). The SRP is also a "stationary source" within the meaning of Sections 111(a)(3) and 302(z) of the CAA, 42 U.S.C. §§ 7411(a)(3) and 7602(z).

156. Each SRP at the following refineries has a capacity of more than 20 long tons of sulfur per day: Cherry Point, Carson, Texas City, Toledo, Whiting, and Yorktown

157. Each SRP referred to in Paragraph 156 is an "affected facility" within the meaning of 40 C.F.R. §§ 60.2 and 60.100(a), and a "new source" within the meaning of Section 111(a)(2) of the CAA, 42 U.S.C. § 7411(a)(2).

158. Each SRP referred to in Paragraph 156 is subject to the General Provisions of the NSPS, 40 C.F.R. Part 60, Subpart A, and to the Standards of Performance for Petroleum Refineries, 40 C.F.R. Part 60, Subpart J.

159. Each SRP referred to in Paragraph 156 is subject to the emission limitation set forth in 40 C.F.R. § 60.104(a)(2)(i).

160. On numerous occasions since at least 1995, Defendants have discharged into the atmosphere gases containing in excess of (1) 250 ppm by volume (dry basis) of sulfur dioxide at zero percent excess air, or (2) 300 ppm by volume of reduced sulfur compounds, in violation of 40 C.F.R. § 60.104(a)(2) and Section 111(e) of the CAA, 42 U.S.C. § 7411(e).

161. Unless restrained by an order of the Court, these violations of the CAA and the implementing regulations will continue.

162. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Defendants are subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Defendants are liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

FOURTEENTH CLAIM FOR RELIEF
(CAA/NSPS: 40 C.F.R. § 60.11(d))
Failing to Operate and Maintain the SRP
in a Manner Consistent with Good Air Pollution Control Practice

163. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

164. On numerous occasions since 1995, Defendants' refinery flares at their respective refineries have emitted unpermitted quantities of SO_2, a criteria pollutant, under circumstances that did not represent good air pollution control practices, in violation of 40 C.F.R. § 60.11(d) and for combustion of refinery fuel gas in violation of Subpart J, 40 C.F.R. §§ 60.104, et. seq.

165. Unless restrained by an order of the Court, these violations of the Act and the implementing regulations will continue.

166. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Defendants are subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Defendants are liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

FIFTEENTH CLAIM FOR RELIEF - CAA
(Indiana SIP – Leak Detection and Repair)
(Whiting facility)

167. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

168. Indiana Rule 326 IAC 8-4-8(q)(2), as approved by U.S. EPA, requires that no owner or operator of a petroleum refinery shall install or operate a valve at the end of a pipe or line containing volatile organic compounds ("VOCs") unless the pipe or line is sealed with a second valve, blind flange, plug or cap.

169. For a period of time until at least November 16, 1992, Amoco had numerous open-ended pipes or lines in VOC service which did not have a second valve, blind flange, plug

or cap, as required by Indiana Rule 326 IAC 8-4-8(q)(2).

170. Amoco's failure to seal pipes or lines in VOC service with a second valve, blind flange, plug or cap, is a violation of Indiana Rule 326 IAC 8-4-8(q)(2) and Section 110(a) of the CAA, 42 U.S.C. § 7410(a).

171. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated Section 110(a) of the CAA, 42 U.S.C. § 7410(a) and 326 IAC 8-4-8(q)(2) by failing to properly seal pipes or lines in VOC service, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

SIXTEENTH CLAIM FOR RELIEF - CAA
(Indiana SIP – Leak Detection and Repair)
(Whiting Facility)

172. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

173. The provisions of Indiana Rule 326 IAC 8-4-8(q)(3), as approved by U.S. EPA, require that pipeline valves and pressure relief valves in gaseous VOC service be marked in some manner that will be readily obvious to both refinery personnel and staff.

174. For a period of time, beginning from at least November 16, 1992, Amoco had numerous valves in VOC service which were not adequately marked in a readily obvious manner in violation of the requirements of Indiana Rule 326 IAC 8-4-8(q)(3).

175. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to

a civil penalty of not more than $25,000 per day for each day that Amoco violated Section 110(a) of the CAA, 42 U.S.C. § 7410(a) and 326 IAC 8-4-8(q)(3) by failing to properly mark numerous valves in VOC service, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

SEVENTEENTH CLAIM FOR RELIEF
(Leak Detection and Repair Requirements)

176. The allegations in Paragraphs 1 through 49 are realleged and incorporated by reference as if fully set forth herein.

177. Defendants are required under 40 C.F.R. Part 60 Subpart GGG, to comply with standards set forth at 40 C.F.R. § 60.592, which in turn references standards set forth at 40 C.F.R. §§ 60.482-1 to 60.482-10, and alternative standards set forth at 40 C.F.R. §§ 60.483-1 to 60.483-2, for certain of its refinery equipment in VOC service, constructed or modified after January 4, 1983,

178. Pursuant to 40 C.F.R. § 60.483-2(b)(1), an owner or operator of subject VOC valves must initially comply with the leak detection monitoring and repair requirements set forth in 40 C.F.R. § 60.482-7, including the use of Standard Method 21 to monitor for such leaks.

179. Pursuant to 40 C.F.R. Part 61 Subpart J, Defendants are required to comply with the requirements set forth in 40 C.F.R. Part 61, Subpart V, for certain specified equipment in benzene service.

180. On numerous occasions since 1995, Defendants failed to accurately monitor the subject VOC valves and other components at their nine respective refineries as required by Standard Method 21, to report the VOC valves and other components that were leaking, and to repair all leaking VOC valves and other components in a timely manner.

181. Defendants' acts or omissions referred to in the preceding Paragraphs constitute violations of the NSPS and Benzene Waste NESHAP.

182. Unless restrained by an order of the Court, these violations of the Act and the implementing regulations will continue.

183. As provided in 42 U.S.C. § 7413(b), Defendants' violations, as set forth above, subject it to injunctive relief and civil penalties of up to $25,000 per day for each violation of the Act prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

EIGHTEENTH CLAIM FOR RELIEF
(Benzene Waste NESHAP)

184. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

185. At all times relevant to this Complaint, Defendants have elected to comply with identified benzene waste management and treatment options set forth in 40 C.F.R. § 61.342 for its benzene waste streams at each of its refineries.

186. Pursuant to 40 C.F.R. § 61.342, the benzene quantity for wastes must be equal to or less than 2.0 megagrams or 6.0 megagrams per year as defined for the applicable option identified, as selected by the refinery.

187. Based on information and belief, the benzene quantity for Defendants' described and defined wastes exceeded one or more of the compliance options set forth in 40 C.F.R. § 61.342, in violation of the benzene waste regulations and the Act.

188. Unless restrained by an order of the Court, these violations of the Act and the

implementing regulations will continue.

189. As provided in 42 U.S.C. § 7413(b), Defendants' violations, as set forth above, subject it to injunctive relief and civil penalties of up to $25,000 per day for each violation of the Act prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

NINETEENTH CLAIM FOR RELIEF (CERCLA)

190. The allegations in Paragraphs 1 through 11 and 50 through 60 are hereby realleged and incorporated by reference as if fully set forth herein.

191. Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), requires a person in charge of a facility to immediately notify the National Response Center of a release of a hazardous substance from such facility in an amount equal to or greater than the amount determined pursuant to Section 102 of CERCLA, 42 U.S.C. § 9602 (the "reportable quantity").

192. Upon information and belief, on one or more occasions, Defendants failed to immediately notify the National Response Center of releases from their respective refineries of hazardous substances in an amount equal to or greater than the reportable quantity for those substances.

193. Upon information and belief, the acts or omissions referred to in the preceding Paragraph constitute violations of Section 103(a) of CERCLA, 42 U.S.C. § 9603.

194. Pursuant to Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), Defendants are liable for civil penalties in an amount not to exceed $25,000 per day for each day the

violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), Pub.L. 104-134 and 61 Fed. Reg. 69360, civil penalties of up to $27,500 per day for each such violation occurring on or after January 30, 1997; and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), Pub.L. 104-134 and 61 Fed. Reg. 69360, civil penalties of up to $82,500 per day for each such violation occurring on or after January 30, 1997.

TWENTIETH CLAIM FOR RELIEF
(EPCRA)

194. The allegations in Paragraphs 1 through 11 and 50 through 60 are hereby realleged and incorporated by reference as if fully set forth herein.

195. Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), requires the owner and operator of a facility at which a hazardous chemical is produced, used, or stored, to immediately notify the State Emergency Response Commission ("SERC" - State Authority) and the Local Emergency Planning Committee ("LEPC" - Local Authority) of certain specified releases of a hazardous or extremely hazardous substance.

196. Section 304(c) of EPCRA, 42 U.S.C. § 11004(c), requires that, as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), the owner or operator shall provide a written followup emergency notice providing certain specified additional information.

197. Upon information and belief, on one or more occasions, Defendants failed to

immediately notify the SERC (State Authority) of a release of a hazardous or extremely hazardous substance as required by Section 304(a) of EPCRA, 42 U.S.C. § 11004(a).

198. Upon information and belief, on one or more occasions, Defendants failed to immediately notify the LEPC (Local Authority) of a release of a hazardous or extremely hazardous substance as required by Section 304(a) of EPCRA, 42 U.S.C. § 11004(a).

199. Upon information and belief, on one or more occasions, Defendants failed to provide a written follow-up emergency notice to the SERC (State Authority) as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), in accordance with the requirements of Section 304(c) of EPCRA, 42 U.S.C. § 11004(c).

200. Upon information and belief, on one or more occasions, Defendants failed to provide a written follow-up emergency notice to the LEPC (Local Authority) as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), in accordance with the requirements of Section 304(c) of EPCRA, 42 U.S.C. § 11004(c).

201. Upon information and belief, the acts or omissions referred to in the preceding Paragraphs constitute violations of Section 304 of EPCRA, 42 U.S.C. § 11004.

202. Pursuant to Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Defendants are liable for civil penalties in an amount not to exceed $25,000 per day for each day the violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Pub.L. 104-134 and 61 Fed. Reg. 69360,

civil penalties of up to $27,500 per day for each such violation occurring on or after January 30, 1997; and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Pub.L. 104-134 and 61 Fed. Reg. 69360, civil penalties of up to $82,500 per day for each such violation occurring on or after January 30, 1997.

TWENTY-FIRST CLAIM FOR RELIEF (EPCRA)
(Whiting facility)

203. The allegations in Paragraphs 1 through 11 and 52 through 60 are hereby realleged and incorporated by reference as if fully set forth herein.

204. Amoco's facility has "10 or more" "full-time employees" as defined by 40 C.F.R. § 372.3.

205. Amoco's facility is covered by Standard Industrial Classification Code 2911, which falls within Standard Industrial Classification Codes 20 through 39.

206. Pursuant to 40 C.F.R. § 372.25, the established reporting threshold for a toxic chemical, identified and listed under 40 C.F.R. § 372.65, which is manufactured was 25,000 pounds for the 1991 calendar year.

207. During the calendar year 1991, Amoco processed Ammonia, a chemical identified in EPCRA and listed at 40 C.F.R. § 372.65 with "CAS No. 7664-41-7", in a quantity of 570,000 pounds.

208. Amoco was required to submit to the Administrator of the U.S. EPA and the State of Indiana a toxic chemical release form ("Form R") for Ammonia on or before July 1, 1992.

209. Amoco failed to submit a Form R for Ammonia to the Administrator of U.S. EPA and the State of Indiana until December 3, 1992.

210. Amoco's failure to timely submit a Form R for Ammonia is a violation of Section 313 of EPCRA, 42 U.S.C. § 11023.

211. Pursuant to Section 325(c)(1) of EPCRA, 42 U.S.C. § 11045, Amoco is subject to a civil penalty in an amount not to exceed $25,000 for violating Section 11023 of EPCRA.

212. Pursuant to Section 325(c)(3) of EPCRA, 42 U.S.C. § 11045, each day that Amoco failed to timely submit a Form R constitutes a separate violation.

TWENTY-SECOND CLAIM FOR RELIEF --RCRA
(Waste Pile)
(Whiting facility)

213. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby realleged and incorporated by reference as if fully set forth herein.

214. Amoco generates spent lead oxide catalyst known as "spent Bender catalyst", which is a hazardous waste, as that term is defined at 40 C.F.R. § 261.3. The spent Bender catalyst exhibits the characteristic of toxicity for lead and is a hazardous waste pursuant to 40 C.F.R. §§ 261.3 and 261.24 which bears the U.S. EPA waste code designation D008.

215. From some unknown time after November 19, 1980 until at least July, 1989, Amoco placed the spent Bender catalyst on the ground in a waste pile at the Amoco facility.

216. The regulations at 40 C.F.R. Part 270 and 329 IAC Article 3.1 set out the requirements for the hazardous waste permit program within the State of Indiana.

217. Pursuant to 40 C.F.R. § 270.1 and 329 IAC 3.1-13-1 the treatment, storage or

disposal of any hazardous waste without a permit is prohibited.

218. Pursuant to 329 IAC 3.1-13-1 the State of Indiana has incorporated by reference, unless otherwise noted, the provisions of 40 C.F.R. Part 270.

219. Pursuant to 40 C.F.R. § 270.1, Amoco submitted to U.S. EPA Part A of its permit application to treat store or dispose of hazardous wastes at the refinery on November 18, 1980 and subsequently amended Part A of the application on March 17, 1982.

220. 40 C.F.R. § 270.13(h) requires the owner or operator of a hazardous waste facility to identify the location of all past, present or intended treatment, storage or disposal areas at the facility.

221. Amoco did not identify the past, present or intended treatment, storage or disposal of spent Bender catalyst in the waste pile as required pursuant to 40 C.F.R. § 270.13(h).

222. In response to an information request issued by U. S. EPA pursuant to Section 3007 of RCRA, 42 U.S.C. § 6927, Amoco identified, on July 28, 1994, the existence of the waste pile at which it had treated, stored or disposed of the spent Bender catalyst.

223. Pursuant to 329 IAC 3.1-9-1, the State of Indiana has incorporated by reference, unless otherwise noted, the provisions of 40 C.F.R. Part 264.

224. The regulations at 40 C.F.R. Part 264, Subpart L, set out the requirements for the operation of waste piles as hazardous waste management units within the State of Indiana.

225. The waste pile containing the spent Bender catalyst did not comply with any of the regulatory or technical requirements for hazardous waste piles required by 40 C.F.R. Part 264, Subpart L.

226. The regulations as 40 C.F.R. Part 264, Subpart G, as adopted at 329 IAC 3.1-9-1, set forth the requirements for closure of hazardous waste management facilities, such as waste piles, within the State of Indiana.

227. Amoco has violated and continues to violate the requirements of 40 C.F.R. Part 264, Subpart G, by its failure to properly close the waste pile in which it had treated, stored or disposed of spent Bender catalyst, a hazardous waste pursuant to 40 C.F.R. §§ 261.3 and 261.24. Specifically, Amoco has violated and continues to violate 40 C.F.R. Subpart G, without limitation, by failing to:

a. submit a closure plan as required by 40 C.F.R. § 264.112;

b. implement closure as required by 40 C.F.R. § 264.113;

c. certify the completion of closure as required by 40 C.F.R. § 264.115; and

d. establish a post-closure plan as required by 40 C.F.R. § 264.118.

228. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco failed to comply with RCRA due to its failure to properly close the waste pile and for violating the requirements of 40 C.F.R. Part 264, Subpart G. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

TWENTY-THIRD CLAIM FOR RELIEF - RCRA
(Waste Pile)
(Whiting facility)

229. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby

realleged and incorporated by reference as if fully set forth herein.

230. Pursuant to the 40 C.F.R. § 270.1(c) owners and operators of hazardous waste management units are required to have a permit during the active life (including the closure period) of the unit, and, for waste pile units that received waste after July 26, 1982, a post-closure permit unless they can demonstrate closure by removal as provided under Section 270.1(d)(5) and (6).

231. Amoco has not obtained a post-closure care permit for the waste pile or demonstrated closure by removal as required under Section 270.1(d)(5) and (6) in violation of 40 C.F.R. § 270.1(c).

232. Amoco has violated, and continues to violate RCRA and the implementing regulations each day that it fails to obtain a post-closure care permit for the waste pile or demonstrate closure by removal as required under Section 270.1(d)(5) and (6).

233. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco violated RCRA by failing to obtain a post closure permit or demonstrate closure by removal for the waste pile. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

TWENTY-FOURTH CLAIM FOR RELIEF - RCRA
(Waste Pile)
(Whiting facility)

234. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby realleged and incorporated by reference as if fully set forth herein.

235. The regulations at 40 C.F.R. Part 264, Subpart H, set forth the financial responsibility requirements for owners and operators of hazardous waste management facilities, such as waste piles.

236. Amoco violated the requirements of 40 C.F.R. Part 264, Subpart H, by failing to establish financial responsibility for the spent Bender catalyst waste pile. Specifically, Amoco violated 40 C.F.R. Subpart H by, without limitation, failing to:

a. develop cost estimates for closure of the waste pile as required by 40 C.F.R. § 264.142;

b. establish financial assurances for closure of the waste pile as required by 40 C.F.R. § 264.143;

c. develop cost estimates for post-closure care of the waste pile as required by 40 C.F.R. § 264.144;

d. establish financial assurances for post-closure care of the waste pile as required by 40 C.F.R. § 264.145; and

e. establish liability coverage for sudden and non-sudden accidental occurrences arising from operation of the waste pile as required by 40 C.F.R. § 264.147.

237. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco failed to comply with RCRA due to its failure to establish financial responsibility for the waste pile and for violating the requirements of 40 C.F.R. Part 264, Subpart H. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

TWENTY-FIFTH CLAIM FOR RELIEF - RCRA
(Spent Treating Clay)
(Whiting facility)

238. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby realleged and incorporated by reference as if fully set forth herein.

239. Pursuant to 329 IAC 3.1-7-1, the State of Indiana has incorporated by reference, unless otherwise noted, the provisions of 40 C.F.R. Part 262.

240. The regulations at 40 C.F.R. § 262.11 require a person who generates solid waste, as that term is defined at 40 C.F.R. § 261.2, to make a determination if the waste is hazardous.

241. In order to properly determine if a solid waste is a characteristic hazardous waste the generator must take a representative sample of the waste, as that term is defined at 40 C.F.R. § 260.10, to determine if the waste exhibits one or more of the characteristics set out at 40 C.F.R. Part 261, Subpart C.

242. Amoco generates a spent treating clay waste from its Number 4C Treating Plant which is a solid waste as that term is defined at 40 C.F.R. § 261.2.

243. The spent treating clay is generated in "drums" and is then transferred to "roll-off"

boxes for transport to an off-site disposal facility.

244. Amoco has treated the spent treating clay taken from a "drums" as both hazardous waste and non-hazardous waste.

245. Amoco has failed to make an adequate hazardous waste determination for the spent treating clay waste in violation of 40 C.F.R. § 262.11, due to the fact that it has failed to take a representative sample, as that term is defined at 40 C.F.R. § 260.10, of the spent treating clay waste.

246. From at least March 27, 1990 until present, Amoco has failed to make an adequate waste determination of the spent treating clay waste in violation of 40 C.F.R. § 262.11. Therefore, Amoco had violated 40 C.F.R. § 262.11 and 329 IAC 3.1-7-2-1.

247. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco failed to comply with RCRA due to its failure to comply with the provisions of 40 C.F.R. § 262.11 and 329 IAC 3.1-7-1, with regard to the spent treating clay waste. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

248. Unless enjoined, Amoco will continue to violate RCRA and the provisions of 40 C.F.R. § 262.11 and 329 IAC 3.1-7-1, by failing to make an adequate waste determination with regard to the spent treating clay waste.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, the United States, respectfully requests that this Court:

1. Order Defendants to immediately comply with the statutory and regulatory requirements cited in this Complaint, under the Clean Air Act, CERCLA, EPCRA and RCRA;

2. Order Defendants to take appropriate measures to mitigate the effects of its violations;

3. Assess civil penalties against Defendants for up to the amounts provided in the applicable statutes; and

4. Grant the United States such other relief as this Court deems just and proper.

Respectfully submitted,

_____
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Environment and Natural Resources Division
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_____
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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	Civil No. 2:96 CV 095 RL
	)	
and	)	Judge Rudy Lozano
	)	
THE STATE OF INDIANA, STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON,	)	
	)	
Plaintiff-Intervenors,	)	
	)	
v.	)	
	)	
BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY,	)	
	)	
Defendants.	)	
	)	

FIRST AMENDMENT TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"); the State of Indiana, the State of Ohio, and the Northwest Pollution Control Authority of the State of Washington (hereinafter "Plaintiff-Intervenors"); and BP Exploration and Oil, Co., Amoco Oil Company, and Atlantic Richfield Company (hereinafter, collectively, "BP") are parties to a Consent Decree entered by this Court on August 29, 2001 (hereinafter "the Consent Decree"); and

WHEREAS, BP has agreed to sell and Tesoro Petroleum Corporation (hereinafter "Tesoro") has agreed to buy two of the refineries covered by that Consent Decree, to-wit: the Amoco Oil Company Refineries located at Mandan, North Dakota (hereinafter "the Mandan Refinery") and Salt Lake City, Utah (hereinafter "the Salt Lake City Refinery");

WHEREAS, Tesoro has contractually agreed to assume the obligations of, and to be bound by the terms and conditions of, the Consent Decree as such obligations, terms and conditions relate to the Mandan Refinery and the Salt Lake City Refinery (hereinafter "the Transferred Refineries"); and

WHEREAS, the United States and Plaintiff-Intervenors agree that Tesoro has the financial and technical ability to assume the obligations and liabilities of the Consent Decree as they relate to the Transferred Refineries; and

WHEREAS, the United States, Plaintiff-Intervenors, BP and Tesoro desire to amend the Consent Decree to transfer to Tesoro the obligations, liabilities, rights and releases of the Consent Decree as it pertains to the Transferred Refineries and to release BP from its obligations and liabilities under the Consent Decree insofar as they relate to the Transferred Refineries;

WHEREAS, Paragraph 85 of the Consent Decree requires that this Amendment be approved by the Court before it is effective;

NOW THEREFORE, The United States, Plaintiff-Intervenors, BP and Tesoro hereby agree that, upon approval of this Amendment by the Court, the Consent Decree shall thereby be amended as follows:

1. Except as provided in Paragraph 2, of this Amendment, Tesoro Petroleum Corporation hereby assumes, and BP is hereby released from, all obligations and liabilities imposed by the Consent Decree on the Transferred Refineries, and the terms and conditions of the Consent Decree as they relate to the Transferred Refineries shall hereafter exclusively apply to, be binding upon, and be enforceable against Tesoro to the same extent as if Tesoro were specifically identified and/or named in those provisions of the Consent Decree.

2. Tesoro shall not be responsible for any portion of the Civil Penalty provided for in Section IX of the Consent Decree.

3. All references to "BP" in Subparagraphs 15. D., F., H, and I. shall be deemed to refer to "BP and Tesoro". All references to "BP" in Subparagraphs 15. G., K., and L shall be deemed to refer to "BP or Tesoro (as the case may be)". Subparagraph 15. J. does not apply to Tesoro.

4. Subparagraphs 15. A., B., C., and E. are hereby revised to read as follows:

A. BP shall install NOx emission control technology on certain specified heaters and boilers at its six refineries. Tesoro shall install NOx emission control technology on certain specified heaters and boilers at its two refineries. The heaters and boilers proposed for control by BP and Tesoro shall be selected in accordance with the requirements of this Paragraph.

B. i. BP shall select the heaters and boilers that shall be controlled at the Carson, Cherry Point, Texas City, Toledo, Whiting and Yorktown Refineries. The combined heat input capacity of the heaters and boilers selected by BP for future control, together with the heaters and boilers on which controls identified in Paragraph 15.D. have already been installed, must represent a minimum of 60.7% of the six refineries' heater and boiler heat input capacity in mmBTU for those heaters and boilers greater than 40 mmBTU/hr, which for purposes of the Consent Decree is represented to be approximately 36,605 mmBTU/hr across the six refineries. Further, not less than 30% of the heater and Boiler heat input capacity for heaters and boilers greater than 40 mmBTU/hr. at any individual refinery must be controlled in accordance with Paragraph 15.D.

ii. No later than January 18, 2005, BP shall complete installation of controls on heaters and boilers on at least 2/3 of the heat input capacity of the universe of the heaters and boilers to be controlled under Paragraph 15.B and 15.C, as amended herein. No later than January 18, 2005, BP shall propose a schedule for installation of the controls on the remaining heaters and boilers required to be controlled under Paragraph 15. B. i.

iii. Where BP affirmatively demonstrates to EPA's satisfaction that it is technically infeasible to install NOx controls for heaters/boilers to meet the 30% minimum requirement for any of its petroleum refineries, BP shall make up any shortfall by achieving NOx reductions corresponding to the shortfall from other sources at the refinery where the infeasibility was demonstrated, which may include external credit purchases in the same Air Quality Control Region.

C. i. Tesoro shall select the heaters and boilers that shall be controlled at the Mandan and Salt Lake City Refineries. The combined heat input capacity of the heaters and boilers selected by Tesoro for future control, together with the heaters and boilers on which controls identified in Paragraph 15.D. have already been installed, must represent a minimum of 35.8% of the two refineries' heater and boiler heat input capacity in mmBTU for those heaters and boilers greater than 40 mmBTU/hr, which for purposes of the Consent Decree is represented to be approximately 1,786 mmBTU/hr across the two refineries. Further, not less than 30% of the heater and boiler heat input capacity for heaters and boilers greater than 40 mmBTU/hr. at each individual refinery must be controlled in accordance with Paragraph 15.D.

ii. No later than January 18, 2005, Tesoro shall propose a schedule for installation of the controls on the heaters and boilers required to be controlled under Paragraph 15. C. i.

iii. Where Tesoro affirmatively demonstrates to EPA's satisfaction that it is technically infeasible to install NOx controls for heaters/boilers to meet the 30% minimum requirement for any of their petroleum refineries, Tesoro shall make up any shortfall by achieving NOx reductions corresponding to the shortfall from other sources at the refinery where the infeasibility was demonstrated, which may include external credit purchases in the same Air Quality Control Region.

E. i. Following installation of all controls required by Paragraph 15.C.i., BP shall demonstrate that the allowable emissions from the controlled heaters and boilers at the Carson, Cherry Point, Texas City, Toledo, Whiting and Yorktown Refineries satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final}) \leq \sum_{i=1}^{n} (E_{Baseline})_i - 9{,}384$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i;

and

$(E_{Baseline})_i$ = The ton per year actual emissions shown in Appendix A for controlled heater or boiler i.

ii. Following installation of all controls required by Paragraph 15.C.i., Tesoro shall demonstrate that the allowable emissions from the controlled heaters and boilers at the Mandan and Salt Lake City Refineries satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final}) \leq \sum_{i=1}^{n} (E_{Baseline})_i - 248$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i;

and

$(E_{Baseline})_i$ = The ton per year actual emissions shown in Appendix A for controlled heater or boiler i.

6. The references to "Paragraph 15.C." in Subparagraphs 15. D., F., G., H., and I. shall be deemed to refer to "Paragraphs 15. B. and C." as amended above.

7. The references to "Paragraph 15.C." in Subparagraph 15.L. shall be deemed to refer to "Paragraphs 15.B. or C. (as the case may be)" as amended above.

8. The references to "Paragraph 15.E." in Subparagraphs 15. D., H. and L. shall be deemed to refer to "Paragraphs 15.E.i. or 15.E.ii. (as the case may be)" as amended above.

9. Paragraph 82 is hereby amended to include the following information:

As to Tesoro Petroleum Corporation:

Mr. Robert L. Gronewold

Manager, Corporate Environmental Affairs – Refining and Development
Tesoro Petroleum Companies, Inc.
3450 South 344th Way, Suite 100
Auburn, WA 98001-5931

and

D. Jeffrey Haffner
Attorney
Tesoro Petroleum Companies, Inc.
300 Concord Plaza Drive
San Antonio, TX 78216-6999

10. The undersigned representatives are fully authorized to enter into the terms and conditions of this Amendment.

11. This Amendment may be executed in several counterparts, each of which will be considered an original.

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is:

ORDERED, ADJUDGED and DECREED that this Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this ____ day of _____, 2001

_____
United States District Judge

WE HEREBY CONSENT to the foregoing Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR PLAINTIFF THE UNITED STATES OF AMERICA

Date: 9/6/01

JOHN C. CRUDEN
Acting Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

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Senior Counsel
Environmental Enforcement Section
Environment and Natural Resources Division
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(202) 514-4046

WE HEREBY CONSENT to the foregoing Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR DEFENDANTS BP EXPLORATION AND OIL CO., AMOCO OIL COMPANY, AND ATLANTIC RICHFIELD COMPANY

Date: 09/06/01

Neil R. Morris
Manager, Mergers & Acquisitions

WE HEREBY CONSENT to the foregoing Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR TESORO PETROLEUM CORPORATION

Date: 09/06/01

James C. Reed, Jr.
Executive Vice President, General Counsel
and Secretary

WE HEREBY CONSENT to the foregoing Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF INDIANA

Date: 9/17/01

Charles J. Todd
Chief Operating Officer
Indiana Department of Environmental Management

WE HEREBY CONSENT to the foregoing Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF OHIO

Date: 9/17/01

Bryan F. Zima
Assistant Attorney General

WE HEREBY CONSENT to the foregoing Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE NORTHWEST AIR POLLUTION CONTROL AUTHORITY, A MUNICIPAL CORPORATION

Date: 9/17/01

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, and THE STATE OF INDIANA, THE STATE OF OHIO, and THE NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON, Plaintiff-Intervenors, v. BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY Defendants.	Civil No. 2:96 CV 095 RL Magistrate Judge Rodovich

CERTIFICATE OF SERVICE

It is hereby certified that service of the "Motion of the United States of America in Support of Entry of the Consent Decree of the Proposed First Amendment to Consent Decree," and the "First Amendment to Consent Decree," was made upon the following persons by U.S. Mail:

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Seattle, WA 98101

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	Civil No. 2:96 CV 095 RL
	)	
and	)	Judge Rudy Lozano
	)	
THE STATE OF INDIANA, STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON,	)	
	)	
Plaintiff-Intervenors,	)	
	)	
v.	)	
	)	
BP EXPLORATION & OIL CO., ET AL.	)	
	)	
Defendants.	)	
	)	

SECOND AMENDMENT TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"); the State of Indiana, the State of Ohio, and the Northwest Pollution Control Authority of the State of Washington (hereinafter "Plaintiff-Intervenors"); and BP Exploration and Oil, Co., BP Products North America Inc., f/k/a Amoco Oil Company, and Atlantic Richfield Company (hereinafter, collectively, "BP") are parties to a Consent Decree entered by this Court on August 29, 2001 (hereinafter "the Consent Decree");

WHEREAS BP sold its Mandan and Salt Lake City Refineries to Tesoro Petroleum Corporation ("Tesoro") on September 6, 2001, and as a condition of that sale, Tesoro entered into the First Amendment To Consent Decree, which was approved and entered as a final order of the Court

on October 2, 2001, and which amendment modified the terms of the Consent Decree as provided therein (hereinafter "the First Amendment);

WHEREAS, BP has agreed to sell and Giant Yorktown, Inc., a Delaware corporation (hereinafter "Giant") has agreed to buy one of the refineries covered by that Consent Decree, to-wit: the BP Products North America Inc. f/k/a Amoco Oil Company Refinery located at Yorktown, Virginia (hereinafter "the Yorktown Refinery");

WHEREAS, Giant has contractually agreed to assume the obligations of, and to be bound by the terms and conditions of, the Consent Decree as such obligations, terms and conditions relate to the Yorktown Refinery; and

WHEREAS, the United States and Plaintiff-Intervenors agree, based on Giant's representations, that Giant has the financial and technical ability to assume the obligations and liabilities of the Consent Decree as they relate to the Yorktown Refinery; and

WHEREAS, the United States, Plaintiff-Intervenors, BP and Giant desire to amend the Consent Decree to transfer to Giant the obligations, liabilities, rights and releases of the Consent Decree as it pertains to the Yorktown Refinery and to release BP from its obligations and liabilities under the Consent Decree insofar as they relate to the Yorktown Refinery; and

WHEREAS, with respect to BP's Texas City, Texas Refinery, BP and the United States have identified and wish to correct an error in Paragraph 15 of the Consent Decree, which error does not affect any other Party to the Consent Decree; and

WHEREAS, each of the undersigned has reviewed and hereby consents to this Second Amendment; and

WHEREAS, Paragraph 85 of the Consent Decree requires that this Amendment be approved by the Court before it is effective;

NOW THEREFORE, the United States, Plaintiff-Intervenors, BP, Tesoro and Giant hereby agree that, upon approval of this Amendment by the Court, the Consent Decree shall thereby be amended as follows:

1. Except as provided in Paragraph 2 of this Amendment, Giant hereby assumes, and BP is hereby released from, all obligations and liabilities imposed by the Consent Decree on the Yorktown Refinery from the date lodging of the Consent Decree, and the terms and conditions of the Consent Decree as they relate to the Yorktown Refinery shall hereafter exclusively apply to, be binding upon, and be enforceable against Giant to the same extent as if Giant were specifically identified and/or named in those provisions of the Consent Decree from the date lodging of the Consent Decree.

2. Giant shall not be responsible for any portion of the civil penalty provided for in Section IX of the Consent Decree, which civil penalty the United States and Plaintiff-Intervenor State of Indiana hereby acknowledge has been paid in full.

3. Paragraph 3 of the First Amendment is hereby stricken and Paragraph 15 of the Consent Decree, as modified by Paragraph 4 of the First Amendment, is hereby further modified to read, in its entirety, as follows:

15. <u>NOx Emissions Reductions From Heaters and Boilers</u>

A. BP shall install NOx emission control technology on certain specified heaters and boilers at its Carson, Cherry Point, Texas City, Toledo and Whiting Refineries. Tesoro shall install NOx emission control technology on certain specified heaters and boilers at its Mandan and Salt Lake City Refineries. Giant shall install NOx emission control technology on certain specified heaters and boilers at its Yorktown Refinery. The heaters and boilers proposed for control by BP, Tesoro and Giant shall be selected in accordance with the requirements of this Paragraph.

B. i. BP shall select the heaters and boilers that shall be controlled at the Carson, Cherry Point, Texas City, Toledo and Whiting Refineries. The combined heat input capacity of the heaters and boilers selected by BP for future control, together with the heaters and boilers on which controls identified in Paragraph 15.E. have already been installed, must represent a minimum of 61.2 % of the five refineries' heater and boiler heat input capacity in mmBTU/hr for those heaters and boilers greater than 40 mmBTU/hr, which for purposes of the Consent Decree is represented to be approximately 38,216 mmBTU/hr across the five refineries. Further, not less than 30% of the heater and boiler heat input capacity for heaters and boilers greater than 40 mmBTU/hr at any individual refinery must be controlled in accordance with Paragraph 15.E. For purposes of this Paragraph, the phrase "heaters and boilers" shall include the turbines associated with sources PRS4-410 and PRS4-420 at BP's Texas City Refinery.

ii. No later than January 18, 2005, BP shall complete installation of controls on heaters and boilers at the Carson, Cherry Point, Texas City, Toledo and Whiting Refineries having a combined firing capacity of 16,238 mmBTU/hr heat input capacity. No later than January 18, 2005, BP shall propose a schedule for installation of the controls on the remaining heaters and boilers required to be controlled under Paragraph 15.B.i.

iii. Where BP affirmatively demonstrates to EPA's satisfaction that it is technically infeasible to install NOx controls for heaters/boilers to meet the 30% minimum requirement for any of its petroleum refineries, BP shall make up any shortfall by achieving NOx reductions corresponding to the shortfall from other sources at the refinery where the

infeasibility was demonstrated, which may include external credit purchases in the same Air Quality Control Region.

C. i. Tesoro shall select the heaters and boilers that shall be controlled at the Mandan and Salt Lake City Refineries. The combined heat input capacity of the heaters and boilers selected by Tesoro for future control, together with the heaters and boilers on which controls identified in Paragraph 15.E. have already been installed, must represent a minimum of 35.8% of the two refineries' heater and boiler heat input capacity in mmBTU for those heaters and boilers greater than 40 mmBTU/hr, which for purposes of the Consent Decree is represented to be approximately 1,786 mmBTU/hr across the two refineries. Further, not less than 30% of the heater and boiler heat input capacity for heaters and boilers greater than 40 mmBTU/hr at each individual refinery must be controlled in accordance with Paragraph 15.E.

ii. No later than January 18, 2005, Tesoro shall propose a schedule for installation of the controls on the heaters and boilers required to be controlled under Paragraph 15. C. i.

iii. Where Tesoro affirmatively demonstrates to EPA's satisfaction that it is technically infeasible to install NOx controls for heaters/boilers to meet the 30% minimum requirement for any of their petroleum refineries, Tesoro shall make up any shortfall by achieving NOx reductions corresponding to the shortfall from other sources at the refinery where the infeasibility was demonstrated, which may include external credit purchases in the same Air Quality Control Region.

D. i. Giant shall select the heaters and boilers that shall be controlled at the Yorktown Refinery. The combined heat input capacity of the heaters and boilers selected by

Giant for future control, together with the heaters and boilers on which controls identified in Paragraph 15.E. have already been installed, must represent a minimum of 33.3% of the Yorktown Refinery's heater and boiler heat input capacity in mmBTU for those heaters and boilers greater than 40 mmBTU/hr, which for purposes of the Consent Decree is represented to be approximately 935 mmBTU/hr.

ii. No later than January 18, 2005, Giant shall propose a schedule for installation of the controls on the heaters and boilers required to be controlled under Paragraph 15.D. i.

iii. Where Giant affirmatively demonstrates to EPA's satisfaction that it is technically infeasible to install NOx controls for heaters/boilers to meet the 33.3% minimum requirement, Giant shall make up any shortfall by achieving NOx reductions corresponding to the shortfall from other sources at the Yorktown Refinery, which may include external credit purchases in the same Air Quality Control Region.

E. BP, Tesoro and Giant shall select one or any combination of the following methods for control of NOx emissions from individual heaters or boilers selected by each company pursuant to Paragraphs 15. B., C. and D.:

i. SCR or SNCR;

ii. "current generation" or "next generation" ultra-low NOx burners;

iii. other technologies which BP, Tesoro or Giant demonstrates to EPA's satisfaction;

iv. permanent shutdown of heaters and boilers with revocation of all operating permits; or

v. modification of operating permits to include federally enforceable requirements limiting operations to emergency situations (e.g. failure or inability of First Energy to supply steam to the Toledo Refinery; provided, however, that, any heater or boiler controlled under this provision shall not be counted toward satisfaction of the requirements of Paragraph 15. B., C. or D.,

but shall be counted in determining whether the requirements of Paragraph 15.F. are satisfied.

F. i. Following installation of all controls required by Paragraph 15.B.i., BP shall demonstrate that the allowable emissions from the controlled heaters and boilers at the Carson, Cherry Point, Texas City, Toledo and Whiting Refineries satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final}) \leq \sum_{i=1}^{n} (E_{Baseline})_i - 9{,}344$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i;

and

$(E_{Baseline})_i$ = The ton per year actual emissions shown in Appendix A for controlled heater or boiler i.

ii. Following installation of all controls required by Paragraph 15.C.i., Tesoro shall demonstrate that the allowable emissions from the controlled heaters and boilers at the Mandan and Salt Lake City Refineries satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final}) \leq \sum_{i=1}^{n} (E_{Baseline})_i - 248$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i;

and

$(E_{Baseline})_i$ = The ton per year actual emissions shown in Appendix A for controlled heater or boiler i.

iii. Following installation of all controls required by Paragraph 15.D.i., Giant shall demonstrate that the allowable emissions from the controlled heaters and boilers at the Yorktown Refinery satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final}) \leq \sum_{i=1}^{n} (E_{Baseline})_i - 40$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i;

and

$(E_{Baseline})_i$ = The ton per year actual emissions shown in Appendix A for controlled heater or boiler i.

G. BP, Tesoro or Giant (as the case may be) shall receive a premium of 1.5 times the mmBTU/hr for each of the heaters and boilers for which it elects to install next generation ultra-low NOx burners to meet the applicable percent control requirements of Paragraphs 15.B., C. and D.

H. i. Appendix A to this Consent Decree provides the following information for each of the eight refineries subject to this Consent Decree: (a) a listing of all heaters and boilers with firing capacities greater than 40 mmBTU/hr; (b) the baseline actual emission rates in lbs/mmBTU and tons per year; and (c) BP's, initial identification of the heaters and boilers that are either already controlled or are likely to be controlled in accordance with Paragraphs 15. B, C. or D., as the case may be.

ii. Within ninety (90) days of the Date of Lodging, BP shall provide EPA with an updated version of Appendix A identifying the heaters and boilers that are expected to be controlled in calendar year 2001. To the extent known at the time, this update shall also include, for each heater or boiler expected to be controlled during calendar year 2001, the following information:

a. The baseline actual emission rate in lbs/mmBTU, and the basis for that estimate,

b. The actual firing rate used in the baseline calculation and the averaging period used to determine the firing rate;

c. The proposed NOx emission control technology to be installed on each such heater or boiler;

d. The projected allowable emission rate in lbs/mmBTU, tons per year, and the basis for that projection.

BP shall expeditiously begin installation of controls on the heaters and boilers identified in this update.

iii. On or before December 31, 2001 (December 31, 2002 for Giant), and on or before December 31 of each subsequent year until the relevant Company has installed all controls required by Paragraphs 15.B., C. or D., as applicable, BP, Tesoro and Giant shall each provide EPA with further updates of the portions of Appendix A applicable to the refineries owned by such Company ("the Annual Heater and Boiler Update Report). Each such Annual Heater and Boiler Update Report shall include the following:

a. For each heater and boiler on which controls specified in Paragraph **15.E.** have already been installed, the NOx emission control technology installed, the measures NOx emission rate in lbs/mmBTU, and the method by which that emission rate was determined;

b. An identification of the additional heaters and boilers on which controls meeting the requirements of Paragraph 15.E. are expected to be installed in the next calendar year, and, insofar as known at the time the report is prepared, the proposed NOx emission control technology to be installed on each such heater and boiler, the projected emission rate in lbs/mmBTU, and the basis for that projection;

c. The additional heaters and boilers on which controls are expected to be installed in the future years in order to meet the applicable requirements of Paragraph 15. B., C, or D., as applicable;

d. A demonstration that control of the heaters and boilers identified pursuant to subparagraphs (a) – (c) above meet the applicable requirements of Paragraph 15. B., C, or D., as applicable; and

e. An estimate of annual emissions, demonstrated through statistically significant random sampling, of the remaining heaters and boilers identified in the applicable portions of Appendix A that are not anticipated to be controlled pursuant to the requirements of this Paragraph.

I. Within ninety (90) days of the date of installation of each control technology for which BP, Tesoro or Giant seeks recognition under Paragraph 15.B., C. or D. as the case may be), BP, Tesoro or Giant (as the case may be) shall conduct an initial performance test for NOx and CO. In addition, BP shall install, operate, and calibrate a NOx CEMS on the thirty-two (32) largest heaters/boilers being controlled under this Paragraph that did not have NOx CEMS as of August 29, 2001; Tesoro shall install, operate, and calibrate a NOx CEMS on the two (2) largest heaters/boilers being controlled under this Paragraph that did not have

NOx CEMS as of August 29, 2001; and Giant shall install, operate, and calibrate a NOx CEMS on the one (1) largest heater/boiler being controlled under this Paragraph that did not have NOx CEMS as of August 29, 2001.

J. Upon installation of controls for which BP or Giant (as the case may be) seeks recognition under Paragraph 15. B. or D. on any boiler greater than 100 mmBTU/hr that is not equipped with a CEMS, BP and Giant shall monitor performance of those controls in accordance with the monitoring plan entitled "Heater and Boiler Monitoring Plan" submitted by BP on November 20, 2001 as finally approved by EPA. Upon installation of controls for which Tesoro seeks recognition under Paragraph 15. C. on any boiler greater than 100 mmBTU/hr that is not equipped with a CEMS, Tesoro shall monitor performance of those controls in accordance with the monitoring plan entitled "NOx Emission Reductions From Heaters and Boilers: Monitoring Plan" submitted by Tesoro on November 20, 2001, as finally approved by EPA. Nothing in this Paragraph shall be construed to preclude BP, Tesoro or Giant from seeking EPA approval of modifications to such monitoring plans, provided that any such modified plan shall include, at a minimum, excess air or combustion 02, air preheat temperature where applicable, and burner preventative maintenance monitoring.

K. BP shall demonstrate "next generation" ultra low-NOx burners so as to achieve 10 ppmvd (at 0% oxygen) NOx levels on Coker B-203 heater at the Texas City Facility. BP shall demonstrate next generation ultra low-NOx burners, as defined above, for a six (6) month demonstration period beginning no later than six (6) months after the Date of Lodging of the Consent Decree. BP shall operate the new burners to achieve the lowest feasible emissions of NOx. BP shall monitor performance of the heater with next generation technology by use of a CEMS, and shall report emissions results on a monthly basis no later

than thirty (30) days following the month in which the monitoring occurred. BP shall prepare a written evaluation of the next generation low-NOx burner demonstration, which shall include a discussion of effectiveness, economic and technical feasibility, and identification of the cost of installation. BP shall submit its report to EPA no later than sixty (60) days after completion of the six-month demonstration. BP shall not submit a claim of "Confidential Business Information" covering any aspect of the report, and acknowledges that the information in the report, and perhaps the report itself, will be made available for public distribution.

L. The requirements of this Paragraph do not exempt BP, Tesoro or Giant from complying with any and all Federal, state and local requirements which may require technology upgrade based on actions or activities occurring after the Date of Entry of the Consent Decree.

M. If BP or Tesoro proposes to transfer ownership of any refinery subject to Paragraphs 15. B. or C. and F. before the requirements of those paragraphs have been met, BP or Tesoro (as the case may be) shall notify EPA of that transfer and shall submit a proposed allocation to that refinery of its share of the control percentage and tonnage reduction requirements of those Paragraphs that will apply individually to that refinery after such transfer. EPA shall approve that allocation so long as it ensures that the overall requirements of applicable portions of Paragraphs 15. B. or C. and F. are satisfied.

4. Paragraph 82 of the Consent Decree is hereby amended to include the following information:

As to Giant:

Carl D. Shook

Executive Vice President
Giant Industries, Inc.
23733 North Scottsdale Road
Scottsdale, AZ 85255

and

Kim B. Bullerdick
Vice President and General Counsel
Giant Industries, Inc.
23733 North Scottsdale Road
Scottsdale, AZ 85255

The undersigned representatives are fully authorized to enter into the terms and conditions of this Second Amendment. This Second Amendment may be executed in several counterparts, each of which will be considered an original.

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is:

ORDERED, ADJUDGED and DECREED that the foregoing Second Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this ____ day of _____, 2002

_____
United States District Judge

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR PLAINTIFF THE UNITED STATES OF AMERICA

Date: 4.26.02

Tom Sansoneti

THOMAS L. SANSONETI
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

ADAM M. KUSHNER
Senior Counsel
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
(202) 514-4046

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR DEFENDANTS BP EXPLORATION AND OIL CO., AMOCO OIL COMPANY n/d/b/a BP PRODUCTS NORTH AMERICA INC., AND ATLANTIC RICHFIELD COMPANY

Date: _____

Neil R. Morris

Manager, Mergers & Acquisitions

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR DEFENDANTS BP EXPLORATION AND OIL CO., AMOCO OIL COMPANY n/d/b/a BP PRODUCTS NORTH AMERICA INC., AND ATLANTIC RICHFIELD COMPANY

Date: _____

Neil R. Morris
Manager, Mergers & Acquisitions

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR TESORO PETROLEUM CORPORATION

Date: _____

_____
James C. Reed, Jr.
Executive Vice President, General Counsel
and Secretary

AJW

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR Giant Yorktown, Inc.,

Date: May 14 2002

~~Earl D. Shook~~
C. LEROY CROW

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF INDIANA

Date: 5-20-02

for

Charles J. Todd
Chief Operating Officer
Indiana Department of Environmental Management

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF OHIO

Date: 5-20-02

Brian F. Zima
Assistant Attorney General

WE HEREBY CONSENT to the foregoing Second Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE NORTHWEST AIR POLLUTION CONTROL AUTHORITY OF THE STATE OF WASHINGTON

Date: 5-20-02

for

Laughlin H. Clark, Esq. WSBA # 10996
Visser Zender & Thurson
1700 D Street
P. O. Box 5226
Bellingham WA 98227
(360) 647-1500

U.S. Department of Justice

Environment and Natural Resources Division

Environmental Enforcement Section
P.O. Box 7611
Ben Franklin Station
Washington, DC 20044-7611

Telephone (202) 514-2738
Facsimile (202) 616-6583

October 15, 2004

Clerk of the Court
U.S. District Court for the Northern
District of Indiana
5400 Federal Plaza
Hammond, IN 46320

Re: BP Exploration & Oil Co., et al

Dear Sir/Madam:

Enclosed are the original and two copies of the Third Amendment to Consent Decree. Please have this filed with the Court and return a file stamped copy to me in the enclosed self-addressed envelope. Thank you for your assistance in this matter.

Sincerely,

Robert Brook
Assistant Chief
United States Department of Justice
Environment and Natural Resources Division
Environmental Enforcement

Enclosures

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	Civil No. 2:96 CV 095 RL
	)	
And	)	Judge Rudy Lozano
	)	
THE STATE OF INDIANA, STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON,	)	
	)	
Plaintiff- Intervenors,	)	
	)	
v.	)	
	)	
BP EXPLORATION & OIL CO., ET AL.	)	
	)	
Defendants.	)	
	)	

THIRD AMENDMENT TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"); the State of Indiana, the State of Ohio, and the Northwest Air Pollution Authority of the State of Washington (hereinafter "Plaintiff-Intervenors"); and BP Products North America Inc., successor in interest to BP Exploration and Oil, Co., Amoco Oil Company, and Atlantic Richfield Company (hereinafter "BP") are parties to a Consent Decree entered by this Court on August 29, 2001 (hereinafter "the Consent Decree");

WHEREAS, BP sold its Mandan and Salt Lake City Refineries to Tesoro Petroleum Corporation (hereinafter "Tesoro") on September 6, 2001, and as a condition of that sale, Tesoro entered into the First Amendment to Consent Decree, which was approved and

entered as a final order of the Court on October 2, 2001, and which amendment modified the terms of the consent Decree as provided (hereinafter "the First Amendment");

WHEREAS, BP sold its Yorktown Refinery to Giant Yorktown, Inc. (hereinafter "Giant") on May 14, 2002, and as a condition of that sale, Giant entered into the Second Amendment to Consent Decree, which was approved and entered as a final order of the Court on June 7, 2002, and which amendment modified the terms of the consent Decree as provided (hereinafter "the Second Amendment");

WHEREAS, BP has agreed to sell and Praxair, Inc., a Delaware corporation (hereinafter "Praxair") has agreed to buy certain existing hydrogen production equipment located at the BP Texas City, Texas Refinery more specifically described in Attachment 1 hereto (hereinafter referred to as HU-1);

WHEREAS, Paragraph 6 of the Consent Decree requires that BP condition any transfer, in whole or in part, of ownership of the refineries that are subject of the Consent Decree upon the execution by the transferee of a modification to the Consent Decree, making the terms and conditions of the Consent Decree that apply to such refinery applicable to the transferee:

WHEREAS, Praxair has contractually agreed to assume the obligations, rights and benefits, and to be bound by the terms and conditions of the Consent Decree as it applies to HU-1;

WHEREAS, HU-1 includes an existing process heater designated by the Texas Commission on Environmental Quality ("TCEQ") as emission point number 231, also referred to as HU1-101B;

WHEREAS, the United States and Plaintiff-Intervenors agree that Praxair has the financial and technical ability to assume the obligations and liabilities of the Consent Decree as they relate to HU-1;

WHEREAS, the United States, Plaintiff-Intervenors, BP and Praxair desire to amend the Consent Decree to release BP from all obligations and liabilities under the Consent Decree insofar as they relate to HU-l and to transfer certain of those obligations to Praxair;

WHEREAS, since HU-1 is subject to TCEQ Air Quality Permit No. 19297, issued September 4, 2002, which mandates that HU-1 use either pipeline-quality natural gas or refinery fuel gas that complies with 40 C.F.R. Part 60 Subpart J (NSPS for Fuel Gas Combustion Units), the United States and the Plaintiff Intervenors agree that it is unnecessary to make the Consent Decree requirements related to sulfur emissions from heaters and boilers applicable to HU-1;

WHEREAS, BP and Praxair represent that HU-1 does not currently include any components that have the potential to leak volatile organic compounds or hazardous pollutants, as defined by 40 C.F.R. Part 60, Subpart GGG, and 40 C.F.R. Part 63, Subpart CC and that BP did not identify any of the components located within HU-1 as subject to LDAR during the audits required by Paragraph 20.C; and, therefore, is not currently subject to any federal Leak Detection and Repair (LDAR) program requirements and, as a result of such representation, the United States and the Plaintiff Intervenors agree that it is unnecessary to make the Consent Decree requirements of Paragraph 20 as they relate to enhanced LDAR applicable to HU-1;

WHEREAS, BP and Praxair represent that HU-1 has only one flare, which is not identified as a Flaring Device, as defined in the consent decree and as listed in Appendix G of the Consent Decree or any revisions of Appendix G; and based on that representation, the United

States and the Plaintiff-Intervenors agree that it is unnecessary to make the acid gas flaring incident requirements of the Consent Decree in Paragraph 22 applicable to HU-1;

WHEREAS, BP and Praxair represent that HU-1 does not include any waste streams or equipment subject to the Benzene NESHAP, 40 C.F.R. part 61, Subpart FF, and based on this representation, the United States and the Plaintiff-Intervenors agree that the enhanced Benzene NESHAP requirements of the Consent Decree in Paragraph 19 do not apply to HU-1;

WHEREAS, the provisions of this Amendment have no impact on any Party to the Consent Decree other than the signatories hereto; and

WHEREAS, Paragraph 85 of the Consent Decree requires that this Amendment be approved by the Court before it is effective;

NOW THEREFORE, upon approval of this Amendment by the Court, the Consent Decree shall be amended as follows:

1. Subparagraphs B.i. and F.i. of Paragraph 15 of the Consent Decree, as modified and restated by the Second Amendment To Consent Decree, are hereby further modified to read as follows:

*****

15. <u>NOx Emissions Reductions From Heaters and Boilers</u>

B. i. BP shall select the heaters and boilers that shall be controlled at the Carson, Cherry Point, Texas City, Toledo, and Whiting Refineries. The combined heat input capacity of the heaters and boilers selected by BP for future control, together with the heaters and boilers on which controls identified in Paragraph 15.E. have already been installed, must represent a minimum of 23,038 MMBtu of the five refineries' heaters and boilers greater than 40 MMBtu/hr. Further, not less than 30% of the heater and boiler

heat input capacity for heaters and boilers greater than 40 MMBtu/hr at any individual refinery must be controlled in accordance with Paragraph 15.E. For purposes of this Paragraph, the phrase "heaters and boilers" shall include the turbines associated with sources PRS4-410 and PRS4-420 at BP's Texas City Refinery.

* * * *

F. i. Following installation of all controls required by Paragraph 15.B.i., BP shall demonstrate that the allowable emissions from the controlled heaters and boilers at the Carson, Cherry Point, Texas City, Toledo and Whiting Refineries satisfy the following inequality:

$$\sum_{i=1}^{n} (E_{Final})_i = \sum_{i=1}^{n} (E_{Baseline})_i - 9{,}290$$

Where:

$(E_{Final})_i$ = Permit allowable pounds of NOx per million Btu for heater or boiler i times the lower of permitted or maximum rated capacity in million Btu per hour for heater or boiler i;

and

$(E_{Baseline})_i$ = The tons per year of actual emissions shown in Appendix A for controlled heater or boiler i.

2. New Subparagraph N of Paragraph 15 of the Consent Decree, as modified and restated by the Second Amendment To Consent Decree, is hereby added to read as follows:

*****

N.i. No later than December 31, 2008, Praxair shall either shut down the existing process heater designated by the Texas Commission on Environmental Quality ("TCEQ") as emission point number 231 (hereinafter "HU1-101B") or install SCR technology and a NOx continuous emission monitoring system on HU1-101B at the HU-1 Facility and limit NOx emissions from HU1-101B to no more than 0.015 lbs/MMBtu on an annual average. This emission limit equates to an allowable mass emissions rate of 23 tons per year given the design firing rate of 350 MMBtu/hr. For purposes of Paragraph 27 of the Consent Decree, the reduction in NOx emissions from HU1 down to 23 tons per year shall be considered to be a reduction required by the Consent Decree and shall not be used for purposes of netting or offset credits.

ii. Within ninety (90) days of the date of installation of the SCR technology on HU1-101B, Praxair shall conduct an initial performance test for NOx and CO.

iii. The requirements of this Paragraph do not exempt Praxair from complying with any and all Federal, state, and local requirements which may require technology upgrade based on actions or activities occurring after the Date of Entry of the Consent Decree.

iv. The requirements of this Paragraph shall apply to any and all successors in interest that own or operate HU-1. Effective from the Date of Entry of this Amendment to the Consent Decree until its termination, Praxair shall give written notice of the Consent Decree to any successors in interest prior to transfer of ownership or operation of HU-1 and shall provide a copy of the Consent Decree to any successor in interest. Praxair shall notify the United States in accordance with the notice provisions

set forth in Paragraph 82, of any successor in interest at least thirty (30) days prior to any such transfer.

v. If Praxair uses fuel gas which does not comply with 40 C.F.R. Part 60, Subpart J, at any time before the expiration of the Consent Decree, Praxair agrees to immediately comply with the requirements, including the limits, for the sulfur emissions as they relate to heaters and boilers applicable to HU-1 contained in Paragraph 17.

vi. If Praxair places any of the components contained within HU-1 into VOC service, as defined in 40 C.F.R. Part 60, Subpart GGG and/or 40 C.F.R. Part 63, Subpart CC, at any time before the expiration of the Consent Decree, Praxair agrees to immediately comply with the LDAR requirements contained in Paragraph 20 of the Consent Decree for components in VOC service.

3. Paragraph 26 of the Consent Decree, is hereby further modified to read as follows:

26. Operation

A. As soon as practicable following the Date of Lodging of the Consent Decree, but in no event later than twelve (12) months following the Date of Lodging, BP shall submit applications to incorporate the emissions limits and schedules set out in Paragraphs 14 – 18 and 21 of this Consent Decree into the minor or major new source review permits or other permits (other than Title V permits) which are federally enforceable and, upon issuance of such permits shall file any applications necessary to incorporate the requirements of those permits into the Facility's Title V permit. As soon as practicable, but in no event later than thirty (30) days after the establishment of any emission limitations under Paragraphs 14, 15, 16 and 21 of the Consent Decree, BP shall

submit applications to incorporate those incorporate the emissions limits into the minor or major new source review permits or other permits (other than Title V permits) which are federally enforceable and, upon issuance of such permits shall file any applications necessary to incorporate the requirements of those permits into the Facility's Title V permit. The parties agree that incorporation of the requirements of this Decree into Title V permits may be by "administrative amendment" under 40 C.F.R. 70.7(d) and analogous state Title V rules.

B. As soon as practicable following the Date of Lodging of the Third Amendment to Consent Decree, but in no event later than sixty (60) days following the Date of Lodging, Praxair shall submit applications to incorporate the following into its Title V permit:

i. HU-1 shall use only pipeline-quality natural gas or refinery fuel gas that complies with 40 C.F.R. Part 60 Subpart J (NSPS for Fuel Gas Combustion Units);

ii. HU-1 is subject to Special Condition 9 of Permit No. 19297, which contains a comprehensive LDAR program that will apply to any components in VOC service at HU-1, and that will include a 500-ppm leak definition, 15-day repair and other LDAR requirements for HU-1 as specified in Special Condition 9; and

iii. HU-1 has only one flare, which is subject to TCEQ Air Quality Permit restrictions limiting the materials burned in the flare to natural gas, low VOC content fuel gas, hydrogen, carbon monoxide, carbon dioxide, and methane; and HU-1 is subject to TCEQ rules governing episodic emissions under 30 Tex. Admin. Code Chapter 101 Subchapter F: Emissions Events and Scheduled Maintenance, Startup, and

Shutdown Activities, effective September 12, 2002, that requires for each flaring event a root cause evaluation, a detailed report, and corrective actions to minimize emissions and prevent future events.

4. Appendix A to the Consent Decree is hereby modified by deleting source HUl-l01B from that Appendix.

5. From and after the effective date of this Third Amendment to the Consent Decree, BP is hereby released from all obligations and liabilities imposed by the Consent Decree on HU-1 that arise after the effective date of the Consent Decree.

6. Praxair shall not be responsible for any portion of the Civil Penalty provided for in Section IX of the Consent Decree.

7. Paragraph 82 is hereby amended to include the following information:

Praxair, Inc.

Murray Covello,
Vice-President, Praxair Inc.,
175 East Park Drive (PO Box 44),
Tonawanda NY 14151
Phone: 716-879-2690
Fax: 716-879-2087
E-Mail: murray_covello@praxair.com

8. The undersigned representatives are fully authorized to enter into the terms and conditions of this Amendment.

9. This Amendment may be executed in several counterparts, each of which will be considered an original.

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is:

ORDERED, ADJUDGED and DECREED that the foregoing Third Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this _____ day of _____, 2004

_____
United States District Judge

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.***, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: 10/12/04

Tom Sansonetti /kj

THOMAS L. SANSONETTI
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Date: 10/5/04

ROBERT BROOK
Senior Counsel
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
(202) 514-2738

FOR U.S. ENVIRONMENTAL PROTECTION AGENCY

Date:_____

Thomas V. Skinner
Acting Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. N.W.
Washington, DC 20460

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR DEFENDANTS BP EXPLORATION AND OIL CO., AMOCO OIL COMPANY n/d/b/a BP PRODUCTS NORTH AMERICA INC., AND ATLANTIC RICHFIELD COMPANY:

Date: Aug 31, 2004

P.E. Grower
B.P. Products North America, Inc.

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR TESORO PETROLEUM CORPORATION

Date: October 4, 2004

DH

James C. Reed, Jr.
Executive Vice President, General Counsel
and Secretary

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR GIANT YORKTOWN, INC.

Date: 10/4/04

Carl D. Shook
Executive Vice President

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR PRAXAIR, INC

Date: Sept 1 /2004

Murray Covello
Vice President

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF INDIANA:

Date: 10/5/04

Steven D. Griffin
Deputy Attorney General
Indiana Attorney General's Office

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF OHIO:

Date: 10/14/04

Jack McManus
Assistant Attorney General
State of Ohio

WE HEREBY CONSENT to the foregoing Third Amendment to the Consent Decree entered in ***United States, et al., v. BP Exploration and Oil Co., et al.,*** Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE NORTHWEST AIR POLLUTION AUTHORITY OF THE STATE OF WASHINGTON:

Date: 10/5/04

Jamie Randles
Director
Northwest Air Pollution Authority

Attachment 1
To Third Amendment to Consent Decree

HU-1 Components

ITEM NO.	DESCRIPTION
	VESSEL
103-D	Desulfurizer
104-D	Desulfurizer
105-D	HighTemperature Shift Converter
106-D	Methanator
108-D	Low Temperature Shift Converter
101-E	CO_2 Absorber
102-E	CO_2 Stripper
104-F	375-psig Steam Drum
106-F & 102-B	Quench Chamber Secondary Reformer
107-F	Low Temperature Shift Knockout Drum
108-F	CO_2 Absorber Feed Knockout Drum
109-F	Absorber Overhead Knockout Drum
110-F	Solvent Storage Tank
111-F	CO_2 Stripper Overhead Accumulator
112 –F	MDEA Sump
117-F	H_2 Product Knockout Drum
133-F	Fuel Gas Dry Drum
128-F	Ammonia Storage Drum
136-F	Natural Gas Knockout Drum
144-F	Process Condensate Deaerator
145-F	500 psig Steam Drum
147-F and 147-FL	Anhydrous Ammonia Day Tank with 325 kw Electric Heater
149-F	Emergency Plant Air Knockout Drum
102-L	Solvent Carbon Filter
103-LA/LB	Cartridge Filters
104-L	Driver Condensate Deaerator
107-L	Ammonia Vaporizer with 16.5 kw Electric Heater
106-L	Process Condensate Filter
108-L	Entrainment Separator
109-L	Driver Steam Knockout Drum
SU-2202	Cooling Tower Acid Day Tank
	REFORMER
101-B	Primary Reformer and Convection Sections
	PUMP
104-J	Process Condensate

ITEM NO.	DESCRIPTION
104-JA	Process Condensate (Spare)
105-J	Solvent Circulating Pump
105-JA	Solvent Circulating Pump (Spare)
106-J	CO_2 Stripper Reflux Pump
106-JA	CO_2 Stripper Reflux Pump (Spare)
107-J	Solvent Sump Pump
118-J	Reformer Furnace Fan
119-J	Boiler Feed Water Pump
119-JA	Boiler Feed Water Pump (Spare)
2201-JA	Cooling Water Circulation
2201-JB	Cooling Water Circulation
2201-JC	Cooling Water Circulation
EXCHANGER	
104-C	Secondary Reformer Wasteheater
105-C	Methanator Feed Preheater
107-CA/CB	CO_2 Stripper Reboiler
108-CA	CO_2 Absorber Feed Cooler
108-CB	CO_2 Absorber Feed Cooler
109-CA/CB	Solvent High Temperature Cooler
110-CA/CB	Solvent Low Temperature Cooler
111-C1A/C1B	CO_2 Stripper Feed/Bottoms Exchanger
111-C2A/C2B	CO_2 Stripper Feed/Bottoms Exchanger
112-C	CO_2 Stripper Steam Reboiler
114-C	CO_2 Stripper Overhead Condenser
115-C	Methanator Effluent Steam Generator
116-CA	Methanator Effluent BFW Preheater
116-CB	Methanator Effluent Water Cooler
137-C	Low Temperature Shift Effluent Cooler
138-C	High Temperature Shift Cooler
143-C	Secondary Reformer Wasteheater Exchanger
152-C	High Temperature Shift Converter Condensate Heater
153-C	Feed Gas Heater
MISCELLANEOUS	
Oxygen Scavenger System	Oxygen Scavenger Tank and 2 Pumps[(1)]
Analyzers and Shelters	H_2 Analyzer, Methane, CO and CO_2 Analyzer
HU-1 Switchgear Building	HU-1 Main Switchgear Building, Switchgear, Transformers A, B, C, D, G and MCC

(1) The Oxygen Scavenger System is property of Nalco and must be returned to Nalco if Praxair decides against using Nalco as a water treating or process chemical vendor.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the forgoing Third Amendment to Consent Decree was served on the 15th day of October, 2004, by the United States mail, postage prepaid, to the following:

William L. Patberg
Shumaker, Loop & Kendrick
North Courthouse Square
1000 Jackson
Toledo, OH 43624-1573

Clara Poffenberger
Baker Botts
1299 Pennsylvania Avenue, NW
Washington, DC 20004

Jeff Haffner
Tesoro Petroleum Corporation
300 Concord Plaza Drive
San Antonio, TX 78216-6999

Carl D. Shook
Executive Vice President
Giant Industries, Inc.
23733 North Scottsdale Road
Scottsdale, AZ 85255

Jack McManus
Assistant Attorney General
State Office Tower
30 East Broad Street, 17th Floor
Columbus, OH 43215

Steven D. Griffin
Deputy Attorney General
Indiana Attorney General's Office
Indiana Government Central South
302 West Washington Street
Indianapolis, IN 46204

Simone Mabry
Legal Support Assistant

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	Civil No. 2:96 CV 095 RL
	)	
and	)	Judge Rudy Lozano
	)	
THE STATE OF INDIANA, STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON,	)	
	)	
Plaintiff-Intervenors,	)	
	)	
v.	)	
	)	
BP EXPLORATION & OIL CO., ET AL.	)	
	)	
Defendants.	)	
	)	
	)	
	)	

FOURTH AMENDMENT TO CONSENT DECREE

WHEREAS the United States of America (hereinafter "the United States"); the State of Indiana, the State of Ohio, and the Northwest Pollution Control Authority of the State of Washington (hereinafter "Plaintiff-Intervenors"); and BP Products North America Inc. (successor to BP Exploration and Oil, Co., and Amoco Oil Company), and West Coast Products LLC (the owner of refining assets previously owned by Atlantic Richfield Company) (hereinafter, collectively, "BP") are parties to a Consent Decree entered by this Court on August 29, 2001 (hereinafter "the Consent Decree"); and

WHEREAS BP sold its Mandan and Salt Lake City Refineries to Tesoro Petroleum Corporation ("Tesoro") on September 6, 2001, and Tesoro assumed the obligations of the Consent Decree as they relate to the Mandan and Salt Lake City Refineries pursuant to the First Amendment To Consent Decree, which was approved and entered as a final order of the Court on October 2, 2001; and

WHEREAS BP sold its Yorktown Refinery to Giant Yorktown, Inc., ("Giant") on May 14, 2002, and Giant assumed the obligations of the Consent Decree as they relate to the Yorktown Refinery pursuant to the Second Amendment To Consent Decree, which was approved and entered as a final order of the Court on June 7, 2002; and

WHEREAS, BP sold a hydrogen plant located at its Texas City Refinery to Praxair on August 6, 2004 and Praxair assumed the obligations of the Consent Decree as they relate to that hydrogen plant pursuant to the Third Amendment To Consent Decree, which was approved and entered as a final order of the Court on October 25, 2004; and

WHEREAS Paragraphs 14 and 16 of the Consent Decree require BP to conduct demonstrations of various technologies for reducing emissions of sulfur dioxide (SO2) and nitrogen oxides (NOx) from the fluid catalytic cracking units (FCCUs) at the Carson, Texas City, Toledo and Whiting Facilities; and

WHEREAS these Paragraphs provide that EPA, in consultation with BP and the appropriate Plaintiff-Intervenor, will establish final long-term and short-term average SO2 and NOx emission limits for each such FCCU; and

WHEREAS if BP disagrees with any emission limit established by EPA pursuant to Paragraphs 14 or 16, BP may contest that limit in a dispute resolution proceeding before this Court; and

WHEREAS the United States, BP, and the Plaintiff-Intervenors share an interest in reaching negotiated agreement on the levels at which final limits are to be set in order to avoid the costs and risks of potential disputes over the emission limits; and

WHEREAS the United States, BP and the Plaintiff-Intervenors agree that there is currently sufficient information available to establish mutually acceptable emission limits that are consistent with the purposes and intent of the Consent Decree for most of BP's FCCUs; and

WHEREAS the United States and BP, after extensive negotiations and thorough consideration of all available and relevant data and information, and of the terms and conditions

of the Consent Decree, have reached agreement on all but one of the final long-term and short-term SO2 and NOx emission limits contemplated by the Decree for BP's FCCUs; and

WHEREAS prior to the effective date for the final long-term and short-term SO2 and NOx emission limits contained in this Amendment, BP is required to continue to comply with the emission limits it proposed in its previously submitted demonstration reports, and expects in some cases to use emission-reducing catalyst additives at its FCCUs in amounts greater than required for interim compliance to assess alternative methods for meeting the final limits; and

WHEREAS EPA and Giant have agreed to lengthen the demonstration period for the Yorktown FCCU to gather additional emissions data; and

WHEREAS each of the Plaintiff-Intervenors concurs in the appropriateness of these final emission limits and has reviewed and hereby consents to this Amendment; and

WHEREAS the terms of this Amendment do not affect any rights of interests of Tesoro, or Praxair; and

WHEREAS Paragraph 85 of the Consent Decree requires that this Amendment be approved by the Court before it is effective;

NOW THEREFORE, the United States, Plaintiff-Intervenors, BP and Giant hereby agree that, upon approval of this Amendment by the Court, the Consent Decree shall be amended as follows:

I. NOx controls (Paragraph 14):

1. The heading of Paragraph 14.A. is amended to read as follows:

"A. **Emission Limits at Texas City FCCU 2 and Whiting FCU 600:**"

2. Paragraph 14.A.i, related to Texas City FCCU 2, is revised as follows:

a. Paragraph 14.A.i.a is deleted and marked "[Reserved]".

b. Paragraph 14.A.i.b is deleted and marked "[Reserved]".

c. Paragraph 14.A.i.c. is deleted and marked "[Reserved]".

d. Paragraph 14.A.i.d is revised to read as follows:

"d. Beginning no later than December 31, 2001, BP shall reduce NOx emissions from the Texas City Facility FCCU 2 by use of low-NOx combustion promoter (if and when CO promoter is used) and NOx adsorbing catalyst additive in accordance with Appendix F to achieve an interim concentration-based limit to be set in accordance with Paragraph 14.F.ii. BP will determine an optimized rate for the catalyst additives and demonstrate the performance of the catalyst additives at the optimized rate over a fifteen-month period. The fifteen-month optimization and demonstration at the optimized rate shall begin no later than December 31, 2001. The optimization shall be completed no later than June 30, 2002. Prior to beginning the demonstration, BP shall notify EPA of the optimized catalyst addition rate. During the demonstration, BP shall add catalyst additive according to the requirements of Paragraph 14.E of this Consent Decree. No later than the end of the third full month after the completion of the demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 14.F of this Consent Decree. In its report, BP may propose an interim NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. From and after the date this report is submitted to EPA, BP shall comply with its proposed emissions limit until the effective date of the final limits in Paragraph 14.A.i.e. Beginning no later than June 30, 2001, BP shall use a NOx CEMS to monitor performance of FCCU 2 and to report compliance with the terms and conditions of the Consent Decree."

e. Paragraph 14.A.i.e is revised to read as follows:

"e. Beginning July 1, 2006, BP shall comply with a NOx emissions limit of 20 ppmvd at 0% O2 on a 365-day rolling average and 40 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City FCCU 2."

3. Paragraph 14.A.ii, related to Whiting FCU 600, is revised as follows:

a. Paragraph 14.A.ii.c is deleted except for the final two sentences thereof. As revised Paragraph 14.A.ii.c. reads as follows:

"c. Beginning no later than the turnaround in calendar year 2003, BP shall use a NOx CEMS to monitor performance of Whiting FCU 600 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable. "

b. The following is added as a new subparagraph 14.A.ii.d:

"d. Beginning on the effective date of the Fourth Amendment to this Consent Decree, BP shall comply with a NOx emissions limit of 20 ppmvd at 0% O2 on a 365-day rolling average and 40 ppmvd at 0% O2 on a 7-day rolling average basis from the Whiting FCU 600."

4. Paragraph 14.B.iii, related to the Toledo FCCU, is revised as follows:

a. The first two sentences are deleted and the following substituted in lieu thereof:

"BP will conclude a demonstration of the performance of the SNCR system by December 31, 2005."

b. The fourth sentence is deleted and the following substituted in lieu thereof:

"By no later than the end of the third full month following the end of the demonstration period, BP shall report to EPA the results of the SNCR demonstration as specified in Paragraph 14.F. of this Consent Decree."

5. Paragraph 14.C.i, related to the Carson FCCU, is deleted and the following substituted in lieu thereof:

"i. Carson, California FCCU: Beginning on the effective date of the Fourth Amendment to this Consent Decree, BP shall comply with a NOx emissions limit of 20 ppmvd at 0% O2 on a 365-day rolling average and 60 ppmvd at 0% O2 on a 7-day rolling average basis from the Carson, California FCCU. Beginning no later than December 31, 2002, BP shall use a NOx CEMS to monitor performance of the Carson FCCU and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable."

6. Paragraph 14.C.ii, related to the Texas City FCCU 1, Texas City FCCU 3 and Whiting FCU 500 is deleted and the following substituted in lieu thereof:

"ii. Texas City FCCU 1, Texas City FCCU 3 and Whiting FCU 500:

a. Texas City FCCU 1:

(1) Beginning on the effective date of the Fourth Amendment of this Consent Decree, BP shall comply with a NOx emissions limit of 40 ppmvd at 0% O2 on a 365-day rolling average, and 80 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City Facility FCCU 1, except as provided in Paragraph 14.C.ii.a.(2) below.

(2) Alternative Operating Scenario For Hydrotreater Outages: The applicable 7-day NOx emission limits for the Texas City FCCU 1 shall apply during the period of a hydrotreater outage, except as provided in this subparagraph. By no later than three months prior to the first hydrotreater outage for which BP wishes to utilize the alternative operating scenario provided for in this subparagraph, BP shall submit for approval by EPA a plan for the operation of the Texas City FCCU 1 (including associated air pollution control equipment) during hydrotreater outages in a way that minimizes emissions as much as practicable. The plan shall, at a minimum, consider the use of low sulfur feed, storage of hydrotreated feed, and an increase in additive

addition rate. The applicable 7-day average NOx emission limits shall not apply during periods of FCCU feed hydrotreater outages provided that BP is in compliance with the plan and is maintaining and operating the FCCU in a manner consistent with good air pollution control practices. In addition, in the event that BP asserts that the basis for a specific Hydrotreater Outage is a shutdown (where no catalyst changeout occurs) required by ASME pressure vessel requirements or applicable state boiler requirements, BP shall submit a report to EPA that identifies the relevant requirements and justifies BP's decision to implement the shutdown during the selected time period."

(3) Beginning no later than the end of the 2003 turnaround for Texas City FCCU 1, BP shall use a NOx CEMS to monitor performance of FCCU 1 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

b. Texas City FCCU 3:

(1) BP shall begin adding NOx adsorbing catalyst in conjunction with low-NOx combustion promoter (if and when CO promoter is used) in accordance with Appendix F by no later than December 31, 2001. BP will determine the optimized rate for the catalyst additives and demonstrate the performance of the catalyst additives at the optimized rate over a fifteen month period to yield the lowest NOx concentration feasible at that optimized rate. The optimization and demonstration of the optimized catalyst addition rates shall begin no later than December 31, 2001. The optimization shall be completed no later than June 30, 2002. Prior to beginning the demonstration, BP shall notify EPA of the optimized additive addition rate. During the demonstration, BP shall add catalyst in accordance with the requirements of Paragraph 14. E of the Consent Decree. No later than the end of the third full month after the completion of the demonstration, BP shall report to EPA the results of the demonstration as required by Paragraph 14.F of this Consent Decree. In its report, BP may propose a NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. From and after the date its report is submitted to EPA, BP shall comply with its proposed emissions limits for the FCCU until the effective date of the final limits in Paragraph 14.C.ii.b.(2).

(2) Beginning July 1, 2007, BP shall comply with a NOx emissions limit of 20 ppmvd at 0% O2 on a 365-day rolling average and 40 ppmvd at 0% O2 on a 7-day rolling average basis from Texas City FCCU 3, if BP has installed an SCR on the FCCU. If BP has not installed an SCR on Texas City FCCU 3, beginning July 1, 2007, BP shall comply with a NOx emissions limit of 30 ppmvd at 0% O2 on a 365-day rolling average and 60 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City 3 FCCU.

(3) Alternate Operating Scenario: In lieu of complying with the applicable rolling 7-day average NOx emission limit in Paragraph 14.C.ii.b.(2), BP shall limit NOx emissions from the Texas City Facility's FCCU 3 to 120 ppmvd at 0% O2 during NOx control device outages that occur for reasons other than Startup, Shutdown or Malfunction of the NOx control device and that are necessary for one or more of the following reasons:

(*A*) For an SCR: Replacement or cleaning of the SCR catalyst and/or maintenance of ductwork and other components of the SCR that was necessary to prevent or rectify a situation which:

(*i*) Was resulting in or was reasonably likely to result in non-compliance with applicable NOx emission limitations;

(*ii*) Was interfering or was reasonably likely to interfere with proper operation of the FCCU and/or other FCCU control equipment; or

(*iii*) Posed or was reasonably likely to pose a threat to the safety or health of employees or the public.

(*B*) For NOx control device outages other than an SCR: Maintenance of any NOx control device (other than an SCR) that was necessary to prevent or rectify a situation which:

(*i*) Was resulting in or was reasonably likely to result in non-compliance with applicable NOx emission limitations;

(*ii*) Was interfering or was reasonably likely to interfere with proper operation of the FCCU and/or other FCCU control equipment; or

(*iii*) Posed or was reasonably likely to pose a threat to the safety or health of employees or the public.

(4) To qualify for the alternative 7-day average limit in Paragraph 14.C.ii.b.(3) above, BP must demonstrate to EPA's satisfaction, in a report submitted to EPA within 30 days of the end of the NOx control device outage, that:

(*A*) The NOx control device outage was necessary for one or more of the reasons listed in Paragraph 14.C.ii.b.(3)(*A*) or (*B*), above; and

(*B*) The total duration of outages covered by Paragraph 14.C.ii.b.(3) has not exceeded 30 days in the most recent rolling thirty (30) month period.

(5) Beginning no later than December 31, 2001, BP shall use a NOx CEMS to monitor performance of FCCU 3 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

c. Whiting FCU 500:

(1) BP shall begin adding NOx adsorbing catalyst in conjunction with low-NOx combustion promoter (if and when CO promoter is used) in accordance with Appendix F by no later than March 31, 2002. BP will determine the optimized rate for the catalyst additives and demonstrate the performance of the catalyst additives

at the optimized rate over a fifteen-month period to yield the lowest NOx concentration feasible at that optimized rate. The optimization and demonstration of the optimized catalyst addition rates shall begin no later than March 31, 2002. The optimization shall be completed by no later than September 30, 2002. Prior to beginning the demonstration, BP shall notify EPA of the optimized additive addition rate. During the demonstration, BP shall add catalyst in accordance with the requirements of Paragraph 14. E of the Consent Decree. No later than the end of the third full month after the completion of the demonstration, BP shall report to EPA the results of the demonstration as required by Paragraph 14.F of this Consent Decree. In its report, BP may propose a NOx emissions limit based on a 3-hour rolling average and a 365-day rolling average. From and after the date its report is submitted to EPA, BP shall comply with its proposed emissions limits for the FCU until the effective date of the final limits in Paragraph 14.C.ii.c.(2).

(2) Beginning July 1, 2006, BP shall comply with a NOx emissions limit of 40 ppmvd at 0% O2 on a 365-day rolling average and 80 ppmvd at 0% O2 on a 7-day rolling average basis from Whiting Facility's FCU 500.

(3) Alternate Operating Scenario: In lieu of complying with the applicable rolling 7-day average NOx emission limit in Paragraph 14.C.ii.c.(2), BP may elect to comply with the provisions of this subparagraph. BP may use conventional Pt-based combustion promoter on an intermittent basis, in such amounts as may be necessary to avoid unsafe operations of the FCU regenerator and to comply with CO emission limits. BP will undertake appropriate measures and/or adjust operating parameters with the goal of eliminating use of conventional Pt-based combustion promoter, but BP will not then be required to adjust operating parameters in a way that would limit conversion or processing rates. Within 30 days of any such use of conventional Pt-based combustion promoter, BP will submit a report to EPA documenting when and why it used the conventional Pt-based combustion promoter and the actions, if any, taken to return to the minimized level of use. During such usage, and for a period of up to 4 weeks following the end thereof, BP shall limit NOx emissions from the Whiting Facility's FCU 500 to 120 ppmvd at 0% O2 on a 7-day rolling average basis in lieu of complying with the 7-day average limit in Paragraph 14.C.ii.c.(2) above."

(4) Beginning no later than March 31, 2002, BP shall use a NOx CEMS to monitor performance of Whiting FCU 500 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable."

II. SO2 controls (Paragraph 16):

1. The heading for Paragraph 16.A is amended to read as follows:

"A. **Installation of Wet Gas Scrubbers ("WGS") and Emission Limits:**"

2. Paragraph 16.A.i., related to the Whiting FCU 500 is revised as follows:

a. Paragraph 16.A.i.a is deleted and marked "[Reserved]".

b. Paragraph 16.A.i.b shall be deleted and marked "[Reserved]".

c. Paragraph 16.A.i.c is deleted except for the last two sentences thereof. As revised, Paragraph 16.A.i.c. reads as follows:

> "c. Beginning no later than September 30, 2001, BP shall use a SO2 CEMS to monitor performance of Whiting FCU 500 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable."

d. Paragraph 16.A.i.d is revised to read as follows:

> "d. Beginning no later than December 31, 2001, BP shall reduce SO_2 emissions from the Whiting FCU 500 by use of SO_2 adsorbing catalyst additive in accordance with Appendix F. BP will demonstrate performance of the SO_2 adsorbing catalyst additive in accordance with Appendix F over a 12-month period. The 12-month demonstration shall begin no later than December 31, 2001. No later than the end of the third full month after the completion of the 12-month demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall either agree to an interim SO_2 limit of 117 ppmvd (at 0% oxygen) on a 365-day rolling average basis or propose an alternative 365-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date this report is submitted, BP shall comply with its proposed emission limit until the effective date of the final limits in Paragraph 16.A.i.e. At all times during the demonstration period, BP shall optimize the levels of catalyst addition rates according to the criteria identified in Paragraph 16.G, below. "

e. Paragraph 16.A.i.e is revised to read as follows:

> "e. Beginning July 1, 2006, BP shall comply with an SO2 emissions limit of 25 ppmvd at 0% O2 on a 365-day rolling average and 50 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City FCCU 3."

3. Paragraph 16.A.ii.a. related to the Texas City FCCU 3 is revised as follows:

a. Paragraph 16.A.ii.a is deleted and marked "[Reserved]".

b. Paragraph 16.A.ii.b shall be deleted and marked "[Reserved]".

c. Paragraph 16.A.ii.c is deleted except for the last two sentences thereof. As revised,

Paragraph 16.A.ii.c. reads as follows:

"c. Beginning no later than June 30, 2001, BP shall use a SO2 CEMS to monitor performance of Texas City FCCU 3 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable."

d. Paragraph 16.A.ii.d is revised to read as follows:

"d. Beginning no later than June 30, 2001, BP shall reduce SO_2 emissions from the Texas City FCCU 3 by use of SO_2 adsorbing catalyst additive in accordance with Appendix F. BP will demonstrate performance of the SO_2 adsorbing catalyst additive at the addition rate determined in accordance with Appendix F over a 12-month period. The 12-month demonstration shall begin no later than June 30, 2001. No later than the end of the third full month after the completion of the 12-month demonstration, BP shall report to EPA the results of the demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall either agree to an interim SO_2 limit of 117 ppmvd (at 0% oxygen) on a 365-day rolling average basis or propose an alternative 365-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration and is consistent with the provisions of Paragraph 16.E.ii. and Appendix F. From and after the date this report is submitted, BP shall comply with its proposed emission limit until the effective date of the final limits in Paragraph 16.A.ii.e.. At all times during the demonstration period, BP shall optimize the levels of catalyst addition rates according to the criteria identified in Paragraph 16.G, below."

e. Paragraph 16.A.ii.e is revised to read as follows:

"e. Beginning July 1, 2007, BP shall comply with an SO2 emissions limit of 25 ppmvd at 0% O2 on a 365-day rolling average and 50 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City FCCU 3."

4. Paragraph 16.B.ii related to the Yorktown FCCU and the Whiting FCU 600 is revised to read as follows:

"a. Yorktown FCCU: Giant shall initiate twelve-month demonstration of SO2 adsorbing catalyst additive by no later than March 31, 2003 for Yorktown FCCU. Giant will demonstrate performance of the SO2 adsorbing catalyst for the FCCU at the addition rate determined for each FCCU in accordance with Appendix F over a 12-month period. No later than sixty(60) days after the completion of the 12-month demonstration, Giant shall report to EPA the results of the demonstration as specified in Paragraph 16.E.ii. of this Consent Decree. In such report, Giant shall propose a 365-day rolling average concentration-based emission limit for the FCCU that is consistent with Paragraph 16.E.ii and the applicable provisions of Appendix F. In such report, Giant also shall propose a 7-day rolling average concentration-based SO2 emission limit for the FCCU that is based on the performance of the SO2 adsorbing catalyst additive during the demonstration for the FCCU and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date the

report is submitted, Giant shall comply with its proposed emission limit for the FCCU until EPA sets a final interim limit. At all times during the demonstration periods, Giant shall optimize the levels of catalyst addition rates according to Paragraph 16.D, below. Beginning no later than September 30, 2001, Giant shall use SO2 CEMS to monitor performance of the FCCU and to report compliance with the terms and conditions of the Consent Decree. EPA will use the information provided by Giant in its reports, CEMS data collected during the demonstration, the information Giant is required to submit in Paragraph 16.E, and all other available and relevant information to establish representative SO2 emission limits for the Yorktown FCCU in accordance with Paragraph 16.E.ii and Appendix F, provided however that these limits may not be more stringent than 25 ppmvd (at O% O2) on a 365-day rolling average. Giant shall comply with the emissions limits set by EPA at the time such emissions limits are set by EPA, provided that if the emissions limit established by EPA for the FCCU is more stringent than the limit proposed by Giant for the FCCU, Giant shall comply with that more stringent limit no later than 45 days after receipt of notice thereof from EPA. If Giant disagrees with the more stringent emissions limit set by EPA, it shall invoke Dispute Resolution within the same forty-five (45) day period.

b. Whiting FCU 600: Beginning on July 1, 2006, BP shall comply with an SO2 emissions limit of 50 ppmvd at 0% O2 on a 365-day rolling average and 125 ppmvd at 0% O2 on a 7-day rolling average basis from the Whiting FCU 600. Beginning no later than June 30, 2003, BP shall use a SO2 CEMS to monitor performance of Whiting FCU 600 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable. "

5. Paragraph 16.B.iii related to the Carson FCCU, Texas City FCCU 2, and Toledo FCCU is deleted and the following substituted in lieu thereof:

"iii. Carson FCCU, Texas City FCCU 2, and Toledo FCCU:

a. Carson FCCU: Beginning on the effective date of The Fourth Amendment to this Consent Decree, BP shall comply with an SO2 emissions limit of 50 ppmvd at 0% O2 on a 365-day rolling average and 150 ppmvd at 0% O2 on a 7-day rolling average basis from the Carson FCCU. Beginning no later than June 30, 2001, BP shall use a SO2 CEMS to monitor performance of Carson FCCU and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon as practicable.

b. Texas City FCCU 2: Beginning on the effective date of the Fourth Amendment to this Consent Decree, BP shall comply with an SO2 emissions limit of 126 ppmvd at 0% O2 on a 365-day rolling average and 250 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City FCCU 2. Beginning no later than September 30, 2001, BP shall use a SO2 CEMS to monitor performance of Texas City FCCU 2 and to report compliance with the terms and conditions of the Consent Decree. All CEMS data collected by BP during the effective life of the Consent Decree shall be made available to EPA upon demand as soon

as practicable.

c. Toledo FCCU

(1) Beginning no later than June 30, 2001, BP shall use SO_2 CEMS to monitor performance of Toledo FCCU and to report compliance with the terms and conditions of the Consent Decree.

(2) BP shall initiate a 12-month demonstration of SO_2 adsorbing catalyst additive in accordance with Appendix F and in conjunction with continued hydrotreatment of FCCU feed at existing levels by no later than June 30, 2001. BP will demonstrate performance of the combination of FCCU feed hydrotreatment and SO_2 adsorbing catalyst additive at the addition rate determined in accordance with Appendix F over a 12-month period. No later than the end of the third full month after the completion of the 12-month demonstration, BP shall report to EPA the results of that demonstration as specified in Paragraph 16.E. of this Consent Decree. In such report, BP shall propose a 365-day rolling average concentration-based emission limit for Toledo FCCU that is consistent with Paragraph 16.E.ii and the applicable provisions of Appendix F. In such report, BP also shall propose a 7-day rolling average concentration-based SO_2 emission limit that is based on the performance of the SO_2 adsorbing catalyst additive during the demonstration for Toledo FCCU and is consistent with the provisions of Paragraph 16.E.ii and Appendix F. From and after the date the report is submitted, BP shall comply with its proposed emission limit for Toledo FCCU until the effective date of the limits in Paragraph 16.B.iii.c.(3).

(3) Beginning July 1, 2006, BP shall comply with an SO2 emissions limit of 160 ppmvd at 0% O2 on a 365-day rolling average and 260 ppmvd at 0% O2 on a 7-day rolling average basis from the Toledo FCCU."

6. Paragraph 16.B.iv, related to the Texas City FCCU 1, is deleted and the following substituted in lieu thereof:

"iv. Texas City FCCU 1:

a. Beginning on the effective date of the Fourth Amendment to this Consent Decree, BP shall comply with an SO2 emissions limit of 50 ppmvd at 0% O2 on a 365-day rolling average and 150 ppmvd at 0% O2 on a 7-day rolling average basis from the Texas City Facility's FCCU 1, except as provided in Paragraph 16.B.iv.b. below.

b. Alternative Operating Scenario For Hydrotreater Outages: The applicable 7-day SO2 emission limits for the Texas City FCCU 1 shall apply during the period of a hydrotreater outage, except as provided in this subsection. By no later than three months prior to the first hydrotreater outage for which BP wishes to utilize the alternative operating scenario provided for in this subparagraph, BP shall submit for approval by EPA a plan for the operation of the Texas City FCCU 1 (including associated air pollution control equipment) during hydrotreater outages in a way that

minimizes emissions as much as practicable. The plan shall, at a minimum, consider the use of low sulfur feed, storage of hydrotreated feed, and an increase in additive addition rate. The applicable 7-day average SO2 emission limits shall not apply during periods of FCCU feed hydrotreater outages provided that BP is in compliance with the plan and is maintaining and operating the FCCU in a manner consistent with good air pollution control practices. In addition, in the event that BP asserts that the basis for a specific Hydrotreater Outage is a shutdown (where no catalyst changeout occurs) required by ASME pressure vessel requirements or applicable state boiler requirements, BP shall submit a report to EPA that identifies the relevant requirements and justifies BP's decision to implement the shutdown during the selected time period.

c. BP shall use an SO_2 CEMS to monitor performance of Texas City FCCU 1 and to report compliance with the terms and conditions of the Consent Decree."

III. Additional Amendments:

1. The following new paragraph 16A is added between Paragraphs 16 and 17:

"16A. Additional Provisions Related To SO2 and NOx Emission Limits For BP's FCCUs: Startup, Shutdown or Malfunction: Emissions during periods of Startup, Shutdown or Malfunction shall not be considered in determining compliance with the 7-day rolling average emissions limits set out in Paragraph 14 (in the case of NOx) and Paragraph 16 (in the case of SO2), provided that during such periods BP implements good air pollution control practices for minimizing SO2 and/or NOx emissions, as applicable. For purposes of these limits, the phrase "affected facility" as used in the definitions of "Startup" and "Shutdown" in Paragraphs 13. II. and GG of the Consent Decree shall mean each FCCU for which a final emissions limit has been established."

2. Paragraph 39.D is revised to read as follows:

"D. For failure to meet the emission limits proposed by BP (final or interim) or established by EPA (final or interim) for NOx and CO pursuant to Paragraph 14, per day, per unit: $2500 for each calendar day on which the specified rolling average exceeds the applicable limit. Stipulated penalties shall not start to accrue with respect to a final NOx emission limit until there is noncompliance with that emission limit for five percent (5%) or more of the applicable FCCU's operating time during any calendar quarter."

3. Paragraph 41.D is revised to read as follows:

"D. For failure to meet emission limits proposed by BP (final or interim) or established by EPA (final or interim) pursuant to Paragraph 16, per day, per unit: $3000 for each calendar day on which the specified rolling average exceeds the applicable limit. Stipulated penalties shall not start to accrue with respect to a final

SO2 emission limit until there is noncompliance with that emission limit for five percent (5%) or more of the applicable FCCU's operating time during any calendar quarter."

The undersigned representatives are fully authorized to enter into the terms and conditions of this Fourth Amendment. This Fourth Amendment may be executed in several counterparts, each of which will be considered an original.

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is:

ORDERED, ADJUDGED and DECREED that the foregoing Fourth Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this ____ day of _____, 2005

_____
United States District Judge

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR PLAINTIFF THE UNITED STATES OF AMERICA

Date: 7/11/05

Kelly A. Johnson
Acting Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Robert D. Brook
Assistant Section Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044
(202) 514-2738

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL . on August 29, 2001.

FOR U.S. ENVIRONMENTAL PROTECTION AGENCY

Date: 6/10/05

Walker B. Smith
Director
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR DEFENDANTS BP PRODUCTS NORTH AMERICA INC. (SUCCESSOR TO BP EXPLORATION AND OIL, CO., AMOCO OIL COMPANY), AND WEST COAST PRODUCTS LLC (THE OWNER OF REFINING ASSETS PREVIOUSLY OWNED BY ATLANTIC RICHFIELD COMPANY)

Date: June 15, 2005

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF INDIANA

Date: JUNE 1, 2005

THOMAS W. EASTERLY
Commissioner
Indiana Department of Environmental Management

Approved as to form and legality:

STEVE CARTER
Indiana Attorney General

Date: 6-17-05

CHARLES J. TODD
Chief Operating Officer
Office of the Attorney General
Indiana Government Center South
5th Floor
302 West Washington Street
Indianapolis, IN 46204

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE NORTHWEST CLEAN AIR AGENCY (f/k/a NORTHWEST AIR POLLUTION AUTHORITY) OF THE STATE OF WASHINGTON

Date: 6/20/05

Laughlan H. Clark, Esq. WSBA # 10996
Zender Thurston, P.S.
1700 D Street
P. O. Box 5226
Bellingham WA 98227
(360) 647-1500

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE STATE OF OHIO

Date: 5/25/05

John K. McManus
Assistant Attorney General

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR DEFENDANT GIANT YORKTOWN, INC.,

Date: July 8, 2005

Carl D. Shook
Executive Vice President

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	Civil No. 2:96 CV 095 RL
	)	
and	)	Judge Rudy Lozano
	)	
THE STATE OF INDIANA, STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON,	)	
	)	
Plaintiff-Intervenors,	)	
	)	
v.	)	
	)	
BP EXPLORATION & OIL CO., ET AL.	)	
	)	
Defendants.	)	
	)	

FIFTH AMENDMENT TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"); the State of Indiana, the State of Ohio, and the Northwest Pollution Control Authority of the State of Washington (hereinafter "Plaintiff-Intervenors"); and BP Products North America Inc. (successor to BP Exploration and Oil, Co., and Amoco Oil Company), and West Coast Products LLC (the owner of refining assets previously owned by Atlantic Richfield Company) (hereinafter, collectively, "BP") are parties to a Consent Decree entered by this Court on August 29, 2001 (hereinafter "the Consent Decree"); and

WHEREAS BP sold its Mandan and Salt Lake City Refineries to Tesoro Petroleum Corporation (now known as Tesoro Corporation) ("Tesoro") on September 6, 2001, and Tesoro assumed the obligations of the Consent Decree as they relate to the Mandan and Salt Lake City

Refineries pursuant to the First Amendment To Consent Decree, which was approved and entered as a final order of the Court on October 2, 2001; and

WHEREAS, BP sold its Yorktown refinery to Giant Yorktown, Inc., ("Giant") on May 14, 2002, and Giant assumed the obligations of the Consent Decree as they relate to the Yorktown Refinery pursuant to the Second Amendment of the Consent Decree, which was approved and entered as a final order of the Court on June 7, 2002; and

WHEREAS, BP sold a hydrogen plant located at its Texas City Refinery to Praxair on August 6, 2004 and Praxair assumed the obligations of the Consent Decree as they relate to that hydrogen plant pursuant to the Third Amendment of the Consent Decree, which was approved and entered as a final order of the Court on October 25, 2004; and

WHEREAS a Fourth Amendment to the Consent Decree was entered by the Court on June 20, 2005, that, inter alia, established final SO_2 and NOx emission limits for a number of FCCUs owned and operated by BP; and

WHEREAS, the United States and Tesoro have reached agreement on final SO_2 limits for the Mandan Refinery; and

WHEREAS, as a part of this agreement, the United States and Tesoro have further agreed to modify the terms of the Consent Decree to: (a) require Tesoro to install certain NOx controls on the Mandan FCCU/CO Furnace; (b) allow Tesoro to burn limited quantities of fuel oil in the Mandan CO Furnace (subject to the SO_2 emission limits hereby established and the NOx emission limits to be established in the future pursuant to this Amendment); and (c) allow Tesoro to direct sour water stripper gas to an ammonium sulfide concentration unit as an alternative to directing such gas to the SRU as currently required by the Consent Decree; and

WHEREAS, the United States, Tesoro, and each of the Plaintiff-Intervenors agree that amending the Consent Decree to incorporate the foregoing agreements is in the public interest; and

WHEREAS the terms of this Amendment do not affect any rights of interests of BP, Giant or Praxair; and

WHEREAS, Paragraph 85 of the Consent Decree requires that this Amendment be approved by the Court before it is effective;

NOW THEREFORE, the United States, Plaintiff-Intervenors and Tesoro hereby agree that, upon approval of this Amendment by the Court, the Consent Decree shall be amended as follows:

1. Paragraph 14 of the Consent Decree is amended by adding the following new subparagraph I at the end thereof:

"I. **Installation of Selective Non-Catalytic Reduction ("SNCR") – Mandan Refinery:**

A. Beginning no later than March 1, 2007, Tesoro shall use a NOx CEMS to monitor performance of the Mandan Refinery FCCU/CO Furnace and to report compliance with the terms and conditions of the Consent Decree.

B. Tesoro shall install and begin operation of an SNCR system on the Mandan Refinery FCCU/CO Furnace no later than the scheduled major maintenance turnaround of the FCCU/CO Furnace next following the effective date of the Fifth Amendment to the Consent Decree (currently scheduled for 2009, but no later than December 31, 2010). The SNCR system shall be designed and installed in accordance with good engineering practice to reduce NOx emissions as much as feasible.

C. Tesoro will demonstrate the performance of the SNCR over an eighteen (18) month period. The demonstration shall begin on the earlier of: (i) the date the Mandan Refinery FCCU and CO Furnace achieve normal operations following the turnaround during which the SNCR is installed or (ii) 180 days after the restart of the FCCU/CO Furnace following that turnaround. During the demonstration, Tesoro shall optimize the performance of the SNCR system and shall consider the effect of the operating considerations identified in Appendix E to the Consent Decree. No later than 90 days after the end of the 18 month demonstration period, Tesoro shall report to EPA the results of the 18-month demonstration as specified in Paragraph 14.F. of

this Consent Decree, with the exception that inlet NOx and O2 concentrations to the SNCR will not be recorded or reported. In this report, Tesoro may propose final 7-day rolling and 365-day rolling average NOx emission limits for the Mandan Refinery FCCU/CO Furnace and shall comply with such limit until EPA establishes the final 7-day rolling and 365-day rolling average limits. EPA will use the information in the demonstration report, CEMS data collected during the demonstration, the information identified in Paragraph 14.F., and all other available and relevant information to establish a the final 7-day and 365-day rolling average NOx emission limits for the Mandan Refinery FCCU/CO Furnace in accordance with Paragraph 14.F.ii.. In no event shall the final 365-day emission limit established by EPA require more than a 60% reduction in NOx emissions as compared to the average 365-day rolling average continuous monitoring results prior to the turnaround during which the SNCR is installed.

D. Tesoro shall comply with the emission limit set by EPA at the time such emission limit is set by EPA, provided that if the emission limit set by EPA is more stringent than the limit proposed by Tesoro, Tesoro shall comply with the more stringent limit no later than 45 days after receipt of notice thereof from EPA. If Tesoro disagrees with the more stringent limit set by EPA, it shall invoke dispute resolution within the same forty-five (45) day period.

2. Paragraph 16 of the Consent Decree is amended by revising subparagraph G as follows:

"G. All CEMS installed and operated pursuant to this agreement will be installed, certified, calibrated, maintained, and operated in accordance with the applicable requirements of 40 C.F.R. §§ 60.11, 60.13 and Part 60 Appendix F, with the exception of the SO_2 CEMS on the Mandan CO Furnace, which shall be allowed a Relative Accuracy of ± 5.0 ppm compared to the reference method. These CEMS will be used to demonstrate compliance with emission limits.

3. Paragraph 17.A.i is amended by:

a. deleting the word "and" from the end of subparagraph b. thereof;

b. revising subparagraph c thereof to read as follows:

"c. in connection with firing acid soluble oil at the Alkylation unit; and"

c. adding the following new subparagraph d. to the end thereof:

"d. up to a daily average of seven (7) barrels per hour in the CO Furnace."

4. Paragraph 29.E is amended to read as follows:

"On or before June 1,2001, at Mandan, BP shall reduce emissions of NOx-by 435-tpy by routing its sour water stripper gas from the CO boiler to the SRU and/or the ammonium sulfide concentration unit, as described in Appendix A of this Fifth Amendment."

5. The following new paragraphs 33A and 33B are added between Paragraphs 33 and 34:

"33A. Emissions Data. For the Mandan Facility and Salt Lake Facility, in the quarterly report that is due on July 30 of each year, Tesoro shall provide a summary of annual emissions data at the Covered Refinery for the prior calendar year. The summary shall include:

i) Estimation (in tons per year) of NOx, SO_2, CO and PM emissions for all heaters and boilers;

ii) Estimation (in tons per year) of NOx, SO_2, CO and PM emissions from each FCCU;

iii) Estimation (in tons per year) of SO_2 emissions from each Sulfur Recovery Plants;

iv) Estimation (in tons per year) of SO_2 emissions from each flare; and

v) The basis for each estimate required in this subparagraph (i.e. stack tests, CEMS, PEMS, etc.) and an explanation of methodology used to calculate the tons per year emitted.

33B. Exceedances of Emission Limits. For the Mandan Facility and Salt Lake Facility, in each quarterly report, Tesoro shall identify each exceedance of an emission limit required or established by this Consent Decree that occurred during the calendar quarter covered by that report and, for any emission unit subject to a limit required or established by this Consent Decree that is monitored by a CEMS or PEMS, any periods of CEMS or PEMS downtime that occurred during the prior calendar quarter. For each exceedance and/or each period of CEMS or PEMS downtime, Tesoro shall include the following information:

i) For emissions units monitored with CEMS or PEMS:

(1) the duration of the exceedance(s) and/or CEMS or PEMS downtime expressed as a percentage of operating time in a calendar quarter; and

(2) identification of each applicable rolling average period in which Tesoro exceeded the limit and/or in which CEMS or PEMS downtime occurred, the date and time

of the CEMS or PEMS downtime (if applicable), average emissions during the averaging period, and any identifiable cause of the exceedance (including startup, shutdown or malfunction) and/or CEMS or PEMS downtime; and

ii) For emissions units monitored through stack testing:

(1) a summary of the results of stack test; and

(2) a copy of the stack test report."

The undersigned representatives are fully authorized to enter into the terms and conditions of this Fifth Amendment. This Fifth Amendment may be executed in several counterparts, each of which will be considered an original.

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is:

ORDERED, ADJUDGED and DECREED that the foregoing Fifth Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this ____ day of _____, 2007.

_____

United States District Judge

WE HEREBY CONSENT to the foregoing Fifth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR PLAINTIFF THE UNITED STATES OF AMERICA

Date: 2/15/07

Matthew J. McKeown
Acting Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Robert D. Brook
Assistant Section Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044
(202) 514-2738

WE HEREBY CONSENT to the foregoing Fifth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Date: _____

Walker B. Smith
Director
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

WE HEREBY CONSENT to the foregoing Fifth Amendment to the Consent Decree entered in *United States, et al., v. BP Exploration and Oil Co., et al.*, Civil No. 2:96 CV 095 RL on August 29, 2001.

FOR TESORO CORPORATION:

Date: February 5, 2007

Charles S. Parrish
Senior Vice President, General Counsel
and Secretary

Appendix A

Supplemental Environmental Project Process Change

The Ammonium Sulfide Concentrate Unit (ASD unit) will convert the sour water stripper overhead gas to ammonium sulfide solution. A simplified process flow diagram for the ASD unit is included as Figure One. The sour water overhead stream (process stream #2) contains significant concentrations of ammonia and reduced sulfur species. The sour water stripper gas will be reacted in an absorber tower with water (process stream #5) and anhydrous ammonia (process stream #4) to produce concentrated ammonium sulfide (process stream #6). The concentrated ammonium sulfide product will be shipped offsite for further processing into a finished fertilizer product.

The ASD unit will also provide short-term redundant sulfur management capacity for the entire refinery during periods when the refinery's sulfur recovery plant (SRP) is offline. Refinery acid gas (process stream #1) will be processed in a manner identical to the sour water stripper gas.

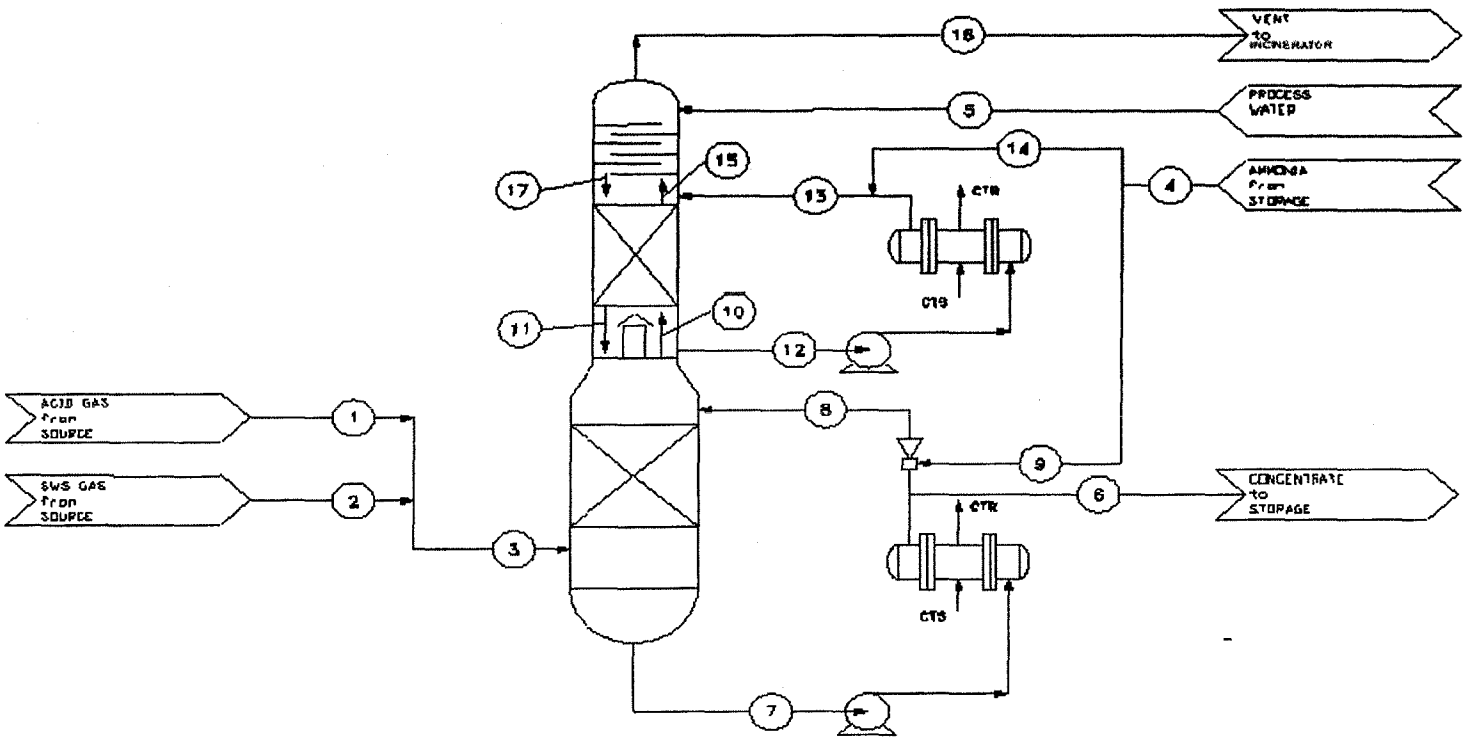
Under normal operations the ASD unit will have one point source of air emissions. The vendor supplying this technology (Tessenderlo Kerley, Inc (TKI)) has estimated the potential ammonia and hydrogen sulfide emissions from the pressure control valve at the top of the absorber tower (process stream #16). That pressure control valve will vent to the SRP incinerator during normal operations. TKI estimates that there will be no emissions of ammonia and that the emissions of hydrogen sulfide will total approximately 0.5 pounds/hour. Incremental NOx emissions from the incinerator will be about zero pounds/hour (basis: NOx as NO); similarly the incinerator's incremental SO_2 emissions would also be approximately 1.0 pounds/hour.

In the event of ASD unit shutdown, Tesoro will take the following actions:

- For short term outages, the Sour Water Stripper will be shutdown, and sour water will be stored in tankage designed for that purpose.
- For shutdowns that exceed the refinery's sour water storage capability, Tesoro will restart the Sour Water Stripper and direct the overhead vapors to the SRP until such time that the ASD unit can be returned to service.

In the event of ASD unit over pressure malfunction, the unit may relieve as designed to the refinery flare. If the over pressure malfunction cannot be resolved within a reasonable time, Tesoro will initiate the shutdown procedure described above. ASD unit venting to the SRP incinerator and refinery flare will be evaluated against the Flaring Incident criteria defined in this Consent Decree. Should a Flaring Incident occur, the event will be subject to the Root Cause analysis subject to Acid Gas Flaring incident requirements of this consent decree.

FIGURE ONE –ASD UNIT SIMPLIFIED PROCESS FLOW DIAGRAM



CERTIFICATE OF SERVICE

I hereby certify that on February 22, 2007, a copy of Plaintiff United States' Fifth Amendment to Consent Decree was duly served upon the following parties by United States mail, postage prepaid, to the following:

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Simone Mabry
Legal Assistant

APPENDIX A
BP'S LIST OF HEATERS AND BOILERS
(beginning next page)

Appendix A **Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity**
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Refinery	Source	Unit	Actual NOx Emissions lb/mmbtu	Actual NOx Emissions ton/year	Status of NOx Control Equipment
Mandan	CO FURNACE		0.26	68.0	
Mandan	BOILER 3		0.23	135.0	x
Mandan	BOILER 2		0.23	135.0	x
Mandan	BOILER 1		0.23	135.0	
Mandan	B-1	ALKY	0.10	25.0	
Mandan	H-501	ISOM	0.01	1.0	
Mandan	F-200	ULTRA	0.10	21.0	
Mandan	B-2	ALKY	0.10	14.0	

Key:

x - Source likely to be controlled

e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:

The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A

Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Refinery	Source	Unit	Actual NOx Emissions lb/mmbtu	Actual NOx Emissions tons/yr	Status of NOx Control Equipment
Salt Lake City	CO Boiler	FCU	0.13	51.3	
Salt Lake City	BOILER 3	UTIL	0.16	47.4	x
Salt Lake City	BOILER 4	UTIL	0.16	42.5	x
Salt Lake City	BOILER 5	UTIL	0.17	44.1	
Salt Lake City	BOILER 6	UTIL	0.18	50.3	
Salt Lake City	H-101	Crude	0.09	44.5	

Key:

x - Source likely to be controlled

e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:

The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A **Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity**
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Refinery	Source	Unit	Actual NOx Emission Factor lb/MMBtu	Actual NOx Emissions tpy	Status of NOx Control Equipment
Texas City	UU3-305BA/B	UU3	0.07	75.9	x
Texas City	UU4-B405	UU4	0.13	53.2	x
Texas City	HU2-109A	HU4	0.07	16.5	
Texas City	HU2-109B	HU5	0.07	17.3	
Texas City	HU2-109C	HU6	0.14	32.8	
Texas City	PS3A-101BA	PS 3A	0.04	40.8	e
Texas City	PS3A-101BB	PS 3A	0.04	40.8	e
Texas City	HU2-101A A/B	HU2	0.04	123.4	x
Texas City	HU2-101B C/D	HU3	0.04	128.9	x
Texas City	PRS4-B410[3]	Power 4	0.92	1389.1	
Texas City	PRS4-B420[3]	Power 4	0.90	1263.6	x
Texas City	PRS4-B430[1]	Power 4	0.04	15.6	e
Texas City	PS3B-401BC	PS 3B	0.06	51.5	
Texas City	HU1-101B	HU1	0.09	77.2	x
Texas City	UU3-306B	UU3	0.05	59.3	
Texas City	AU2-B601[3]	AU2	0.02	26.0	e
Texas City	UU4-B401B	UU4	0.28	239.1	
Texas City	PS3B-401BA	PS 3B	0.31	213.0	x
Texas City	PS3B-401BB	PS 3B	0.26	213.0	x
Texas City	UU4-B401A	UU4	0.13	93.0	x
Texas City	PS3A-103B	PS 3A	0.10	41.1	x
Texas City	UU3-308B[1]	UU3	0.04	24.4	e
Texas City	AU2-B621A[1]	AU2	0.06	26.4	
Texas City	PS3B-402BE	PS 3B	0.10	30.9	x
Texas City	RHU-601B[1]	RHU	0.08	20.9	
Texas City	UU4-B402A	UU4	0.08	31.0	x
Texas City	PS3A-102BA	PS 3A	0.04	9.7	x
Texas City	PS3A-102BB	PS 3A	0.04	9.7	x
Texas City	AU2-B621B[1]	AU2	0.06	26.4	
Texas City	COKR-B201	Coker	0.09	28.2	
Texas City	COKR-B301	Coker	0.06	18.8	
Texas City	ALK3-F1001	Alky 3	0.07	24.9	
Texas City	RDU-601B	RDU	0.05	17.5	
Texas City	RHU-501B	RHU	0.06	15.2	
Texas City	RHU-502B	RHU	0.12	26.8	x
Texas City	UU3-301BA[1]	UU3	0.17	38.8	x
Texas City	UU3-301BB[1]	UU3	0.16	38.8	x
Texas City	UU3-301BC[1]	UU3	0.13	38.8	x
Texas City	UU3-301BD[1]	UU3	0.16	38.8	x

Texas City	UU4-B402B	UU4	0.13	31.0	x
Texas City	UU4-B402C[1]	UU4	0.13	31.0	x
Texas City	UU4-B406	UU4	0.08	25.5	
Texas City	ULC-103B[1]	ULC	0.16	31.0	x
Texas City	ULC-104BA[1]	ULC	0.15	44.3	x
Texas City	ULC-104BB[1]	ULC	0.12	44.3	x
Texas City	UU3-302 BA	UU3	0.12	18.9	
Texas City	UU3-302BB[1]	UU3	0.12	18.9	
Texas City	UU3-302BC[1]	UU3	0.12	18.9	
Texas City	ULC-105BA[1]	ULC	0.15	38.4	x
Texas City	ULC-105BB[1]	ULC	0.18	38.4	x
Texas City	FCU2-BA-201[3]	FCU2	0.13	39.2	
Texas City	ISOM-B1101[1]	Isom	0.09	21.6	
Texas City	ISOM-B200[1]	Isom	0.19	34.2	x
Texas City	PS3B-402BA[1]	PS 3B	0.39	76.5	x
Texas City	PS3B-402BB[1]	PS 3B	0.38	76.5	x
Texas City	PS3B-402BC[1]	PS 3B	0.39	76.5	x
Texas City	PS3B-402BD[1]	PS 3B	0.50	76.5	x
Texas City	UU3-307B[1]	UU3	0.04	9.0	e
Texas City	COKR-B101[1]	Coker	0.07	10.4	
Texas City	DDU-B302[1]	DDU	0.03	4.4	e
Texas City	ULC-100B[1]	ULC	0.08	24.3	x
Texas City	ULC-101B[1]	ULC	0.03	6.0	e
Texas City	ULC-102B[1]	ULC	0.10	26.8	x
Texas City	DDU-B301[1]	DDU	0.04	7.0	e
Texas City	COKR-B203[1]	Coker	0.13	20.7	x
Texas City	UU3-303B*[1]	UU3	0.13	0.0	x
Texas City	DDU-101B[1]	DDU	0.06	8.8	
Texas City	DDU-201B[1]	DDU	0.07	8.8	
Texas City	UU4-B403[1]	UU4	0.13	0.0	x
Texas City	UU3-304B[1]	UU3	0.14	13.7	
Texas City	CFHU-101B[1]	CFHU	0.09	9.5	
Texas City	CFHU-102B[1]	CFHU	0.09	9.5	

Key:

x - Source likely to be controlled

e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:

The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A **Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity**
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Refinery	Source	UNIT	Actual NOx Emissions (lb/mmBtu)	Actual NOx Emissions (ton/year)	Status of NOx control Equipment
Toledo	CO BOILER	FCC	0.10	104.0	x
Toledo	RILEY	UTIL	0.28	135.0	
Toledo	REF 2	REFORM	0.13	141.9	
Toledo	REF 1 FUR	REFORM	0.28	137.2	
Toledo	POWER BOILER	UTIL	0.28	197.8	
Toledo	CRUDE 1	CRUDE	0.20	178.8	
Toledo	CV2 FUR	CRUDE	0.25	135.2	x
Toledo	COKER 3	COKER	0.05	20.5	
Toledo	H2	H2 PLANT	0.17	157.4	x
Toledo	ISO VAC	ISO	0.41	0.0	x
Toledo	VAC 1	VAC	0.06	20.0	
Toledo	ISO 2 STAB	ISO	0.41	131.1	x
Toledo	ISO 2 SPLIT	ISO	0.41	87.1	x
Toledo	FCC PREHEAT	FCC	0.09	5.6	
Toledo	ISO 2 FEED	ISO	0.10	20.1	
Toledo	COKER 1	COKER TANK	0.09	6.8	
Toledo	COKER 2	COKER	0.25	32.2	
Toledo	NAP TREAT	UTIL	0.10	15.8	
Toledo	BDHT	HYDRO	0.09	9.0	x
Toledo	ADHT	HYDRO	0.09	11.3	x

Key:
- x - Source likely to be controlled
- e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:
The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A — Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity — W

Baseline NOx Emissions

Existing and Likely NOx Control Equipment

Refinery	Source	Unit	Annual NOx Emission Factor lb/MMBTU	Annual NOx Emissions Tons/Year	Likely NOx Control Equipment
Whiting	BOILER 1	3 SPS	0.52	1072.6	x
Whiting	BOILER 2	3 SPS	0.52	1005.1	x
Whiting	BOILER 3	3 SPS	0.52	1062.4	x
Whiting	BOILER 4	3 SPS	0.52	1101.6	x
Whiting	BOILER 6	3 SPS	0.52	928.4	x
Whiting	H-1CX	12PS	0.10	78.4	x
Whiting	B-501	HU	0.07	30.6	
Whiting	F-2	4UF	0.19	199.5	x
Whiting	BOILER 3	1 SPS	0.16	0.0	x
Whiting	BOILER 4	1 SPS	0.16	27.4	x
Whiting	BOILER 5	1 SPS	0.16	38.6	x
Whiting	BOILER 6	1 SPS	0.09	15.0	x
Whiting	BOILER 6	1 SPS	0.09	19.2	x
Whiting	BOLER 7	1 SPS	0.09	9.8	x
Whiting	H-1X, 11PS	11PS	0.17	97.6	x
Whiting	F-200A	ARU	0.27	218.9	x
Whiting	F-200B	ARU	0.27	231.8	x
Whiting	H-200	11PS	0.27	106.6	
Whiting	H-1A	12PS	0.27	110.3	x
Whiting	H-1B	12PS	0.27	185.4	x
Whiting	F-3	4UF	0.27	243.9	x
Whiting	BOILER 2	1 SPS	0.16	0.0	
Whiting	H-1	3UF	0.27	193.4	x
Whiting	H-1	ISOM	0.27	200.5	x
Whiting	H-2	3UF	0.27	161.3	x
Whiting	H-300	11PS	0.14	47.0	
Whiting	H-2	12PS	0.27	107.3	x
Whiting	F-8A	4UF	0.27	134.6	
Whiting	F-8B	4UF	0.27	127.5	x
Whiting	F-4	4UF	0.27	155.7	
Whiting	H-1CN	12PS	0.27	38.2	
Whiting	H-1CS	12PS	0.27	0.0	
Whiting	F-5	4UF	0.10	17.7	
Whiting	F-101	CRU	0.05	8.1	
Whiting	F-1	4UF	0.10	18.5	
Whiting	F-801A	CFU	0.05	2.4	
Whiting	F-801B	CFU	0.05	2.4	
Whiting	WB-301	DDU	0.03	5.6	e
Whiting	WB-302	DDU	0.03	9.2	e
Whiting	F-102A	CRU	0.05	3.8	
Whiting	H-3, 11PS	11PS	0.10	13.3	
Whiting	F-7	4UF	0.10	12.9	
Whiting	H-101, 11PS	11PS	0.10	19.0	
Whiting	H-102, 11PS	11PS	0.10	20.6	
Whiting	H-103, 11PS	11PS	0.10	20.6	
Whiting	h-104,11PS	11PS	0.10	20.7	
Whiting	F-6	4UF	0.10	18.5	
Whiting	H-2, 11PS	11PS	0.10	7.8	

Key:

x - Source likely to be controlled

e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:

The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A **Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity**
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Refinery	Source	Unit	Actual NOx Emissions lb/mmbtu	Actual NOx Emissions ton/year	Status of NOx Control Equipment
Yorktown	B-101	CRUDE	0.10	94.7	x
Yorktown	BOILERS 1	UTIL	0.10	32.0	
Yorktown	BOILERS 2	UTIL	0.10	32.0	
Yorktown	BA-101	COKER	0.10	34.2	
Yorktown	F-302	ULTRA	0.07	12.7	
Yorktown	B-102	CRUDE	0.10	24.0	
Yorktown	F-303	ULTRA	0.10	19.6	
Yorktown	F-101	ULTRA	0.10	13.6	

Key:
- x - Source likely to be controlled
- e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:
The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A **Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity**
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Refinery	Source	Unit	Actual NOx Emissions lb/mmbtu	Actual NOx Emissions tpy	Status of NOx Control Equipment
Carson	D570 No. 1 Hydrogen Plant	Hydrogen	0.04	93.2	e
Carson	No 1 Crude Unit	#1 Crude	0.03	67.0	e
Carson	D1465 No. 2 Hydrogen Plant	Hydrogen	0.02	22.7	e
Carson	D535 No. 2 Reformer Reaction	#2 Reformer	0.05	33.3	
Carson	No. 51 Vaculum Heater	#51 Vac	0.01	14.2	e
Carson	D532 No. 1 Reformer Reaction	#1 Reformer	0.13	83.9	x
Carson	D629 HC Frac Reboiler	Hydrocrack	0.22	118.1	x
Carson	D1439 No. 3 reformer	#3 Reformer	0.06	16.7	
Carson	No. 21 Crude Heater	#2 Crude	0.05	20.6	
Carson	No. 4 Crude Heater	#52 Vac	0.20	83.5	x
Carson	D151 No 1 Coker West	#1 Coker	0.04	15.0	e
Carson	D153 No. 1 Coker East	#2 Coker	0.03	12.6	e
Carson	D155 No. 2 Coker	#4 Cruede	0.19	74.2	x
Carson	No. 52 Vacuum Heater	#2 Crude	0.07	19.1	
Carson	No. 22 Crude Heater	Midbarrel	0.04	15.0	e
Carson	D250 FCU Preheater	Isom	0.05	10.7	
Carson	D421 Midbarrel Feed Heater	Fluid Feed HDS	0.22	40.2	x
Carson	D423 Fluid Feed HDS Heater	FCC	0.13	6.6	
Carson	D419 Midbarrell Reboiler	#1 Reformer	0.19	25.1	x
Carson	D539 No. 1 Reformer Desulf	#2 Reformer	0.04	6.0	e

Key:
- x - Source likely to be controlled
- e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:
The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

Appendix A **Listing of Heaters and Boilers > 40 MMBTU/Hr Firing Capacity**
Baseline NOx Emissions
Existing and Likely NOx Control Equipment

Facility	Source	Unit	Actual NOx Emission Factor (lb/MMBtu)	Actual NOx Emissions (tpy)	Likely NOx Control Equipment
Cherry Point	11- #1 Reformer Htrs	#1 Reformer	0.16	374.0	x
Cherry Point	10-Crude Heater	Crude Unit	0.20	466.0	
Cherry Point	21-#2 Reformer Heater	#2 Reformer	0.07	28.0	
Cherry Point	30- Utility Boiler #1	Utilities	0.53	188.0	x
Cherry Point	30- Utility Boiler #2	Utilities	0.53	198.0	x
Cherry Point	30- Utility Boiler #3	Utilities	0.53	182.0	x
Cherry Point	30- Utility Boiler #4	Utilities	0.07	27.0	
Cherry Point	14- Reforming Furnace Htr	Hydrogen Plant	0.10	98.0	
Cherry Point	14-Ref Furn #2 South	Hydrogen Plant	0.10	95.0	
Cherry Point	10-South Vacuum Htr	Crude Unit	0.17	127.0	
Cherry Point	12- N. Coker Htr	Coker	0.09	72.0	
Cherry Point	12- South Coker Htr	Coker	0.09	71.0	
Cherry Point	15-2nd Stg HC Frac Reboiler	Hydrocracker	0.35	166.0	x
Cherry Point	15-1st Stg HC Frac Reboiler	Hydrocracker	0.15	70.0	
Cherry Point	15-R1 Hydrocracker Reactor Htr	Hydrocracker	0.11	11.0	
Cherry Point	Unit 11 - NHDS Chg Htr	Naphtha HDS	0.11	26.0	
Cherry Point	Unit 11 - NHDS Stripper Reboiler	Naphtha HDS	0.11	12.0	
Cherry Point	15-R4 Hydrocracker Reactor Heater	Hydrocracker	0.11	19.0	
Cherry Point	10-N. Vaccum Htr	Crude Unit	0.06	14.0	
Cherry Point	13-DHDS Chg Htr	Diesel HDS	0.06	4.0	
Cherry Point	13-DHDS Stab Reboiler	Diesel HDS	0.06	13.0	

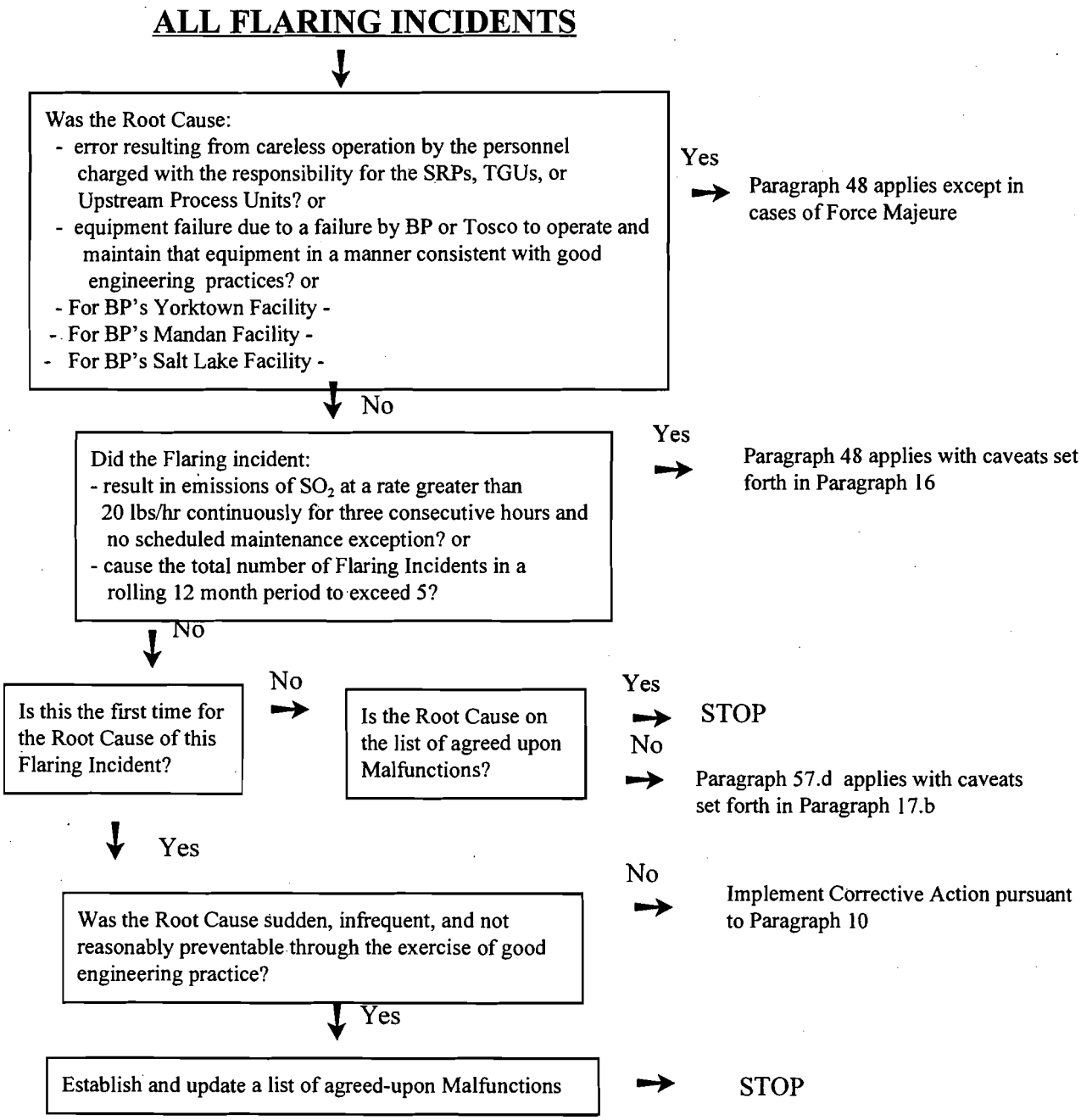
Key:
- x - Source likely to be controlled
- e - Source currently has NOx control equipment (ULNB and/or SCR)

Emission Data:
The methodology used to prepare the baseline data followed the principal of giving preference to CEMs data first, then stack test data, followed by emission factors, using the best data known to be available at the time.

APPENDIX B
[RESERVED]

APPENDIX C
[RESERVED]

APPENDIX D
(LOGIC DIAGRAM FOR PARAGRAPH 22)



APPENDIX D
FLARING LOGIC DIAGRAM

APPENDIX E

PARAGRAPHS 14.D AND 16.A.v DESIGN AND OPERATING CRITERIA

All air pollution control equipment designed pursuant to this appendix will be designed and built in accordance with accepted engineering practice and any regulatory requirements that may apply.

I. Selective Catalytic Reduction (SCR)

A. Design Considerations

1. Catalyst

    a. Type
    b. Size/Pitch
    c. Volume of Initial Charge
    d. Operating Life
    e. Periodic Mid-Run Replacement
    f. Complete Change Out Schedule

2. Reactor

    a. Reactor Volume
    b. Internal Configuration
    c. Location in Process Train
    d. Soot Blowers
    e. Pressure Drop

3. Reductant Addition

    a. Type (Anhydrous Ammonia, Aqueous Ammonia, or Urea)
    b. Reductant Addition Rates
    c. Diluent Type and Rate
    d. Flow Distribution Manifold
    e. Injection Grid / Nozzles

i. Number
ii. Size
iii. Location
iv. Controls

g. Ammonia Slip

4. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations
e. Inlet/Outlet CO/H2O/O_2 Concentrations
g. Inlet/Outlet Particulate/Ash Loading and Characteristics

5. Efficiency

a. Designed to Outlet NOx Concentration
b. Designed to Efficiency

6. Safety Considerations

B. Operating Considerations

1. Catalyst

a. Periodic Mid-Run Replacement to Maintain Efficiency
b. Complete Change Out

2. Reactor

a. Operation of Soot Blowers
b. Pressure Drop

3. Reductant Addition

a. Reductant Addition Rates
b. Ammonia Slip

4. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations
e. Inlet/Outlet CO/H2O/O_2 Concentrations
g. Inlet/Outlet Particulate/Ash Loading and Characteristics

5. Efficiency

a. Actual Outlet NOx Concentration
b. Actual Removal Efficiency

6. Safety Considerations

II. Selective Non-Catalytic Reduction

A. Design Considerations

1. Reductant Addition

a. Type (Anhydrous Ammonia, Aqueous Ammonia, or Urea)
b. Primary and Enhanced Reductant Addition Rates
c. Diluent Type and Rate
d. Flow Distribution Manifold
e. Injection Grid / Nozzles
    i. Number
    ii. Size

iii. Location
iv. Controls

f. Ammonia Slip

4. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations
e. Inlet/Outlet CO/H2O/O_2 Concentrations
f. Inlet/Outlet Particulate/Ash Loading and Characteristics

5. Efficiency

a. Designed to Outlet NOx Concentration
b. Designed to Removal Efficiency

6. Safety Considerations

B. Operating Considerations

1. Reductant Addition

a. Reductant Addition Rates
b. Ammonia Slip

2. Flue Gas Characteristics

a. Inlet/Outlet NOx Concentration
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet SO_2/SO3 Concentrations

e. Inlet/Outlet CO/H2O/O_2 Concentrations
f. Inlet/Outlet Particulate/Ash Loading and Characteristics

3. Efficiency

a. Actual Outlet NOx Concentration
b. Actual Removal Efficiency

6. Safety Considerations

III. Wet Gas Scrubber

A. Design Considerations

1. Absorber Vessel

a. Volume
b. Dimensions
c. Pressure Drop
d. Internal Configuration
e. Location in Process Train

2. Scrubbing Liquor

a. Type (Caustic or Lime)
b. Scrubbing Liquor Blowdown/Makeup
c. Scrubbing Liquor Circulation Rate
d. Scrubbing Liquor pH

3. Flue Gas Characteristics

a. Inlet/Outlet SO_2/SO3 Concentrations
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range

d. Inlet/Outlet Particulate Loading and Characteristics

4. Efficiency

a. Designed to Outlet SO_2/SO3 Concentration
b. Designed to Removal Efficiency

5. Safety Considerations

B. Operating Considerations

1. Scrubbing Liquor

a. Type (Caustic or Lime)
b. Scrubbing Liquor/Caustic Blowdown/Makeup
c. Scrubbing Liquor Circulation Rate
d. Scrubbing Liquor pH

2. Flue Gas Characteristics

a. Inlet/Outlet SO_2/SO3 Concentrations
b. Flue Gas Volumetric Flow
c. Inlet/Outlet Temperature Range
d. Inlet/Outlet Particulate Loading and Characteristics

3. Efficiency

a. Actual Outlet SO_2/SO3 Concentration
b. Actual Removal Efficiency

4. Safety Considerations

APPENDIX F

DETERMINING CATALYST ADDITIVE ADDITION RATES

I. Low-NOx CO Promoter Usage for Carson FCCU, Texas City FCCU2 and FCCU3, and Whiting FCCU 500

The routine usage of conventional CO promoter shall be optimized at the typical mix (i.e., based on historical usage) of conventional CO promoter activities, to minimize the usage, and eliminate over usage, of conventional CO promoter while retaining the basic effectiveness of CO promoter. Usage of low-NOx CO promoter shall replace usage of conventional CO promoter at the same rate as the established optimized rate of conventional CO promoter. The basic effectiveness of low-NOx CO promoter at the optimized rate shall be evaluated to determine whether the following basic criteria are met:

- Afterburn is controlled and regenerator temperature and CO levels are adequately maintained;
- Temperature excursions are brought under control adequately; and
- A measurable NOx reduction occurs.

If the low-NOx CO promoter cannot meet the basic criteria, its addition rate shall be increased up to a maximum of two times the optimized conventional CO promoter rate at the typical mix (i.e., based on historical usage) of conventional CO promoter activities. If at two times the optimized conventional CO promoter rate, the low-NOx CO promoter is not effective in meeting the basic criteria, the usage of the low-NOx CO promoter may be discontinued.

II. NOx Adsorbing Catalyst Additive Addition Rates for Carson FCCU, Texas City FCCU1 and FCCU3, and Whiting FCCU 500

Initial NOx adsorbing catalyst additive addition shall be 0.6 weight percent of total fresh catalyst addition rate.(% additive to be determined on a monthly average basis). Once steady state has been achieved, the effect on NOx emissions of this rate shall be evaluated. NOx adsorbing catalyst additive addition shall be increased at increments of 0.2 weight percent of total fresh catalyst additions up to 2.0 weight percent, and, once steady state has been achieved for each increment, the effect on NOx emissions and annual cost shall be evaluated. If at any increment of NOx adsorbing catalyst addition, the total annualized cost-effectiveness of the NOx adsorbing catalyst additive used exceeds $10,000 per ton of NOx removed, the NOx adsorbing catalyst additive addition rate used to determine the final emission limit shall remain at that level.

III. SO_2 Adsorbing Catalyst Additive Addition Rates for Whiting FCCU 600, Yorktown FCCU, Carson FCCU, Texas City FCCU 2, Toledo FCCU

For each FCCU required to use SO_2 adsorbing catalysts additive under Paragraphs 16.A. (interim limits) or 16.B. (final limits), the optimized addition rate for SO_2 adsorbing catalyst additive shall be as follows:

A. For Texas City FCCU 3, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 117 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) a maximum addition rate of 5.0% by weight of total fresh catalyst additions.

B. For Whiting FCU 500, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 117 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) a maximum addition rate of 7.5% by weight of total fresh catalyst additions.

C. For Carson FCCU, Texas City FCCU 2 and Toledo FCCU, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis in which case BP shall agree to accept a limit of 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) a maximum addition rate of 5.0% by weight of total fresh catalyst additions.

D. For Whiting FCU 600 and Yorktown FCCU, the minimum addition rate shall be the monthly average rate necessary to achieve an 80% reduction in uncontrolled SO_2 emissions (i.e., including the reduction achieved by any hydrotreating of the FCCU feed) on a 365-day rolling average basis. Notwithstanding the foregoing, the optimized SO_2 catalyst additive addition rate for Whiting FCU 600 and Yorktown FCCU shall be the lowest of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU meets 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis in which case BP shall agree to accept a limit of 25 ppmvd SO_2 (at 0% O_2) on a 365-day rolling average basis;

(2) the addition rate at which BP demonstrates to EPA's satisfaction that increasing the addition rate by an additional 0.2% (by weight) of total fresh catalyst additions results in an incremental reduction of SO_2 of less than 2 lbs. SO_2 per pound of additive, but in no event less than 7.5% (by weight) of total fresh catalyst additions; or

(3) a maximum addition rate of 10.0% by weight of total fresh catalyst additions, except that if the addition of SO_2 adsorbing catalyst additive at this maximum rate limits the FCCU feedstock processing rate or conversion capability in a manner that cannot be reasonably compensated for by the adjustment of other parameters, the maximum addition rate shall be reduces to a level at which the additive no longer interferes with the FCCU processing or conversion rate; provided, however, that in no case, shall the maximum addition rate be less than 7.5 weight percent.

E. For Mandan FCCU, the lower of the following addition rates expressed as a monthly average:

(1) the addition rate at which the FCCU achieves a 50% reduction in uncontrolled SO_2 emissions; or

(2) a maximum addition rate of 5.0% by weight of total fresh catalyst additions.

APPENDIX G

ACID/SOUR WATER STRIPPER GAS FLARING DEVICES AND SRPS (AND ASSOCIATED COMPONENTS) CURRENTLY IN SERVICE

A. **"Flaring Devices"**

1. Carson Refinery

   (a) The South Area Flare, designated by the South Coast Air Quality Management District as ID# C1302.

   (b) FCC Flare (Device ID #C1305)

   (c) Hydrocracker Flare (Device ID #C1308)

2. Cherry Point Refinery

   (a) the Low Pressure Flare, designated in the Refinery Washington State Emission report as emission point #17;

   (b) the High Pressure Flare designated in Refinery Washington State Emission report as emission point #18; and

3. Mandan Refinery

   (a) SRU Flare, designated by the North Dakota Department of Health (NDDH) as "Sulfur Recovery Unit Emergency Flare", source O

   (b) The Mandan CO Furnace, designated by the NDDH as "Heat Research CO Burning Crude Heater", source B

4. Salt Lake City Refinery

   The Fuel Gas Desulfurization Unit/Sour Water Stripper (FGDU/SWS) flare, designated per Approval Order DAQE-008-00 by the State of Utah as PS#11

5. Texas City Refinery

(a) SRU Torch No. 1, designated by the State of Texas in the permit as Emission Point Number (EPN) 381

(b) SRU Torch No. 2, designated by the State of Texas in the permit as EPN 383

6. Whiting Refinery

The #2 SRU Flare designated by IDEM as permit #45-08-93-0575;

7. Yorktown Refinery

The Refinery main flare designated by the Virginia Department of Environmental Quality as Point No. 026;

B. **"Sulfur Recovery Plant" Components**

1. Carson Refinery

(a) Process 13: Sulfur Recovery – System 1: Claus Sulfur Recovery Facility "A"

(b) Process 13: Sulfur Recovery – System 2: Claus Sulfur Recovery Facility "B"

(c) Process 13: Sulfur Recovery – System 3: Claus Sulfur Recovery Facility "C"

(d) Process 13: Sulfur Recovery – System 4: Claus Sulfur Recovery Facility "D"

(e) Process 13: Sulfur Recovery – System 5: Claus Tail Gas Treating Unit No. 2

(f) Process 13: Sulfur Recovery – System 6: Thermal Oxidizers

(g) Process 13:Sulfur Recovery – System 7: Claus Tail Gas Treating Unit;

2. Cherry Point Refinery

   (a) the Existing Sulfur Plant, composed of two trains, constructed under permit issued June 8, 1970 by the Northwest Air Pollution Authority;

   (b) the Existing Tail Gas Unit constructed under permit issued by Northwest Air Pollution Authority, on March 13, 1974; and

   (c) the Sulfur Incinerator, designated as emission point #16 in the Refinery Washington State Emission Report;

3. Mandan Refinery

   The Claus Sulfur Recovery Unit installed pursuant to an August 1983 Permit to Construct issued by the North Dakota Department of Health;

4. For Salt Lake City Refinery, the Claus Sulfur Recovery Unit/Tail Gas Incinerator (SRU/TGI), (1 stack), designated per the Approval Order DAQE-008-00 by the State of Utah as PS #10;

5. Texas City Refinery

   (a) Claus Sulfur Recovery Units, designated A, B, C, and D

   (b) Scot Tail Gas Treatment Units, designated C and D

   (c) SRU Incinerators, designated C and D, vented to a single stack, designated by the State of Texas in the permit as Emission Point Number (EPN) 384;

6. Whiting Refinery

   Three Claus trains; one Beavon Stretford tail gas treating unit commonly shared by the three Claus trains, and the standby incinerator; Designated by Indiana Department of Environmental Management as Permit # 45-08-93-0571

7. Yorktown Refinery

One Claus train designated by the Virginia Department of Environmental Quality as Point No. 007

APPENDIX H
SUSTAINABLE SKIP PERIOD MONITORING PROGRAM

The following skip rules will apply in lieu of 40 C.F.R.§ 63.168(d)(2) - (4) and 40 C.F.R. § 60.483-2(b)(2) - (3).

1. BP may move to less frequent monitoring on a unit-by-unit basis using the following criteria:

    a. At process units that have less than 2 percent leaking valves for 2 consecutive months, the owner or operator shall monitor each valve once every quarter, beginning with the next quarter.

    b. After 2 consecutive quarterly leak detection periods with the percent of leaking valves less than or equal to 1 percent, the owner or operator may elect to monitor each valve once every 2 quarters.

    c. After 3 consecutive semi-annual leak detection periods with the percent of valves leaking less than or equal to 0.5 percent, the owner or operator may elect to monitor each valve once every 4 quarters.

2. BP must return to more frequent monitoring on a unit-by-unit basis using the following criteria:

    a. If a process unit on a quarterly, semi-annual or annual monitoring schedule has a leak percentage greater than or equal to 2 percent in any single detection period, the owner or operator shall monitor each valve no less than every month, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

    b. If a process unit on a semi-annual or annual monitoring schedule has a leak percentage greater than or equal to 1 percent, but less than 2 percent in any single detection period, the owner or operator shall monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

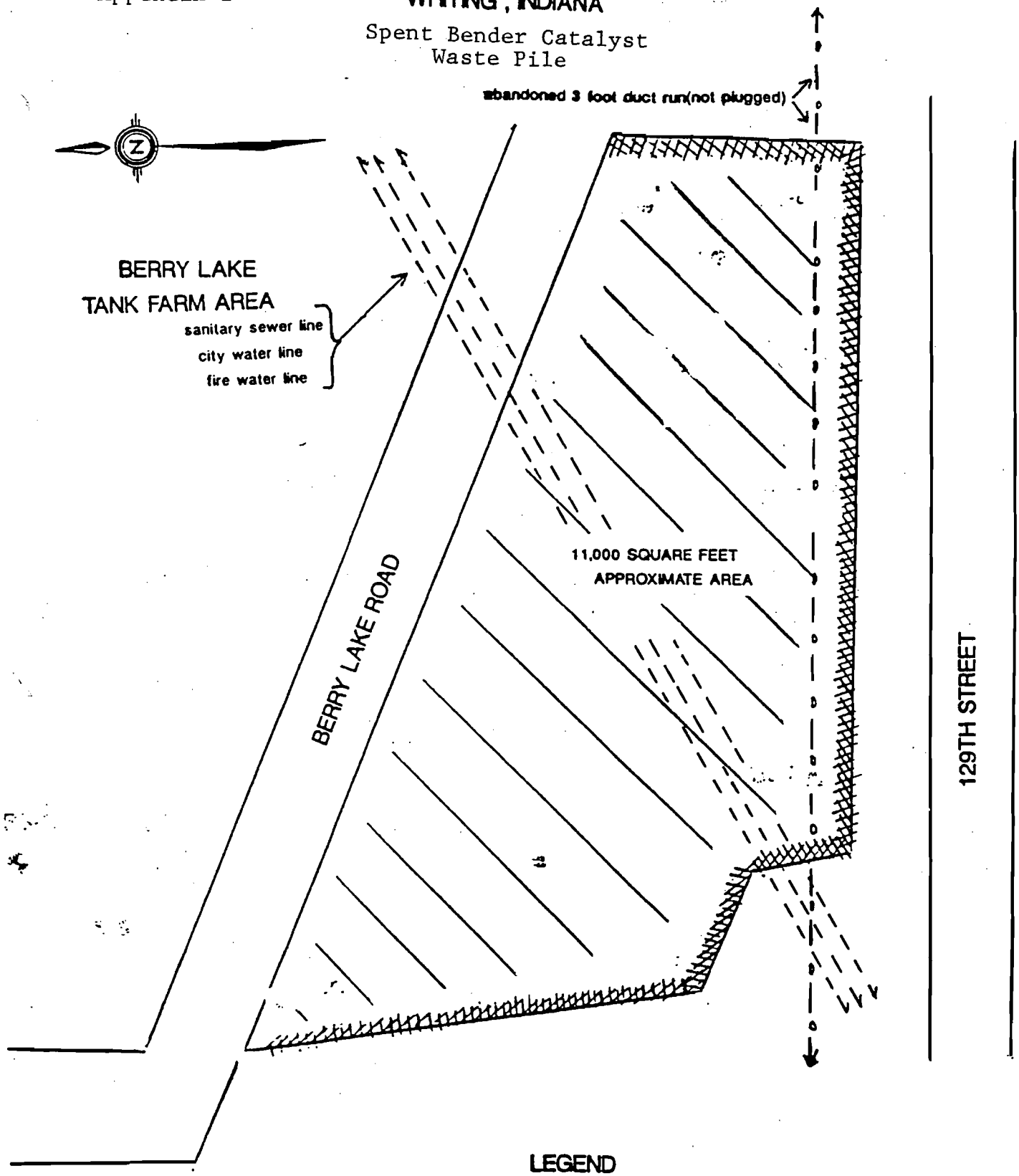
    c. If a process unit on an annual monitoring schedule has a leak percentage greater than or equal to 0.5 percent but less than 1 percent in any single detection period, the owner or operator shall monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

APPENDIX I
WHITING RCRA DIAGRAM

AMOCO OIL REFINERY
WHITING, INDIANA

FIGURE 1

Spent Bender Catalyst
Waste Pile



LEGEND

- BERM
- PROPOSED SOIL BORING LOCATION
- FORMER TEST PIT
- DISPOSAL AREA
- underground utility
- abandoned underground utility

WCC. 88C3114.9100

NOT TO SCALE

APPENDIX J

WHITING REFINERY
GOOD ENGINEERING PRACTICES
TO INCREASE RELIABILITY OF EXISTING TGU

This appendix sets forth measures developed by BP to maximize reliability of the existing Tail Gas Unit ("TGU") with the objective of avoiding a planned shutdown of the TGU prior to the shut down necessary to tie in the supplemental TGU.

RELIABILITY OF EXISTING TGU

BP's Whiting Refinery has conducted Root Cause Failure Analyses ("RCFA") of past reliability problems encountered at the TGU. The primary failure mechanism is plugging of the T-502 Absorber Tower. Based on the RCFA process, BP has taken the following measures, which include both hardware changes and preventive maintenance practices:

1. Caustic Wash Procedures: Plugging in the T-502 absorber tower has historically resulted in loss of contacting performance in the absorber. Two root causes have been identified and addressed. First, the Whiting Refinery now implements hot, on-line caustic washing of the tower. Initially, the Refinery washed the tower approximately 12 times over a very short period of time. Now, as a preventive measure, the Refinery washes the tower approximately two times a week. This preventive maintenance has significantly reduced pressure drop across the tower and has improved contacting efficiency to near "start of run" performance.

Second, BP replaced the T-501 quench tower heat exchangers. A performance loss and high exit gas temperature had been contributing to the plugging in T-502.

2. Filter Press Solids Control: BP's Whiting Refinery has taken two steps to minimize the contribution of solids to the plugging of the T-502 reactor. First, the refinery has installed, and is in the process of starting up, a system for continuous liquid injection of Stretford catalyst to replace the bulk, solids addition system used historically. Second, the Refinery is experimenting with a system that filters the circulating solution to remove solids. The Refinery is also considering an alternative system designed to filter the sulfur froth prior to melting. This latter system would reduce the formation of solids.

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, and THE STATE OF INDIANA, THE STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, Plaintiff-Intervenors, v. BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY Defendants.	Civil No. 2:96 CV 095 RL Magistrate Judge Rodovich

INTERVENTOR NORTHWEST AIR POLLUTION AUTHORITY'S COMPLAINT

Northwest Air Pollution Authority, by and through Laughlan H. Clark, admitted pro hac vice in this proceeding and acting at the request of Northwest Air Pollution Authority ("NWAPA") alleges:

NATURE OF ACTION

1. This is a civil action brought against Atlantic Richfield Company ("Arco"), pursuant to Section 304(b)(1)(B) of the Clean Air Act ("CAA" or the Act), 42 U.S.C. §7604(b)(1)(B), and

R.C. Chapter 3704, for alleged environmental violations at Arco's petroleum refinery at Cherry Point, Washington. NWAPA, as a municipal corporation, is a "citizen" as that term is defined in Section 302(e) of the Act, 42 U.S.C. § 7602 (e).

JURISDICTION AND VENUE

2. NWAPA has filed a motion to intervene in this action as a matter of right, pursuant to the citizen's suit provision as set forth in numbered paragraph 1.

3. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§1331, 1345, and 1355, and Sections 113(b) and 304(b)(1)(B) of the CAA, 42 U.S.C. §§7413(b) and 7604 (b)(1)(B).

4. Venue is proper in this District pursuant to 28 U.S.C. §§1391(b) and (c), and 1395(a), and Section 113(b) of the CAA, 42 U.S.C. §7413(b).

DEFENDANT

5. Arco is a corporation doing business at Cherry Point, Washington.

6. Arco is a "person" as defined in Section 302(e) of the CAA, 42 U.S.C. §7602(e); Section 101(21) of CERCLA, 42 U.S.C. §9601 (21); Section 329(7) OF EPCRA, 42 U.S.C. §11049(7); Section 1004(15) of RCRA, 42 U.S.C. §6903(15); and applicable federal and state regulations promulgated pursuant to these statutes.

STATUTORY AND REGULATORY BACKGROUND
CLEAN AIR ACT REQUIREMENTS

7. NWAPA incorporates by reference the statutory and regulatory background as stated in the Second Amended Complaint of the United States of America, paragraphs 12 through 70, filed in this case.

FIRST CLAIM FOR RELIEF
(CAA/NSPS: 40 C.F.R. § 60.104(a)(2))
Discharging Gases from the SRP in violation of C.F.R. § 60.104(a)(2)

8. Paragraphs 1 through 7 are realleged and incorporated by reference herein as if fully set forth herein.

9. NWAPA alleges against Arco the same allegations against Arco regarding Arco's Cherry Point, Washington petroleum refinery, made by the United States of America in the Thirteenth Claim for Relief, Paragraphs 153 through 162, of the Second Amended Complaint of the United States of America. These paragraphs are incorporated by reference herein as if fully set forth herein.

SECOND CLAIM FOR RELIEF
(CAA/NSPS: 40 C.F.R. § 60.11(d))
Failing to Operate and Maintain the SRP
in a Manner Consistent with Good Air Pollution Control Practice

10. Paragraphs 1 through 7 are realleged and incorporated by reference herein as if fully set forth herein.

11. NWAPA alleges against Arco the same allegations against Arco regarding Arco's Cherry Point, Washington petroleum refinery, made by the United States of America in the Fourteenth Claim for Relief, Paragraphs 163 through 166, of the Second Amended Complaint of the United States of America. These paragraphs are incorporated by reference herein as if fully set forth herein.

THIRD CLAIM FOR RELIEF
(Leak Detection and Repair Requirements)

12. Paragraphs 1 through 7 are realleged and incorporated by reference herein as if fully

set forth herein.

13. NWAPA alleges against Arco the same allegations against Arco regarding Arco's Cherry Point, Washington petroleum refinery, made by the United States of America in the Seventeenth Claim for Relief, Paragraphs 176 through 183, of the Second Amended Complaint of the United States of America. These paragraphs are incorporated by reference herein as if fully set forth herein.

FOURTH CLAIM FOR RELIEF
(Benzene Waste NESHAP)

14. Paragraphs 1 through 7 are realleged and incorporated by reference herein as if fully set forth herein.

15. NWAPA alleges against Arco the same allegations against Arco regarding Arco's Cherry Point, Washington petroleum refinery, made by the United States of America in the Eighteenth Claim for Relief, Paragraphs 184 through 189, of the Second Amended Complaint of the United States of America. These paragraphs are incorporated by reference herein as if fully set forth herein.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, Northwest Air Pollution Authority, respectfully request that his Court:

1. Order Defendants to immediately comply with the statutory and regulatory requirement cited in this Complaint, under the Clean Air Act;

2. Order Defendants to take appropriate measures to mitigate the effects of its violations;

3. Assess civil penalties against Atlantic Richfield Company for up to the amounts

provided in the Clean Air Act; and

4. Grant Northwest Air Pollution Authority such other relief as this Court deems just and proper.

Respectfully submitted,

VISSER, ZENDER & THURSTON

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, and THE STATE OF INDIANA, THE STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, Plaintiff-Intervenors, v. BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY Defendants.	Civil No. 2:96 CV 095 RL Magistrate Judge Rodovich

MOTION OF NORTHWEST AIR POLLUTION AUTHORITY FOR LEAVE TO INTERVENE

Pursuant to Rule 24 of the Federal Rules of Civil Procedure ("FRCP"), NORTHWEST AIR POLLUTION AUTHORITY ("NWAPA"), a municipal corporation under the laws of the State of Washington, respectfully moves for leave to intervene as a party plaintiff in this action. NWAPA request such leave so that it may assert the claims set forth in the attached proposed complaint of NWAPA. NWAPA has a statutory right to intervene pursuant to the citizen suit provisions of the Clear Air Act, section 304, 42 U.S.C. 7604(b)(1)(B). The grounds for intervention are more fully stated in the attached memorandum in support.

Respectfully submitted this ____ day of March, 2001.

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NORTHWEST AIR POLLUTION AUTHORITY'S MEMORANDUM IN SUPPORT OF MOTION TO INTERVENE

The Northwest Air Pollution Authority ("NWAPA") seeks to intervene in this civil action initiated by the United States of America against the BP Exploration and Oil Company ("BPX&O), Atlantic Richfield Company ("Arco"), and other defendants (collectively, "Defendants"). The United States has asserted claims against Defendants regarding several of their petroleum refineries, under provisions of the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Emergency Planning and Community Right-To-Know-Act, and the Clean Air Act and the State of Washington's State Implementation Plan ("SIP") federally approved under that Act. NWAPA seeks to intervene only to assert a claim against Arco under provisions of the Clean Air Act and Washington's SIP, regarding Arco's petroleum refinery at Cherry Point, Whatcom County, Washington.

The United States has invited NWAPA to intervene in this action. Upon information and belief, Defendants have no objection to NWAPA's intervention. NWAPA has already signed the consent order resolving this case, which has been lodged with this Court and is currently undergoing a thirty-day period of public comment. NWAPA moves to intervene pursuant to Rule 24(a) of the Federal Rules of Civil Procedure and the citizen suit provisions of the Clean Air Act. Rule 24(a) of the Federal Rules of Civil Procedure provides, in pertinent part, that "upon timely application anyone shall be permitted to intervene in an action when a statute of the United States confers an unconditional right to intervene . . . ." NWAPA claims such an unconditional right based on the statutory language of the citizen suit provisions of the CAA, Section 304(b)(1)(B), 42 U.S.C. 7604(b)(1)(B), which states that where the Administrator is prosecuting a civil action to enforce the CAA, "any person may intervene as a matter of right." As used in Section 304,

"person" is defined to include "an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof." Section 302 of CAA, 42 U.S.C. 7602(e). The express language of Section 302 includes a municipal entity such as NWAPA. RCW 70.94.081 provides:

> An activated authority shall be deemed a municipal corporation; have right to perpetual succession; adopt and use a seal; may sue and be sued in the name of the authority in all courts and in all proceedings; and, may receive, account for, and disburse funds, employ personnel, and acquire or dispose of any interest in real or personal property within or without the authority in the furtherance of its purposes. (Emphasis added.)

NWAPA seeks to intervene to protect its interest in enforcement of the provisions of the CAA, and regulations adopted thereunder, and corresponding provisions in Washington's SIP (as set forth in Title 70.94 of the Revised Code of Washington, and rules promulgated thereunder) at Arco's Cherry Point, Washington facility.

The State's intervention will not delay or complicate this matter, as NWAPA has already reviewed and signed the consent order lodged with the Court. A copy of NWAPA's proposed complaint in intervention is attached. As such, NWAPA has met all of the requirements for intervention of right under Rule 24 of the Federal Rules of Civil Procedure. Therefore, NWAPA respectfully requests that this Court grant its motion to intervene.

Respectfully submitted this ____ day of March, 2001.

VISSER, ZENDER & THURSTON

LAUGHLAN H. CLARK
Attorney for Northwest Air Pollution Authority

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Motion of Northwest Air Pollution Authority for Leave to Intervene and Northwest Air Pollution Authority's Memorandum in Support of Motion to Intervene was served by regular United States mail, postage prepaid, on March ____, 2001, upon:

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, and THE STATE OF INDIANA, THE STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY, Plaintiff-Intervenors, v. BP EXPLORATION & OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY Defendants.	Civil No. 2:96 CV 095 RL Magistrate Judge Rodovich

ORDER GRANTING NORTHWEST AIR POLLUTION AUTHORITY'S MOTION TO INTERVENE

This matter having come before the Court on the motion of Plaintiff-Intervenor, Northwest Air Pollution Authority, by Laughlan H. Clark, its attorney, and having tendered its Motion to Intervene and Complaint in Intervention, it is hereby

ORDERED that the Court, being duly advised and after due consideration, now finds that said motion should be Granted.

DATED this ____ day of March, 2001.

Andrew P. Rodovich
United States Magistrate Judge

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	Civil No. 2:96 CV 095 RL
	)	
Plaintiff,	)	Magistrate Judge Rodovich
	)	
and	)	
	)	
THE STATE OF INDIANA, THE STATE OF UTAH, THE STATE OF OHIO, and the NORTHWEST AIR POLLUTION AUTHORITY,	)	
	)	
Plaintiff-Intervenors,	)	
	)	
v.	)	
	)	
BP EXPLORATION &OIL CO., AMOCO OIL COMPANY, and ATLANTIC RICHFIELD COMPANY	)	
	)	
Defendants.	)	

SECOND AMENDED COMPLAINT

The United States of America, by the authority of the Attorney General of the United States and through the undersigned attorneys, acting at the request of the Administrator of the United States Environmental Protection Agency ("EPA"), alleges:

NATURE OF ACTION

1. This is a civil action brought against BP Exploration & Oil Co ("BPX&O"), Amoco Oil Company ("Amoco"), and Atlantic Richfield Company ("Arco") (hereinafter

collectively referred to as "Defendants" or "BP"), pursuant to Section 113(b) of the Clean Air Act ("CAA" or the Act), 42 U.S.C. § 7413(b), for alleged environmental violations at the petroleum refineries at the following locations: a) BPX&O: Toledo, Ohio; b) Amoco: Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia; and c) Arco: Cherry Point, Washington and Carson, California.

2. Upon information and belief, these eight refineries have been and are in violation of EPA's regulations implementing the following Clean Air Act statutory and regulatory requirements applicable to the petroleum refining industry: Prevention of Significant Deterioration ("PSD"), Part C of Title I of the Act, 42 U.S.C. § 7470-7492, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, and Nonattainment New Source Review, Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. § 51.165, Part 51, Appendix S, and § 52.24 ("PSD/NSR Regulations"); New Source Performance Standards ("NSPS"), 40 C.F.R. Part 60, Subpart J; Leak Detection and Repair ("LDAR"), 40 C.F.R. Parts 60 and 63; National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Benzene, 40 C.F.R. Part 61; and the California, Indiana, Louisiana, North Dakota, Ohio, Texas, Utah, Virginia, and Washington state implementation plans ("SIPs") which incorporate and/or implement the above-listed federal regulations.

3. In addition the United States alleges that BPX&O, Amoco, and Arco have violated and are in violation of the following federal environmental statutes and their implementing regulations: the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9603(a); the Emergency Planning and Community Right to Know Act ("EPCRA"), 42 U.S.C. § 11004(a) and the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901, et. seq.

Act ("CAA" or the Act), 42 U.S.C. § 7413(b), for alleged environmental violations at the petroleum refineries at the following locations: a) BPX&O: Toledo, Ohio; b) Amoco: Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia; and c) Arco: Cherry Point, Washington and Carson, California.

2. Upon information and belief, these eight refineries have been and are in violation of EPA's regulations implementing the following Clean Air Act statutory and regulatory requirements applicable to the petroleum refining industry: Prevention of Significant Deterioration ("PSD"), Part C of Title I of the Act, 42 U.S.C. § 7470-7492, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, and Nonattainment New Source Review, Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515, and the regulations promulgated thereunder at 40 C.F.R. § 51.165, Part 51, Appendix S, and § 52.24 ("PSD/NSR Regulations"); New Source Performance Standards ("NSPS"), 40 C.F.R. Part 60, Subpart J; Leak Detection and Repair ("LDAR"), 40 C.F.R. Parts 60 and 63; National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Benzene, 40 C.F.R. Part 61; and the California, Indiana, Louisiana, North Dakota, Ohio, Texas, Utah, Virginia, and Washington state implementation plans ("SIPs") which incorporate and/or implement the above-listed federal regulations.

3. In addition the United States alleges that BPX&O, Amoco, and Arco have violated and are in violation of the following federal environmental statutes and their implementing regulations: the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9603(a); the Emergency Planning and Community Right to Know Act ("EPCRA"), 42 U.S.C. § 11004(a) and the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901, et. seq.

4. The United States seeks an injunction ordering BPX&O, Amoco, and Arco to comply with the above statutes and the laws and regulations promulgated thereunder, and civil

penalties for Defendants' past and ongoing violations.

JURISDICTION AND VENUE

5. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1345 and 1355; Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Sections 109(c) and 113(b) of CERCLA, 42 U.S.C. §§ 9609(c) and 9613(b); Sections 325(a), (b), and (c) of EPCRA, 42 U.S.C. § 11045(a), (b), and (c); and Sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925.

6. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c), and 1395(a); Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), because certain of the violations alleged herein occurred at the Whiting refinery, which is located in this district. In addition, upon information and belief, the Defendants agree to venue in this Court.

NOTICE TO STATE

7. Notice of the commencement of this action has been given to: a) State of Washington, State of California, State of North Dakota, State of Utah, State of Ohio, State of Indiana, the Commonwealth of Virginia, State of Texas, and the State of Louisiana as required by Section 113(b) of the CAA, 42 U.S.C. § 7413(b); and b) the State of Indiana as required by Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2).

DEFENDANTS

8. Arco is a corporation doing business at Cherry Point, Washington and Carson, California.

9. Amoco is a corporation doing business at Mandan, North Dakota; Salt Lake City, Utah; Texas City, Texas; Whiting, Indiana; and Yorktown, Virginia.

10. BPX&O is a corporation doing business at Toledo, Ohio.

11. Each company is a "person" as defined in Section 302(e) of the CAA, 42 U.S.C. §7602(e); Section 101(21) of CERCLA, 42 U.S.C. § 9601 (21); Section 329(7) of EPCRA, 42 U.S.C. §11049(7); Section 1004(15) of RCRA, 42 U.S.C. §6903(15); and applicable federal and state regulations promulgated pursuant to these statutes.

STATUTORY AND REGULATORY BACKGROUND
CLEAN AIR ACT REQUIREMENTS

12. The Clean Air Act established a regulatory scheme designed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. Section 101(b)(1) of the Act, 42 U.S.C. § 7401(b)(1).

13. Section 109 of the Act, 42 U.S.C. § 7409, requires the Administrator of EPA to promulgate regulations establishing primary and secondary national ambient air quality standards ("NAAQS" or "ambient air quality standards") for certain criteria air pollutants. The primary NAAQS are to be adequate to protect the public health, and the secondary NAAQS are to be adequate to protect the public welfare, from any known or anticipated adverse effects associated with the presence of the air pollutant in the ambient air.

14. Section 110 of the Act, 42 U.S.C. § 7410, requires each state to adopt and submit to EPA for approval a State Implementation Plan ("SIP") that provides for the attainment and maintenance of the NAAQS.

15. The Indiana SIP was originally approved by the Administrator on May 31, 1972 (37 Fed. Reg. 10862 (1972)).

16. Under Section 107(d) of the Act, 42 U.S.C. § 7407(d), each state is required to designate those areas within its boundaries where the air quality is better or worse than the NAAQS for each criteria pollutant, or where the air quality cannot be classified due to insufficient data. These designations have been approved by EPA and are located at 40 C.F.R.

Part 81. An area that meets the NAAQS for a particular pollutant is classified as an "attainment" area; one that does not is classified as a "non-attainment" area.

17. The Administrator has designated the portion of Lake County, Indiana, where the Amoco Whiting Refinery is located, as nonattainment for ozone and sulfur dioxide. This designation is codified at 40 C.F.R. § 81.315.

18. Prevention of Significant Deterioration/New Source Review:

Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492, sets forth requirements for the prevention of significant deterioration ("PSD") of air quality in those areas designated as attaining the NAAQS standards. These requirements are designed to protect public health and welfare, to assure that economic growth will occur in a manner consistent with the preservation of existing clean air resources and to assure that any decision to permit increased air pollution is made only after careful evaluation of all the consequences of such a decision and after public participation in the decision-making process. These provisions are referred to herein as the "PSD program."

19. Section 165(a) of the Act, 42 U.S.C. § 7475(a), prohibits the construction and subsequent operation of a major emitting facility in an area designated as attainment unless a PSD permit has been issued. Section 169(1) of the Act, 42 U.S.C. § 7479(1), defines "major emitting facility" as a source with the potential to emit 250 tons per year (tpy) or more of any air pollutant.

20. As set forth at 40 C.F.R. § 52.21(k), the PSD program generally requires a person who wishes to construct or modify a major emitting facility in an attainment area to demonstrate, before construction commences, that construction of the facility will not cause or contribute to air pollution in violation of any ambient air quality standard or any specified incremental amount.

21. As set forth at 40 C.F.R. § 52.21(i), any major emitting source in an attainment

area that intends to construct a major modification must first obtain a PSD permit. "Major modification" is defined at 40 C.F.R. § 52.21(b)(2)(i) as meaning any physical change in or change in the method of operation of a major stationary source that would result in a significant net emission increase of any criteria pollutant subject to regulation under the Act. "Significant" is defined at 40 C.F.R. § 52.21(b)(23)(i) in reference to a net emissions increase or the potential of a source to emit any of the following criteria pollutants, at a rate of emissions that would equal or exceed any of the following: for ozone, 40 tons per year of volatile organic compounds (VOCs); for carbon monoxide (CO), 100 tons per year; for nitrogen oxides (NOx), 40 tons per year; for sulfur dioxide (SO_2), 100 tons per year, (hereinafter "criteria pollutants").

22. As set forth at 40 C.F.R. § 52.21(j), a new major stationary source or a major modification in an attainment area shall install and operate best available control technology ("BACT") for each pollutant subject to regulation under the Act that it would have the potential to emit in significant quantities.

23. Section 161 of the Act, 42 U.S.C. § 7471, requires state implementation plans to contain emission limitations and such other measures as may be necessary, as determined under the regulations promulgated pursuant to these provisions, to prevent significant deterioration of air quality in attainment areas.

24. A state may comply with Section 161 of the Act, 42 U.S.C. § 7471, either by being delegated by EPA the authority to enforce the federal PSD regulations set forth at 40 C.F.R. § 52.21, or by having its own PSD regulations approved as part of its SIP by EPA, which must be at least as stringent as those set forth at 40 C.F.R. § 51.166.

25. Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515, sets forth provisions which direct States to include in their SIPs requirements to provide for reasonable progress towards attainment of the NAAQS in nonattainment areas. Section § 172(c)(5) of the Act, 42 U.S.C.

§ 7502(c)(5), provides that these SIPs shall require permits for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area, in accordance with Section 173 of the Act, 42 U.S.C. § 7503, in order to facilitate "reasonable further progress" towards attainment of the NAAQS.

26. Section 173 of Part D of the Act, 42 U.S.C. § 7503, requires that in order to obtain such a permit the source must, among other things: (a) obtain federally enforceable emission offsets at least as great as the new source's emissions; (b) comply with the lowest achievable emission rate as defined in Section 171(3) of the Act, 42 U.S.C. § 7501(3); and (c) analyze alternative sites, sizes, production processes, and environmental control techniques for the proposed source and demonstrate that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

27. As set forth in 40 C.F.R. § 52.24, no major stationary source shall be constructed or modified in any nonattainment area as designated in 40 C.F.R. Part 81, Subpart C ("nonattainment area") to which any SIP applies, if the emissions from such source will cause or contribute to concentrations of any pollutant for which a NAAQS is exceeded in such area, unless, as of the time of application for a permit for such construction, such plan meets the requirements of Part D, Title I, of the Act.

28. A state may comply with Sections 172 and 173 of the Act by having its own nonattainment new source review regulations approved as part of its SIP by EPA, which must be at least as stringent as those set forth at 40 C.F.R. § 51.165.

29. Flaring and New Source Performance Standards. – Section 111(b)(1)(A) of the CAA, 42 U.S.C. § 7411(b)(1)(A), requires the Administrator of U.S. EPA to publish a list of categories of stationary sources that emit or may emit any air pollutant. The list must include any

categories of sources which are determined to cause or significantly contribute to air pollution which may endanger public health or welfare.

30. Section 111(b)(1)(B) of the CAA, 42 U.S.C. § 7411(b)(1)(B), requires the Administrator of U.S. EPA to promulgate regulations establishing federal standards of performance for new sources of air pollutants within each of these categories. "New sources" are defined as stationary sources, the construction or modification of which is commenced after the publication of the regulations or proposed regulations prescribing a standard of performance applicable to such source. 42 U.S.C. § 7411(a)(2).

31. Pursuant to Section 111(b)(1)(A) of the CAA, 42 U.S.C. § 7411(b)(1)(A), U.S. EPA has identified petroleum refineries as one category of stationary sources that cause, or contribute significantly to, air pollution that may reasonably be anticipated to endanger public health or welfare.

32. Pursuant to Section 111(b)(1)(B) of the CAA, 42 U.S.C. § 7411(b)(1)(B), U.S. EPA promulgated Standards of Performance for New Stationary Sources (commonly referred to as "New Source Performance Standards" or "NSPS") for various industrial categories, including petroleum refineries. NSPS requirements for petroleum refineries are codified at 40 C.F.R. Part 60, Subpart J, §§ 60.100-60.109.

33. The provisions of 40 C.F.R. Part 60, Subpart J, apply to specified "affected facilities," including, inter alia, Claus sulfur recovery plants that have a capacity greater than 20 long tons per day and that commenced construction or modification after October 4, 1976, and all fluid catalytic cracking unit catalyst regenerators and fuel gas combustion devices that commenced construction or modification after June 11, 1973. 40 C.F.R. § 60.100(a),(b).

34. 40 C.F.R. § 60.102(a) prohibits the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator of (1) particulate matter in excess of 1.0 kg/1000 kg

(1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator, and (2) gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one hour period; except as provided for in 40 C.F.R. § 60.102(b).

35. 40 C.F.R. § 60.103(a) prohibits the discharge into the atmosphere from any catalytic cracking unit catalyst regenerator any gases that contain carbon monoxide ("CO") in excess of 500 ppm by volume (dry basis).

36. Pursuant to 40 C.F.R. § 60.104(b), the owner or operator of each affected fluid catalytic cracking unit catalyst regenerator shall comply with one of the following conditions set forth in 40 C.F.R. § 60.104(b)(1), (2), or (3).

37. 40 C.F.R. § 60.104(a)(2) prohibits sulfur recovery plants subject to 40 C.F.R. Part 60, Subpart J with reduction control systems followed by incineration from discharging in excess of 250 ppm by volume (dry basis) of SO_2 at zero percent excess air. 40 C.F.R. § 60.104(a)(2) prohibits sulfur recovery plants subject to 40 C.F.R. Part 60, Subpart J with reduction control systems not followed by incineration from discharging in excess of 300 ppm by volume of reduced sulfur compounds and in excess of 10 ppm by volume of hydrogen sulfide, each calculated as ppm SO_2 by volume (dry basis) at zero percent excess air.

38. 40 C.F.R. § 60.104(a)(1) prohibits the burning in any fuel gas combustion device any fuel gas that contains hydrogen sulfide in excess of 230 milligrams per dry standard cubic meter, or, stated in terms of grains per dry standard cubic foot, 0.10. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from the emission limit of 40 C.F.R. § 60.104(a)(1).

39. Pursuant to Section 111(b) of the CAA, 42 U.S.C. § 7411(b), U.S. EPA has promulgated general NSPS provisions, codified at 40 C.F.R. Part 60, Subpart A, §§ 60.1-60.19, that apply to owners or operators of any stationary source that contains an "affected facility"

subject to regulation under 40 C.F.R. Part 60.

40. 40 C.F.R. § 60.11(d) requires that at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

41. Section 111(e) of the CAA, 42 U.S.C. § 7411(e), prohibits the operation of any new source in violation of an NSPS applicable to such source. Thus, a violation of an NSPS is a violation of Section 111(e) of the CAA.

42. Whenever any person has violated, or is in violation of, any requirement or prohibition of any applicable New Source Performance Standard, Section 113(b) of the CAA, 42 U.S.C. § 7413(b), authorizes the United States to commence a civil action for a permanent or temporary injunction, and/or for a civil penalty of up to $25,000 per day for each such violation occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69369, up to $27,500 per day for violations occurring on or after January 31, 1997.

43. Leak Detection and Repair. - Section 112 of the CAA, 42 U.S.C. § 7412, requires EPA to promulgate emission standards for certain categories of sources of hazardous air pollutants ("National Emission Standards for Hazardous Air Pollutants" or "NESHAPs") Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA promulgated national emission standards for equipment leaks (fugitive emission sources). Those regulations are set forth at 40 C.F.R. Parts 61 Subpart J and V, and Part 63 Subparts F (National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry), H (NESHAP for Equipment Leaks) and CC (NESHAP for Petroleum Refineries). Pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, EPA promulgated

regulations set forth at 40 C.F.R Part 60 Subparts VV and GGG.

44. The focus of the LDAR program is the refinery-wide inventory of all possible leaking valves, the regular monitoring of those valves to identify leaks, and the repair of leaks as soon as they are identified.

45. Indiana SIP – Indiana Air Pollution Control Board Rule ("Indiana Rule") 326 IAC 8-4-8 sets forth standards which regulate volatile organic compound leaks ("fugitive emissions") from components within a petroleum refinery. This rule was approved as part of the Federally enforceable SIP for the State of Indiana on March 6, 1992, and became effective on April 6, 1992 (57 Fed. Reg. 8086 (1992)).

46. Benzene Waste NESHAP. - The CAA requires EPA to establish emission standards for each "hazardous air pollutant" ("HAP") in accordance with Section 112 of the CAA, 42 U.S.C. § 7412.

47. In March 1990, EPA promulgated national emission standards applicable to benzene-containing wastewaters. Benzene is a listed HAP and a known carcinogen. The benzene waste regulations are set forth at 40 C.F.R. Part 61, Subparts FF, (National Emission Standard for Benzene Waste Operations). Benzene is a naturally-occurring constituent of petroleum product and petroleum waste and is highly volatile. Benzene emissions can be detected anywhere in a refinery where the petroleum product or waste materials are exposed to the ambient air.

48. Pursuant to the benzene waste NESHAP, refineries are required to tabulate the total annual benzene ("TAB") content in their wastewater. If the TAB is over 10 megagrams, the refinery is required to elect a control option that will require the control of all waste streams, or control of certain select waste streams.

49. Pursuant to Section 113(b) of the CAA, 42 U.S.C. §7413(b), the United States

may commence a civil action for injunctive relief and civil penalties for violations of the Act, not to exceed $25,000 per day of violation for violations of the CAA. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69369, civil penalties of up to $27,500 per day per violation may be assessed for violations occurring on or after January 30, 1997.

CERCLA/EPCRA Requirements

50. Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), requires a person in charge of a facility to immediately notify the National Response Center of a release of a hazardous substance from such facility in an amount equal to or greater than the amount determined pursuant to Section 102 of CERCLA, 42 U.S.C. § 9602 (the "reportable quantity").

51. Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), provides that any person who violates the notice requirements of Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), shall be liable to the United States for civil penalties in an amount not to exceed $25,000 per day for each day the violation continues, and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69369, civil penalties of up to $27,500 per day for the first violation, and $82,500 per day for any second or subsequent violations, may be assessed for violations occurring on or after January 30, 1997.

52. Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), requires the owner and operator of a facility at which a hazardous chemical is produced, used, or stored, to immediately notify the State Emergency Response Commission ("SERC") and the Local Emergency Planning Committee ("LEPC") of certain specified releases of a hazardous or extremely hazardous substance.

53. Section 304(c) of EPCRA, 42 U.S.C. § 11004(c), requires that, as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C.

§ 11004(a), the owner or operator shall provide a written followup emergency notice providing certain specified additional information.

54. Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), provides that any person who violates any requirement of Section 304 of EPCRA, 42 U.S.C. § 11004, shall be liable to the United States for civil penalties in an amount not to exceed $25,000 per day for each day the violation continues, and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69369, civil penalties of up to $27,500 per day for the first violation, and $82,500 per day for any second or subsequent violations, may be assessed for violations occurring on or after January 30, 1997.

55. Section 313(a), (b), (c) and (f) of EPCRA, 42 U.S.C. § 11023(a), (b), (c) and (f) requires owners or operators of facilities with 10 or more full-time employees, and that are in Standard Industrial Classification Codes 20 through 39, to submit a toxic chemical release form for each toxic chemical (listed in the regulations at 40 C.F.R. § 372.65) that was manufactured, processed, in a quantity greater than 25,000 pounds during calendar years 1989 and after or otherwise used in a quantity greater than 10,000 pounds during any calendar year (40 C.F.R. 372.25(a) and (b). The toxic chemical release forms for the calendar year are due on or before July 1 of the following year.

56. Pursuant to Section 329(4) of EPCRA, 42 U.S.C. § 11049(4), and 40 C.F.R. § 372.3, a "facility" is "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by or under common control with, such person)."

57. Pursuant to Section 313 (b)(1)(C) of EPCRA, 42 U.S.C. § 11023(b)(1)(C), "manufacture" means "to produce, prepare, import, or compound a toxic chemical."

58. The regulation at 40 C.F.R. § 372.3 states that the term manufacture "also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use or disposal of another chemical or mixture of chemicals, including a toxic chemical that is separated from that other chemical or mixture of chemicals as a byproduct, and a toxic chemical that remains in that other chemical or mixture of chemicals as an impurity."

59. Section 325(c)(1) of EPCRA, 42 U.S.C. § 11045(c)(1), provides that any person who violates any requirement of Section 312 or 313 of EPCRA, 42 U.S.C. §§ 11022 and 11023, shall be liable to the United States for civil penalties in an amount not to exceed $25,000 for each such violation.

60. Section 325(c)(3) of EPCRA, 42 U.S.C. § 11045(c)(3), provides that each day a violation described in Paragraph (1) continues shall constitute a separate violation.

RCRA Requirements

61. RCRA establishes a comprehensive federal program for the regulation of the generation, storage, transportation, treatment, and disposal of hazardous wastes. Pursuant to its authority under RCRA, U.S. EPA has promulgated regulations at 40 C.F.R. Parts 260-272 which are applicable to facilities and persons that generate, store, treat, transport, and dispose of hazardous waste.

62. Pursuant to Sections 3001 through 3004 of RCRA, 42 U.S.C. §§ 6922-6924, the Administrator of U.S. EPA ("Administrator") promulgated regulations establishing substantive standards governing persons who generate (Section 3002), transport (Section 3003) and who treat, store or dispose of hazardous wastes (Section 3004). Standards for governing the generation, transportation, or hazardous waste treatment, storage or disposal ("TSD") became effective on November 19, 1980 and are found generally at 40 C.F.R. Parts 262-265.

63. Pursuant to Section 3001(a) and (b) of RCRA, 42 U.S.C. § 6921(a) and (b), the

Administrator identified and listed hazardous wastes. Pursuant to this authority, the Administrator has identified two categories of hazardous waste that are subject to regulation under RCRA: 1) wastes that are specifically "listed" as hazardous wastes in the regulations, 40 C.F.R. §§ 261.31-261.33; and 2) wastes that exhibit the characteristic of ignitability, corrosivity, reactivity or toxicity, as defined in 40 C.F.R. §§ 261.21-261.24.

64. Section 3005 of RCRA, 42 U.S.C. § 6925, generally prohibits the operation of any hazardous waste facility except in accordance with a permit. The Administrator has established regulations governing permits which are found at 40 C.F.R. Part 270.

65. The regulations governing the generation of hazardous wastes are found at 40 C.F.R. Part 262.

66. The regulations governing the treatment, storage or disposal ("TSD") of hazardous wastes are found at 40 C.F.R. Parts 264 and 265.

67. Pursuant to Section 3006 of RCRA, 42 U.S.C. § 6926, the Administrator may authorize a state to administer the RCRA hazardous waste management program in lieu of the federal program when he or she deems the state program to be substantially equivalent.

68. The Administrator authorized the State of Indiana to carry out a hazardous waste program in lieu of many, but not all, portions of the federal program on January 31, 1986 (51 Fed. Reg. 3953 (1986)).

69. Pursuant to Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2), the United States is authorized to enforce the regulations promulgated by an authorized state, including the State of Indiana.

70. RCRA Section 3008(a), 42 U.S.C. § 6928(a), provides that the Administrator may commence a civil action for injunctive relief whenever he or she determines that any person is in violation of any of RCRA's hazardous waste management requirements. RCRA Section 3008(g),

42 U.S.C. § 6928(g), provides for the assessment of civil penalties up to $25,000 per violation for each day of each violation.

FIRST CLAIM FOR RELIEF
(CAA PSD/NSR Violations at FCCUs)

71. Paragraphs 1 through 49 are realleged and incorporated by reference as if fully set forth herein.

72. EPA has conducted investigations of one or more of Defendants' petroleum refineries, which included site inspections, review of permitting history and emissions data, and analysis of other relevant information concerning Defendants' construction and operation of their respective facilities. Based on the results of EPA's investigation, information and belief, the United States alleges that Defendants have modified the FCCU's, SRPs, and heaters and boilers, at their respective refineries.

73. Upon information and belief, each modification was a "major modification" within the meaning of 40 C.F.R. § 52.21(b)(2) to Defendants' existing major stationary sources that have or would have resulted in a significant net emissions increase of NOx, SO_2, PM and CO.

74. Since their initial construction or major modification of the Defendants' facilities, Defendants have been in violation of Section 165(a) of the CAA, 42 U.S.C. § 7475(a), and 40 C.F.R. § 52.21, and the corresponding state implementation plans, by failing to undergo PSD/NSR review for their FCCUs, SRPs, and heaters and boilers, by failing to obtain permits, and failing to install the best available control technology for the control of NOx, SO_2, PM, and CO emissions.

75. Unless restrained by an Order of the Court, these violations of the CAA and the implementing regulations will continue.

76. As provided in 42 U.S.C. § 7413(b), Defendants' violations, as set forth above, subject it to injunctive relief and civil penalties of up to $25,000 per day for each violation of the Act prior to January 31, 1997, and pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69369, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 31, 1997.

SECOND CLAIM FOR RELIEF
(CAA/NSPS Violations at FCCUs)

77. Paragraphs 1 through 49 are realleged and incorporated by reference as if fully set forth herein.

78. EPA has conducted investigations of one or more of Defendants' petroleum refineries, which included site inspections, review of permitting history and emissions data, and analysis of other relevant information concerning Defendants' construction and operation of their respective facilities obtained from Defendants. The United States alleges the following based on the results of EPA's investigation, information and belief:

79. 40 C.F.R. § 60.102(a) prohibits the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator of (1) particulate matter in excess of 1.0 kg/1000 kg (1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator, and (2) gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one hour period; except as provided for in 40 C.F.R. § 60.102(b).

80. 40 C.F.R. § 60.103(a) prohibits the discharge into the atmosphere from any

catalytic cracking unit catalyst regenerator any gases that contain carbon monoxide ("CO") in excess of 500 ppm by volume (dry basis).

81. Pursuant to 40 C.F.R. § 60.104(b), the owner or operator of each affected fluid catalytic cracking unit catalyst regenerator shall comply with one of the standards for sulfur oxides set forth in 40 C.F.R. § 60.104(1), (2) or (3).

82. Based upon information and belief, Defendants have violated 40 C.F.R. §§ 60.102(a), 60.103(a) and/or 60.104(b), and thus Section 111 of the CAA, at one or more of their FCCU catalyst regenerators, by not complying with the emissions standards set forth in those sections.

83. Unless restrained by an order of the Court, these violations of the CAA and the implementing regulations will continue.

84. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation Defendants are subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

THIRD CLAIM FOR RELIEF - CAA
(Failure to Conduct Performance Evaluation of CEMS on Tail Gas Unit)
(Whiting facility)

85. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

86. The regulation at 40 C.F.R. § 60.13(c) requires that owners or operators of an

affected facility conduct a performance evaluation of continuous emission monitoring systems ("CEMS") during any performance test required under 40 C.F.R. § 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 C.F.R. Part 60.

87. On October 2, 1990, EPA promulgated a rule requiring Claus sulfur recovery plants in Petroleum Refineries subject to 40 C.F.R. Part 60 to install and operate CEMS. (55 Fed. Reg. 40171 (1990)). Sources affected by this rulemaking were given one year, or until October 2, 1991, to install and operate hydrogen sulfide CEMS and/or reduced sulfur CEMS.

88. On October 2, 1990, EPA promulgated 40 C.F.R. § 60.105(a)(6) requiring Claus sulfur recovery plants with reduction control systems not followed by incineration to conduct performance evaluations under § 60.13(c) by using Performance Specification 5 in addition to other methods.

89. Since 1981, Amoco had operated a reduced sulfur CEMS on the stack of the tail gas unit of the Claus sulfur recovery plant at the refinery which was not followed by incineration.

90. Amoco did not conduct the required performance evaluation on the reduced sulfur CEMS located on the tail gas unit by the effective date of the regulation codified at 40 C.F.R. § 60.105(a)(6).

91. Amoco failed to conduct a performance evaluation of the reduced sulfur CEMS located on the tail gas unit in violation of the regulations at 40 C.F.R. § 60.13(c) and 40 C.F.R. § 60.105(a)(6).

92. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to

a civil penalty of not more than $25,000 per day for each day that Amoco failed to conduct a performance evaluation of the reduced sulfur CEMS located on the tail gas unit as required by 40 C.F.R. § 60.13(c) and 40 C.F.R. § 60.105(a)(6), and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

FOURTH CLAIM FOR RELIEF - CAA
(Failure to Have A CEMS on Tail Gas Incinerator)
(Whiting facility)

93. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

94. 40 C.F.R. § 60.105(a)(5), requires that sulfur dioxide CEMS shall be installed, calibrated, maintained and operated by owners and operators of Claus sulfur recovery plants with oxidation control systems or reduction control systems followed by incineration.

95. The regulation at 40 C.F.R. § 60.13(g) requires that when the effluent from one affected facility is released to the atmosphere through more than one emission point, the owner or operator shall install an applicable CEMS on each separate effluent unless the installation of fewer systems is approved by the Administrator.

96. Amoco has a tail gas incinerator which has the capability to combust tail gases from the Claus sulfur recovery plant and which emits sulfur dioxide.

97. Amoco's tail gas incinerator does not have a sulfur dioxide CEMS.

98. Amoco has failed to monitor all emission points as required by the regulation at 40 C.F.R. § 60.13(g) by failing to install a sulfur dioxide CEMS on the tail gas incinerator in violation of the regulation at 40 C.F.R. § 60.13(b) and § 60.105(a)(5).

99. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco failed to comply with the CAA due to its failure to install a sulfur dioxide CEMS on the tail gas incinerator, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg.

69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

100. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. §§ 60.13(b) and (g) and § 60.105(a)(5) by failing to install a sulfur dioxide CEMS on the tail gas incinerator and failing to monitor the effluent emitted from the tail gas incinerator into the atmosphere.

FIFTH CLAIM FOR RELIEF - CAA
(Failure to Conduct Performance Evaluation of CEM Required to Be Installed on the Tail Gas Incinerator)
(Whiting facility)

101. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

102. The regulation at 40 C.F.R. § 60.13(c) requires that owners or operators of an affected facility conduct a performance evaluation of the CEMS during any performance test required under 40 C.F.R. § 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 C.F.R. Part 60.

103. The regulation at 40 C.F.R. § 60.13(b) requires that all CEMS shall be installed and operational prior to conducting a performance test on a subject source under 40 C.F.R. § 60.8.

104. Amoco did not conduct a performance evaluation on the sulfur dioxide CEMS that was required to be installed on the tail gas incinerator.

105. Amoco failed to conduct a performance evaluation of the sulfur dioxide CEMS required to be installed on the tail gas incinerator in violation of the regulation at 40 C.F.R.

§ 60.13(c).

106. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulations at 40 C.F.R. § 60.13(c), by failing to conduct a performance evaluation of the sulfur dioxide CEMS that was required to be installed on the tail gas incinerator and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134, and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

107. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. § 60.13(c) by failing to conduct a performance evaluation of the sulfur dioxide CEMS on the tail gas incinerator.

SIXTH CLAIM FOR RELIEF - CAA
(Failure to Submit Excess Emissions Reports For Emissions from Tail Gas Unit)
(Whiting facility)

108. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

109. The regulation at 40 C.F.R. § 60.7(c) requires that each owner or operator required to install a CEMS shall submit an excess emissions and monitoring systems performance report ("excess emission report") to the Administrator semiannually, except in certain situations outlined in 40 C.F.R. § 60.7(c), which would require more frequent reporting.

110. The regulation at 40 C.F.R. § 60.7(c)(4) requires that when no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or

adjusted, such information shall be stated in the report.

111. Pursuant to 40 C.F.R. § 60.7(c), Amoco was required to submit an excess emission report summarizing data from the reduced sulfur CEMS on the tail gas unit for the period ending December 31, 1991, by January 30, 1992. Amoco failed to submit such report until October 5, 1992.

112. Amoco's failure to submit an excess emission report summarizing data from the reduced sulfur CEMS on the tail gas unit until October 5, 1992 is a violation of the regulation at 40 C.F.R. § 60.7(c).

113. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulation at 40 C.F.R. § 60.7(c) for its delay in submitting an excess emission report for the reduced sulfur CEMS on the tail gas unit and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

SEVENTH CLAIM FOR RELIEF - CAA
(Failure to Submit Excess Emissions Reports for Emissions from Tail Gas Incinerator)
(Whiting facility)

114. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

115. Amoco has failed to submit any excess emission reports for the sulfur dioxide CEMS that was required to be installed on the tail gas incinerator.

116. Amoco's failure to submit any excess emission reports relating to a sulfur dioxide

CEMS that was required to be installed on the tail gas incinerator is a violation of 40 C.F.R. § 60.7(c).

117. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. § 60.7(c) by failing to submit excess emission reports for the sulfur dioxide CEMS required to be installed on the tail gas incinerator.

118. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulation at 40 C.F.R. § 60.7(c) by failing to submit excess emission reports for the sulfur dioxide CEMS required to be installed on the tail gas incinerator and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

EIGHTH CLAIM FOR RELIEF - CAA
(Failure to Continuously Monitor and Record Emissions from Fuel Gas Combustion Devices)
(Whiting facility)

119. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

120. The regulation at 40 C.F.R. § 60.105(a)(3) sets forth provisions which require the owner or operator of fuel gas combustion devices subject to 40 C.F.R. § 60.104(a)(1) to continuously monitor and record the concentration by volume of sulfur dioxide emissions into the atmosphere.

121. The regulation at 40 C.F.R. § 60.105(a)(4) provides that, in place of the sulfur

dioxide CEMS required by 40 C.F.R. § 60.105(a)(3), an owner or operator may install an instrument for continuously monitoring and recording the concentration of hydrogen sulfide ("H_2S") in fuel gases before being burned in any subject fuel gas combustion device.

122. Amoco has four hydrogen sulfide continuous monitors installed on the fuel lines that feed its NSPS subject fuel gas combustion devices at its facility.

123. Amoco failed to continuously monitor and record the concentration of H_2S released from its fuel gas combustion devices.

124. Amoco's failure to continuously monitor and record the concentration of hydrogen sulfide in fuel gases combusted in the fuel gas combustion devices is a violation of the regulation at 40 C.F.R. § 60.105(a).

125. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated the CAA and the regulation at 40 C.F.R. § 60.105(a) by failing to continuously monitor and record the concentration of hydrogen sulfide in fuel gases combusted in its fuel gas combustion devices and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

NINTH CLAIM FOR RELIEF - CAA
(CAA/NSPS: 40 C.F.R. § 60.104(a)(2))
(Discharging Gases from the SRP in violation of 40 C.F.R. § 60.104(a)(2))
(Whiting facility)

126. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

127. The regulation at 40 C.F.R. § 60.104(a)(2) prohibits the discharge of any gases into the atmosphere from any Claus sulfur recovery plant in excess of i) 250 ppm by volume of sulfur dioxide (on a dry basis at zero percent excess air) for Claus sulfur recovery plants with oxidation control systems or reduction control systems followed by incineration; or ii) 300 ppm by volume of reduced sulfur compounds and 10 ppm by volume of hydrogen sulfide (each calculated as ppm SO_2 by volume on a dry basis at zero percent excess air) for Claus sulfur recovery plants with reduction control systems not followed by incineration.

128. The regulation at 40 C.F.R. § 60.8(c) states in part that emissions in excess of the level of the applicable emission limit during periods of startup, shutdown and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

129. Since 1981 Amoco has operated a Claus sulfur recovery plant with two routes to the atmosphere for its emissions. One route treats emissions in a Stretford unit, which is a reduction control device not followed by incineration. Emissions through this route are in the form of reduced sulfur compounds, including hydrogen sulfide. The other route oxidizes emissions from the Claus sulfur recovery plant in an incinerator. Emissions from this route are in the form of sulfur dioxide.

130. Since at least 1993, Amoco has, on occasion, emitted gases from the Claus sulfur recovery plant during periods other than startups, shutdowns and malfunctions, that were in excess of the applicable emission limitation in 40 C.F.R. § 60.104(a)(2).

131. Amoco's emissions from the Claus sulfur recovery plant in excess of the

applicable emission limitation in 40 C.F.R. § 60.104(a)(2) during periods other than startup, shutdown and malfunction constitute a violation of 40 C.F.R. § 60.104(a)(2).

132. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

TENTH CLAIM FOR RELIEF - CAA
(Failure to Operate and Maintain Equipment In A Manner Consistent with Good Air Pollution Control Practice)
(Whiting facility)

133. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

134. The regulation at 40 C.F.R. § 60.11(d) requires at all times, including periods of startup, shutdown and malfunction, that owners and operators operate and maintain any affected facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

135. Amoco has failed to maintain its Claus sulfur recovery plant and its associated air pollution control equipment, in a manner consistent with good air pollution control practice by shutting down the tail gas unit while continuing to operate all or part of the Claus sulfur recovery plant, resulting in emissions that exceed the regulatory standard.

136. On numerous occasions since at least 1993, Amoco did not at all times, including

periods of startup, shutdown, and malfunction, maintain and operate, to the extent practicable, its Claus sulfur recovery plaint, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, as required by 40 C.F.R. § 60.11(d) and Section 111(e) of the CAA, 42 U.S.C. § 7411(e).

137. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

ELEVENTH CLAIM FOR RELIEF
(Incomplete Excess Emissions Reports (EERs)
(Whiting facility)

138. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

139. The regulation at 40 C.F.R. § 60.7(c) requires that each owner or operator required to install a CEMS to submit an excess emissions and monitoring systems performance report (excess emissions report) to the Administrator semiannually, except in certain situations outlined in 40 C.F.R. § 60.7(c), which would require more frequent reporting.

140. The regulations at 40 C.F.R. § 60.7(c)(1) and (2) require that the excess emissions reports include, among other things, the date and time of commencement and completion of each time period of excess emissions; the magnitude of excess emissions; specific identification of

each period of excess emissions that occurred during startups, shutdowns and malfunctions of the affected facility; the nature and cause of any malfunctions (if known); and the corrective action taken or preventative measures adopted.

141. Based on information provided by Amoco, there have been numerous incidents since at least 1993 that have resulted in emissions exceedances from the Claus sulfur recovery plant that have been omitted from its excess emissions reports.

142. Amoco's failure to include the information required by 40 C.F.R. § 60.7(c)(1) and (2) for all incidents resulting in excess emissions from the affected facility, i.e., the Claus sulfur recovery plant, is a violation of the regulations at 40 C.F.R. § 60.7(c)(1) and (2).

143. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

TWELFTH CLAIM FOR RELIEF - CAA
(Circumvention)
(Whiting facility)

144. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

145. The regulation at 40 C.F.R. § 60.12 prohibits any owner or operator subject to 40 C.F.R. Part 60 from building, erecting, installing or using any article, machine, equipment or

process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.

146. Amoco is the owner and operator of a Claus sulfur recovery plant located at its Whiting refinery which is subject to 40 C.F.R. Part 60, Subpart J.

147. Amoco's Claus sulfur recovery plant is equipped with two separate routes to the atmosphere for its emissions. One route emits offgases from the Claus sulfur recovery plant that are treated by a Stretford unit and released through a stack equipped with a continuous emission monitoring system. The other route emits offgases from the Claus sulfur recovery plant through a tail gas incinerator that is not equipped with a continuous emission monitoring system on its stack.

148. Since at least 1993, Amoco has, on occasion, emitted gases from the Claus sulfur recovery plant through the tail gas incinerator that are in violation of the applicable emission standard found in 40 C.F.R. Part 60, Subpart J.

149. Amoco has failed to report these excess emissions to U.S. EPA and has frequently stated in its excess emission reports during the time periods of these releases that there are "no excursions".

150. By utilizing the unmonitored tail gas incinerator as an emission point for the Claus sulfur recovery plant, Amoco has concealed emissions from the U.S. EPA that constitute violations of the applicable emission standard. This is a violation of 40 C.F.R. § 60.12.

151. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Amoco is subject to injunctive relief and civil penalties of

up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

152. Unless enjoined, Amoco will continue to violate the CAA and the provisions of 40 C.F.R. § 60.12.

THIRTEENTH CLAIM FOR RELIEF
(CAA/NSPS: 40 C.F.R. § 60.104(a)(2))
Discharging Gases from the SRP in violation of 40 C.F.R. § 60.104(a)(2)

153. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

154. Each Defendant is the "owner or operator," within the meaning of Section 111(a)(5) of the CAA, 42 U.S.C. § 7411(a)(5), and 40 C.F.R. § 60.2, of one or more facilities referred to as a sulfur recovery plant ("SRP"), located at each of their refineries.

155. The SRP is a "Claus sulfur recovery plant" as defined in 40 C.F.R. § 60.101(i). The SRP is also a "stationary source" within the meaning of Sections 111(a)(3) and 302(z) of the CAA, 42 U.S.C. §§ 7411(a)(3) and 7602(z).

156. Each SRP at the following refineries has a capacity of more than 20 long tons of sulfur per day: Cherry Point, Carson, Texas City, Toledo, Whiting, and Yorktown

157. Each SRP referred to in Paragraph 156 is an "affected facility" within the meaning of 40 C.F.R. §§ 60.2 and 60.100(a), and a "new source" within the meaning of Section 111(a)(2) of the CAA, 42 U.S.C. § 7411(a)(2).

158. Each SRP referred to in Paragraph 156 is subject to the General Provisions of the NSPS, 40 C.F.R. Part 60, Subpart A, and to the Standards of Performance for Petroleum Refineries, 40 C.F.R. Part 60, Subpart J.

159. Each SRP referred to in Paragraph 156 is subject to the emission limitation set forth in 40 C.F.R. § 60.104(a)(2)(i).

160. On numerous occasions since at least 1995, Defendants have discharged into the atmosphere gases containing in excess of (1) 250 ppm by volume (dry basis) of sulfur dioxide at zero percent excess air, or (2) 300 ppm by volume of reduced sulfur compounds, in violation of 40 C.F.R. § 60.104(a)(2) and Section 111(e) of the CAA, 42 U.S.C. § 7411(e).

161. Unless restrained by an order of the Court, these violations of the CAA and the implementing regulations will continue.

162. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Defendants are subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Defendants are liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

FOURTEENTH CLAIM FOR RELIEF
(CAA/NSPS: 40 C.F.R. § 60.11(d))
Failing to Operate and Maintain the SRP
in a Manner Consistent with Good Air Pollution Control Practice

163. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

164. On numerous occasions since 1995, Defendants' refinery flares at their respective refineries have emitted unpermitted quantities of SO_2, a criteria pollutant, under circumstances that did not represent good air pollution control practices, in violation of 40 C.F.R. § 60.11(d) and for combustion of refinery fuel gas in violation of Subpart J, 40 C.F.R. §§ 60.104, et. seq.

165. Unless restrained by an order of the Court, these violations of the Act and the implementing regulations will continue.

166. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for each violation referred to in the preceding Paragraph, Defendants are subject to injunctive relief and civil penalties of up to $25,000 per day for violations occurring prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Defendants are liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

FIFTEENTH CLAIM FOR RELIEF - CAA
(Indiana SIP – Leak Detection and Repair)
(Whiting facility)

167. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

168. Indiana Rule 326 IAC 8-4-8(q)(2), as approved by U.S. EPA, requires that no owner or operator of a petroleum refinery shall install or operate a valve at the end of a pipe or line containing volatile organic compounds ("VOCs") unless the pipe or line is sealed with a second valve, blind flange, plug or cap.

169. For a period of time until at least November 16, 1992, Amoco had numerous open-ended pipes or lines in VOC service which did not have a second valve, blind flange, plug

or cap, as required by Indiana Rule 326 IAC 8-4-8(q)(2).

170. Amoco's failure to seal pipes or lines in VOC service with a second valve, blind flange, plug or cap, is a violation of Indiana Rule 326 IAC 8-4-8(q)(2) and Section 110(a) of the CAA, 42 U.S.C. § 7410(a).

171. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to a civil penalty of not more than $25,000 per day for each day that Amoco violated Section 110(a) of the CAA, 42 U.S.C. § 7410(a) and 326 IAC 8-4-8(q)(2) by failing to properly seal pipes or lines in VOC service, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

SIXTEENTH CLAIM FOR RELIEF - CAA
(Indiana SIP – Leak Detection and Repair)
(Whiting Facility)

172. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

173. The provisions of Indiana Rule 326 IAC 8-4-8(q)(3), as approved by U.S. EPA, require that pipeline valves and pressure relief valves in gaseous VOC service be marked in some manner that will be readily obvious to both refinery personnel and staff.

174. For a period of time, beginning from at least November 16, 1992, Amoco had numerous valves in VOC service which were not adequately marked in a readily obvious manner in violation of the requirements of Indiana Rule 326 IAC 8-4-8(q)(3).

175. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Amoco is subject to

a civil penalty of not more than $25,000 per day for each day that Amoco violated Section 110(a) of the CAA, 42 U.S.C. § 7410(a) and 326 IAC 8-4-8(q)(3) by failing to properly mark numerous valves in VOC service, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, Amoco is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

SEVENTEENTH CLAIM FOR RELIEF
(Leak Detection and Repair Requirements)

176. The allegations in Paragraphs 1 through 49 are realleged and incorporated by reference as if fully set forth herein.

177. Defendants are required under 40 C.F.R. Part 60 Subpart GGG, to comply with standards set forth at 40 C.F.R. § 60.592, which in turn references standards set forth at 40 C.F.R. §§ 60.482-1 to 60.482-10, and alternative standards set forth at 40 C.F.R. §§ 60.483-1 to 60.483-2, for certain of its refinery equipment in VOC service, constructed or modified after January 4, 1983,

178. Pursuant to 40 C.F.R. § 60.483-2(b)(1), an owner or operator of subject VOC valves must initially comply with the leak detection monitoring and repair requirements set forth in 40 C.F.R. § 60.482-7, including the use of Standard Method 21 to monitor for such leaks.

179. Pursuant to 40 C.F.R. Part 61 Subpart J, Defendants are required to comply with the requirements set forth in 40 C.F.R. Part 61, Subpart V, for certain specified equipment in benzene service.

180. On numerous occasions since 1995, Defendants failed to accurately monitor the subject VOC valves and other components at their nine respective refineries as required by Standard Method 21, to report the VOC valves and other components that were leaking, and to repair all leaking VOC valves and other components in a timely manner.

181. Defendants' acts or omissions referred to in the preceding Paragraphs constitute violations of the NSPS and Benzene Waste NESHAP.

182. Unless restrained by an order of the Court, these violations of the Act and the implementing regulations will continue.

183. As provided in 42 U.S.C. § 7413(b), Defendants' violations, as set forth above, subject it to injunctive relief and civil penalties of up to $25,000 per day for each violation of the Act prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

EIGHTEENTH CLAIM FOR RELIEF
(Benzene Waste NESHAP)

184. The allegations in Paragraphs 1 through 49 are hereby realleged and incorporated by reference as if fully set forth herein.

185. At all times relevant to this Complaint, Defendants have elected to comply with identified benzene waste management and treatment options set forth in 40 C.F.R. § 61.342 for its benzene waste streams at each of its refineries.

186. Pursuant to 40 C.F.R. § 61.342, the benzene quantity for wastes must be equal to or less than 2.0 megagrams or 6.0 megagrams per year as defined for the applicable option identified, as selected by the refinery.

187. Based on information and belief, the benzene quantity for Defendants' described and defined wastes exceeded one or more of the compliance options set forth in 40 C.F.R. § 61.342, in violation of the benzene waste regulations and the Act.

188. Unless restrained by an order of the Court, these violations of the Act and the

implementing regulations will continue.

189. As provided in 42 U.S.C. § 7413(b), Defendants' violations, as set forth above, subject it to injunctive relief and civil penalties of up to $25,000 per day for each violation of the Act prior to January 30, 1997, and, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), Pub. L. 104-134 and 61 Fed. Reg. 69360, BP is liable for a civil penalty of up to $27,500 per day per violation for violations occurring on or after January 30, 1997.

NINETEENTH CLAIM FOR RELIEF
(CERCLA)

190. The allegations in Paragraphs 1 through 11 and 50 through 60 are hereby realleged and incorporated by reference as if fully set forth herein.

191. Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), requires a person in charge of a facility to immediately notify the National Response Center of a release of a hazardous substance from such facility in an amount equal to or greater than the amount determined pursuant to Section 102 of CERCLA, 42 U.S.C. § 9602 (the "reportable quantity").

192. Upon information and belief, on one or more occasions, Defendants failed to immediately notify the National Response Center of releases from their respective refineries of hazardous substances in an amount equal to or greater than the reportable quantity for those substances.

193. Upon information and belief, the acts or omissions referred to in the preceding Paragraph constitute violations of Section 103(a) of CERCLA, 42 U.S.C. § 9603.

194. Pursuant to Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), Defendants are liable for civil penalties in an amount not to exceed $25,000 per day for each day the

violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), Pub.L. 104-134 and 61 Fed. Reg. 69360, civil penalties of up to $27,500 per day for each such violation occurring on or after January 30, 1997; and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 109(c)(1) of CERCLA, 42 U.S.C. § 9609(c)(1), Pub.L. 104-134 and 61 Fed. Reg. 69360, civil penalties of up to $82,500 per day for each such violation occurring on or after January 30, 1997.

TWENTIETH CLAIM FOR RELIEF
(EPCRA)

194. The allegations in Paragraphs 1 through 11 and 50 through 60 are hereby realleged and incorporated by reference as if fully set forth herein.

195. Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), requires the owner and operator of a facility at which a hazardous chemical is produced, used, or stored, to immediately notify the State Emergency Response Commission ("SERC" - State Authority) and the Local Emergency Planning Committee ("LEPC" - Local Authority) of certain specified releases of a hazardous or extremely hazardous substance.

196. Section 304(c) of EPCRA, 42 U.S.C. § 11004(c), requires that, as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), the owner or operator shall provide a written followup emergency notice providing certain specified additional information.

197. Upon information and belief, on one or more occasions, Defendants failed to

immediately notify the SERC (State Authority) of a release of a hazardous or extremely hazardous substance as required by Section 304(a) of EPCRA, 42 U.S.C. § 11004(a).

198. Upon information and belief, on one or more occasions, Defendants failed to immediately notify the LEPC (Local Authority) of a release of a hazardous or extremely hazardous substance as required by Section 304(a) of EPCRA, 42 U.S.C. § 11004(a).

199. Upon information and belief, on one or more occasions, Defendants failed to provide a written follow-up emergency notice to the SERC (State Authority) as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), in accordance with the requirements of Section 304(c) of EPCRA, 42 U.S.C. § 11004(c).

200. Upon information and belief, on one or more occasions, Defendants failed to provide a written follow-up emergency notice to the LEPC (Local Authority) as soon as practicable after a release which requires notice under Section 304(a) of EPCRA, 42 U.S.C. § 11004(a), in accordance with the requirements of Section 304(c) of EPCRA, 42 U.S.C. § 11004(c).

201. Upon information and belief, the acts or omissions referred to in the preceding Paragraphs constitute violations of Section 304 of EPCRA, 42 U.S.C. § 11004.

202. Pursuant to Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Defendants are liable for civil penalties in an amount not to exceed $25,000 per day for each day the violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Pub.L. 104-134 and 61 Fed. Reg. 69360,

civil penalties of up to $27,500 per day for each such violation occurring on or after January 30, 1997; and in an amount not to exceed $75,000 per day for each day that any second or subsequent violation continues for each such violation occurring prior to January 30, 1997, and pursuant to Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3), Pub.L. 104-134 and 61 Fed. Reg. 69360, civil penalties of up to $82,500 per day for each such violation occurring on or after January 30, 1997.

TWENTY-FIRST CLAIM FOR RELIEF (EPCRA)
(Whiting facility)

203. The allegations in Paragraphs 1 through 11 and 52 through 60 are hereby realleged and incorporated by reference as if fully set forth herein.

204. Amoco's facility has "10 or more" "full-time employees" as defined by 40 C.F.R. § 372.3.

205. Amoco's facility is covered by Standard Industrial Classification Code 2911, which falls within Standard Industrial Classification Codes 20 through 39.

206. Pursuant to 40 C.F.R. § 372.25, the established reporting threshold for a toxic chemical, identified and listed under 40 C.F.R. § 372.65, which is manufactured was 25,000 pounds for the 1991 calendar year.

207. During the calendar year 1991, Amoco processed Ammonia, a chemical identified in EPCRA and listed at 40 C.F.R. § 372.65 with "CAS No. 7664-41-7", in a quantity of 570,000 pounds.

208. Amoco was required to submit to the Administrator of the U.S. EPA and the State of Indiana a toxic chemical release form ("Form R") for Ammonia on or before July 1, 1992.

209. Amoco failed to submit a Form R for Ammonia to the Administrator of U.S. EPA and the State of Indiana until December 3, 1992.

210. Amoco's failure to timely submit a Form R for Ammonia is a violation of Section 313 of EPCRA, 42 U.S.C. § 11023.

211. Pursuant to Section 325(c)(1) of EPCRA, 42 U.S.C. § 11045, Amoco is subject to a civil penalty in an amount not to exceed $25,000 for violating Section 11023 of EPCRA.

212. Pursuant to Section 325(c)(3) of EPCRA, 42 U.S.C. § 11045, each day that Amoco failed to timely submit a Form R constitutes a separate violation.

TWENTY-SECOND CLAIM FOR RELIEF --RCRA
(Waste Pile)
(Whiting facility)

213. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby realleged and incorporated by reference as if fully set forth herein.

214. Amoco generates spent lead oxide catalyst known as "spent Bender catalyst", which is a hazardous waste, as that term is defined at 40 C.F.R. § 261.3. The spent Bender catalyst exhibits the characteristic of toxicity for lead and is a hazardous waste pursuant to 40 C.F.R. §§ 261.3 and 261.24 which bears the U.S. EPA waste code designation D008.

215. From some unknown time after November 19, 1980 until at least July, 1989, Amoco placed the spent Bender catalyst on the ground in a waste pile at the Amoco facility.

216. The regulations at 40 C.F.R. Part 270 and 329 IAC Article 3.1 set out the requirements for the hazardous waste permit program within the State of Indiana.

217. Pursuant to 40 C.F.R. § 270.1 and 329 IAC 3.1-13-1 the treatment, storage or

disposal of any hazardous waste without a permit is prohibited.

218. Pursuant to 329 IAC 3.1-13-1 the State of Indiana has incorporated by reference, unless otherwise noted, the provisions of 40 C.F.R. Part 270.

219. Pursuant to 40 C.F.R. § 270.1, Amoco submitted to U.S. EPA Part A of its permit application to treat store or dispose of hazardous wastes at the refinery on November 18, 1980 and subsequently amended Part A of the application on March 17, 1982.

220. 40 C.F.R. § 270.13(h) requires the owner or operator of a hazardous waste facility to identify the location of all past, present or intended treatment, storage or disposal areas at the facility.

221. Amoco did not identify the past, present or intended treatment, storage or disposal of spent Bender catalyst in the waste pile as required pursuant to 40 C.F.R. § 270.13(h).

222. In response to an information request issued by U. S. EPA pursuant to Section 3007 of RCRA, 42 U.S.C. § 6927, Amoco identified, on July 28, 1994, the existence of the waste pile at which it had treated, stored or disposed of the spent Bender catalyst.

223. Pursuant to 329 IAC 3.1-9-1, the State of Indiana has incorporated by reference, unless otherwise noted, the provisions of 40 C.F.R. Part 264.

224. The regulations at 40 C.F.R. Part 264, Subpart L, set out the requirements for the operation of waste piles as hazardous waste management units within the State of Indiana.

225. The waste pile containing the spent Bender catalyst did not comply with any of the regulatory or technical requirements for hazardous waste piles required by 40 C.F.R. Part 264, Subpart L.

226. The regulations as 40 C.F.R. Part 264, Subpart G, as adopted at 329 IAC 3.1-9-1, set forth the requirements for closure of hazardous waste management facilities, such as waste piles, within the State of Indiana.

227. Amoco has violated and continues to violate the requirements of 40 C.F.R. Part 264, Subpart G, by its failure to properly close the waste pile in which it had treated, stored or disposed of spent Bender catalyst, a hazardous waste pursuant to 40 C.F.R. §§ 261.3 and 261.24. Specifically, Amoco has violated and continues to violate 40 C.F.R. Subpart G, without limitation, by failing to:

a. submit a closure plan as required by 40 C.F.R. § 264.112;

b. implement closure as required by 40 C.F.R. § 264.113;

c. certify the completion of closure as required by 40 C.F.R. § 264.115; and

d. establish a post-closure plan as required by 40 C.F.R. § 264.118.

228. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco failed to comply with RCRA due to its failure to properly close the waste pile and for violating the requirements of 40 C.F.R. Part 264, Subpart G. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

TWENTY-THIRD CLAIM FOR RELIEF - RCRA
(Waste Pile)
(Whiting facility)

229. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby

realleged and incorporated by reference as if fully set forth herein.

230. Pursuant to the 40 C.F.R. § 270.1(c) owners and operators of hazardous waste management units are required to have a permit during the active life (including the closure period) of the unit, and, for waste pile units that received waste after July 26, 1982, a post-closure permit unless they can demonstrate closure by removal as provided under Section 270.1(d)(5) and (6).

231. Amoco has not obtained a post-closure care permit for the waste pile or demonstrated closure by removal as required under Section 270.1(d)(5) and (6) in violation of 40 C.F.R. § 270.1(c).

232. Amoco has violated, and continues to violate RCRA and the implementing regulations each day that it fails to obtain a post-closure care permit for the waste pile or demonstrate closure by removal as required under Section 270.1(d)(5) and (6).

233. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco violated RCRA by failing to obtain a post closure permit or demonstrate closure by removal for the waste pile. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

TWENTY-FOURTH CLAIM FOR RELIEF - RCRA
(Waste Pile)
(Whiting facility)

234. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby realleged and incorporated by reference as if fully set forth herein.

235. The regulations at 40 C.F.R. Part 264, Subpart H, set forth the financial responsibility requirements for owners and operators of hazardous waste management facilities, such as waste piles.

236. Amoco violated the requirements of 40 C.F.R. Part 264, Subpart H, by failing to establish financial responsibility for the spent Bender catalyst waste pile. Specifically, Amoco violated 40 C.F.R. Subpart H by, without limitation, failing to:

a. develop cost estimates for closure of the waste pile as required by 40 C.F.R. § 264.142;

b. establish financial assurances for closure of the waste pile as required by 40 C.F.R. § 264.143;

c. develop cost estimates for post-closure care of the waste pile as required by 40 C.F.R. § 264.144;

d. establish financial assurances for post-closure care of the waste pile as required by 40 C.F.R. § 264.145; and

e. establish liability coverage for sudden and non-sudden accidental occurrences arising from operation of the waste pile as required by 40 C.F.R. § 264.147.

237. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco failed to comply with RCRA due to its failure to establish financial responsibility for the waste pile and for violating the requirements of 40 C.F.R. Part 264, Subpart H. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

TWENTY-FIFTH CLAIM FOR RELIEF - RCRA
(Spent Treating Clay)
(Whiting facility)

238. The allegations in Paragraphs 1 through 11 and 61 through 70 are hereby realleged and incorporated by reference as if fully set forth herein.

239. Pursuant to 329 IAC 3.1-7-1, the State of Indiana has incorporated by reference, unless otherwise noted, the provisions of 40 C.F.R. Part 262.

240. The regulations at 40 C.F.R. § 262.11 require a person who generates solid waste, as that term is defined at 40 C.F.R. § 261.2, to make a determination if the waste is hazardous.

241. In order to properly determine if a solid waste is a characteristic hazardous waste the generator must take a representative sample of the waste, as that term is defined at 40 C.F.R. § 260.10, to determine if the waste exhibits one or more of the characteristics set out at 40 C.F.R. Part 261, Subpart C.

242. Amoco generates a spent treating clay waste from its Number 4C Treating Plant which is a solid waste as that term is defined at 40 C.F.R. § 261.2.

243. The spent treating clay is generated in "drums" and is then transferred to "roll-off"

boxes for transport to an off-site disposal facility.

244. Amoco has treated the spent treating clay taken from a "drums" as both hazardous waste and non-hazardous waste.

245. Amoco has failed to make an adequate hazardous waste determination for the spent treating clay waste in violation of 40 C.F.R. § 262.11, due to the fact that it has failed to take a representative sample, as that term is defined at 40 C.F.R. § 260.10, of the spent treating clay waste.

246. From at least March 27, 1990 until present, Amoco has failed to make an adequate waste determination of the spent treating clay waste in violation of 40 C.F.R. § 262.11. Therefore, Amoco had violated 40 C.F.R. § 262.11 and 329 IAC 3.1-7-2-1.

247. Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), Amoco is subject to a civil penalty of not more than $25,000 per day for each day prior to January 30, 1997 that Amoco failed to comply with RCRA due to its failure to comply with the provisions of 40 C.F.R. § 262.11 and 329 IAC 3.1-7-1, with regard to the spent treating clay waste. Pursuant to Pub. L. 104-134 and 61 Fed. Reg. 69,360, civil penalties of up to $27,500 per day for each violation may be assessed for violations occurring on or after January 30, 1997.

248. Unless enjoined, Amoco will continue to violate RCRA and the provisions of 40 C.F.R. § 262.11 and 329 IAC 3.1-7-1, by failing to make an adequate waste determination with regard to the spent treating clay waste.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, the United States, respectfully requests that this Court:

1. Order Defendants to immediately comply with the statutory and regulatory requirements cited in this Complaint, under the Clean Air Act, CERCLA, EPCRA and RCRA;

2. Order Defendants to take appropriate measures to mitigate the effects of its violations;

3. Assess civil penalties against Defendants for up to the amounts provided in the applicable statutes; and

4. Grant the United States such other relief as this Court deems just and proper.

Respectfully submitted,

1/12/01

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1/17/01

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, and THE STATE OF INDIANA, STATE OF OHIO, and THE NORTHWEST AIR POLLUTION AUTHORITY, WASHINGTON, Plaintiff-Intervenors, v. BP EXPLORATION & OIL CO., et al., Defendants.	)	Civil No. 2:96 CV 095 RL Judge Rudy Lozano Magistrate Judge Rodovich

SIXTH AMENDMENT TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"); the State of Indiana, the State of Ohio, and the Northwest Pollution Control Authority of the State of Washington (hereinafter "Plaintiff-Intervenors"); and BP Products North America Inc. (successor in interest to BP Exploration and Oil, Co. and formerly known as Amoco Oil Company, and hereinafter referred to as "BP Products"), and BP West Coast Products LLC (the owner of refining assets previously owned by Atlantic Richfield Company) (hereinafter collectively referred to as "BP") are parties to a Consent Decree entered by this Court on August 29, 2001 (hereinafter the "Consent Decree");

WHEREAS BP sold its Mandan and Salt Lake City Refineries to Tesoro Petroleum Corporation (now known as Tesoro Corporation) ("Tesoro") on September 6, 2001, and Tesoro

assumed the obligations of the Consent Decree as they relate to the Mandan and Salt Lake City Refineries pursuant to the First Amendment To Consent Decree, which was approved and entered as a final order of the Court on October 2, 2001;

WHEREAS, BP sold its Yorktown Refinery to Giant Yorktown, Inc. ("Giant") on May 14, 2002, and Giant assumed the obligations of the Consent Decree as they relate to the Yorktown Refinery pursuant to the Second Amendment of the Consent Decree, which was approved and entered as a final order of the Court on June 7, 2002;

WHEREAS, BP sold a hydrogen plant located at its Texas City Refinery to Praxair on August 6, 2004 and Praxair assumed the obligations of the Consent Decree as they relate to that hydrogen plant pursuant to the Third Amendment of the Consent Decree, which was approved and entered as a final order of the Court on October 25, 2004;

WHEREAS a Fourth Amendment to the Consent Decree was entered by the Court on June 20, 2005, establishing, *inter alia*, final SO_2 and NOx emission limits for a number of FCCUs owned and operated by BP;

WHEREAS, a Fifth Amendment to the Consent Decree was entered by the Court on February 22, 2007, requiring, *inter alia*, Tesoro to install certain NOx controls on the Mandan FCCU/CO Furnace;

WHEREAS, the United States Environmental Protection Agency ("EPA") conducted an inspection of BP Products' Texas City Facility in May and August of 2005. This inspection identified, *inter alia*, numerous violations of the requirements of:

1. Paragraph 19.A.i. (Facility Current Compliance Status) of the Consent Decree regarding the "Benzene Waste Operations NESHAP";

2. The National Emission Standard for Hazardous Air Pollutants for Benzene Waste Operations promulgated at 40 C.F.R. Part 61, subpart FF, pursuant to Section 112 of the Clean Air Act, 42 U.S.C. § 7412 (the "Benzene Waste Operations NESHAP");

3. The Recycling and Emissions Reduction Regulations for Refrigerants promulgated at 40 C.F.R. Part 82, subpart F, pursuant to Subchapter VI of the Clean Air Act ("Stratospheric Ozone Protection"), 42 U.S.C. §§ 7671 – 7671q; and

4. The National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated at 40 C.F.R. Part 61, subpart M, pursuant to Section 112 of the Clean Air Act, 42 U.S.C. § 7412 (the "Asbestos NESHAP");

WHEREAS, a supplemental complaint has been filed concurrently with the lodging of the Sixth Amendment to the Consent Decree regarding the Benzene Waste Operations NESHAP, Stratospheric Ozone Protection, and Asbestos NESHAP claims described above;

WHEREAS, a comprehensive program of injunctive relief is necessary to manage and control benzene wastes, ozone depleting substances, and asbestos-containing materials at the Texas City Facility in order to protect public health, welfare, and the environment;

WHEREAS, BP Products has agreed to pay a civil penalty to resolve the violations described above;

WHEREAS, BP Products has commenced implementation of corrective measures at its Texas City Facility to resolve the violations described above, and shall continue these actions;

WHEREAS, Paragraphs 53 and 74 of the Consent Decree preserve the United States'

right to pursue remedies, including additional injunctive relief, to resolve BP Products' violations of the Consent Decree;

WHEREAS, pursuant to Paragraph 64 of the Consent Decree, this Court has retained jurisdiction of this matter for the purposes of implementing and enforcing the terms and conditions of the Consent Decree;

WHEREAS, BP Products does not contest this Court's jurisdiction to enforce the terms and conditions of the Consent Decree, and to enter and enforce this Sixth Amendment;

WHEREAS, Paragraph 85 of the Consent Decree requires that this Sixth Amendment be approved by the Court before it is effective;

WHEREAS, the Sixth Amendment to the Consent Decree only applies to and affects requirements of the Consent Decree that pertain to the Texas City Facility;

WHEREAS, the Sixth Amendment to the Consent Decree does not affect the interest of any of the parties to the Consent Decree other than the United States and BP Products; and

WHEREAS, the United States and BP Products recognize, and the Court by entering this Sixth Amendment to the Consent Decree finds, that this Sixth Amendment to the Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties, and that this Sixth Amendment to the Consent Decree is fair, reasonable, and in the public interest;

NOW THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law, except as provided in Section I of the Consent Decree ("Jurisdiction and Venue"), and with the consent of the United States and BP Products,

IT IS HEREBY ADJUDGED, ORDERED, AND DECREED that the Consent Decree shall be amended in accordance with this Sixth Amendment as follows:

I. APPLICABILITY

1. The provisions of this Sixth Amendment shall apply to, and be binding upon BP Products with respect to its Texas City Facility in accordance with the requirements of Section II, Paragraphs 6-10 of the Consent Decree.

II. OBJECTIVES

2. In addition to furthering the objectives of the Clean Air Act as set forth in Section III, Paragraph 11 of the Consent Decree, the Parties enter into this Sixth Amendment with the further objective to perform the actions described below and all other necessary steps to: a) achieve, maintain, and ensure the Texas City Facility's compliance with all requirements of the Consent Decree and its subsequent amendments regarding the Benzene Waste Operations NESHAP; b) eliminate or minimize future and mitigate past emissions of benzene from the Texas City Facility; c) eliminate or minimize the emission of Ozone Depleting Substances (referred to as "ODS" and defined in Paragraph 13 of this Sixth Amendment) from the Texas City Facility's industrial and comfort cooling appliances; and d) ensure that Asbestos-Containing Materials (referred to as "ACM" and defined in Paragraph 14 of this Sixth Amendment) at the Texas City Facility are identified, managed, handled, and disposed of properly so as to minimize the emission of asbestos into the ambient air.

III. DEFINITIONS

3. In addition to the provisions of and definitions contained in Section IV of the Consent Decree, the following definitions shall apply to this Sixth Amendment to the Consent Decree:

a. "Aqueous Benzene Wastes" shall mean facility wastes (including remediation and process turnaround waste) with a flow-weighted annual average water content of 10% or greater, on a volume basis as total water, or any waste stream that is

mixed with water or wastes at any time such that the resulting mixture has an annual water content of 10% or greater;

b. "Benzene Waste Operations NESHAP" shall mean the regulatory requirements of the National Emission Standard for Hazardous Air Pollutants for Benzene Waste Operations promulgated at 40 C.F.R. Part 61, subpart FF, pursuant to Section 112 of the Clean Air Act, 42 U.S.C. § 7412;

c. "BP Products" shall mean the Defendant, BP Products North America Inc., successor in interest to BP Exploration and Oil, Co. and f/k/a Amoco Oil Company;

d. "Cooling Tower System" shall mean closed loop recirculation systems, "once-through" systems, or any other cooling tower system that receives non-contact process water from a heat exchanger for the purposes of cooling the process water prior to returning the water to the heat exchanger or discharging the water to another process unit, waste management unit, or to a receiving waterbody;

e. "Cooling Tower System Return Line(s)" shall mean the main water trunk lines at the inlet to the cooling tower;

f. "Date of Lodging of the Sixth Amendment" shall mean the date this Sixth Amendment to the Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Northern District of Indiana;

g. "Date of Entry of the Sixth Amendment" shall mean the date this Sixth Amendment to the Consent Decree is approved and/or signed by the United States District Court Judge;

h. “Day” shall mean a calendar day starting at 12 a.m. and ending twenty-four (24) hours later at 12 a.m. (*i.e.*, midnight);

i. “Defendant” shall mean BP Products;

j. “Effective Date of the Sixth Amendment” shall have the definition provided in Section XVIII of the Sixth Amendment;

k. “EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies;

l. “Highly Reactive Volatile Organic Compound(s)” or “HRVOC(s)” shall mean the following compounds: Ethylene; Propylene; 1,3-Butadiene; 1-Butene; Cis-2-Butene; and Trans-2-Butene. BP Products may submit a request to EPA to remove and/or add compounds defined as HRVOCs under the Sixth Amendment. This request shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended;

m. “Leak” shall mean, for purposes of the Cooling Tower Water Monitoring and Repair Program set forth in sub-paragraph 19.W., any leak with a potential benzene mass leak rate of ten (10) pounds per day (lbs/day) or greater as determined by sub-paragraph 19.W.iii.b.;

n. “LEAK” shall mean, solely for purposes of sub-paragraph 19.W.iv.a of the Cooling Tower Water Monitoring and Repair Program, the mass leak rate of VOCs and NOx as determined by the monthly monitoring required by sub-paragraph 19.W.iii. and any additional Leak monitoring conducted by BP Products in accordance with sub-paragraph 19.W.iii.;

o. “Organic Benzene Wastes” shall mean facility wastes (including remediation and process turnaround waste) with a flow-weighted annual average water content of less than 10%;

p. “Parties” shall mean the United States and BP Products;

q. “Root Cause Failure Analysis”, as used in this Sixth Amendment, shall mean a process of analysis and investigation to determine the primary cause(s) for exceedances of the 1 Mg quarterly or 4 Mg annual benchmarks for uncontrolled benzene wastes. Specific requirements for undertaking a Root Cause Failure Analysis are set forth within sub-paragraph 19.V.iv.a. of the Sixth Amendment;

r. “Sixth Amendment” or “Sixth Amendment to the Consent Decree” shall mean this document including any and all appendices attached hereto. In the event of conflict between this Sixth Amendment and any appendix, this Sixth Amendment shall control. Furthermore, in the event of conflict between a specific requirement of this Sixth Amendment and the Consent Decree, this Sixth Amendment shall control;

s. “Texas City Facility” shall mean the petroleum refining facility and associated operations located at 2401 5th Avenue South in Texas City, Texas that is owned and operated by BP Products as of the Date of Entry of the Sixth Amendment; and

t. “United States” shall mean the United States of America, acting on behalf of EPA.

IV. AFFIRMATIVE RELIEF/ENVIRONMENTAL PROJECTS (OR MEASURES)

4. Section V (Affirmative Relief/Environmental Projects (or Measures)), Paragraph 19 (Benzene Waste NESHAP), sub-paragraph 19.A (Facility Current Compliance Status) of the Consent Decree is amended by adding the following new sub-paragraphs 19.A.iii. and 19.A.iv. at the end thereof:

19.A.iii. For the 2008 calendar year and continuing thereafter, the Texas City Facility shall comply with the compliance option set forth at 40 C.F.R. § 61.342(e) (the "6 BQ Option" or "6 Mg Option"), along with all other associated requirements of the Benzene Waste Operations NESHAP, in lieu of the 2 Mg compliance option currently required under sub-paragraph 19.A.i. of the Consent Decree. In lieu of the timeline for compliance originally required under sub-paragraph 19.N of the Consent Decree, for the 2008 calendar year and continuing thereafter, the Texas City Facility shall comply with the quarterly "End of the Line" ("EOL") sampling requirements for facilities operating under the 6 BQ Option contained in sub-paragraph 19.N, as amended. In lieu of the timeline for compliance originally provided for under sub-paragraph 19.V of the Consent Decree, beginning with the first full Calendar Quarter after the Date of Entry of the Sixth Amendment, and continuing thereafter, the Texas City Facility shall comply with the reporting requirements contained in sub-paragraph 19.V., as amended. Beginning on April 1, 2009 for the calendar year 2008 TAB report and continuing thereafter on or before each April 1st, BP shall submit its annual TAB report for the preceding calendar year required pursuant to 40 C.F.R. § 61.357(d)(2).

a. 4 Mg Operational Benchmark. No later than January 1, 2009 and continuing thereafter, BP Products shall operate the Texas City Facility with the

goal of meeting annual and quarterly benchmarks for controlling benzene wastes at the Texas City Facility that are at least 33% more stringent than required under the 6 Mg Option. Specifically, BP Products shall operate the Texas City Facility in accordance with all applicable methods and procedures under the Benzene Waste Operations NESHAP for determining compliance with the 6 Mg Option, but with the further goal of limiting uncontrolled Aqueous Benzene Wastes as described in 40 C.F.R. § 61.342(e)(2) to an amount no greater than 4 Mg/year (4.4 tons/year) (the "4 Mg Operational Benchmark"). Except as specifically provided in sub-paragraphs 19.V.iii.a. and 19.V.iv.a. *infra*, for purposes of determining compliance with the requirements of the Consent Decree, as amended by this Sixth Amendment, and the Benzene Waste Operations NESHAP, the Texas City Facility's compliance shall be determined in accordance with the requirements of the 6 Mg Option.

19.A.iv. Control of Organic and Aqueous Benzene Wastes.

a. Organic Benzene Wastes. No later than the Date of Entry of the Sixth Amendment, BP Products shall ensure that waste management units at the Texas City Facility handling Organic Benzene Wastes are in compliance with all standards applicable to such waste management units under the Benzene Waste Operations NESHAP.

b. Aqueous Benzene Wastes. For purposes of complying with the 6 Mg Option, all waste management units at the Texas City Facility handling Aqueous Benzene Wastes shall either: (1) meet the applicable control standards of the Benzene Waste Operations NESHAP, or (2) have their uncontrolled benzene

quantity count toward the 6 Mg compliance limit. Nothing in this sub-paragraph shall be construed to limit the ability of BP Products to treat and manage Aqueous Benzene Wastes in accordance with the requirements of 40 C.F.R. § 61.355(k)(4).

5. Sub-paragraph 19.D (Waste Stream Audits) of the Consent Decree is amended by adding the following new sub-paragraphs 19.D.i.-19.D.v. at the end thereof:

19.D.i. Review and Verification Audit. In addition to the requirements of sub-paragraphs 19.D. and 19.E. of the Consent Decree, by no later than January 1, 2009 or the Date of Entry of the Sixth Amendment, whichever is later, BP Products shall complete an independent third-party audit ("Review and Verification Audit") to, at a minimum, review and verify the completeness of the Texas City Facility's benzene waste stream inventory for the purpose of ensuring future compliance with the TAB reporting requirements of 40 C.F.R. 61.357(d) and the 6 Mg Option. The Review and Verification Audit may be fulfilled by the ongoing waste stream audit at the Texas City Facility initiated by Sage Environmental Consulting on or about September 2006 provided that those activities will otherwise fulfill the requirements of this sub-paragraph. The Review and Verification Audit shall:

a. Identify, through field verification and to the maximum extent practicable field observation, the point of generation for each waste stream at the Texas City Facility required to be included in the facility's TAB;

b. Review, analyze, and verify the calculations and measurements used to determine the following characteristics of each waste stream identified

in accordance with sub-paragraph 19.D.i.a. above to ensure their accuracy:

1) the water content of the waste stream;

2) the flow-weighted benzene concentration (expressed as parts per million by weight - "ppmw");

3) the flow and/or total annual benzene waste quantity (expressed in Mg/year);

4) the annual aqueous and organic waste quantities (expressed in Mg/year); and

5) the range of benzene concentrations (expressed in upper and lower ppmw limits).

c. The review and verification of the calculations and measurements listed in sub-paragraph 19.D.i.b. shall be based upon the most current and representative analytical data, documented knowledge, and/or new analytical testing (conducted in accordance with 40 C.F.R. § 61.355 and all other applicable requirements) of the waste streams;

d. Review and verify that each waste stream is properly included and accounted for in the Texas City Facility's annual TAB reports;

e. Review and verify that each waste stream identified is controlled or accounted for as uncontrolled in accordance with the requirements of the Benzene Waste Operations NESHAP and the 6 Mg Option; and

f. Identify any deficiencies and/or non-compliance in the Texas City Facility's benzene waste stream inventory and its 2006 TAB submittal with the requirements of the Benzene Waste Operations NESHAP.

19.D.ii. Benzene Waste Stream Review and Verification Report. By no later than February 1, 2009 or thirty (30) Days following the Date of Entry of the Sixth Amendment, whichever is later, BP Products shall submit a report ("Benzene Waste Stream Review and Verification Report") to EPA that sets forth the results and findings of the Review and Verification Audit requirements identified in sub-paragraph 19.D.i.

19.D.iii. Review and Verification Corrective Action Plan. If the results of the Review and Verification Audit indicate that the Texas City Facility is not in compliance with the 6 Mg Option as of the date of completing the audit, then BP Products shall submit to EPA, by no later than May 1, 2009 or 90 Days after the Date of Entry of the Sixth Amendment, whichever is later, a corrective action plan ("Review and Verification Corrective Action Plan") that identifies the specific compliance strategy, corrective actions, and schedule that BP Products will implement to ensure that the Texas City Facility complies with the 6 Mg Option as soon as practicable. This Review and Verification Corrective Action Plan shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the Review and Verification Corrective Action Plan pursuant to its proposed schedule by no later than 60 Days after submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the Review and Verification Corrective Action Plan and schedule remain subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

19.D.iv. Amended TAB Reports. If the results of the Review and Verification Audit indicate that the Texas City Facility's 2007 TAB report does not accurately reflect the TAB calculation for the Texas City Facility, then by no later than April 1, 2009 or

ninety (90) Days after the Date of Entry of the Sixth Amendment, whichever is later, BP Products shall submit to EPA an amended TAB report that corrects all such inaccuracies.

19.D.v. Waste Management Units and Streams - Future Identification or Creation.

At any time prior to the termination of the requirements of Paragraph 19 of the Consent Decree as amended by the Sixth Amendment, if BP Products: (a) identifies a waste management unit in benzene waste service or a waste stream with a benzene quantity of 0.05 Mg/year or greater at the Texas City Facility that is uncontrolled for purposes of the Benzene Waste Operations NESHAP, despite being previously designated as a controlled unit or waste stream; or (b) creates a benzene waste stream with a benzene quantity of 0.05 Mg/year or greater at the Texas City Facility that is managed and/or treated in any uncontrolled portion of an individual drain system or the wastewater treatment system, then BP Products shall include the following information within the first semi-annual EOL Report required under sub-paragraph 19.V., as amended herein, after the new waste stream is created or identified:

a. A description of each waste management unit(s) or waste stream(s) identified or created;

b. A detailed control plan describing the corrective actions, if any, that BP Products has taken or shall take to comply with the requirements of 40 C.F.R. § 61.342(e); and

c. A schedule for completing such corrective actions and achieving such compliance, unless corrective actions are completed and compliance has already been achieved before BP Products is required to submit the semi-annual EOL Report.

Control device failures or malfunctions will not be deemed to constitute the identification or creation of a new waste management unit or new benzene waste stream for purposes of this sub-paragraph 19.D.v. unless repairs are not completed in accordance with applicable requirements. However, downtime must be recorded and reported as applicable to the control device in accordance with the provisions of the Benzene Waste Operations NESHAP. Any control plan and schedule submitted shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the control plan pursuant to its proposed schedule by no later than 60 Days after submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the control plan and schedule remain subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

6. Sub-paragraph 19.F (Carbon Canisters) of the Consent Decree is amended by adding the following new sub-paragraphs 19.F.iv., 19.F.v., and 19.F.vi. at the end thereof:

19.F.iv. In lieu of the option available to BP Products under sub-paragraph 19.F. of the Consent Decree to comply with either sub-paragraph 19.F.i. or 19.F.ii, and in lieu of the compliance deadline set forth in sub-paragraph 19.F.i.a. allowing until "the end of the first full calendar year after the Date of Lodging" of the original Consent Decree to comply with the installation requirements of sub-paragraph 19.F.i., by no later than one year from the Date of Entry of the Sixth Amendment, at all locations within the Texas City Facility where carbon canisters are currently installed and used as the control device for complying with the Benzene Waste Operations NESHAP, BP Products shall implement and comply with the "dual canister" option under sub-paragraph 19.F.i.,

except as provided for in sub-paragraph 19.F.v. BP Products may comply with the requirements of the dual canister option required under this sub-paragraph by using a single canister with a "dual carbon bed" if the dual carbon bed configuration allows for breakthrough monitoring between the primary and secondary beds in accordance with this sub-paragraph. In lieu of the 50 ppm VOC breakthrough threshold specified in sub-paragraph 19.F.i.c. of the Consent Decree, breakthrough shall be defined as either 50 ppmv VOC or 1 ppmv benzene as monitored between the primary and secondary carbon beds. Beginning on the Date of Entry of the Sixth Amendment, BP Products shall not use the "single canister" option under sub-paragraph 19.F.ii. for any new waste management unit(s) or refinery process unit(s) at the Texas City Facility where carbon canisters shall be installed and used as the control device for complying with the Benzene Waste Operations NESHAP, except as provided for in sub-paragraph 19.F.v. In accordance with sub-paragraph 19.S. (Reports Re: Canisters), BP Products shall submit a project completion report to EPA detailing the actions performed to comply with this sub-paragraph.

19.F.v. After the Date of Entry of the Sixth Amendment, for any carbon canister at the Texas City Facility subject to this sub-paragraph, if BP Products demonstrates that it is technologically infeasible or unsafe to comply with the dual-canister option under sub-paragraph 19.F.i., BP Products may use the "single canister" option under sub-paragraph 19.F.ii. of the Consent Decree. BP Products shall submit a written request to EPA to comply with the "single canister" option under sub-paragraph 19.F.ii for each such canister. This request shall specifically identify each carbon canister for which BP Products claims that it is technologically infeasible or unsafe to comply with the dual-

canister option and shall provide a detailed explanation of the specific technical and/or safety reasons for the request. This request shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

19.F.vi. Nothing in sub-paragraph 19.F. of the Consent Decree, as amended, is intended to preclude BP Products from electing to use other control devices specified at 40 C.F.R. 61.349(a)(2)(i); (a)(2)(ii); or (a)(2)(iii) at the Texas City Facility to comply with the Benzene Waste Operations NESHAP instead of or in addition to carbon adsorption, provided that such other control technology meets all applicable control and/or treatment requirements under the Benzene Waste Operations NESHAP. If BP Products elects to use other control technology, BP Products shall submit written notification to EPA providing both the location where such other control technology shall be used instead of or in addition to carbon adsorption and a description of the other technology to be used.

7. Sub-paragraph 19.G (Annual Program) of the Consent Decree is amended by adding the following new sub-paragraphs 19.G.i. - 19.G.iii at the end thereof:

19.G.i. Management of Change. No later than 180 Days from the Date of Entry of the Sixth Amendment, BP Products shall implement any necessary revisions to all applicable policies, procedures, and guidance documents pertaining to management of change at the Texas City Facility. These revisions shall require management of change reviews to consider and adequately address how actions or changes triggering review under such policies, procedures, or guidance documents affect the existence, nature, and control of benzene waste streams at the Texas City Facility. Specifically, these revisions shall require management of change reviews to consider and address:

a. whether a new waste stream regulated under the Benzene Waste Operations NESHAP is created and/or generated;

b. whether the characteristics of an existing waste stream, including benzene concentration, waste stream flow rate, annual quantity, and water content shall change; and

c. the actions necessary to properly account for, control, and report on any such new or modified waste streams.

19.G.ii. BP Products shall train all employees and contractors who lead management of change reviews and/or analyses on the revised policies, procedures, and guidance documents by no later than 120 Days following the date such revisions are implemented as required by sub-paragraph 19.G.i.

19.G.iii. Semi-annual Progress Reports. BP Products shall submit semi-annual progress reports to EPA regarding the implementation of the revisions and training required under sub-paragraphs 19.G.i. and 19.G.ii. in accordance with Section VIII of the Consent Decree, as amended.

8. Sub-paragraph 19.N. (Sampling (6 Mg/yr)) of the Consent Decree is amended by adding the following new sub-paragraphs 19.N.i.a. and 19.N.i.b. at the end of sub-paragraph 19.N.i. and new sub-paragraph 19.N.ii.a. at the end of sub-paragraph 19.N.ii. respectively:

19.N.i.a. In lieu of the requirements of Paragraph 19.N.i. of the Consent Decree, by no later than January 1, 2009 or within 30 Days from the Date of Entry of the Sixth Amendment, whichever occurs later, BP Products shall submit a revised February 12, 2003 EOL Sampling Plan that shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. The revised EOL Sampling Plan shall contain any proposed changes to the existing sampling locations and any proposed changes in methods for flow calculations to be used in the quarterly

benzene determinations. BP Products shall commence sampling under the revised EOL Sampling Plan by no later than the first full Calendar Quarter following submittal of the plan to EPA, regardless of whether the plan is approved at that time. BP Products shall comply with the proposed revised EOL Sampling Plan. However, EPA retains its rights of approval pursuant to sub-paragraphs 33.F. and 33.G.

19.N.i.b. If changes in processes, operations, or other factors lead BP Products to conclude that the EOL Sampling Plan for the Texas City Facility may no longer provide a representative basis for estimating the Texas City Facility's annual or quarterly EOL benzene quantity, then by no later than ninety (90) Days after BP Products makes this determination, BP Products will submit to EPA a newly proposed revised EOL Sampling Plan. Upon receipt of EPA approval, BP Products shall commence sampling consistent with the requirements and schedule contained in the newly approved EOL Sampling Plan

19.N.ii.a. In lieu of the requirement in sub-paragraph 19.N.ii. for refineries operating under the 6 Mg/yr compliance option to sample all uncontrolled waste streams that count toward the 6 Mg/yr calculation and contain greater than 0.05 Mg/yr of benzene on an annual basis, the Texas City Facility shall sample on a quarterly basis each existing individual uncontrolled waste stream that counts toward the 6 Mg/yr calculation and contains greater than 0.05 Mg/yr of benzene. No earlier than two (2) years from the Date of Entry of the Sixth Amendment, BP Products may submit a request to EPA to either terminate or revise the frequency of the sampling required under this sub-paragraph N.ii.a. This request shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. However, if EPA does not respond in writing within 120 Days of the request's submission, the request shall be deemed

disapproved and BP Products shall have the right to invoke Dispute Resolution under Section XIV of the Consent Decree.

9. Sub-paragraph 19.P.iv. (Miscellaneous Measures) of the Consent Decree is amended by adding the following new sub-paragraphs 19.P.iv.a. and 19.P.iv.b. at the end thereof:

19.P.iv.a. By no later than the first full Calendar Quarter following the Date of Entry of the Sixth Amendment, for all oil-water separator units utilizing floating roofs at the Texas City Facility, BP Products shall conduct at least quarterly measurement of secondary seal gaps in accordance with the requirements and standards of 40 C.F.R. § 60.693-2(a).

19.P.iv.b. If quarterly measurement identifies secondary seal gap-width and/or total gap area measurements exceeding the requirements of 40 C.F.R. § 60.693-2(a)(1)(ii), BP Products shall make all necessary repairs to correct such exceedances within 30 Days in accordance with 40 C.F.R. § 60.693-2(a)(1)(iv) subject to the delay of repair provisions of 40 C.F.R. § 60.692-6.

10. Sub-paragraph 19.V. (Quarterly Reports) of the Consent Decree is amended by adding the following new sentences at the end of the first paragraph thereof:

19.V. In lieu of the above quarterly reporting requirement, commencing on the Date of Entry of the Sixth Amendment, the Texas City Facility shall submit semi-annual EOL reports containing the following information to EPA. These semi-annual EOL reports shall be due to EPA by no later than February 15 and August 15 of each calendar year following the Date of Entry.

11. Sub-paragraph 19.V. (Quarterly Reports) of the Consent Decree is further amended by adding the following new sub-paragraphs 19.V.ii.a., 19.V.iii.a., 19.V.iv.a., 19.V.viii, and 19.V.ix at the end of subparagraphs 19.V.ii., 19.V.iii., 19.V.iv., and 19.V.vii. respectively:

19.V.ii.a. In lieu of the requirements of sub-paragraph 19.V.ii., the Texas City Facility shall submit a semi-annual EOL report to EPA that includes the following information for each Calendar Quarter during the semi-annual reporting period: 1) a list of all waste streams sampled at the Texas City Facility pursuant to sub-paragraphs 19.N.i and 19.N.ii, as amended by sub-paragraphs 19.N.i.a., 19.N.i.b., and 19.N.ii.a., 2) the results of the quarterly sampling conducted pursuant to sub-paragraphs 19.N.i and 19.N.ii, as amended, including the results of the benzene analysis for each sample, 3) the computation of the EOL benzene quantity for each quarter, 4) any other related information required under a revised EOL Sampling Plan submitted pursuant to sub-paragraphs 19.N.i.a. or 19.N.i.b., and 5) any information regarding the creation or identification of waste management units and/or waste streams required pursuant to sub-paragraph 19.D.v.

19.V.iii.a. In lieu of the requirements of sub-paragraph 19.V.iii., BP Products shall use all sampling results and approved flow calculation methods pursuant to sub-paragraph 19.N.i, as amended by sub-paragraphs 19.N.i.a. and 19.N.i.b., to calculate and report a quarterly (for each Calendar Quarter during the semi-annual reporting period) and a calendar year uncontrolled benzene quantity for the Texas City Facility against both the 6 Mg Option and the 4 Mg Operational Benchmark.

19.V.iv.a. In lieu of the requirements of sub-paragraph 19.V.iv. of the Consent Decree, in accordance with the 4 Mg Operational Benchmark, if the quarterly

uncontrolled benzene quantity (for any Calendar Quarter during the semi-annual reporting period) at the Texas City Facility exceeds 1.0 Mg or the annual uncontrolled benzene quantity exceeds 4 Mg, then BP Products shall, as specified below, conduct a Root Cause Failure Analysis and develop a corrective action plan to promptly address the findings of the Root Cause Failure Analysis. The findings of the Root Cause Failure Analysis and corrective action plan shall be submitted to EPA in a written report included along with the first semi-annual EOL report required under sub-paragraph 19.V., as amended, following completion of the Root Cause Failure Analysis. This corrective action plan shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the corrective action plan pursuant to its proposed schedule by no later than 60 Days after submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the corrective action plan and schedule remain subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. The 1.0 Mg quarterly benchmark and the 4 Mg annual benchmark shall not be used for determining compliance with the 6 Mg Option, the associated requirements of the Benzene Waste Operations NESHAP, and the Consent Decree as amended by the Sixth Amendment. The Texas City Facility's compliance shall be determined against an annual uncontrolled benzene quantity of 6 Mg.

(1) Root Cause Failure Analysis. The Root Cause Failure Analysis required under this sub-paragraph shall include the following elements:

A. If the root cause(s) of the quarterly or annual benchmark exceedance is attributable to at least one

discrete event, or to at least one discrete series of related events, resulting in 0.5 Mg or more of uncontrolled benzene, BP Products shall include an estimate of the quantity of uncontrolled benzene emitted into the ambient air along with the calculations used to determine such emissions;

B. The steps, if any, taken to limit the duration and/or quantity of uncontrolled benzene exceeding the 1.0 Mg quarterly benchmark or the 4 Mg annual benchmark;

C. A detailed analysis setting forth the root cause(s) for exceeding the benchmark; and

D. An analysis of the measures reasonably available to prevent the root cause(s) for the exceedance from recurring. This analysis shall include an evaluation of possible design, operational, and maintenance measures. This analysis shall also include a discussion of alternative measures that are reasonably available, their relative probable effectiveness, and their relative costs.

(2) Corrective Action Plan. The corrective action plan required under this sub-paragraph shall require BP Products to undertake as expeditiously as reasonably possible any such interim and/or long-term corrective actions as are necessary and consistent with good air pollution control practices to prevent a recurrence of the root cause(s) identified in the Root Cause Failure Analysis. The corrective action plan shall include a description of any corrective actions already completed or, if not complete, a schedule for their implementation including proposed commencement and completion dates.

19.V.viii. Certification of Compliance. BP Products shall certify each semi-annual EOL report required under sub-paragraph 19.V., as amended, in accordance with the certification statement required under Paragraph 34 of the Consent Decree.

19.V.ix. EOL and EBU Enhanced Monitoring Data. In accordance with sub-paragraph 19.X.i.c., BP Products shall submit all daily average monitoring data from each in-line gas chromatograph and flow rate monitor along with the semi-annual EOL reports required under this sub-paragraph 19.V, as amended. In addition, BP Products shall submit all monitoring data and results from the most recent semi-annual Enhanced Biodegradation Unit ("EBU") ambient air monitoring required under sub-paragraph 19.X.ii. along with the applicable semi-annual EOL report required under this sub-paragraph 19.V, as amended.

12. Benzene Waste Operations NESHAP Enhanced Compliance Measures: In addition to maintaining compliance with all applicable requirements of the Benzene Waste Operations NESHAP and the Consent Decree, as amended, BP Products shall undertake the following measures to minimize or eliminate fugitive benzene emissions at the Texas City Facility and to ensure its future compliance with the Benzene Waste Operations NESHAP and the Consent Decree, as amended. **Paragraph 19 (Benzene Waste NESHAP)** of the Consent Decree is therefore further amended by adding the following new sub-paragraphs 19.W. – 19.EE. at the end of sub-paragraph 19.V., as amended herein.

19.W. **Cooling Tower Water Monitoring and Repair Program**. BP Products shall develop and implement a Cooling Tower Water Monitoring and Repair Program at the Texas City Facility. The purpose of the Cooling Tower Water Monitoring and Repair Program shall be to promptly detect, identify, and repair heat exchanger Leaks that allow process fluids to enter Cooling Tower Systems so as to minimize emissions of benzene from Cooling Tower Systems.

i. Applicability. The requirements of the Cooling Tower Water Monitoring and Repair Program shall apply to all Cooling Tower Systems for the process units at the Texas City Facility identified in Appendix K, attached hereto.

a. Idled FCCU 2 Unit. If BP Products restarts the idled FCCU 2 process unit at the Texas City Facility, this unit shall be subject to the requirements of the Cooling Tower Water Monitoring and Repair Program.

b. Changes in Operation. If BP Products changes the feed characteristics, operating characteristics, and/or operating conditions of any process unit not subject to the Cooling Tower Water Monitoring and Repair Program (including, but not limited to, the Acid Plant, Alkylation Unit 3 (both Main and Debut), Cat Feed Hydrotreater Unit, Lab, Shop, and Refinery Warehouse) such that the potential arises for that process unit's Cooling Tower System water to come into contact with process fluids that have an annual mean benzene content of 0.1% (by weight) or greater, that Cooling Tower System shall become subject to the requirements of the Cooling Tower Water Monitoring and Repair Program as provided herein.

ii. Monitoring and Repair Plan. By no later than 60 Days following the Date of Entry of the Sixth Amendment, BP Products shall prepare, implement, and maintain onsite at all times at the Texas City Facility a "Cooling Tower Monitoring and Repair Plan" that includes the following information:

a. Identification of all Cooling Tower Systems at the Texas City Facility;

b. Identification of all Cooling Tower Systems at the Texas City Facility subject to the requirements of the Cooling Tower Water Monitoring and Repair Program;

c. Identification of the heat exchangers in cooling water service and process units serviced by each Cooling Tower System at the Texas City Facility;

d. The range and annual mean of benzene by weight percent in the process fluids in each heat exchanger identified above in sub-paragraph 19.W.ii.c.;

e. The procedures for conducting monthly monitoring, as well as the grab sampling required under sub-paragraph 19.W.iii.c., of each Cooling Tower System subject to the requirements of the Cooling Tower Water Monitoring and Repair Program, including the specific locations where such monthly monitoring and grab sampling will be performed at each Cooling Tower System;

f. The methods used to identify leaking heat exchangers if a Leak is detected;

g. Standard repair procedures that reduce emissions from Leaks;

h. Procedures for reporting Leaks into a Cooling Tower System; and

i. A listing of critical spare parts that must be maintained in inventory.

iii. Monthly Cooling Tower System Monitoring. By no later than the Date of Entry of the Sixth Amendment, BP Products shall commence monthly monitoring of all Cooling Tower Systems at the Texas City Facility subject to

the requirements of the Cooling Tower Water Monitoring and Repair Program as follows:

a. At least once per month, BP Products shall monitor the Cooling Tower System Return Line(s) using the El Paso Method described in Appendix P of the Texas Commission on Environmental Quality *Sampling Procedures Manual*. This monthly monitoring shall occur at a point within the Cooling Tower System Return Line(s): 1) before the possibility of air stripping and/or exposure to the atmosphere can occur, and 2) where flow conditions are sufficient to detect potential Leaks;

b. If either: 1) the monthly monitoring required under sub-paragraph 19.W.iii.a. indicates a head space VOC concentration greater than 1 ppmv, or 2) any automated continuous field gas chromatograph installed on a Cooling Tower System subject to this sub-paragraph 19.W. detects total HRVOCs at a concentration of 50 parts per billion by weight ("ppbw") or greater, BP Products shall collect a Tedlar headspace bag sample and speciate that sample, using EPA Method T015 ("Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)"), for benzene and all other compounds required under Method T015. These head space sample results shall be converted to benzene concentration by weight

in water using the equation set forth in Appendix P of the Texas Commission on Environmental Quality *Sampling Procedures Manual*.

1. Using the benzene concentration by weight in water derived from the head space sampling conducted in accordance with sub-paragraph 19.W.iii.b., BP Products shall calculate and record the potential benzene mass leak rate using the following equation:

   $L_{BZ} = 0.012 C_{BZ} Q_{CT}$

   Where:

   L_{BZ} = Mass leak rate of benzene (lbs/Day);

   0.012 = Constant for unit conversion (lbs/gallon x minutes/Day x part per million parts);

   C_{BZ} = Concentration of benzene in the cooling tower water prior to exposure to the air (ppmw); and

   Q_{CT} = Volumetric flow rate of cooling tower water to the cooling tower (gallons/minute).

2. If "L_{BZ}" is equal to or greater than 10 pounds per day of benzene, then the Cooling Tower System shall be deemed to have a "Leak".

c. In addition to the monthly monitoring required under sub-paragraphs 19.W.iii.a. and 19.W.iii.b., BP Products shall complete monthly grab sampling from the Cooling Tower System Return Lines as follows:

1. If at any time after the Date of Entry of the Sixth Amendment the monthly monitoring required under sub-paragraph 19.W.iii.a. indicates a head space VOC concentration greater than 1 ppmv, BP Products shall also

take at least three (3) representative grab samples from the Cooling Tower System Return Lines at a point within the Cooling Tower System Return Line(s): 1) before the possibility of air stripping and/or exposure to the atmosphere can occur, and 2) where flow conditions are sufficient to detect potential Leaks. No earlier than two (2) years from the Date of Entry of the Sixth Amendment, BP Products may submit a request, along with supporting documentation establishing that the El Paso air stripping method and EPA Method 8260B ("Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2 (or subsequent revisions), dated December 1996") analysis of water grab samples are equivalent in their respective abilities to detect Leaks, to EPA to either terminate or revise the frequency of the sampling required under this sub-paragraph 19.W.iii.c(1). This request shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. However, if EPA does not respond in writing within 120 Days of the request's submission, the request shall be deemed disapproved and BP Products shall have the right to invoke Dispute Resolution under Section XIV of the Consent Decree.

2. For a period of no less than six (6) months following the Date of Entry of the Sixth Amendment, at least once per month BP Products shall take at least three (3) representative grab samples from the Cooling Tower System Return Lines at the Cooling Tower System for the Fluid Catalytic Cracker Unit 3 ("FCCU 3") and the Ultracracker Unit ("ULC") at a point within the Cooling Tower System Return Line(s): 1) before the possibility of air stripping and/or exposure to the atmosphere can occur, and 2) where flow conditions are sufficient to detect potential Leaks. In addition, during each of any two (2) months during the six (6) month period following the Date of Entry of the Sixth Amendment, BP Products shall take at least three (3) representative grab samples from the Cooling Tower System Return Lines at all other Cooling Tower Systems subject to the requirements of sub-paragraph 19.W. at a point within the Cooling Tower System Return Line(s): 1) before the possibility of air stripping and/or exposure to the atmosphere can occur, and 2) where flow conditions are sufficient to detect potential Leaks.

3. Each grab sample shall be collected in accordance with the sampling procedures at 40 C.F.R. § 61.355(c)(3) of the Benzene Waste Operations NESHAP. In addition, each

grab sample shall be analyzed in accordance with EPA Method 8260B to determine the benzene concentrations of the sample.

iv. Repair of Leaking Cooling Tower Systems. If the benzene mass leak rate determined in accordance with the requirements of sub-paragraph 19.W.iii.b. indicates a Leak, BP Products shall make a first attempt at identifying and repairing the Leak by no later than 45 Days after conducting the monthly monitoring that first identified the Leak. Attempts at repair may include, but are not limited to: 1) physical repairs to the leaking heat exchanger; 2) blocking the leaking tube within the heat exchanger; 3) changing the pressure so that water flows into the process fluid; and/or 4) replacing the Leaking heat exchanger.

a. Delay of Repair. If the first attempt at repairing the Leak is not successful, as determined by confirmation monitoring conducted pursuant to sub-paragraph 19.W.iv.c., BP Products may delay completing repairs beyond the initial 45-Day deadline, unless a shorter time period is otherwise required by law, if BP Products establishes both that one of the following conditions exist and that it has taken all necessary and appropriate interim measures pursuant to sub-paragraph 19.W.iv.b. below:

1. If a process unit shutdown is not required to repair a Leak but the necessary parts to complete repairs are not available, BP Products must complete the repairs as soon as reasonably

possible upon receiving the necessary parts, but in no case later than 120 Days after first identifying the Leaking heat exchanger;

2. If a process unit shutdown is necessary to repair a Leak, BP Products must complete repairs to the leaking heat exchanger within 90 Days after conducting the monthly monitoring that first identified a Leak unless the projected cumulative VOC and NOx emissions from the Leak (the "Cumulative LEAK Emissions") over that 90 Day period will not exceed the projected actual post-combustion VOC and NOx emissions resulting from the shutdown and startup of the process unit served by the leaking heat exchanger and any other process units required to be shutdown in order to repair the Leak (the "Startup and Shutdown Emissions"). If the projected Cumulative LEAK Emissions over the initial 90 Day period have not exceeded the Startup and Shutdown Emissions, BP Products shall have additional Days to complete repairs of the Leaking heat exchanger as determined in accordance with the following formula:

Additional Delay of Repair Days =

$$\frac{\text{Startup and Shutdown Emissions} - \text{Cumulative LEAK Emissions}}{\text{LEAK Emissions}_{TWA}}$$

Where:

"Startup and Shutdown Emissions" = the sum of post-combustion VOC and NOx emissions in pounds that are projected to result from a shutdown and startup of the process unit served by the leaking heat exchanger and any other process units required to be shutdown in order to repair the Leak;

"Cumulative LEAK Emissions" = the sum of VOC and NOx emissions in pounds that are projected to result from continuing to operate the leaking heat exchanger. Cumulative LEAK Emissions shall be determined as follows:

$$\Sigma (LEAK_n \times TIME_n)$$

Where:

"LEAK" = the mass leak rate of VOCs and NOx as determined by the monthly monitoring required by sub-paragraph 19.W.iii. and any additional Leak monitoring conducted by BP Products in accordance with sub-paragraph 19.W.iii.; and

"TIME" = the number of Days between each monthly monitoring event required by sub-paragraph 19.W.iii. and any additional Leak monitoring events conducted by BP Products in accordance with sub-paragraph 19.W.iii.

"LEAK Emissions $_{TWA}$" = the sum of VOC and NOx emissions in pounds per Day that are projected to result from continuing to operate the leaking heat exchanger. LEAK emissions shall be determined on a time weighted average ("TWA") as follows:

$$\frac{\Sigma (LEAK_n \times TIME_n)}{\Sigma TIME_n}$$

3. During any delay of repair period, monthly monitoring required pursuant to sub-paragraph 19.W.iii. shall continue and the Cumulative LEAK Emissions from the Cooling Tower System shall be recalculated using each new set of monthly monitoring results, the results of any additional Leak monitoring conducted by BP Products in accordance with sub-paragraph 19.W.iii., and the time period between the

most recent monitoring results and the next planned shutdown.

b. Interim Measures. If BP Products asserts that delay of repair conditions exist, BP Products shall take all necessary and appropriate interim measures to minimize the emission of benzene from the leaking Cooling Tower System until repairs can be completed.

c. Confirmation Monitoring. Once BP Products has repaired a Leak pursuant to the requirements of sub-paragraph 19.W.iv., it shall conduct monitoring in accordance with sub-paragraph 19.W.iii.a. and sub-paragraph 19.W.iii.b., if sub-paragraph 19.W.iii.b. is applicable, within 7 Days of completing the repair or within 7 Days of completing the startup, whichever is later, to confirm that the Leak has been successfully repaired. If confirmation monitoring indicates that a Leak still exists, a new 45-Day period for identification and repair of the Leak, in accordance with sub-paragraph 19.W.iv., shall commence on the date the confirmation monitoring indicating a continuing Leak is conducted.

v. TAB Report. Beginning with the calendar year 2009 TAB report submitted for the Texas City Facility, BP Products shall report any Cooling Tower System Leaks as a separate line-item in the TAB report. This line-item shall not be counted towards the uncontrolled benzene quantity under either the 6 Mg Option or 4 Mg Operational Benchmark.

vi. Semi-annual Progress Reports. BP Products shall submit semi-annual progress reports regarding the requirements of sub-paragraph 19.W. to EPA in accordance with Section VIII of the Consent Decree, as amended.

vii. Automated Benzene Monitoring/Sampling. If improved automated monitoring and/or sampling technology (*e.g.*, improved gas chromatograph technology) becomes available, or if BP Products chooses to install a separate automated monitoring and/or sampling system to detect benzene in Cooling Tower System water at the Texas City Facility, BP Products shall have the option to install such technology and use such automated systems to comply with the monthly monitoring requirements of sub-paragraph 19.W.iii.a., provided that such new technology or system is otherwise capable of meeting the requirements of the Cooling Tower Water Monitoring and Repair Program.

a. If BP elects to install improved automated monitoring and/or sampling technology to comply with the monthly monitoring requirements of sub-paragraph 19.W.iii.a., BP shall submit written notification to EPA of such election, and this notification shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

19.X. **Enhanced EOL and EBU Monitoring**.

i. Gas Chromatograph and Flow Rate Monitoring. For purposes of this sub-paragraph "continually" shall mean no less frequent than once every two hours.

a. By no later than January 1, 2009 or 90 Days after the Date of Entry of the Sixth Amendment, whichever is later, BP Products shall install and operate in-line gas chromatograph ("GC") technology and flow rate monitors so as to continually monitor for benzene concentration and flow rate:

    1. At each EOL sampling point identified in the Texas City Facility's End-of-Line Sampling Plan required pursuant to sub-paragraph 19.N.i.a. of this Sixth Amendment; and

    2. At the combined inlet of the F-8 and F-9 EBU tanks at the Texas City Facility.

b. If at any time after the Date of Entry of the Sixth Amendment, the location of any existing EOL sampling point is changed or if additional EOL sampling points are designated, BP Products shall submit a revised EOL Sampling Plan in accordance with sub-paragraph 19.N.i.b. that contains an action plan and implementation schedule for installing and operating in-line gas chromatograph technology and flow rate monitors at each changed or newly designated EOL sampling point.

c. BP Products shall submit all daily average monitoring data from the previous two (2) Calendar Quarters from the in-line gas chromatographs and flow rate monitors to EPA on a semi-annual basis along with the Texas City Facility's semi-annual EOL reports required under sub-paragraph 19.V.ix.

d. On an annual basis, BP Products shall conduct a quality assurance/quality control ("QA/QC") audit of the in-line gas

chromatograph and flow rate monitoring data to ensure the accuracy of the data, as well as the proper calibration of the GC and flow rate monitors.

e. The Parties acknowledge that BP Products will determine compliance with the 6 BQ Option based on the methods specified in 40 C.F.R 61.355(k).

ii. DIAL Monitoring of EBUs. By no later than April 1, 2010, BP Products shall conduct emissions monitoring of EBU tanks F-8 and F-9 (the "EBUs") located at the Texas City Facility. At any time during winter months (*i.e.*, January – March), BP Products shall use Differential Absorption Light Detection and Ranging methodology ("DIAL") in ultra-violet ("UV") mode and appropriately situated wind speed and direction sensors to determine the mass emission rate of benzene from the EBUs over the applicable DIAL testing period.

a. At least 120 Days prior to commencing the DIAL monitoring required under this sub-paragraph 19.X.ii., BP Products shall submit a Quality Assurance Project Plan ("QAPP") that shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the QAPP prior to the first DIAL monitoring event and, if necessary, the subsequent DIAL monitoring event. If EPA does not submit comments to BP Products prior to the first monitoring event, the QAPP remains subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

b. The QAPP shall specify how the EBUs shall be tested using DIAL methodology, how the mass emission rate of benzene from the EBUs shall be calculated, and how the mass of benzene that is biologically digested in the EBUs will be determined using a mass balance calculation. The QAPP shall also ensure that the DIAL monitoring events meet the following additional requirements:

    1. DIAL monitoring of the EBUs shall be conducted for a period of no less than three (3) Days;
    2. Wastewater samples from the EBUs' inlet and outlet streams shall be collected contemporaneously during each monitoring event and analyzed for benzene concentration. No fewer than four (4) wastewater samples from the EBUs' inlet streams and no fewer than four (4) wastewater samples from the EBUs' outlet streams shall be collected during each Day of each DIAL monitoring event to accurately determine the benzene mass in the EBUs' influent and effluent; and
    3. Each DIAL monitoring event shall be conducted while the EBUs are operating under wastewater flow and benzene concentration conditions that are representative of the EBUs' intended normal operating conditions.

c. If the results of the winter DIAL monitoring required under this sub-paragraph demonstrate that less than 90% of the inlet mass of benzene to the EBUs is being biologically digested (as determined by mass

balance calculation), BP Products shall conduct an additional DIAL monitoring event of the EBUs during summer months (*i.e.*, July – September) in accordance with the requirements of this sub-paragraph 19.X.ii. within one year from the date of completing the winter DIAL monitoring;

d. BP Products shall submit the DIAL monitoring results and data to EPA as part of its semi-annual EOL reporting as required under Paragraph 19.V.ix.

e. BP Products shall notify EPA in writing at least 30 Days prior to each of the DIAL monitoring events.

19.Y. **Control of Wastewater Overflows**. BP Products shall take the following measures to control the emission of benzene from overflows of Aqueous Benzene Wastes from the Texas City Facility's controlled wastewater treatment system.

i. West Plant: No later than two (2) years following the Date of Entry of the Sixth Amendment, BP Products shall complete the following measures to control overflows of Aqueous Benzene Wastes from the western sector of the Texas City Facility (the "West Plant"). Overflows of Aqueous Benzene Wastes from the West Plant shall be controlled by covering, hard-piping, enclosing, sealing, or otherwise controlling, in accordance with the Benzene Waste Operations NESHAP, from Lift Stations 1, 2, and 3 up through the inlets of the F-8 and F-9 EBU tanks within the Texas City Facility's wastewater treatment plant. These control requirements shall specifically include covering, hard-piping, enclosing, sealing, or otherwise controlling,

in accordance with the Benzene Waste Operations NESHAP, Lift Station 21, including the North Bay.

ii. East and Central Plant: BP Products shall complete the following measures to control overflows of Aqueous Benzene Wastes from the eastern and central sectors of the Texas City Facility (the "East Plant" and "Central Plant"):

a. Overflow Controls Study. No later than twelve (12) months following the Date of Entry of the Sixth Amendment, BP Products shall complete a study and engineering analysis of measures for eliminating or minimizing uncontrolled overflows of Aqueous Benzene Wastes from the East Plant and Central Plant ("Overflow Controls Study"). The Overflow Controls Study shall consider and evaluate at least the following measures:

1. Installing secondary and/or "double-contained" sumps at operating units in the East and Central Plants to control overflow from existing dry weather sumps and subsequently manage and transport such overflows in a closed system to the wastewater treatment plant;

2. Fully sealing or enclosing the East and Central Plant wastewater treatment system up to storm water tanks 1054 and 1056 and the wastewater treatment plant; and

3. Installing a centralized lift station for the East Plant. If installed, overflows from operating units in the East Plant would be sent via a closed system to this new central lift station and then routed via closed system to storm water tanks 1054 and 1056 and the wastewater treatment plant.

b. Implementation Plan. No later than 90 Days following the completion of the Overflow Controls Study and based upon its

findings, BP Products shall develop and submit to EPA a plan and schedule for completing the selected measure(s) it proposes to implement to control overflows of Aqueous Benzene Wastes from the East Plant and Central Plant ("Implementation Plan"). The Implementation Plan shall include a detailed explanation of the rationale for both the selected measure(s), as well as all other measures considered in the Overflow Controls Study but not selected. The Implementation Plan shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. However, if EPA does not respond in writing within 120 Days of the Implementation Plan's submission, the request shall be deemed disapproved and BP Products shall have the right to invoke Dispute Resolution under Section XIV of the Consent Decree.

iii. Improved Pumping Capacity and Reliability. No later than one (1) year following the Date of Entry of the Sixth Amendment, BP Products shall improve the level detectors, pumping capacity, and pump reliability at the dry weather sumps and lift stations at the Texas City Facility indicated in Appendix P so as to further reduce the potential for uncontrolled overflows of Aqueous Benzene Wastes from the controlled wastewater treatment system.

19.Z. **[Reserved]**

19.AA. **Enhanced Preventative Maintenance**. BP Products shall take the following actions to enhance its inspections, maintenance, and operation of the uncontrolled and controlled wastewater treatment systems, wastewater treatment plant, associated equipment, and instrumentation at the Texas City Facility:

i. **Benzene Preventative Maintenance and Operation Plan**. No later than 180 Days following the Date of Entry of the Sixth Amendment, BP Products shall develop and submit a plan to EPA for the enhanced inspection, maintenance, and operation of the uncontrolled and controlled wastewater treatment systems, wastewater treatment plant, associated equipment, and instrumentation at the Texas City Facility ("Benzene PMOP Plan").

a. Purpose. The purpose of the Benzene PMOP Plan shall be to prevent and/or minimize emissions of benzene through use of good air pollution control practices in the inspection, maintenance, and operation of the uncontrolled and controlled wastewater treatment systems, wastewater treatment plant, associated equipment, and instrumentation at the Texas City Facility.

b. EPA Comment. The Benzene PMOP Plan shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the Benzene PMOP Plan by no later than 60 Days after submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the Benzene PMOP Plan remains

subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

c. Compliance. Upon implementation of the Benzene PMOP Plan, BP Products shall comply with its requirements at all times, including periods of startup, shutdown, and malfunction of individual process or waste management units.

d. Revisions. The Benzene PMOP Plan shall be revised and updated to incorporate additional preventative maintenance measures and/or practices whenever a Root Cause Failure Analysis required under sub-paragraph 19.V.iv.a. determines that such corrective actions would reduce the likelihood of a recurrence of similar uncontrolled emissions. Such revisions to the Benzene PMOP Plan shall be completed within 45 Days of completing the Root Cause Failure Analysis, and BP Products shall thereafter implement the revised PMOP measures and practices.

e. Specific Practices. The Benzene PMOP Plan shall include, but shall not be limited to, procedures for the specific preventative maintenance and operation practices included below in sub-paragraph 19.AA.ii.

ii. **Preventative Maintenance and Operation Practices**. As part of the Benzene PMOP Plan, BP Products shall take the following preventative maintenance and operation practices:

a. **Gravity Sewer Integrity Testing and Repair**. No later than three (3) years following the Date of Entry of the Sixth Amendment, BP Products shall complete integrity testing of the below-grade combined wastewater treatment system ("Gravity Sewer") at the Texas City Facility. Integrity testing shall be completed on all segments of the controlled portions of the Gravity Sewer that present a risk of loss of wastewater containment ("exfiltration") and all segments of the uncontrolled portions of the Gravity Sewer that present a risk of benzene infiltration. For the purposes of sub-paragraph 19.AA.ii., segments of the Gravity Sewer that do not present a risk of loss of containment or benzene infiltration include those portions of the Gravity Sewer beneath parking areas, office building areas, third party operated facilities, idled facilities, abandoned facilities, and other facilities that do not handle, manage, and/or process significant quantities of hydrocarbons; provided that, if an idled or abandoned facility is restarted or otherwise commences operations, BP Products shall complete integrity testing of all segments of the Gravity Sewer beneath the formerly idled or abandoned facility in accordance with this sub-paragraph 19.AA.ii.a.

1. Schedule. BP Products shall complete integrity testing of 75% of the total mileage (or feet) of the segments of the Gravity Sewer subject to the requirements of this sub-paragraph by no later than two (2) years following the Date

of Entry of the Sixth Amendment. BP Products shall complete integrity testing of the remaining 25% of the total mileage (or feet) of the segments of the Gravity Sewer subject to the requirements of this sub-paragraph no later than three (3) years following the Date of Entry of the Sixth Amendment. Integrity testing commenced by BP Products on or about January 1, 2007 may fulfill the integrity testing requirements of this sub-paragraph 19.AA.ii.a. provided that such integrity testing otherwise meets all requirements of the sub-paragraph.

2. Inspection Methods. BP Products shall use internal probe camera technology to the maximum extent practicable to perform integrity inspection and testing of the Gravity Sewer. If internal camera technology is not practicable or effective, BP Products may use dye studies and/or other appropriate inspection and testing methods (taking into consideration such characteristics as sewer design, construction, and size) to perform the integrity testing requirements of this sub-paragraph, provided that such alternative methods are proven to be at least as effective as internal camera technology.
3. Repairs. If the results of the integrity inspection and testing indicate that the integrity of the Gravity Sewer has been or may be compromised to the point at which there is either a

risk(s) of significant loss of containment of wastewater handled by the controlled portions of the Gravity Sewer or a significant risk(s) of benzene infiltration into the uncontrolled portions of the Gravity Sewer, BP Products shall develop and implement a repair plan prioritized according to such risk(s).

A. BP Products shall utilize one or more of the following techniques to conduct and complete repairs:

i. Replacement of the existing defective sewer line;

ii. Trenchless technology, such as Insituform® or other appropriate trenchless technology; and/or

iii. Repair of the existing defective sewer line segment.

B. BP Products shall complete such repairs in a timely fashion in accordance with good engineering judgment taking into consideration such factors as the risk(s) of losing containment of wastewater handled by the controlled portions of the Gravity Sewer, the risk(s) of benzene infiltration into the uncontrolled portions of the Gravity Sewer, the quantity of benzene that could be emitted if containment is lost, the quantity of benzene that may infiltrate the uncontrolled portions of the Gravity Sewer, operating unit turnaround schedules, and proximity of the defective sewer to operating equipment.

4. Ongoing testing. Following completion of the integrity testing required under this sub-paragraph, BP Products shall perform ongoing periodic integrity testing of the Gravity Sewer in accordance with the Benzene PMOP Plan.

5. Semi-annual Progress Reports. BP Products shall submit semi-annual progress reports regarding the requirements of

sub-paragraph 19.AA. to EPA in accordance with Section VIII of the Consent Decree, as amended.

b. **Controlled Sewer Access Points**. Beginning on the Date of Entry of the Sixth Amendment and continuing thereafter, BP Products shall ensure that all hatches, manhole covers, and other access points to the controlled wastewater treatment system at the Texas City Facility, other than tanks regulated pursuant to 40 C.F.R. § 61.351, are sealed and shall remain closed and controlled in accordance with the Benzene Waste Operations NESHAP.

    1. BP Products shall perform visual inspections of all hatches, manhole covers, and other access points to the controlled wastewater treatment system on at least a monthly basis, unless a shorter period is otherwise required, to ensure that they remain properly closed and controlled in accordance with the Benzene Waste Operations NESHAP;
    2. BP Products shall complete any necessary repairs to any hatches, manhole covers, and/or other access points to the controlled wastewater treatment system within seven (7) Days following an inspection indicating that repairs are needed, unless a shorter timeframe is otherwise required or unless authorized pursuant to the delay of repair provision of 40 C.F.R. § 61.350;

3. BP Products shall maintain the results of such inspections and repairs in a written log at the Texas City Facility.

19.BB. **Raising Benzene Product Lines**. No later than three (3) years after the Date of Entry of the Sixth Amendment, BP Products shall raise the Benzene Product Pipelines identified in Appendix L above grade.

i. Semi-annual Progress Reports. BP Products shall submit semi-annual progress reports regarding the requirements of sub-paragraph 19.BB. to EPA in accordance with Section VIII of the Consent Decree, as amended.

19.CC. **Benzene Waste Operations NESHAP Controls Compliance Audit**. BP Products shall retain an independent third-party contractor to perform a phased audit of all waste streams and waste management units subject to the Benzene Waste Operations NESHAP at the Texas City Facility to ensure that they are controlled in accordance with the requirements of the Benzene Waste Operations NESHAP ("Benzene Waste Operations NESHAP Controls Compliance Audit").

i. Audit Elements. The Benzene Waste Operations NESHAP Controls Compliance Audit shall include, but not be limited to, the following elements:

a. A review and verification that existing controls on all waste streams and waste management units subject to the Benzene Waste Operations NESHAP at the Texas City Facility are properly installed and maintained in accordance with the Benzene Waste Operations NESHAP; and

b. A review of the Annual Program and management of change process for monitoring, identifying, and controlling new and/or modified waste streams subject to the Benzene Waste Operations NESHAP.

ii. Schedule. The Benzene Waste Operations NESHAP Controls Compliance Audit shall be conducted in three separate individual phases for the East Plant, Central Plant, and West Plant during the life of Paragraph 19 of the Consent Decree, as amended. No later than every two (2) calendar years from the Date of Entry of the Sixth Amendment, BP Products shall complete one phase of the Benzene Waste Operations NESHAP Controls Compliance Audit such that, during the life of Paragraph 19 of the Consent Decree, as amended, all waste streams and waste management units shall be reviewed during at least one phase of the Benzene Waste Operations NESHAP Controls Compliance Audit.

iii. Corrective Actions. If the Benzene Waste Operations NESHAP Controls Compliance Audit reveals deficiencies in the controls on any waste stream(s) and/or waste management unit(s) subject to the Benzene Waste Operations NESHAP at the Texas City Facility, BP Products shall submit a corrective action plan and implementation schedule, subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended, within sixty (60) Days of the completion of each phase. BP Products shall implement

the corrective action plan pursuant to its proposed implementation schedule by no later than 60 Days after submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the corrective action plan and schedule remain subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

19.DD. **Tank Geodomes**. No later than two (2) calendar years following the Date of Entry of the Sixth Amendment, BP Products shall either install "geodome" tank covers on or permanently shutdown the tanks located at the Texas City Facility listed in Appendix M.

i. The geodome tank covers shall be designed and installed so as to reduce the potential annual aggregate benzene emissions from the tanks listed in Appendix M by no less than approximately 3.09 tons, as estimated by EPA's TANKS 4.09D methodology;

ii. In lieu of installing geodome tank covers, BP Products may install alternative technology on the tanks listed in Appendix M provided that BP Products demonstrates that the alternative technology will provide at least equivalent reductions in benzene emissions to installation of geodome tank covers. BP Products shall submit written notification to EPA if it elects this option. This notice shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

iii. Semi-annual Progress Reports. BP Products shall submit semi-annual progress reports regarding the requirements of sub-paragraph 19.DD. to EPA in accordance with Section VIII of the Consent Decree, as amended.

iv. BP Products shall not generate or use any benzene reductions that result from the projects required under this sub-paragraph 19.DD. as VOC netting reductions or emissions offset credits in any PSD, major non-attainment, and/or minor New Source Review ("NSR") permit or permit proceeding.

v. Certification. By signing this Sixth Amendment, BP Products certifies that it is not required to undertake the actions required by sub-paragraph 19.DD. under any federal, state, or local law or regulation, or as injunctive relief awarded in any other action in any forum, including TCEQ Agreed Order Docket Nos. 2001-0329-AIR-E and 2001-1088-AIR-E.

19.EE. **Summary of Submission Requirements for the Benzene Waste Operations NESHAP Compliance and Enhanced Compliance Measures**.

In addition to the reporting requirements of 40 C.F.R. § 61.357, at the times specified herein, BP Products shall submit the following to EPA:

a. Annual TAB Report pursuant to sub-paragraph 19.A.iii.;

b. Benzene Waste Stream Review and Verification Report pursuant to sub-paragraph 19.D.ii.;

c. Review and Verification Corrective Action Plan, if necessary, pursuant to sub-paragraph 19.D.iii

d. Amended TAB Report, if necessary, pursuant to sub-paragraph 19.D.iv.;

e. Future Waste Management Unit and/or Waste Stream notification, control plan, and implementation schedule, if necessary, pursuant to sub-paragraph 19.D.v.;

f. Carbon Canister Project Completion Report pursuant to sub-paragraphs 19.F.iv. and 19.S.;

g. Request to use the “single canister” option pursuant to sub-paragraph19.F.v.;

h. Notice of intent to use control technology other than carbon canisters pursuant to sub-paragraph 19.F.vi;

i. Semi-annual Management of Change Progress Reports pursuant to sub-paragraph 19.G.iii.;

j. Revised EOL Sampling Plan pursuant to sub-paragraph 19.N.i.a. and, if necessary, sub-paragraph 19.N.i.b.;

k. Request to Terminate or Revise Frequency of Sampling pursuant to sub-paragraph 19.N.ii.a.;

l. Semi-annual EOL Reports pursuant to sub-paragraph 19.V., as amended;

m. Root Cause Failure Analyses and Corrective Action Plans, if necessary, pursuant to sub-paragraphs 19.V.iv.a;

n. Certification of Compliance pursuant to sub-paragraph 19.V.viii.;

o. Request to Terminate or Revise Frequency of Sampling pursuant to sub-paragraph 19.W.iii.c(1);

p. Cooling Tower System Leak TAB line item pursuant to sub-paragraph 19.W.v.;

q. Semi-annual Cooling Tower System Progress Reports pursuant to sub-paragraph 19.W.vi.;

r. Notice of Intent to Install Improved Cooling Tower Automated Monitoring and/or Sampling Technology, if applicable, pursuant to sub-paragraph 19.W.vii.a.;

s. Semi-annual EOL and EBU GC Monitoring Data pursuant to sub-paragraph 19.X.i.c.;

t. Quality Assurance Project Plan ("QAPP") pursuant to sub-paragraph 19.X.ii.a;

u. DIAL EBU Monitoring Data pursuant to sub-paragraph 19.X.ii.d.;

v. Notice of DIAL EBU Monitoring Test pursuant to sub-paragraph 19.X.ii.e.;

w. East and Central Plant Overflow Controls Implementation Plan pursuant to sub-paragraph 19.Y.ii.b.;

x. Benzene PMOP Plan pursuant to sub-paragraph 19.AA.i.;

y. Gravity Sewer Integrity Testing and Repair Semi-annual Progress Reports pursuant to sub-paragraph 19.AA.ii.a.5;

z. Benzene Product Line Raising Semi-annual Progress Reports pursuant to sub-paragraph 19.BB.i.;

aa. Benzene Controls Compliance Audit Corrective Action Plan, if necessary, pursuant to sub-paragraph 19.CC.iii.;

bb. Request to use control technology other than geodome tank covers, if necessary, pursuant to sub-paragraph 19.DD.ii.;

cc. Tank Geodome Semi-annual Progress Report pursuant to sub-paragraph 19.DD.iii.; and

dd. Semi-annual Progress Reports pursuant to Section VIII of the Consent Decree, as amended.

All submittals listed above shall include the certification language set forth in Paragraph 34 of the Consent Decree.

13. The Consent Decree is amended by adding the following new **Paragraph 24-A (CFC Compliance Measures)** at the end of **Paragraph 24** (**EPCRA Audits)**:

24-A. CFC Compliance Measures:

24-A(A). Definitions. In addition to the definitions listed in Section IV of the Consent Decree and Section III of this Sixth Amendment, the following shall apply to the provisions of this Paragraph:

i. "Comfort Cooling Appliance" or "CCA" shall mean any cooling appliance covered by 40 C.F.R. § 82.156(i)(5) that: 1) contains fifty (50) or more pounds of refrigerant, and 2) is not directly linked to any industrial, manufacturing, and/or commercial process at the Texas City Facility. This definition includes all cooling appliances listed in Appendix N (or the updated Appendix N required under sub-paragraph 24-A(B)vii) under a Duty Type of "Other Refrigeration".

ii. "HRU Chiller" shall mean the IPR (as defined below) with York Compressor Model No. 805-H located at the Hydrogen Recovery Unit of the Resid Hydrotreater Unit at the Texas City Facility;

iii. “Industrial Process Refrigeration Appliance” or “IPR” shall mean a cooling appliance regulated under the Recycling and Emissions Reduction Regulations and that is directly linked to an industrial and/or manufacturing process;

iv. “ODS-Leak” or “ODS-Leaks” shall mean, for purposes of Paragraph 24-A of the Sixth Amendment, the loss of containment of an Ozone Depleting Substance that exceeds the relevant leak rate threshold specified in 40 C.F.R. 82.156(i)(2) for IPRs or 40 C.F.R. 82.156(i)(5) for CCAs during a 12-month period.

v. “Monitoring” shall mean efforts undertaken to detect ODS-Leaks using one or more of the test methods listed within Section E of EPA’s October 1995 *Compliance Guidance for Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act*. Sight glass testing shall not be used as the exclusive method for performing Monitoring.

vi. “Non-Ozone Depleting Substance” or “Non-ODS” shall mean a refrigerant that is: 1) not an ODS (as defined below), 2) has an ozone depleting potential of zero (0), and 3) is approved by EPA, under 40 C.F.R. Part 82, Subpart G, for the end use of an IPR or CCA;

vii. “Non-ODS System” shall mean any cooling system (*e.g*., IPR or CCA) that either: 1) contains only a Non-ODS refrigerant, or 2) contains no refrigerant;

viii. “Ozone Depleting Substance” or “ODS” shall mean a refrigerant that is regulated under Subchapter VI of the Clean Air Act, 42 U.S.C. §§ 7671-7671q or the implementing regulations at 40 C.F.R. Part 82 as a Class I or Class II substance, or a blend of such Class I or Class II substances;

ix. "Ozone Depleting System" or "ODS System" shall mean any cooling system (*e.g.*, IPR or CCA) other than a Non-ODS System as defined herein;

x. "Recycling and Emissions Reduction Regulations" shall mean the Recycling and Emissions Reduction Regulations for Refrigerants promulgated at 40 C.F.R. Part 82, subpart F, pursuant to Subchapter VI of the Clean Air Act, 42 U.S.C. §§ 7671 – 7671q;

xi. "Replace" or "Replacement" shall mean to remove an existing ODS System and to replace it with a Non-ODS System;

xii. "Retire" or "Retirement" shall mean the permanent removal of an existing cooling appliance from service, together with the proper removal of all refrigerant from the appliance;

xiii. "Retrofit" shall mean a designed change (*e.g.*, conversion) of a cooling appliance from an ODS System to a Non-ODS System;

24-A(B) Compliance Measures.

i. **Retrofits/Replacements**.

a. HRU Chiller. By no later than July 1, 2011, BP Products shall Retire, Retrofit, and/or Replace the HRU Chiller with a Non-ODS System. BP Products represents that the HRU Chiller is the only IPR located at the Texas City Facility. If BP Products Retires the HRU Chiller, any new IPR installed at the Texas City Facility shall be a Non-ODS System.

b. Comfort Cooling Appliances. By no later than three (3) months following the Date of Entry of the Sixth Amendment, BP Products shall submit a plan and schedule to EPA to Retire, Retrofit, or Replace each CCA listed in

Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii) with a Non-ODS System. By no later than three (3) years following the Date of Entry of the Sixth Amendment, BP Products must complete all Retirements, Retrofits, and Replacements required under the plan. BP Products shall complete Retirement, Retrofitting, and/or Replacement of at least one-third of the CCAs listed in Appendix N by no later than one calendar year following the Date of Entry of the Sixth Amendment. This plan shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the plan pursuant to its proposed schedule by no later than 60 Days after submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the plan and schedule remain subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

1. Priority Locations. BP Products shall complete the Retirement, Retrofit, or Replacement of all CCAs listed in Appendix N in at least the following locations within the Texas City Facility by no later than one (1) calendar year following the Date of Entry of the Sixth Amendment:
    A. Cat Feed Hydrotreating Unit ("CFHU");
    B. Cokers;
    C. Resid Hydrotreating Unit 120 East SG; and

D. Refinery Warehouse.

c. Following the Date of Entry of the Sixth Amendment, BP Products shall not convert any Non-ODS System at the Texas City Facility to an ODS-System. No CCA listed in Appendix N (or the updated Appendix N required under sub-paragraph 24-A(B)vii) may be removed from one location within the Texas City Facility and reinstalled in another location without first being Retrofitted prior to its re-installation. In addition, BP Products shall not use an ODS System to replace the functions of a CCA Retired pursuant to the requirements of this Paragraph.

d. Chronic Leakers.

1. HRU Chiller. Until the HRU Chiller is either Retired, Replaced, and/or Retrofitted with a Non-ODS System in accordance with this Paragraph, the HRU Chiller shall be subject to the following requirements. Following the Date of Entry of the Sixth Amendment, or the date on which the HRU Chiller becomes operational, whichever is later, BP Products shall perform at least quarterly Monitoring of the HRU Chiller. BP Products shall also conduct leak rate calculations of the HRU Chiller anytime refrigerant is added to the HRU Chiller or the HRU Chiller is evacuated to repair an ODS-Leak.

A. Within thirty (30) Days after BP Products determines or has information demonstrating that the HRU Chiller: 1) is leaking such that the loss of refrigerant exceeds or shall exceed the leak rate threshold provided in 40 C.F.R. § 82.156(i)(2) during any

12-month period, and 2) such leak rate has occurred for two consecutive thirty (30) Day periods, the HRU Chiller shall be shutdown until compliance can be assured or the HRU Chiller is Retrofitted or Replaced.

B. In addition, if after the Date of Entry of the Sixth Amendment the HRU Chiller experiences three (3) or more ODS-Leaks within any rolling 12-month period, regardless of whether the ODS-Leaks occur in consecutive months or not, the HRU Chiller shall be shut down and shall not be restarted until the HRU Chiller is Retired, Retrofitted, and/or Replaced in accordance with this Paragraph.

2. Comfort Cooling Appliances. Until the CCAs listed in Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii) are either Retired, Replaced, or Retrofitted with Non-ODS Systems in accordance with this Paragraph, the CCAs shall be subject to the following requirements. Following the Date of Entry of the Sixth Amendment, BP Products shall perform at least semi-annual Monitoring on each CCA that has not yet been Retired, Replaced, and/or Retrofitted. BP Products shall also conduct leak rate calculations for each CCA listed in Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii) that has not yet been Retired, Replaced, and/or

Retrofitted anytime refrigerant is added to the CCA or the CCA is evacuated to repair an ODS-Leak.

A. Following the Date of Entry of the Sixth Amendment, if any CCA at the Texas City Facility experiences three (3) or more ODS-Leaks within any rolling 12-month period, regardless of whether the ODS-Leaks occur in consecutive months or not, BP Products shall Retire, Retrofit, or Replace the CCA within six (6) months from the date BP Products determines or has information demonstrating the third ODS-Leak unless necessary parts or Replacement CCAs are unavailable.

B. If necessary parts or Replacement CCAs are unavailable, BP Products shall Retire, Retrofit, and/or Replace the CCA within twelve (12) months from the date BP Products determines or has information demonstrating the third ODS-Leak. Within 90 Days of determining that necessary parts or Replacement CCAs are unavailable, BP Products shall submit documentation to EPA demonstrating that the necessary parts or Replacement CCAs are unavailable.

e. All refrigerant removed or evacuated from the HRU Chiller and CCAs while they are Retired, Retrofitted, or Replaced shall either be: 1) sent for destruction (as defined in 40 C.F.R. § 82.104(h); 2) reclaimed (as defined in 40 C.F.R. § 82.152) by a certified reclaimer (as defined in 40 C.F.R.

§ 82.164); or 3) recycled or recovered using equipment certified in accordance with 40 C.F.R. § 82.158.

ii. **New Permanent Cooling Appliances**. Beginning on the Date of Entry of the Sixth Amendment and continuing thereafter, any new permanently installed IPR and/or CCA installed at the Texas City Facility shall be a Non-ODS System.

iii. **Comprehensive ODS-Leak Checks and Repairs**.

a. HRU Chiller. Prior to restarting the HRU, BP Products shall retain a third-party certified technician to perform a complete and thorough leak check of all HRU Chiller components that have the potential to leak refrigerant. These components include, but are not limited to, the HRU Chiller's piping, valves, compressors, and nozzles. The technician must be properly certified in accordance with a technician certification program that has been approved pursuant to the provisions of 40 C.F.R. § 82.161.

1. Any ODS-Leaks found shall be repaired in accordance with sound professional judgment to prevent their recurrence before the HRU Chiller is restarted;
2. Initial and follow-up verification testing shall be performed in accordance with the requirements of 40 C.F.R. § 82.156 using one or more test methods listed within Section E of EPA's October 1995 *Compliance Guidance for Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act*. Sight glass testing shall not be used as the exclusive method for performing either initial or follow-up verification testing; and

3. The first CFC Annual Report shall include a listing of any ODS-Leaks found by the technician, a description of any actions taken to repair the ODS-Leaks, a description of the initial and verification testing methods used to verify repairs made, and the results of such verification testing.

b. Comfort Cooling Appliances. Within 90 Days of the Date of Entry of the Sixth Amendment, BP Products shall retain a third-party technician(s) that is certified in accordance with a technician certification program that has been approved pursuant to the provisions of 40 C.F.R. § 82.161. This technician shall perform a complete leak check of each CCA listed in Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii).

1. Leak checks shall be completed no later than 180 Days following the Date of Entry of the Sixth Amendment;
2. Any ODS-Leaks founds by the technician shall be repaired in accordance with sound professional judgment to prevent their recurrence;
3. Both initial and follow-up verification testing shall be performed in accordance with the requirements of 40 C.F.R. § 82.156 on all CCAs evaluated by the technician using one or more test methods listed within Section E of EPA's October 1995 *Compliance Guidance for Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act*.

4. The first CFC Annual Report shall include a listing of any ODS-Leaks found by the technician, a description of any actions taken to repair the ODS-Leaks, a description of the initial and follow-up verification testing methods used to verify repairs made, and the results of such verification testing.

c. The requirements of this sub-paragraph 24-A(B)iii to perform ODS-Leak checks and repairs on the HRU Chiller and all CCAs listed in Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii) may be fulfilled by the ongoing work being performed at the Texas City Facility that was initiated on or about August 2007 by BP Products' third-party contractors Carrier Commercial Services and Coopwood's Air Conditioning Inc., provided that those activities will otherwise fulfill the requirements of this sub-paragraph.

iv. **CFC Preventative Maintenance Protocol**.

a. No later than 60 Days following the Date of Entry of the Sixth Amendment, BP Products shall submit a CFC Preventative Maintenance Protocol to EPA. The CFC Preventative Maintenance Protocol shall establish written procedures to ensure that all cooling appliances (IPRs, CCAs, and others) at the Texas City Facility comply with the Recycling and Emissions Reduction Regulations. The CFC Preventative Maintenance Protocol shall furthermore include specific written procedures to Monitor for, prevent, and minimize ODS-Leaks from all cooling appliances located at the Texas City Facility. The CFC

Preventative Maintenance Protocol shall require that at least the following actions shall be performed at the Texas City Facility:

1. Quarterly Monitoring for the HRU Chiller and semi-annual Monitoring for each CCA listed in Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii) until such cooling appliances are Retired, Replaced, and/or Retrofitted in accordance with the requirements of this Paragraph;
2. Calculation of leak rates for each cooling appliance at the Texas City Facility any time refrigerant is added or the cooling appliance is evacuated to repair an ODS-Leak; and
3. Initial and follow-up verification testing shall be performed for the HRU Chiller and each CCA in accordance with the requirements of 40 C.F.R. § 82.156 using one or more test methods listed within Section E of EPA's October 1995 *Compliance Guidance for Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act*. Sight glass testing shall not be used as the exclusive method for performing either initial or follow-up verification testing.

b. The CFC Preventative Maintenance Protocol shall be subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended. BP Products shall implement the CFC Preventative Maintenance Protocol by no later than 60 Days after

submission to EPA. If EPA does not submit comments to BP Products within the 60-Day period for implementation, the CFC Preventative Maintenance Protocol remains subject to EPA comment in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

c. Upon implementation of the CFC Preventative Maintenance Protocol, BP Products shall comply with its requirements at all times.

v. **CFC Compliance Manager**. By no later than the Date of Entry of the Sixth Amendment, BP Products shall designate at least one full-time employee to be the CFC Compliance Manager for the Texas City Facility. The CFC Compliance Manager shall assume overall accountability (*i.e.*, shall act as the "single point of accountability" or "SPA") for managing and overseeing the Texas City Facility's compliance with the Recycling and Emissions Reduction Regulations and the Stratospheric Ozone Protection provisions of the Clean Air Act, 42 U.S.C. §§ 7671 – 7671q. The CFC Compliance Manager's responsibilities shall include, but shall not be limited to, the following specific duties, responsibilities, and authorities:

a. The CFC Compliance Manager shall successfully complete and undergo regular training in the specific requirements of the Recycling and Emissions Reduction Regulations, and must be familiar with such requirements;

b. The CFC Compliance Manager shall understand and be familiar with the requirements of the CFC Compliance Measures required under this Sixth Amendment;

c. The CFC Compliance Manager shall manage and coordinate all internal activities relating to any actions required at the Texas City Facility for compliance with the Recycling and Emissions Reduction Regulations and this Sixth Amendment;

d. The CFC Compliance Manager shall maintain all records required under the Recycling and Emissions Reduction Regulations and this Sixth Amendment. The CFC Compliance Manager shall also ensure that all information maintained in the CFC Compliance Database is current and up-to-date;

e. The CFC Compliance Manager shall ensure that required reports and/or notifications are received in a timely manner by EPA and any other applicable air pollution control agencies;

f. The CFC Compliance Manager shall verify that any inspections, monitoring, repairs, and/or Retrofit, Replacement, or Retirement work required at the Texas City Facility under the Recycling and Emissions Reduction Regulations and/or this Sixth Amendment are performed by technicians and/or contractors that are properly certified and licensed in accordance with a technician certification program that has been approved pursuant to the provisions of 40 C.F.R. § 82.161 and any other applicable certification or licensing requirements;

g. The CFC Compliance Manager shall verify that any inspections, monitoring, repairs, and/or Retrofit, Replacement, or Retirement work required under this Sixth Amendment and/or the CFC Preventative

Maintenance Protocol are performed in a timely manner and in accordance with the Recycling and Emissions Reduction Regulations and this Sixth Amendment;

h. The CFC Compliance Manager shall be given full authority to carry out his/her responsibilities, including the authority to stop any inspections, monitoring, repairs, and/or Retrofit, Replacement, or Retirement work required at the Texas City Facility under the Recycling and Emissions Reduction Regulations and/or this Sixth Amendment; and

i. The CFC Compliance Manager shall be generally available at the Texas City Facility at all times during normal business hours (excluding holidays and reasonable vacation) and additionally, as needed. If the CFC Compliance Manager shall not be able to perform his/her duties for an extended period of time, BP Products shall provide an alternate CFC Compliance Manager as soon as possible that is capable of performing all duties, responsibilities, and authorities required under this Paragraph until the original CFC Compliance Manager is able to resume his/her position.

vi. **CFC Compliance Database**. By no later than the Date of Entry of the Sixth Amendment, BP Products shall begin operating a Refrigerant Compliance Management software system ("RCM System") that shall be used to maintain all information at the Texas City Facility required by the Recycling and Emissions Reduction Regulations and this Sixth Amendment. The RCM System may be comprised of more than one database(s) and/or application(s).

Upon request by EPA or the United States, BP Products shall identify each database and/or application comprising the RCM System.

a. BP Products shall include at least the following information within the RCM System:

    1. All information regarding maintenance and/or inspections of each cooling appliance at the Texas City Facility, including, but not limited to:

        A. The dates such maintenance and/or inspections are scheduled for;

        B. The dates such maintenance and/or inspections are actually performed;

        C. The nature of the inspection and/or maintenance work performed; and

        D. Any ODS-Leaks found or other findings made during the inspection and/or maintenance work;

    2. All information regarding any repairs made to each cooling appliance at the Texas City Facility including, but not limited to:

        A. The date any repair work was performed; and

        B. The nature of the repair work performed;

    3. All information regarding initial and follow-up verification testing performed on any cooling appliance at the Texas City Facility including, but not limited to:

        A. The type of verification test method used;

        B. The dates such verification testing was performed; and

        C. The results of such verification testing;

    4. Calculated leak rates for each refrigerant circuit within each cooling appliance at the Texas City Facility;

5. Whether any cooling appliance is required to be Retrofitted, Replaced, and/or Retired including, but not limited to;

   A. Whether a cooling appliance shall be Retrofitted, Replaced, or Retired;

   B. The deadline by which such Retrofitting, Replacement, or Retirement must be complete; and

   C. The type of cooling appliance with which an existing cooling appliance shall be Retrofitted and/or Replaced; and

6. All information regarding required personnel training including, but not limited to:

   A. The name of each employee subject to training requirements under the Recycling and Emissions Reduction Regulations and/or this Sixth Amendment;

   B. A description of the training requirements for each employee;

   C. The scheduled dates by which each employee must complete individual training requirements; and

   D. The date each such training requirement is successfully completed for each employee;

7. Available historical records and data regarding these categories of information shall be input into RCM system.

b. BP Products shall ensure that the RCM System has the functionality to provide notifications in a timely manner to appropriate personnel at the Texas City Facility regarding any individual duties and/or responsibilities they may have to ensure compliance with the Recycling and Emissions Reduction Regulations and this Sixth Amendment. This functionality shall include timely notifications regarding impending deadlines for required ODS-Leak repairs, submission of Replacement, Retrofit, and/or Retirement plans, completion of Replacement, Retrofit,

and/or Retirement work requirements, and/or reporting requirements. This functionality shall also include timely notifications regarding impending deadlines to complete other individual obligations, such as periodic training requirements. The RCM System shall have the functionality to provide such notifications upon entry of "triggering" data (such as entry of a non-complying leak rate or failed verification test for individual cooling appliances) and based on the approach and passage of scheduled calendar dates for recurring tasks.

c. Any outstanding obligations to perform leak repairs, submit Replacement, Retrofit, and/or Retirement plans, and perform Replacement, Retrofit, and/or Retirement work shall be listed as open action items in the Texas City Facility's Traction database until completed.

vii. **Cooling Appliance Inventory Certification**. No later than 60 Days following the Date of Entry of the Sixth Amendment, BP Products shall submit an updated Appendix N that includes an itemized inventory to EPA of all cooling appliances (IPRs, CCAs, and any other cooling appliances) at the Texas City Facility that are regulated pursuant to the Recycling and Emissions Reduction Regulations. Upon submission, BP Products shall certify to EPA that this inventory is complete and accurate. This certification shall contain the verification statement required under sub-paragraph 24-A(B)viii.f. to be included in Annual CFC Reports. The inventory shall include at least the following information for each refrigerant circuit for each cooling appliance:

a. The general location of the cooling appliance within the Texas City Facility;

b. The appliance number;

c. The type of cooling appliance system;

d. The type of refrigeration duty performed by the cooling appliance (Industrial Process, Comfort Cooling, Commercial, or other);

e. The manufacturer of the cooling appliance;

f. The model number of the cooling appliance;

g. The serial number of the cooling appliance;

h. The type of refrigerant used in the cooling appliance; and

i. The full charge amount of each circuit within the cooling appliance.

viii. **Annual CFC Reports**. In lieu of the calendar quarterly reporting requirements of Section VIII, Paragraph 33 of the Consent Decree, as amended, by no later than one calendar year following the Date of Entry of the Sixth Amendment, BP Products shall begin submitting annual progress reports ("Annual CFC Reports") to EPA. Annual CFC Reports shall include the information required under Section VIII of the Consent Decree, as amended, as well as the following information:

a. A description of all actions completed over the previous calendar year to Retire, Retrofit, and/or Replace the HRU Chiller by the deadline specified in sub-paragraph 24-A(B)i.a., as well as the date each action was completed; a description of each new cooling appliance or other equipment installed to Replace or Retrofit the HRU Chiller; the type of Non-ODS refrigerant used to Retrofit or Replace the HRU Chiller; and

documentation showing that any refrigerant destroyed, reclaimed, recovered, and/or recycled was done so in accordance with the requirements of this Sixth Amendment and 40 C.F.R. Part 82;

b. An itemized listing of each CCA that has been Retired, Replaced, and/or Retrofitted over the previous calendar year, as well as a description of the actions taken with respect to each such cooling appliance; the date each action was completed; a description of each new cooling appliance or other equipment installed to Replace or Retrofit the CCAs; the type of Non-ODS refrigerant used in the Retrofitted or Replaced cooling appliances; and documentation showing that any refrigerant destroyed, reclaimed, recovered, and/or recycled was done so in accordance with the requirements of this Sixth Amendment and 40 C.F.R. Part 82;

c. A description of all ongoing activities to comply with the Retirement/Retrofit/Replacement requirements of sub-paragraph 24-A(B)i.;

d. A description of the actions taken to comply with the Comprehensive ODS-Leak Check and Repair requirements as specified in sub-paragraph 24-A(B)iii.a.3 and 24-A(B)iii.b.4;

e. A listing of the calculated leak rates for the HRU Chiller and each CCA listed in Appendix N (and any additional CCAs listed in the updated Appendix N required under sub-paragraph 24-A(B)vii) over the previous calendar year; and

f. Each Annual CFC Report shall contain the following certification signed by a responsible corporate officer of BP Products:

> "I, _____, certify under penalty of law that this document and all attachments were 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 inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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."

14. The Consent Decree is amended by adding the following new **Paragraph 24-B (Asbestos Compliance Measures)** at the end of **Paragraph 24 (EPCRA Audits)** of the Consent Decree (and also after Paragraph 24-A (CFC Compliance Measures) added by the Sixth Amendment)):

24-B. Asbestos Compliance Measures:

24-B(A) Definitions. In addition to the definitions listed in Section IV of the Consent Decree and Section III of this Sixth Amendment, the following shall apply to the provisions of this Paragraph:

i. "Asbestos NESHAP" shall mean the National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated at 40 C.F.R. Part 61, subpart M pursuant to Section 112 of the Clean Air Act, 42 U.S.C. § 7412; and

ii. "ACM" shall mean asbestos-containing materials.

24-B(B) Compliance Measures.

i. **Asbestos Compliance Manager**. By no later than the Date of Entry of the Sixth Amendment, BP Products shall designate at least one full-time employee

to be the Asbestos Compliance Manager for the Texas City Facility. The Asbestos Compliance Manager shall assume overall accountability (*i.e.*, shall act as the "single point of accountability" or "SPA") for managing and overseeing the Texas City Facility's compliance with the Asbestos NESHAP. The Asbestos Compliance Manager's responsibilities shall include, but shall not be limited to, the following specific duties, responsibilities, and authorities:

a. The Asbestos Compliance Manager shall be familiar with all applicable federal, state, and local laws and regulations governing notifications, scheduling, removal, handling, transporting, disposal, training, and recordkeeping requirements for asbestos abatement activities, as well as general practices and procedures for detecting asbestos, sampling for asbestos, controlling release of asbestos, worker protection, and equipment handling and decontamination procedures;

b. The Asbestos Compliance Manager shall understand and be familiar with the requirements of the Asbestos Compliance Measures required under this Sixth Amendment;

c. By no later than six (6) months following the Date of Entry of the Sixth Amendment, the Asbestos Compliance Manager shall successfully complete and maintain current certification in the U.S. EPA/State-approved training courses and periodic refresher courses required by 40 C.F.R. § 61.145(c)(8), as well as for the disciplines listed at 40 C.F.R. Part 763, Subpart E, Appendix C - Asbestos MAP, in the categories of Contractor/Supervisor (which also allows one to perform as a Worker) and Inspector;

d. The Asbestos Compliance Manager shall be familiar with any renovation or demolition project undertaken at the Texas City Facility that could or does affect ACM;

e. The Asbestos Compliance Manager shall verify that all employees or contractors working on demolition or renovation activities are in current compliance with any licensing, certification, and training requirements imposed by federal, state, and local laws and regulations by contacting the appropriate Texas state agencies authorized to approve asbestos training;

f. The Asbestos Compliance Manager shall ensure that EPA and all applicable state and local air pollution control agencies receive asbestos-

related notifications and reports required under all applicable laws and regulations and under this Sixth Amendment in a timely manner;

g. The Asbestos Compliance Manager shall manage and coordinate all of the Texas City Facility's internal activities relating to asbestos emissions control and compliance with applicable regulations;

h. The Asbestos Compliance Manager shall ensure that asbestos-related inspections are conducted in accordance with the provisions of this Sixth Amendment and the Asbestos NESHAP before any demolition or removal work is performed at the Texas City Facility;

i. The Asbestos Compliance Manager shall oversee maintenance of all records dealing with asbestos removal and disposal at the Texas City Facility required under applicable federal, state, and local laws, including all records required under this Sixth Amendment. The Asbestos Compliance Manager shall also ensure that all information maintained in the Asbestos Compliance Database is current and up-to-date;

j. The Asbestos Compliance Manager shall ensure that any samples from the Texas City Facility to determine the presence of ACM, are collected in accordance with the following EPA guidance documents: *Guidance for Controlling Asbestos-Containing Materials in Buildings* (EPA 560/5-85-024 (June 1985)); *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials* (EPA 560/5-85-030a (Oct. 1985)), and *Guidelines for Asbestos NESHAP Demolition and Renovation Inspection Procedures (Revised)* (EPA 340/1/90-007 (Nov. 1990)); provided, however, that if any of the foregoing guidance documents are superseded or revised during the duration of this Sixth Amendment, samples shall be taken in accordance with the superseding or revised guidance documents. Samples that are analyzed by, or at the request of BP Products for the Texas City Facility, shall be sent to an appropriately qualified laboratory that participates in a NVLAP or equivalent program;

k. The Asbestos Compliance Manager shall be given full authority to carry out his/her responsibilities, including the authority to stop work; and

l. The Asbestos Compliance Manager shall be generally available at the Texas City Facility at all times during normal business hours (excluding holidays and reasonable vacation) and additionally, as needed. If the Asbestos Compliance Manager shall not be able to perform his/her duties for an extended period of time, BP Products shall provide an alternate Asbestos Compliance Manager as soon as possible that is capable of performing all duties, responsibilities, and authorities

required under this Paragraph until the original Asbestos Compliance Manager is able to resume his/her position.

ii. **Supervisors**. By no later than one (1) year following the Date of Entry of the Sixth Amendment, BP Products shall ensure that at least one full-time supervisory employee (e.g., Asset Coordinator or Maintenance Supervisor) at each unit within the Texas City Facility where ACM is located has successfully completed the U.S. EPA-approved training courses and periodic refresher courses required by 40 C.F.R. § 61.145(c)(8), as well as for the disciplines listed at 40 C.F.R. Part 763, Subpart E, Appendix C - Asbestos MAP, in the categories of Contractor/Supervisor (which also allows one to perform as a Worker) and Inspector.

a. The designated supervisory employees shall have the following additional specific duties, responsibilities, and authorities:

1. The designated supervisory employee must be knowledgeable in the facilities and equipment of the Texas City Facility unit for which they are responsible;
2. The designated supervisory employee must visually inspect the unit's equipment and facilities on a regular basis to determine if conditions warranting asbestos abatement activities, including any removal or demolition work, to manage or remove ACM are present;
3. The designated supervisory employee must maintain oversight of any asbestos abatement work, including any removal or demolition work, being performed at the unit for which they are

responsible to ensure that it is conducted in accordance with the provisions of the Asbestos NESHAP and this Sixth Amendment;

4. The designated supervisory employee must immediately take all necessary actions to correct any violations of the Asbestos NESHAP he/she discovers. If an immediate remedy is not possible, the designated supervisory employee shall stop all asbestos abatement activities, including any removal or demolition work, until such violations are reported to the Asbestos Compliance Manager and corrected;
5. The designed supervisory employee shall be given full authority to carry out his/her responsibilities, including the authority to stop work; and
6. The designed supervisory employee shall communicate with line employees on a regular basis to ensure that they are kept aware of areas and equipment within the unit that contains ACM.

b. BP Products shall have the option to submit written certification to EPA, containing the certification statement required under sub-paragraph 24-B(B)viii.c., that a unit does not contain ACM insulation and may accordingly be designated as "ACM Insulation Free". For any unit(s) certified by BP Products as being ACM Insulation Free, the requirements of this sub-paragraph 24-B(B)ii. shall no longer apply.

iii. **Asbestos Compliance Information Management System**. By no later than 180 Days following the Date of Entry of the Sixth Amendment, BP Products

shall begin operating an Asbestos Compliance Information Management System that shall be used to maintain all information at the Texas City Facility required by the Asbestos NESHAP and this Sixth Amendment. The Asbestos Compliance Information Management System may be comprised of more than one database(s) and/or application(s). Upon request by EPA or the United States, BP Products shall identify each database and/or application comprising the Asbestos Compliance Information Management System.

a. BP Products shall include at least the following information within the electronic Asbestos Compliance Information Management System:

    1. All information regarding asbestos abatement, removal, and demolition activities including, but not limited to:

        A. The dates such abatement, removal, and/or demolition work are scheduled for;

        B. The dates such abatement, removal, and/or demolition are actually performed;

        C. The nature of the abatement, removal, and/or demolition work performed;

        D. The specific location within the Texas City Facility at which the abatement, removal, and/or demolition work shall be performed; and

        E. The quantity of ACM involved in the abatement, removal, and/or demolition work performed;

    2. All information regarding each asbestos-related inspection performed at the Texas City Facility including, but not limited to:

        A. The dates such inspections are scheduled for;

        B. The dates such inspections are actually performed;

C. The specific location within the Texas City Facility at which the inspection shall be performed; and

D. The nature of the inspections performed and any findings made;

3. All information regarding the disposal of ACM from the Texas City Facility including, but not limited to:

   A. The identity and location of any facility to which any ACM from the Texas City Facility shall be sent for disposal, handling, and/or treatment;

   B. The dates such ACM is sent to any facility for disposal, handling, and/or treatment;

   C. The quantity of ACM sent for disposal, handling, and/or treatment;

   D. The specific source unit and/or area within the Texas City Facility from which the ACM being sent for disposal, handling, and/or treatment was removed; and

   E. The manifest number and date of any EPA, state, and/or local manifest required for shipments of ACM;

4. All information regarding required asbestos-related personnel training including, but not limited to:

   A. The name of each employee subject to asbestos-related training requirements;

   B. A description of the training requirements for each employee;

   C. The scheduled dates by which each employee must complete individual training requirements; and

   D. The date each such training requirement is successfully completed for each employee;

5. Available historical abatement, removal, and demolition records and data shall be input into the Asbestos Compliance Information Management System.

b. BP Products shall ensure that the Asbestos Compliance Information Management System has the functionality to provide alerts or other notifications in a timely manner to appropriate personnel at the Texas City Facility regarding any individual duties and/or responsibilities they may have to ensure compliance with the Asbestos NESHAP and this Sixth Amendment. This functionality shall include timely alerts or other notifications regarding impending deadlines for required inspections, submissions of notifications, completion of asbestos abatement, removal, or demolition work requirements, and/or other reporting requirements. This functionality shall also include timely alerts or other notifications regarding impending deadlines to complete other individual obligations, such as periodic training requirements. The Asbestos Compliance Information Management System shall have the functionality to provide such alerts or other notifications upon entry of "triggering" data (such as entry of scheduled dates for asbestos abatement, removal, or demolition work) and based on the approach and passage of scheduled calendar dates for recurring tasks.

c. Any outstanding obligations to perform asbestos abatement, removal, or demolition work shall be listed as individual open action items in the Texas City Facility's Asbestos Compliance Information Management System until completed.

iv. **Notifications**. Following the Date of Entry of the Sixth Amendment, if BP Products becomes aware of or receives any information indicating that any

asbestos demolition and/or removal work being performed at the Texas City Facility does not comply with the Asbestos NESHAP, BP Products shall submit written notification of such non-compliance to EPA within 48 hours. This notification shall describe the nature of the work being performed, the location where such work is occurring within the Texas City Facility, the amount of ACM involved in the work being performed, the nature of the non-compliance, the duration of such non-compliance, and any remedial action taken. Nothing in this sub-paragraph is intended to limit or disqualify BP Products from consideration under EPA's Audit Policy or any applicable state audit policy, on the grounds that information was not discovered and disclosed voluntarily, regarding violations of the Asbestos NESHAP that BP Products has provided notification of pursuant to this sub-paragraph.

v. **Availability of Written Asbestos-Related Policies**. By no later than sixty (60) Days following the Date of Entry of the Sixth Amendment, BP Products shall ensure that current written asbestos policies and procedures for the Texas City Facility are readily available to all employees. Furthermore, these policies and procedures shall be given in either hard copy or electronic form to each employee and supervisor involved with asbestos activities at the Texas City Facility. Such policies and procedures shall address all of the asbestos-related requirements included in this Sixth Amendment, as well as the responsibilities of the Asbestos Compliance Manager, designated supervisory employees, and employees involved in asbestos-related work. These policies and procedures shall provide that both employees and contractors are encouraged to report any

violations of the Asbestos NESHAP to the Asbestos Compliance Manager or the designated supervisory employees for each unit with the Texas City Facility.

vi. **Replacement of ACM Insulation**. Following the Date of Entry of the Sixth Amendment, BP Products shall replace ACM insulation with non-ACM insulation as asbestos abatement, removal, and/or demolition work is conducted throughout the Texas City Facility. However, nothing herein is intended to require BP Products to fully replace all ACM insulation within a unit if BP determines that it is instead able to repair damaged ACM insulation.

vii. **Third-Party Asbestos Contractors**. No later than the Date of Entry of the Sixth Amendment, BP Products shall include a term in all contracts for any third-party contractors retained to perform asbestos abatement activities, including any asbestos demolition or removal work, at the Texas City Facility substantially similar to the following:

> The contractor's failure to adhere to the applicable Asbestos NESHAP requirements shall be deemed a material breach of this contract.

viii. **Annual Asbestos Reports**. In lieu of the calendar quarterly reporting requirements of Paragraph 33 of the Consent Decree, as amended, no later than one calendar year following the Date of Entry of the Sixth Amendment, BP Products shall begin submitting annual progress reports ("Annual Asbestos Reports") to EPA. Annual Asbestos Reports shall include the information required under Section VIII of the Consent Decree, as amended, as well as the following information:

a. A summary of all asbestos abatement, renovation, and removal work performed at the Texas City Facility over the preceding calendar year;

b. A listing of each employee and supervisor who has received the training required by this Sixth Amendment, a description of the training completed, the date such training was completed, the identity of the training provider, and, for each employee subject to the training requirements of this Paragraph, a copy of the certificate indicating that such training or refresher training was satisfactorily completed;

c. Each Annual Asbestos Report shall contain the following certification signed by a responsible corporate officer of BP Products:

> "I, _____, certify under penalty of law that this document and all attachments were 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 inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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."

V. PERMITTING REQUIREMENTS - SIXTH AMENDMENT

15. Section VI (Permitting) of the Consent Decree is amended by adding the following new **Section VI.A. (Permitting Requirements - Sixth Amendment)** at the end of Paragraph 27:

VI.A. Permitting Requirements - Sixth Amendment

27-A. Where any compliance obligation under the Sixth Amendment requires BP Products to obtain a federal, state, or local permit or approval, BP Products shall submit

timely and complete applications and take all other actions necessary to obtain all such permits or approvals. BP Products may seek relief under the provisions of Section XIII of the Consent Decree (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, provided that BP Products has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

VI. SUPPLEMENTAL ENVIRONMENTAL PROJECT - SIXTH AMENDMENT

16. Section VII (Environmentally Beneficial Projects) of the Consent Decree is amended by adding the following new **Section VII.A. (Supplemental Environmental Project - Sixth Amendment)** at the end of Paragraph 32:

VII.A. Supplemental Environmental Project - Sixth Amendment

32.A. BP Products shall implement a Supplemental Environmental Project (referred to as the "Natural Gas Conversion SEP"). The Natural Gas Conversion SEP shall be completed within twenty-four (24) months after the Date of Entry of this Sixth Amendment in accordance with the workplan and schedule set forth within Appendix O. The objective and purpose of the Natural Gas Conversion SEP shall be to reduce diesel emissions and gasoline emissions from the fleet of vehicles owned and/or operated by the City of Texas City, Texas and the Texas City Independent School District (and possibly two additional contiguous school districts) by converting at least 62 heavy-duty diesel vehicles (costing approximately $38,700 per conversion) and at least 38 light-duty gasoline vehicles (costing approximately $18,500 per conversion) to either compressed natural gas ("CNG") or liquefied natural gas ("LNG") vehicles. Additionally, as part of

the Natural Gas Conversion SEP, BP Products will provide support for the converted vehicles by constructing at least four (4) CNG/LNG refueling stations (costing approximately 585,000 each), develop a temporary Service Center (costing approximately $230,000) to provide necessary facilities for the conversion of the vehicles, and provide technical training for maintenance crews for the fleets. BP Products agrees to spend not less than six million dollars ($6,000,000) to implement the Natural Gas Conversion SEP.

32.B. BP Products is responsible for the satisfactory completion of the Natural Gas Conversion SEP in accordance with the requirements of this Sixth Amendment. BP Products may use contractors or consultants in planning and implementing the Natural Gas Conversion SEP.

32.C. With regard to the Natural Gas Conversion SEP, BP Products certifies the truth and accuracy of each of the following to the best of BP Products' knowledge and belief:

a. that all cost information provided to EPA in connection with EPA's approval of the Natural Gas Conversion SEP is complete and accurate;

b. that, as of the date of executing this Sixth Amendment, BP Products is not required to perform or develop the Natural Gas Conversion SEP by any federal, state, or local law or regulation and is not required to perform or develop the Natural Gas Conversion SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum;

c. that the Natural Gas Conversion SEP is not a project that BP Products was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Sixth Amendment;

d. that BP Products has not received and shall not receive credit for the Natural Gas Conversion SEP in any other enforcement action; and

e. that BP Products shall not receive any reimbursement for any portion of the Natural Gas Conversion SEP from any other person.

32.D. BP Products further certifies under penalty of law that it would have agreed to perform a comparably valued, alternative project other than a diesel emissions reduction Supplemental Environmental Project, if the Agency were precluded by law from accepting a diesel emissions reduction Supplemental Environmental Project.

32.E. Natural Gas Conversion SEP Completion Report. No later than 30 Days after the date set for completing the Natural Gas Conversion SEP, BP Products shall submit a Natural Gas Conversion SEP Completion Report to the United States, in accordance with Paragraph 82.A of the Consent Decree (Notice), as amended. The Natural Gas Conversion SEP Completion Report shall contain the following information:

a. a detailed description of the Natural Gas Conversion SEP as implemented;

b. a description of any problems encountered in completing the Natural Gas Conversion SEP and the solutions thereto;

c. an itemized list of all eligible Natural Gas Conversion SEP costs expended;

d. certification that the Natural Gas Conversion SEP has been fully implemented pursuant to the provisions of this Sixth Amendment; and

e. a description of the environmental and public health benefits resulting from implementation of the Natural Gas Conversion SEP (with a quantification of the benefits and pollutant reductions, if feasible).

32.F. EPA may, in its sole discretion, require information in addition to that described in the preceding sub-paragraph, in order to evaluate BP Products' completion report.

32.G. After receiving the Natural Gas Conversion SEP Completion Report, the United States shall notify BP Products whether or not it has satisfactorily completed the Natural Gas Conversion SEP. If BP Products has not completed the Natural Gas Conversion SEP in accordance with this Sixth Amendment, stipulated penalties may be assessed under Paragraph 49.A of the Consent Decree, as amended by the Sixth Amendment.

32.H. Disputes concerning the satisfactory performance of the Natural Gas Conversion SEP and the amount of eligible Natural Gas Conversion SEP costs may be resolved under Section XIV of the Consent Decree (Retention of Jurisdiction/Dispute Resolution). No other disputes arising under this Section shall be subject to Dispute Resolution.

32.I. Each submission required under this Section shall be signed by an official with knowledge of the Natural Gas Conversion SEP and shall bear the certification language set forth in Paragraph 34 of the Consent Decree.

32.J. Any public statement, whether oral or written, in print, film, or other media, made by BP Products making reference to the Natural Gas Conversion SEP under this Sixth Amendment to the Consent Decree shall include the following language:

This project was undertaken in connection with the settlement of an enforcement action, United States v. BP Exploration & Oil Co., Civil No. 2:96 CV 095 RL (N.D. Ind.), taken on behalf of the U.S. Environmental Protection Agency under the Clean Air Act.

32.K. If BP Products satisfactorily completes the Natural Gas Conversion SEP but does not spend the full amount of the SEP cost estimate set forth in sub-paragraph 32.A. above, BP Products shall either: a) expand the scope of the Natural Gas Conversion SEP so as to retrofit additional diesel vehicles or gasoline vehicles in the Texas City and/or City of La Marque, Texas vehicle fleets or construct additional refueling stations, or b) request that EPA determine whether the amount remaining could reasonably be applied toward another SEP. If EPA determines that the amount remaining could reasonably be applied toward another SEP, BP Products shall submit a proposal to EPA that shall be subject to EPA approval in accordance with sub-paragraphs 33.F. and 33.G. of the Consent Decree, as amended.

32.L. For Federal Income Tax purposes, BP Products agrees that it shall neither capitalize into inventory or basis nor deduct any costs or expenditures incurred in performing the Natural Gas Conversion SEP.

VII. REPORTING AND RECORDKEEPING - SIXTH AMENDMENT

17. Section VIII (Reporting and Recordkeeping), Paragraph 33 of the Consent Decree is amended by adding the following new sub-paragraphs 33.A – 33.G. at the end thereof:

33.A. Texas City Semi-Annual Progress Reports. With respect to the Texas City Facility, in lieu of the above calendar quarterly reporting requirement, no later than 180 days after the Date of Entry of the Sixth Amendment, BP Products shall submit to EPA an initial Semi-Annual Progress Report regarding the Texas City Facility that contains the information required under Paragraph 33 of the Consent Decree, as amended, for the two previous Calendar Quarters. BP Products shall submit subsequent Semi-Annual

Progress Reports regarding the Texas City Facility to EPA that shall be due by no later than February 15th and August 15th of each calendar year following the Date of Entry of the Sixth Amendment. Semi-Annual Progress Reports shall be subject to the certification requirements of Paragraph 34 of the Consent Decree.

33.B. In addition to the information required under Paragraph 33, Semi-Annual Progress Reports shall also include a general description of the following information regarding the requirements of the Consent Decree, as amended: the status of any construction or compliance measures; the completion of milestones; any problems encountered or anticipated, together with implemented or proposed solutions; the status of any permit applications; and any operation and maintenance activities performed. Semi-annual Progress Reports shall also include the following specific information with respect to Paragraph 19 of the Consent Decree, as amended:

i. With respect to the Management of Change requirements of sub-paragraphs 19.G.i. and 19.G.ii., BP Products shall include:

a. A description of BP Products' efforts under sub-paragraph 19.G.i. to implement the required revisions to the Texas City Facility's management of change policies, procedures, and guidance documents; and

b. A description of BP Products' efforts under sub-paragraph 19.G.ii. to train all employees and contractors at the Texas City Facility who lead management of change reviews and/or analyses on the revised policies, procedures, and guidance documents.

ii. With respect to the Cooling Tower Water Monitoring and Repair Program set forth at sub-paragraph 19.W., BP Products shall include:

a. A description of any changes in operation made at the Texas City Facility that subject a previously exempt Cooling Tower System to the requirements of the Cooling Tower Water Monitoring and Repair Program, as required under sub-paragraph 19.W.i.b.;

b. All sample results and accompanying data from the grab sampling required by sub-paragraph 19.W.iii.c. for the previous two Calendar Quarters;

c. A summary of the leak monitoring data for the previous two Calendar Quarters, including the number of Leaks identified;

d. If applicable, the date a Leak was identified, the date the heat exchanger Leak source was identified, the date the Leak was repaired, and an explanation of the actions taken to repair the Leak;

e. If applicable, an explanation of the reasons for the delayed repair of any Leak, the interim measures taken, as required under sub-paragraph 19.W.iv.b, and the date of anticipated repair. If the delay is based on startup and shutdown emissions under sub-paragraph 19.W.iv.a.(2), the initial and subsequent monthly calculations of the potential Cumulative LEAK Emissions; and

f. The date confirmation monitoring was conducted and whether it indicated that the Leak was successfully repaired.

iii. With respect to the Gravity Sewer Integrity Testing and Repair requirements set forth at sub-paragraph 19.AA.ii.a., BP Products shall include:

a. A listing of all combined wastewater treatment system segments inspected and/or repaired during the previous two Calendar Quarters;

b. The type of inspection method that shall be or was utilized;

c. The nature of any defects found;

d. A schedule for repairing any defects found; and

e. The method that shall be or was used to complete such repairs.

iv. With respect to the Benzene Product Line Raising requirements set forth at sub-paragraph 19.BB., BP Products shall:

a. Identify any Benzene Product Lines raised during the previous two Calendar Quarters; and

b. The anticipated work to be performed over the upcoming two Calendar Quarters to raise additional Benzene Product Lines.

33.C. BP Products shall submit to EPA one copy of each Semi-Annual Progress Report and all accompanying data in hard-copy paper and one copy of each Semi-Annual Progress Report and all required accompanying data in a widely-recognized electronic format (such as .pdf or Microsoft® Excel).

33.D. The reporting requirements of the Consent Decree, as amended, do not relieve BP Products of any reporting obligations required by the Clean Air Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

33.E. Any information provided pursuant to the Consent Decree, as amended, may by used by the United States in any proceeding to enforce the provisions of the Consent Decree, as amended, and as otherwise permitted by law.

33.F. Review of Deliverables. Where any provision of the Sixth Amendment specifically requires the submission of a plan, notification, report, procedure, protocol, or other deliverable (hereinafter collectively referred to as a "submission") by BP Products to be "subject to EPA approval" or "subject to EPA comment," the submission shall be subject to the requirements of this sub-paragraph and sub-paragraph 33.G. For each submission, BP Products shall submit one copy of the submission to EPA along with all accompanying data in hard-copy paper and one copy of the submission to EPA along with all accompanying data in a widely-recognized electronic format (such as .pdf or Microsoft® Excel).

i. Submissions Subject to EPA Approval.

a. For submissions subject to EPA approval, EPA may approve the submission or decline to approve it, in whole or in part, and may provide

written comments. Upon receiving EPA's written comments or written notice that EPA disapproves a submission, in whole or in part, BP Products shall have either: (a) 45 Days to alter the submission consistent with EPA's written comments or notice of disapproval and provide the submission to EPA for final approval, or (b) 60 Days from the date of receiving EPA's approval or disapproval to invoke dispute resolution under Section XIV of the Consent Decree. If EPA disapproves a submission, in whole or in part, it must state in writing the basis for such disapproval. Solely with respect to the submissions provided for under sub-paragraphs 19.N.ii.a, 19.W.iii.c(1), and 19.Y.ii.b., if EPA does not respond in writing within 120 Days of the submission, the request shall be deemed disapproved and BP Products shall have the right to invoke Dispute Resolution under Section XIV of the Consent Decree.

ii. Submissions Subject to EPA Comment.

a. For submissions subject to EPA comment, EPA may provide written comments on the submission, in whole or in part, or EPA may decline to comment. If EPA provides written comments within 60 Days of receiving a submission, BP Products shall within 45 Days of receiving such comments either: (a) alter and implement the submission consistent with EPA's written comments, or (b) submit the matter for dispute resolution under Section XIV of the Consent Decree.

b. After 60 Days from the date of such submission, EPA may nonetheless thereafter provide written comments requiring changes to the

submission which BP Products shall implement unless implementation of the written comments would be unduly burdensome given the degree to which BP Products has proceeded with implementing the deliverable or otherwise unreasonable. If BP Products determines that implementation of the written comments is unduly burdensome or otherwise unreasonable, it shall notify EPA . Within 60 Days of receiving BP Products' position EPA may either accept BP Products' position or invoke dispute resolution pursuant to Section XIV of the Consent Decree.

33.G. Except as specifically otherwise provided herein, upon receipt of EPA's final approval of a submission, upon the expiration of 60 Days from the date of a submission subject to EPA comment, or upon completion of any dispute resolution process under Section XIV of the Consent Decree regarding a submission, BP Products shall implement the submission in accordance with the requirements and schedule within the approved submission.

VIII. CIVIL PENALTY - SIXTH AMENDMENT

18. Section IX (Civil Penalty), Paragraph 35 of the Consent Decree is amended by adding the following new sub-paragraphs 35.A and 35.B. at the end thereof:

35.A. Within thirty (30) Days after the Effective Date of the Sixth Amendment, BP Products shall pay the sum of twelve million dollars ($12,000,000) as a civil penalty, together with interest accruing from the date on which the Sixth Amendment is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the Date of Lodging of the Sixth Amendment.

35.B. BP Products shall pay the civil penalty due by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with written

instructions to be provided to BP Products, following lodging of this Sixth Amendment of the Consent Decree, by the Financial Litigation Unit of the U.S. Attorney's Office for the Northern District of Indiana. At the time of payment, BP Products shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to this Sixth Amendment of the Consent Decree in United States v. BP Exploration & Oil Co., (Civil No. 2:96 CV 095 RL) to the United States, in accordance with Paragraph 82.A (Notices), by email to acctsreceivable.CINWD@epa.gov, and by mail to:

U.S. Environmental Protection Agency
Fines and Penalties
Cincinnati Finance Center
P.O. Box 979077
St. Louis, MO 63197-9000

The EFT authorization form, EFT transaction record, and transmittal letter shall all reference the civil action number, U.S. Attorney File Number, and DOJ case number: 90-5-2-1-08741.

19. Paragraph 36 is amended by adding the following new sub-paragraph 36.A. at the end thereof:

36.A. BP Products shall not deduct any penalties paid under this Sixth Amendment pursuant to this Section, Section X (Stipulated Penalties), and/or Section X.A. (Additional Stipulated Penalties – Sixth Amendment) in calculating its federal tax.

IX. STIPULATED PENALTIES

20. Section X (Stipulated Penalties), Paragraph 44 (Paragraph 19 – Requirements for Benzene Waste NESHAP Program Enhancements) of the Consent Decree is amended by adding the following new sentences at the end of the first paragraph of Paragraph 44:

Subject to the provisions of Section XI of the Sixth Amendment (Effect of Settlement – Sixth Amendment) and Section XV (Effect of Settlement/Reservation of Rights) of the Consent Decree, as amended, the stipulated penalties provided for in this Consent Decree, as amended, shall be in addition to any other rights, remedies, or sanctions available to the United States for BP Products' violations of this Consent Decree, as amended, or of applicable law. Where a violation of this Consent Decree, as amended, is also a violation of the Clean Air Act or its implementing regulations, BP Products shall be allowed a credit, for any stipulated penalties actually paid, against any statutory penalties imposed for such violation.

21. Section X (Stipulated Penalties) Paragraph 44 (Paragraph 19 – Requirements for Benzene Waste NESHAP Program Enhancements) of the Consent Decree is further amended by adding the following new sub-paragraphs 44.N – 44.CC. at the end thereof:

44.N. Facility Compliance Status:

i. For failure to comply with the 6 Mg Option required by sub-paragraph 19.A.iii. after January 1, 2008:

$125,000 for each 10% Mg increment by which the 6 Mg Option uncontrolled benzene limit is exceeded.

ii. For failure to comply with the Organic and Aqueous Benzene Waste control requirements of sub-paragraph 19.A.iv.:

$12,500 per month per uncontrolled waste management unit

44.O. Waste Stream Audit:

i. For failure to complete the BWON Review and Verification Audit requirements of sub-paragraph 19.D.i:

$15,000 per month overdue

ii. For failure to identify waste streams as required by sub-paragraph 19.D.i.a:

$5,000 per waste stream

iii. For failure to accurately review, analyze, and/or verify waste stream characteristics as required by sub-paragraph 19.D.i.b:

$5,000 per waste stream

44.P. For failure to install and/or operate dual carbon canisters as required by sub-paragraph 19.F.iv:

$10,000 per week, per carbon canister

44.Q. For failure to modify and/or implement any requirement of the Management of Change procedures as required under sub-paragraphs 19.G.i. and 19.G.ii.:

$5,000 per month overdue

44.R. For failure to conduct sampling at the Texas City Facility in accordance with the requirements of sub-paragraph 19.N, as amended by sub-paragraphs 19.N.i.a and 19.N.ii.a:

$7,500 per week, per stream, or $45,000 per quarter, per stream, whichever is greater, but not to exceed $225,000 per quarter.

44.S. Measurement of Secondary Seal Gaps for Oil-Water Separators

i. For failure to conduct any required measurement of oil-water separator unit floating roofs as required by sub-paragraph 19.P.iv.a.:

$5,000 per month, per unit.

ii. For failure to conduct any required repair of oil-water separator unit floating roofs as required by sub-paragraph 19.P.iv.b.:

$5,000 per week, per unit

44.T. For failure to perform any requirement of a Root Cause Failure Analysis required by sub-paragraph 19.V.iv.a.:

$2,500 per week, per requirement

44.U. For failure to comply with any requirement of the Cooling Tower Water Monitoring and Repair Program of sub-paragraph 19.W., per cooling tower, per requirement:

Period of Delay	Penalty Per Day
1-30 Days	$1,000
31-60 Days	$3,500
Beyond 60th Day	$5,000

44.V. EOL and EBU Monitoring:

i. For failure to install and/or operate any gas chromatograph technology and/or flow rate monitors as required under sub-paragraph 19.X.i.:

$10,000 per gas chromatograph or flow rate monitor per month

ii. For failure to conduct the QA/QC audit required under sub-paragraph 19.X.i.d.:

$1,000 per week overdue

iii. For failure to perform any DIAL monitoring event in accordance with the requirements of sub-paragraph 19.X.ii.:

$25,000 per month per missed monitoring event

44.W. Control of Wastewater Overflows:

i. For failure to install the West Plant controls required under sub-paragraph 19.Y.i.:

$25,000 per month overdue

ii. For failure to complete the Overflow Study required under sub-paragraph 19.Y.ii.:

$15,000 per month overdue

iii. For failure to install the level indicators or improved pumping capacity as indicated in sub-paragraph 19.Y.iii. and Appendix P:

$5,000 per month, per missed lift station or dry weather sump

44.X. [Reserved]

44.Y. Enhanced Preventative Maintenance:

i. For failure to perform the Gravity Sewer Integrity Testing required under sub-paragraph 19.AA.ii.a.:

Period of Noncompliance	Penalty per Day
1st through 30th Day	$1,000
31st through 60th Day	$2,500
Beyond 60th Day	$3,500

ii. For failure to perform timely repairs to the Gravity Sewer in accordance with the repair plan schedule as required under sub-paragraph 19.AA.ii.a.3:

$2,500 per week per overdue repair

iii. For failure to perform timely inspections or repairs of controlled sewer access points as required under sub-paragraph 19.AA.ii.b.:

$500 per missed inspection; and
$500 per week, for failure to repair

44.Z. For failure to raise any Benzene Product Line as required under sub-paragraph 19.BB.:

$10,000 per month overdue, per line

44.AA. For failure to complete any phase of the Benzene Waste Operations NESHAP Compliance Audit as required under sub-paragraph 19.CC.:

$10,000 per month overdue

44.BB. For failure to install any geodome tank cover as required under sub-paragraph 19.DD.:

$5,000 per month overdue, per tank

44.CC. For failure to complete, timely submit, and/or fully implement any of the submission requirements in sub-paragraph 19.EE:

Period of Noncompliance	Penalty per Day
1st through 30th Day	$1,500

31st through 60th Day	$3,500
Beyond 60th Day	$5,000

22. Section X (Stipulated Penalties), Paragraph 49 (Paragraph 29 – Requirements for SEPs) of the Consent Decree is amended by adding the following new sub-paragraph 49.A. at the end thereof.

49.A. If BP Products fails to satisfactorily complete the Natural Gas Conversion SEP in accordance with the requirements and deadlines set forth in Section VII.A. of the Consent Decree, as amended, BP Products shall pay stipulated penalties for each Day for which it fails to satisfactorily complete the Natural Gas Conversion SEP, as follows:

Period of Noncompliance	Penalty per violation per Day
1st through 30th Day	$1,000
31st through 60th Day	$3,500
Beyond 60th Day	$5,000

23. Section X (Stipulated Penalties) of the Consent Decree is amended by adding the following new **Section X.A. (Additional Stipulated Penalties – Sixth Amendment)** at the end of Paragraph 50:

X.A. ADDITIONAL STIPULATED PENALTIES – SIXTH AMENDMENT

50-A. BP Products shall also be liable for stipulated penalties to the United States for violations of the Consent Decree, as amended, as specified below, unless excused under Section XIII (Force Majeure). A violation includes failing to perform any obligation required by the terms of the Consent Decree, as amended, including any work plan or schedule approved under the Consent Decree, as amended, according to all

applicable requirements of this Consent Decree, as amended, and within the specified time schedules established by or approved under this Consent Decree, as amended.

50-B. Late Payment of Civil Penalty. If BP Products fails to pay when due the civil penalty required to be paid under **Section IX (Civil Penalty), Paragraph 35.A.**, BP Products shall pay a stipulated penalty of $5,000 per Day for each Day that the payment is late.

50-C. Paragraph 24-A: CFC Compliance Measures.

A. The following stipulated penalties shall accrue per Day per violation for any noncompliance with the provisions of sub-paragraphs 24-A(B)i – 24-A(B)vii (Compliance Measures):

Period of Noncompliance	Penalty per appliance per Day or violation per Day
1st through 30th Day	$1,500
31st through 60th Day	$3,500
Beyond 60th Day	$5,000

B. The following stipulated penalties shall accrue per Day per violation for any noncompliance with the Annual CFC Report requirements of sub-paragraph 24-A(B)viii:

Period of Noncompliance	Penalty per violation per Day
1st through 30th Day	$750
Beyond 31st Day	$1,500

50-D. Paragraph 24-B: Asbestos Compliance Measures.

A. The following stipulated penalties shall accrue per Day per violation for any noncompliance with the provisions of sub-paragraphs 24-B(B)i – 24-B(B)vii (Compliance Measures):

Period of Noncompliance	Penalty per violation per Day
1st through 30th Day	$1,500
31st through 60th Day	$3,500
Beyond 60th Day	$5,000

B. The following stipulated penalties shall accrue per Day per violation for any noncompliance with the Annual Asbestos Report requirements of sub-paragraph 24-B(B)viii:

Period of Noncompliance	Penalty per violation per Day
1st through 30th Day	$750
Beyond 31st Day	$1,500

X. INFORMATION COLLECTION AND RETENTION - SIXTH AMENDMENT

24. Until five years after the termination of the Sixth Amendment, BP Products shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate to BP Products' performance of its obligations under the Sixth Amendment. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, BP Products shall provide

copies of any documents, records, or other information required to be maintained under this Paragraph.

25. At the conclusion of the information-retention period provided in the preceding Paragraph, BP Products shall notify the United States at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, BP Products shall deliver any such documents, records, or other information to EPA. BP Products may assert that certain documents, records, or other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If BP Products asserts such a privilege, it shall provide a privilege log providing the following information: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by BP Products. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree or Sixth Amendment shall be withheld on grounds of privilege.

26. BP Products may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that BP Products seeks to protect as CBI, it shall follow the procedures set forth in 40 C.F.R. Part 2.

27. This Consent Decree and Sixth Amendment in no way limit or affect any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal or state laws, regulations, or permits, nor does either limit or affect any duty or

obligation of BP Products to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XI. EFFECT OF SETTLEMENT - SIXTH AMENDMENT

28. Entry of the Sixth Amendment shall resolve all civil liability of BP Products to the United States for violations at the Texas City Facility of Paragraph 19.A.i. of the Consent Decree (Facility Current Compliance Status) that occurred prior to December 31, 2007. In addition, entry of the Sixth Amendment resolves the civil claims of the United States for violations at the Texas City Facility alleged in the Supplemental Complaint filed by the United States concurrently with the lodging of the Sixth Amendment.

29. The United States reserves all legal and equitable remedies available to enforce the provisions of the Sixth Amendment, except as specifically stated in Paragraph 28 of the Sixth Amendment. The Sixth Amendment shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the Clean Air Act or implementing regulations, or under other federal laws, regulations, or permit conditions, except as expressly specified in Paragraph 28.

30. The Sixth Amendment does not limit or affect the rights of BP Products or of the United States against any third parties, not party to this Sixth Amendment, nor does it limit the rights of third parties, not parties to this Sixth Amendment, against BP Products, except as otherwise provided by law.

31. The Sixth Amendment shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Sixth Amendment.

32. Unless specifically modified or amended herein, the existing terms and requirements of the Consent Decree remain in effect and fully applicable to the provisions of the Sixth Amendment.

XII. GENERAL PROVISIONS - SIXTH AMENDMENT

33. Section XVI (General Provisions), Paragraph 82 (Notice) is amended by adding the following new sub-paragraph 82.A at the end thereof:

82.A. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by the Sixth Amendment, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611, Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-2-1-08741

To EPA:

Director, Air Enforcement Division
Office of Civil Enforcement
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Mail Code 2242-A
Washington, D.C. 20460

with a hard copy to:

Director, Air Enforcement Division
Office of Civil Enforcement
c/o Matrix New World Engineering, Inc.
120 Eagle Rock Ave., Suite 207
East Hannover, N.J. 07936-3159

and an electronic copy in .pdf or Microsoft® Excel format to:

csullivan@matrixnewworld.com
braby.sharon@epa.gov

Associate Director
Aix/Toxics & Inspection Coordination Branch
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency - Region 6
1445 Ross Ave.
Dallas, Texas 75202-2733

and

To BP Products:

James A. Nolan, Jr.
Managing Attorney
BP America Inc.
4101 Winfield Road
Mail Code 4 West
Warrenville, Illinois 60555

and

Treena Piznar
Water and Waste Team Leader
BP Products North America
Texas City Refinery
Amegy Building, Suite 200, Room 214
Texas City, Texas 77590

XIII. TERMINATION OF SIXTH AMENDMENT

34. Section XVII (Termination) Paragraph 86.C. is amended by adding the following new sub-paragraphs 86.C.i.-86.C.iii. at the end thereof:

i. With respect to the Texas City Facility, in lieu of the requirements and timeframe contained in Paragraph 86.C. for terminating Paragraph 19 of the Consent Decree, the following requirements and timeframe for termination shall apply. After BP Products has: 1) completed the requirements of Paragraph 19 of the Consent Decree, as amended by the Sixth Amendment; 2) has thereafter maintained satisfactory compliance

with all requirements of Paragraph 19 of the Consent Decree, as amended by the Sixth Amendment, until no earlier than January 1, 2013; 3) has satisfactorily complied with all other requirements of the Sixth Amendment, including those relating to the SEP required by Section VII.A. and Appendix O of the Sixth Amendment; and 4) has paid the civil penalty and any accrued stipulated penalties as required by the Sixth Amendment, BP Products may serve upon the United States, together with all necessary supporting documentation, a Request for Termination of Paragraph 19 of the Consent Decree, as amended, and the Sixth Amendment stating that BP Products has satisfied those requirements.

ii. Following receipt by the United States of BP Products' Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether BP Products has satisfactorily complied with the requirements for termination of Paragraph 19 of the Consent Decree, as amended, and the Sixth Amendment. If the United States agrees that Paragraph 19 of the Consent Decree, as amended, and the Sixth Amendment may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating Paragraph 19 of the Consent Decree, as amended, and the Sixth Amendment.

iii. If the United States does not agree that Paragraph 19 of the Consent Decree, as amended, or the Sixth Amendment may be terminated, BP Products may invoke Dispute Resolution under Section XIV of the Consent Decree. In any such proceeding, BP Products shall bear the burden of proof that Paragraph 19 of the Consent Decree, as amended, and the Sixth Amendment should be terminated. However, BP Products shall not seek Dispute Resolution of any dispute regarding termination, under Section XIV of

the Consent Decree, until no earlier than 60 days after service of its Request for Termination upon the United States.

35. Section XVII (Termination) Paragraph 86 is amended by adding the following new sub-paragraph 86.H at the end of sub-paragraph 86.G:

86.H. **For Paragraphs 24-A (CFC Compliance Measures) and/or 24-B (Asbestos Compliance Measures)**: After BP Products has: 1) completed the requirements of Paragraphs 24-A and 24-B of the Consent Decree, as amended by the Sixth Amendment; 2) has thereafter maintained satisfactory compliance with all requirements of Paragraphs 24-A and/or 24-B of the Consent Decree, as amended by the Sixth Amendment, until no earlier than December 31, 2011; and 3) has paid the civil penalty and any accrued stipulated penalties as required by the Sixth Amendment, BP Products may serve upon the United States, together with all necessary supporting documentation, a Request for Termination of Paragraph(s) 24-A and/or 24-B of the Consent Decree, as amended, stating that BP Products has satisfied those requirements. Following receipt by the United States of BP Products' Request for Termination, the Parties shall follow the procedures set forth in sub-paragraphs 86.C.ii. and 86.C.iii of the Consent Decree, as amended by the Sixth Amendment.

XIV. OBLIGATIONS PRIOR TO EFFECTIVE DATE OF SIXTH AMENDMENT

36. Obligations of BP Products under the provisions of the Sixth Amendment to perform existing requirements of the Consent Decree or to perform requirements scheduled to commence on or before the Date of Entry of the Sixth Amendment shall be legally enforceable upon the Effective Date of the Sixth Amendment. Upon the Effective Date of the Sixth Amendment, the stipulated penalty provisions of the Sixth Amendment shall be retroactively enforceable with

regard to any and all violations of the Sixth Amendment, and in particular sub-paragraph 19.A.iii. of the Consent Decree, as amended by the Sixth Amendment, that have occurred prior to the Effective Date of the Sixth Amendment, provided that payment of such stipulated penalties that may have accrued prior to the Effective Date of the Sixth Amendment may not be collected by the United States unless and until the Sixth Amendment is entered by the Court.

XV. PUBLIC PARTICIPATION – SIXTH AMENDMENT

37. The Sixth Amendment shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Sixth Amendment disclose facts or considerations indicating that the Sixth Amendment is inappropriate, improper, or inadequate. BP Products consents to entry of the Sixth Amendment without further notice and agrees not to withdraw from the Sixth Amendment or oppose entry of the Sixth Amendment by the Court or to challenge any provision of the Sixth Amendment, unless the United States has notified BP Products in writing that it no longer supports entry of the Sixth Amendment.

XVI. SIGNATORIES – SIXTH AMENDMENT

38. Each undersigned representative of BP Products and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Sixth Amendment and to execute and legally bind the Party he or she represents to this document.

39. The Sixth Amendment may be signed in counterparts, and its validity shall not be challenged on that basis. BP Products agrees to accept service of process by mail with respect to all matters arising under or relating to the Sixth Amendment and to waive the formal service

requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XVII. INTEGRATION – SIXTH AMENDMENT

40. This Sixth Amendment constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Sixth Amendment and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Except for the Consent Decree, no other document, nor any representation, inducement, agreement, understanding, or promise constitutes any part of the Sixth Amendment or the settlement it represents, nor shall it be used in construing the terms of the Sixth Amendment.

XVIII. EFFECTIVE DATE – SIXTH AMENDMENT

41. The Effective Date of this Sixth Amendment shall be the date upon which this Sixth Amendment is entered by the Court or a motion to enter this Sixth Amendment is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that BP Products hereby agrees that it shall be bound to perform existing duties and duties scheduled to occur prior to the Effective Date of the Sixth Amendment. In the event the United States withdraws or withholds consent to this Sixth Amendment before entry, or the Court declines to enter the Sixth Amendment, then the preceding requirement to comply with the requirements of the Sixth Amendment scheduled to occur prior to the Effective Date shall terminate.

XIX. FINAL JUDGMENT

42. Upon approval and entry of this Sixth Amendment by the Court, this Sixth Amendment shall constitute a final judgment of the Court as to the United States and BP

Products. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XX. APPENDICES

43. The following appendices are attached to and incorporated as part of this Sixth Amendment:

> "**Appendix K**" is the list of Cooling Tower Systems at the Texas City Facility subject to the Cooling Tower Water Monitoring and Repair Program;
>
> "**Appendix L**" is the list of Benzene Product Lines to be raised at the Texas City Facility;
>
> "**Appendix M**" is the list of designated Texas City Facility tanks on which geodome covers will be installed;
>
> "**Appendix N**" is the list of IPR and Comfort Cooling Appliances subject to the CFC Compliance Measures; and
>
> "**Appendix O**" is the Natural Gas Conversion SEP.
>
> "**Appendix P**" is the Dry Weather Sump Reliability Project Scope

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is hereby ORDERED, ADJUDGED and DECREED that the foregoing Sixth Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this _____ Day of _____, 200_____.

_____
Rudy Lozano
Senior United States District Judge

Subject to the notice and comment provisions of 28 C.F.R. § 50.7, THE UNDERSIGNED PARTIES enter into this Sixth Amendment to the Consent Decree entered in the matter of United States, et al., v. BP Exploration and Oil Co., et al., Civil No. 2:96 CV 095 RL (N.D. Ind.).

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: _____

_____

MICHAEL J. GUZMAN
Principal Deputy Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

_____

STEVEN D. SHERMER
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044-7611

DAVID CAPP
Interim United States Attorney
Northern District of Indiana

WAYNE AULT
Assistant United States Attorney
Northern District of Indiana
5400 Federal Plaza, Suite 1500
Hammond, IN 46320
(219) 937-5650

Subject to the notice and comment provisions of 28 C.F.R. § 50.7, THE UNDERSIGNED PARTIES enter into this Sixth Amendment to the Consent Decree entered in the matter of United States, et al., v. BP Exploration and Oil Co., et al., Civil No. 2:96 CV 095 RL (N.D. Ind.).

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Date: _____

_____
GRANTA Y. NAKAYAMA
Assistant Administrator
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

Subject to the notice and comment provisions of 28 C.F.R. § 50.7, THE UNDERSIGNED PARTIES enter into this Sixth Amendment to the Consent Decree entered in the matter of United States, et al., v. BP Exploration and Oil Co., et al., Civil No. 2:96 CV 095 RL (N.D. Ind.).

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION 6:

Date: _____

_____

RICHARD E. GREENE
Regional Administrator
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave.
Dallas, TX 75202-2733

THE UNDERSIGNED PARTIES enter into this Sixth Amendment to the Consent Decree entered in the matter of United States, et al., v. BP Exploration and Oil Co., et al., Civil No. 2:96 CV 095 RL (N.D. Ind.).

FOR DEFENDANT BP PRODUCTS NORTH AMERICA INC.:

Date: _____ _____

KEITH M. CASEY
Vice President, BP Products North America Inc.
Business Unit Leader, Texas City Refinery
NOB/412
2401 5th Avenue South (P.O. Box 401)
Texas City, Texas 77590

Date: _____ _____

KEVIN A. GAYNOR, ESQ.
Vinson & Elkins, L.L.P.

ATTORNEYS FOR BP PRODUCTS NORTH AMERICA INC.

Appendix K:

Cooling Tower Systems at the Texas City Facility Subject to the Cooling Tower Water Monitoring and Repair Program

The Cooling Tower Systems located at the following process units within the Texas City Facility are subject to the requirements of the Cooling Tower Water Monitoring and Repair Program set forth in Section IV, Paragraph 12 of the Sixth Amendment (sub-paragraph 19.W. of the Consent Decree, as amended):

Cooling Tower Emission Point Number ("EPN")	Process Units Serviced	Type of Monitor(s)
411	• Alkylation Unit 2 ("Alky 2")	• El Paso
422	• Aromatics Recovery Unit ("ARU") • Distillate Desulfurization Unit ("DDU") • Ultraformer 4 ("UU4")	• El Paso
420	• Aromatics Unit 2 ("AU2") – Return Line • Naptha Desulfurization Unit ("NDU") • Isomerization Unit ("ISOM")	• El Paso
412	• Cokers	• El Paso
413	• Fluid Catalytic Cracking Unit 1 ("FCCU 1")	• HRVOC Gas Chromatograph • El Paso
415	• Fluid Catalytic Cracking Unit 3 ("FCCU 3")	• HRVOC Gas Chromatograph • El Paso

417	• Pipe Still 3A (“PS3A”) • Pipe Still 3B (“PS3B”)	• HRVOC Gas Chromatograph and • El Paso
418	• Ultracracker (“ULC”)	• HRVOC Gas Chromatograph • El Paso
421	• Ultraformer 3 (“UU 3”)	• El Paso
416	• Power Station No. 3 (“Power 3”)	• El Paso

Appendix L:

Benzene Product Lines to Be Raised at the Texas City Facility

The following Benzene Product Lines shall be raised above ground as set forth in Section IV, Paragraph 12 of the Sixth Amendment (sub-paragraph 19.BB. of the Consent Decree, as amended):

	Designation	Line No.	Total Feet
1.	Benzene	729	200
2.	Benzene	11	2,300
3.	Benzene	94	800
4.	Off-spec. Benzene	737	600
5.	Aromatics	780	400
6.	Aromatics	1516 (516)	700
7.	Crude Benzene	534, 534A	600
8.	Crude Benzene	541	300

Appendix M:

Installation of Geodomes on Texas City Facility Tanks

Geodome tank covers shall be installed upon the following tanks located at the Texas City Facility as set forth in Section IV, Paragraph 12 of the Sixth Amendment (sub-paragraph 19.DD. of the Consent Decree, as amended):

1. Tank 101;
2. Tank 102;
3. Tank 520;
4. Tank 534; and
5. Tank 535

Appendix N:

IPR and Comfort Cooling Appliances Subject to CFC Compliance Measures

The following IPR and CCAs are subject to the CFC Compliance Measures required under Section IV, Paragraph 13 of the Sixth Amendment (sub-paragraph 24-A of the Consent Decree, as amended):

Refinery Facility	General Location	Appliance Number	Type	Duty Type	Manuf-acturer	Model	Serial No.	Charge
BUILDING SERVICE	SECURITY - GATE 42	ACU-1 (GATE 42)	Split System	Other Refrigeration	AAON	CA1184CA0502AAAP	200410CCCE043	65 lbs 0.00 ozs
BUILDING SERVICE	CHANGE HOUSE - CHANGEHOUSE	ACU-1 NORTH	Split System	Comfort Cooling	Technical System	20A0CS20-S	9-97-A42484-1	75 lbs 0.00 ozs
BUILDING SERVICE	GOB - GOB	ACU-1 YORK (CIRCUIT # 1)	Chiller	Other Refrigeration	York	YCAS0130EC46XFA	RDKM000028	180 lbs 0.00 ozs
BUILDING SERVICE	GOB - GOB	ACU-1 YORK (CIRCUIT #2)	Chiller	Other Refrigeration	York	YCAS0130EC46XFA	RDKM000028	180 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOF TOP	ACU-1(ROOF TOP) OLD	Split System	Comfort Cooling	Carrier	38AE016600	W691135	65 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOF TOP	ACU-2 (ROOF TOP)	Split System	Comfort Cooling	Carrier	38AE016600	W691156	65 lbs 0.00 ozs
BUILDING SERVICE	CHANGE HOUSE - CHANGEHOUSE	ACU-2 MIDDLE	Split System	Comfort Cooling	Technical System	20A0CS20-S	9-97-A42484-2	75 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOF TOP	ACU-3 (ROOF TOP)	Split System	Comfort Cooling	Carrier	38AE-016-600	W691155	65 lbs 5.00 ozs
BUILDING SERVICE	CHANGE HOUSE - CHANGEHOUSE	ACU-3-SOUTH	Split System	Comfort Cooling	Technical System	20A0CS20-S	9-97-A42484-3	75 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOF TOP	ACU-4 (SOUTH Y-2)	Split System	Comfort Cooling	Carrier	38AE-016-600	43905384A6	65 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOR TOP	ACU-5 (NORTH Y1)	Split System	Comfort Cooling	Carrier	38AE-016-600	409CF38115	65 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOF TOP	ACU-6 (SOUTH Y1)	Split System	Comfort Cooling	Carrier	38AE-016-600	3390F30266	85 lbs 0.00 ozs
BUILDING SERVICE	SOB - ROOF TOP	ACU-7 (SOUTH Y2)	Split System	Comfort Cooling	Carrier	38AE-016-600	3390F30266	65 lbs 0.00 ozs

BUILDING SERVICE	NOB - NOB ROOF TOP	CWU-1 East Unit (CKT #1)	Chiller	Other Refrigeration	Carrier	30GTN110-631KA	4594F21898	98 lbs 0.00 ozs
BUILDING SERVICE	NOB - NOB ROOF TOP	CWU-1 East Unit (CKT #2)	Chiller	Other Refrigeration	Carrier	30GTN110-631KA	4594F21898	105 lbs 0.00 ozs
BUILDING SERVICE	NOB - NOB ROOF TOP	CWU-2 Middle Unit (CRK #1)	Chiller	Other Refrigeration	Technical System	30A0SD120	12-97-A43056	102 lbs 0.00 ozs
BUILDING SERVICE	NOB - NOB ROOF TOP	CWU-2 Middle Unit (CRK #2)	Chiller	Other Refrigeration	Technical System	30A0SD120	12-97-A43056	102 lbs 0.00 ozs
BUILDING SERVICE	NOB - NOB ROOF TOP	CWU-3 West Unit (CRK #1)	Chiller	Other Refrigeration	Technical System	30A0SD120	8-97-A41994	102 lbs 0.00 ozs
BUILDING SERVICE	NOB - NOB ROOF TOP	CWU-3 West Unit (CRK #2)	Chiller	Other Refrigeration	Technical System	30A0SD120	8-97-A41994	102 lbs 0.00 ozs
BUILDING SERVICE	CRAFT-BLDG - CRAFT BLDG	PORTABLE UNIT (CIR #1)	Portable Unit	Other Refrigeration	Technical System	30A0CHM150-S	1-97-A392-44-2	120 lbs 0.00 ozs
BUILDING SERVICE	CRAFT-BLDG - CRAFT BLDG	PORTABLE UNIT (CIR #2)	Portable Unit	Other Refrigeration	Technical System	30A0CHM150-S	1-97-A392-44-2	120 lbs 0.00 ozs
BUILDING SERVICE	MEDICAL - MEDICAL	WCU-1 (MEDICAL) (CIR #1)	Chiller	Other Refrigeration	Carrier	30GBO55630AA	T697995	65 lbs 0.00 ozs
BUILDING SERVICE	MEDICAL - MEDICAL	WCU-1 (MEDICAL) (CIR #2)	Chiller	Other Refrigeration	Carrier	30GBO55630AA	T697995	71 lbs 0.00 ozs
CRACKING	FCCU-1 - K-4 S/G RM.	ACCU-1-K-4 (SW GEAR BLDG)	Split System	Other Refrigeration	Carrier	09DK-028-601	4790F41654	65 lbs 0.00 ozs
CRACKING	FCCU-1 - CONTROL ROOM	ACU-1(CONTROL ROOM)	Split System	Comfort Cooling	Technical System	20A0CD20-5	9-97-A42404	65 lbs 0.00 ozs
CRACKING	SRU - CONTROL ROOM	ACU-1(CONTROL ROOM)	Split System	Other Refrigeration	Carrier	38AK-028-600	3390F30226	75 lbs 0.00 ozs
CRACKING	SRU - SOUR H2O SW.GEAR	ACU-1(SWITCHGEAR)	Split System	Other Refrigeration	Carrier	38AKS028-600	5196F45870	75 lbs 0.00 ozs
CRACKING	SRU - SOUR H2O SW.GEAR	ACU-2 (SWITCHGEAR)	Split System	Other Refrigeration	Carrier	38AKS028-600	3504f55310	75 lbs 0.00 ozs
CRACKING	FCCU-2 - CONTROL ROOM	ACU-2-(CONTROL ROOM)	Split System	Other Refrigeration	Carrier	07EW033620	N226404	75 lbs 0.00 ozs
CRACKING	FCCU-3 - CONTROL RM I/O RM	ACU-40-1 (I/O RM) (CIR #1)	Split System	Other Refrigeration	Trane	CAUBC40421903	J57660706	60 lbs 0.00 ozs
CRACKING	FCCU-3 - CONTROL RM I/O RM	ACU-40-1 (I/O RM) (CIR #2)	Split System	Other Refrigeration	Trane	CAUBC40421903	J57660706	60 lbs 0.00 ozs

CRACKING	FCCU-3 - CONTROL RM I/O RM EAST	ACU-40-2 (I/O RM) (CIR #1)	Split System	Other Refrigeration	Trane	CAUBC4042A131	J876-81973	60 lbs 0.00 ozs
CRACKING	FCCU-3 - CONTROL RM I/O RM EAST	ACU-40-2 (I/O RM) (CIR #2)	Split System	Other Refrigeration	Trane	CAUBC4042A131	J876-81973	60 lbs 0.00 ozs
CRACKING	SRU - COMPUTER ROOM EAST SIDE	ACU-4A (COM. ROOM)	Split System	Other Refrigeration	Carrier	38AK-024-600	0593F322296	60 lbs 0.00 ozs
CRACKING	SRU - COMPUTER ROOM roof top	ACU-4B (COM. ROOM)	Split System	Other Refrigeration	Carrier	38AK-024-600	0J93F322297	60 lbs 0.00 ozs
CRACKING	CDCC - CDCC	Chiller East Side (CIR #1)	Centrifigal Chiller	Comfort Cooling	Carrier	30GXN135-A-6-KJ	1705713156	195 lbs 0.00 ozs
CRACKING	CDCC - CDCC	Chiller East Side (CIR #2)	Centrifigal Chiller	Comfort Cooling	Carrier	30GXN135-A-6-KJ	1705713156	195 lbs 0.00 ozs
CRACKING	CDCC - EAST SIDE OF BLDG.	Chiller West Side (CIR #1)	Chiller	Comfort Cooling	York	YCA50140EC46X FAX	RFLM003479	190 lbs 0.00 ozs
CRACKING	CDCC - EAST SIDE OF BLDG.	Chiller West Side (CIR #2)	Chiller	Comfort Cooling	York	YCA50140EC46X FAX	RFLM003479	190 lbs 0.00 ozs
CRACKING	ALKY 2 - I/O BLDG	WCCU-10-1(I/O BLDG)	Split System	Other Refrigeration	Trane	CAUBC2041A13	J88B80425	96 lbs 0.00 ozs
CRACKING	ALKY 2 - I/O BLDG	WCCU-10-2(I/O BLDG)	Split System	Other Refrigeration	Trane	CAUBC2041A13	J88B80426	96 lbs 0.00 ozs
CRACKING	ALKY 2 - SWITCH HOUSE 4	WCCU-SR-1(SW #4)	Split System	Other Refrigeration	Trane	CAUBC3041A13	J88B80427	96 lbs 0.00 ozs
CRUDE	COKERS - CHANGE HOUSE	54-1 (CON. RM.BATHOUSECH G HOUSE,SWGA)	Chiller	Other Refrigeration	Temtrol	30HS090-E610	0894J071157	70 lbs 0.00 ozs
CRUDE	RESID - 120 SW.GEAR BLDG	ACCU # 1 (120 SWG BLDG)	Chiller	Other Refrigeration	Technical System	10A0136-33	05-99-050261-002	275 lbs 0.00 ozs
CRUDE	RESID - 120 SW.GEAR BLDG	ACCU # 2 (120 SWG BLDG)	Centrifigal Chiller	Other Refrigeration	Technical System	10A0136-33	05-99-050261-001-001	275 lbs 0.00 ozs
CRUDE	COKERS - COKER I / O RM	ACCU #2 (I/O RM) (CIR #1)	Split System	Other Refrigeration	Technical System	20A0CD50-SS	1-98A43328-2	75 lbs 0.00 ozs
CRUDE	COKERS - COKER I / O RM	ACCU#2 (I/O RM) (CIR #2)	Split System	Other Refrigeration	Technical System	20A0CD50-SS	1-98A43328-2	75 lbs 0.00 ozs
CRUDE	COKERS - COKER I / O RM	ACCU-1 (I/O RM) (CIR #1)	Split System	Other Refrigeration	Technical System	20A0CD50-SS	1-98-A43328-1	75 lbs 0.00 ozs
CRUDE	COKERS - COKER I / O RM	ACCU-1 (I/O RM) (CIR #2)	Split System	Other Refrigeration	Technical System	20A0CD50-SS	1-98-A43328-1	75 lbs 0.00 ozs

CRUDE	COKERS - CHANGE HOUSE	ACCU1-601K-1 (RDU)	Split System	Other Refrigeration	Carrier	38AK028-600	0992F88392	62 lbs 5.00 ozs
CRUDE	COKERS - I/O BLDG	ACCU-2 (I/O BUILD)	Split System	Comfort Cooling	Technical System	20A0CD50-SS	1-98A43328-2	90 lbs 0.00 ozs
CRUDE	RESID - 120 SW.GEAR(EAST)	ACU -#1 (120 SWG EAST)	Split System	Other Refrigeration	Carrier	38AK-034-600	3791F72917	75 lbs 0.00 ozs
CRUDE	PS3A & 3B - I/O ROOM ROOF	ACU-1 (I/O ROOF)	Split System	Other Refrigeration	Carrier	09DK064601	1905Q06094	180 lbs 0.00 ozs
CRUDE	RESID - 140 SW.GEAR BLDG	ACU-10 (140 SWG)	Split System	Other Refrigeration	Temtrol	WF-AV30	71015	90 lbs 0.00 ozs
CRUDE	PS3A & 3B - 405K SW GR	ACU-1A (WEST405K)	Split System	Other Refrigeration	Technical System	20A0CS30S	10-96-A38737	75 lbs 0.00 ozs
CRUDE	PS3A & 3B - 405K SW GR	ACU-1B (EAST405K)	Split System	Other Refrigeration	Technical System	20A0CS30S	9-97-A42401	75 lbs 0.00 ozs
CRUDE	PS3A & 3B - I/O ROOM ROOF	ACU-2 (I/O ROOF)	Split System	Other Refrigeration	Carrier	09DK064601	1605Q06030	180 lbs 0.00 ozs
CRUDE	CFHU - CFHT COMPLEX (EAST)	ACU-51-1 (PSCC)	Reciprocating	Other Refrigeration	Trane	RWRBC504RBN RG30ADFGMP	L85D27431	100 lbs 0.00 ozs
CRUDE	CFHU - CFHT COMPLEX (EAST)	ACU-51-2 (PSCC)	Reciprocating	Other Refrigeration	Trane	RWRBC504RBN RG30ADFGMP	L85D27432	100 lbs 0.00 ozs
CRUDE	HRU - HRU	HRU Process Chiller	Process Chiller	Industrial Process	York	MRP6582666	M538AL	34000 lbs 0.00 ozs
CRUDE	CFHU - CONTROL ROOM (WEST SIDE)	RCU-1 (COMPLEX) (CIR #1)	Split System	Other Refrigeration	Carrier	38AH-094-6	0705F06702	135 lbs 0.00 ozs
CRUDE	CFHU - CONTROL ROOM (WEST SIDE)	RCU-1 (COMPLEX) (CIR#2)	Split System	Other Refrigeration	Carrier	38AH-094-6	0705F06702	135 lbs 0.00 ozs
CRUDE	CFHU - CONTROL ROOM (WEST SIDE)	RCU-2 (COMPLEX)	Split System	Other Refrigeration	Carrier	09DE146-600	U699838	270 lbs 0.00 ozs
CRUDE	CFHU - CONTROL ROOM (WEST SIDE)	RCU-3 (COMPLEX) (CIR #1)	Split System	Other Refrigeration	Carrier	38AH-094-601	3104F48831	135 lbs 0.00 ozs
CRUDE	CFHU - CONTROL ROOM (WEST SIDE)	RCU-3 (COMPLEX) (CIR #2)	Split System	Other Refrigeration	Carrier	38AH-094-601	3104F48831	135 lbs 0.00 ozs
LAB (A.T.L.S.)	LAB - MACHINE ROOM 1st FLOOR	CHILLER #1	Chiller	Other Refrigeration	Carrier	303HR-195-F610	0795F34150	260 lbs 0.00 ozs
LAB (A.T.L.S.)	LAB - MACHINE ROOM 1st	CHILLER #2	Chiller	Other Refrigeration	Carrier	303HR-195-F-610	0695F33028	260 lbs 0.00 ozs

	FLOOR							
LAB (A.T.L.S.)	LAB - MACHINERY ROOM 1st FLOOR	CHILLER #3	Chiller	Other Refrigeration	Carrier	303HR-195-F610	0495F30668	260 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC WEST - LOAD CENTER 39	ACC-1 (LC-39) OMCCWEST	Compressor Rack	Other Refrigeration	Carrier	06EV022-620	4340J01451	55 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC WEST - LOAD CENTER 39	ACC-2 (LC 39) OMCCWEST	Compressor Rack	Other Refrigeration	Carrier	06EV022-620	4340J01446	55 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC ANALYTICAL LAB - MECHANICAL ROOM	ACC-2 (North Unit) (CIR #1)	Chiller	Other Refrigeration	Technical System	30A0CD75	01-99-050122-001-001	63 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC ANALYTICAL LAB - MECHANICAL ROOM	ACC-2 (North Unit) (CIR #2)	Chiller	Other Refrigeration	Technical System	30A0CD75	01-99-050122-001-001	64 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC WEST - LOAD CENTER 39	ACC-3 (LC 39) OMCCWEST	Compressor Rack	Other Refrigeration	Carrier	06EV022-620	Y290J01772	55 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC WEST - LOAD CENTER 39	ACC-4 (LC 39) OMCC WEST	Compressor Rack	Other Refrigeration	Carrier	06EV022-620	1A90J00780	55 lbs 0.00 ozs
OIL MOVEMENT DIVISION	ENVF - LOAD CENTER 45A	ACU-1 (LOAD CENTER 45A)	Split System	Other Refrigeration	Custom Air	ACC-26	ACC-0051	52 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC EAST - LC 25	ACU-1 (LC-25C) (CIR #1) OM EAST	Split System	Other Refrigeration	Carrier	WFSBP17	66870	60 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC EAST - LC 25	ACU-1 (LC-25C) (CIR #2) OM EAST	Split System	Other Refrigeration	Carrier	WFSBP17	66870	60 lbs 0.00 ozs
OIL MOVEMENT DIVISION	ENVF - Load Center 36	ACU-1 (LOAD CENTER 36)	Split System	Other Refrigeration	Technical System	HFC-14	5-97-A41356	65 lbs 0.00 ozs

OIL MOVEMENT DIVISION	ANALYZER BLDG (OFFICES) - ANALATICAL BLDG OFFICES	ACU-1	Split System	Comfort Cooling	CUSTOM -AIR	ACC-32	0208-H-001	60 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC WEST - LOAD CENTER 39	ACU-LC-39-3	Split System	Other Refrigeration	Thermal	PF-2500-V	6-6515-04	60 lbs 0.00 ozs
OIL MOVEMENT DIVISION	ENVF - LC # 42	RC-42-1A (LOAD CENTER 42)	Split System	Other Refrigeration	Carrier	06EW027-630	3590J01166	75 lbs 0.00 ozs
OIL MOVEMENT DIVISION	ENVF - LC # 42	RC-42-1B (LOAD CENTER 42)	Split System	Other Refrigeration	Carrier	06EW027-630	4891J03525	75 lbs 0.00 ozs
OIL MOVEMENT DIVISION	ENVF - LC # 42	RC-42-2A (LOAD CENTER 42)	Compressor Rack	Other Refrigeration	Carrier	06EW027-630	3891J03101 2A	75 lbs 0.00 ozs
OIL MOVEMENT DIVISION	ENVF - LC # 42	RC-42-2B (LOAD CENTER 42)	Split System	Other Refrigeration	Carrier	06EW027-630	4691J03449	75 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC CONTROL CENTER - CONTROL RM BLDG	WC-56-1 (Roof E.Unit) (Cir #1)	Chiller	Other Refrigeration	Carrier	30GB-060-6	2090F16609	56 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC CONTROL CENTER -	WC-56-1 (Roof E.Unit) (Cir #2)	Chiller	Other Refrigeration	Carrier	30GB-060-6	2090F16609	56 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC CONTROL CENTER - CONTROL RM BLDG	WC-56-2 (Con. Rm) (CIR #1)	Chiller	Other Refrigeration	Carrier	30GTN060-E631KA	3904F60753	52 lbs 0.00 ozs
OIL MOVEMENT DIVISION	OMCC CONTROL CENTER - CONTROL RM BLDG	WC-56-2 (Con. Rm) (CIR #2)	Chiller	Other Refrigeration	Carrier	30GTN060-E631KA	3904F60753	54 lbs 0.00 ozs
PLANT GENERAL	WAREHOUSE - MAIN WAREHOUSE	# 1 Chiller (main whs) (Cir #4)	Chiller	Comfort Cooling	Technical System	30A0SM200-S	10-97-A42850-1	106 lbs 0.00 ozs
PLANT GENERAL	WAREHOUSE - MAIN WAREHOUSE	# 1Chiller (main whs) (Cir #1)	Chiller	Comfort Cooling	Technical System	30A0SM200-S	10-97-A42850-1	106 lbs 0.00 ozs
PLANT GENERAL	WAREHOUSE - MAIN	# 1Chiller (main whs) (Cir #2)	Chiller	Comfort Cooling	Technical System	30A0SM200-S	10-97-A42850-1	106 lbs 0.00 ozs

	WAREHOUSE							
PLANT GENERAL	WAREHOUSE - MAIN WAREHOUSE	# 1Chiller (main whs) (Cir #3)	Chiller	Comfort Cooling	Technical System	30A0SM200-S	10-97-A42850-1	106 lbs 0.00 ozs
PLANT GENERAL	MACHINE SHOP - MACH SHOP	ACCU-3 (WHSE) (CIR #1)	Chiller	Comfort Cooling	Technical System	30AOSM200-S	10-97-A42850-1	106 lbs 0.00 ozs
PLANT GENERAL	MACHINE SHOP - MACH SHOP	ACCU-3 (WHSE) (CIR #2)	Chiller	Comfort Cooling	Technical System	30AOSM200-S	10-97-A42850-1	106 lbs 0.00 ozs
PLANT GENERAL	MACHINE SHOP - MACH SHOP	ACCU-3 (WHSE) (CIR #3)	Chiller	Comfort Cooling	Technical System	30AOSM200-S	10-97-A42850-1	106 lbs 0.00 ozs
PLANT GENERAL	MACHINE SHOP - MACH SHOP	ACCU-3 (WHSE) (CIR #4)	Chiller	Comfort Cooling	Technical System	30AOSM200-S	10-97-A42850-1	106 lbs 0.00 ozs
REFORMING	DDU - 300 NORTH SW.GEAR	ACCU 1A (300 SWG)	Split System	Other Refrigeration	Carrier	06EV022-620	2491502653	120 lbs 0.00 ozs
REFORMING	DDU - 300 SW.GR	ACCU 1B (300 SWG)	Split System	Other Refrigeration	Carrier	06EV022-620	1991J02425	120 lbs 0.00 ozs
REFORMING	UU4 - MAIN SW.GEAR ROOM	ACU #1 (MAIN SWG)	Split System	Other Refrigeration	Technical System	200ACS25	5-97-A41102-2	75 lbs 0.00 ozs
REFORMING	UU4 - MAIN SWITCHGEAR	ACU #2 (MAIN SWG)	Split System	Other Refrigeration	Technical System	20A0CS25	5-97-A41102-1	75 lbs 0.00 ozs
REFORMING	ULC - MAIN SW. GEAR	ACU-1 (MAIN SW GEAR)	Split System	Appliance Under 50 Lbs	Carrier	38AKS024-600	4094F16715	50 lbs 0.00 ozs
REFORMING	ARU - MAIN SW. GEAR RM .	ACU-2 (WEST SW.GEAR RM.)	Split System	Other Refrigeration	Carrier	38AKS024-610	1396F98274	50 lbs 0.00 ozs
REFORMING	ULC - MAIN SW. GEAR	ACU-2 (MAIN SW.GEAR)	Split System	Other Refrigeration	Carrier	38AKS024-600	4094F16716	50 lbs 0.00 ozs
REFORMING	AU2 - COOLING TOWER SG.	ACU-2 COOLING TOWER SWG	Package	Other Refrigeration	Carrier	50SS-060-301	3894G40034	90 lbs 0.00 ozs
REFORMING	ARU - ARU CONTROL ROOM	WCCU 53-1 (CONT. ROOM)	Water Cooled Chiller	Other Refrigeration	Nance	NWCC-080	WCCU53-1	200 lbs 0.00 ozs
REFORMING	ARU - ARU C/R	WCCU 53-2 (CONT. ROOM)	Water Cooler	Other Refrigeration	Nance	NWCC-080	WCCU-53-2	200 lbs 0.00 ozs
UTILITIES	PRST2 - WATER TREATMENT CON. RM	ACCU-1A (WTP CONTROL ROOM)	Split System	Other Refrigeration	Temtrol	AV22	54633	80 lbs 0.00 ozs
UTILITIES	PRST2 - WATER TREATMENT CON. RM	ACCU-1B (WTP CONTROL ROOM)	Split System	Other Refrigeration	Temtrol	AV-22	54635	80 lbs 0.00 ozs

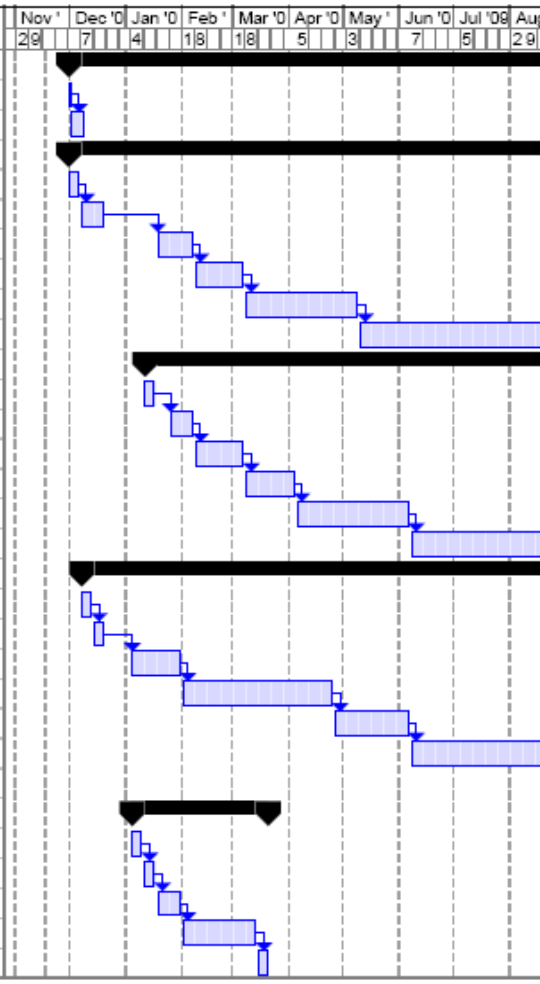
UTILITIES	PRST2 - WATER TREATMENT CON. RM	ACCU-2A (WTP CONTROL ROOM)	Split System	Other Refrigeration	Temtrol	AV 22	54636	80 lbs 0.00 ozs
UTILITIES	PRST2 - WATER TREATMENT CON. RM	ACCU-2B (WTP CONROL ROOM)	Split System	Other Refrigeration	Temtrol	AV-22	54634	80 lbs 0.00 ozs
UTILITIES	OUSE - NORTHSIDE OF SWITCH HOUSE	ACU #1 (NO.SIDE OF SWH 2)	Split System	Other Refrigeration	Custom Air	ACC19	0214-B-001	60 lbs 0.00 ozs
UTILITIES	OUSE - NORTHSIDE OF SWITCH HOUSE	ACU #2 (NO. SIDE OF SWH)	Split System	Other Refrigeration	Custom Air	ACC19	0214-H-002	60 lbs 0.00 ozs
UTILITIES	PRST2 - P 201 BLDG.	ACU -1 (P 201 BLDG)	Split System	Other Refrigeration	Temtrol	AV 22	57801	60 lbs 0.00 ozs
UTILITIES	OUSE - SWITCHHOUSE #2 ROOF TOP	ACU 2B (SWH #2 Roof Top)	Split System	Other Refrigeration	Trane	CAUCC2041M032	C06F05497	90 lbs 0.00 ozs
UTILITIES	OUSE - LOAD CENTER 39	ACU-1 (LC-39)	Split System	Other Refrigeration	Thermal	PF-2500-V	6-6515-03	80 lbs 0.00 ozs
UTILITIES	OUSE - SWITCHHOUSE #2 ROOF TOP	ACU-1A (SWH #2 Roof Top)	Split System	Other Refrigeration	Trane	CAUCC2041M0302	C06F05498	90 lbs 0.00 ozs
UTILITIES	OUSE - SWITCHHOUSE #2 ROOF TOP	ACU1B (SWH #2 Roof Top)	Split System	Other Refrigeration	Trane	CAUCC2041m0302	C06F05496	90 lbs 0.00 ozs
UTILITIES	OUSE - LOAD CENTER 39	ACU-2 (LC-39)	Split System	Other Refrigeration	Thermal	PF2500-V	6-6515-04	80 lbs 0.00 ozs
UTILITIES	PRST2 - P 201 BLDG.	ACU-2 (P 201 BLDG)	Split System	Other Refrigeration	Temtrol	AV 22	57802	60 lbs 0.00 ozs
UTILITIES	OUSE - SWITCHHOUSE #2 ROOF TOP	ACU-2A (SWH #2)	Split System	Other Refrigeration	Trane	CAUCC2041M0302	C06F05499	90 lbs 0.00 ozs
UTILITIES	OUSE - LOAD CENTER 39	ACU-3 LC-39	Split System	Other Refrigeration	Thermal	PF-2500-V	6-6515-05	80 lbs 0.00 ozs
UTILITIES	OUSE - LOAD CENTER 39	ACU-4 LC-39	Split System	Other Refrigeration	Thermal	PF-2500-V	6-6515-06	80 lbs 0.00 ozs

Appendix O:

Natural Gas Conversion Supplemental Environmental Project

BP Products shall perform a Supplemental Environmental Project ("SEP") entitled the Natural Gas Conversion SEP in accordance with Section VII.A. of the Consent Decree, as amended, and the following workplan and schedule:

ID	Task Name	Duration	Start	Finish
1	**BP_TEXAS CITY CNG PROGRAM**	**365 days**	**Mon 12/1/08**	**Fri 4/23/10**
2	Receive PO	1 day	Mon 12/1/08	Mon 12/1/08
3	Assign Project Manager	5 days	Tue 12/2/08	Mon 12/8/08
4	**Dual-Fuel Conversions**	**365 days**	**Mon 12/1/08**	**Fri 4/23/10**
5	Review fleet, select VINs	5 days	Mon 12/1/08	Fri 12/5/08
6	Build prototype(s)	10 days	Mon 12/8/08	Fri 12/19/08
7	Perform emission tests	15 days	Mon 1/19/09	Fri 2/6/09
8	File Verification application(s)	20 days	Mon 2/9/09	Fri 3/6/09
9	Receive EPA Verification(s)	45 days	Mon 3/9/09	Fri 5/8/09
10	Convert HD vehicles	250 days	Mon 5/11/09	Fri 4/23/10
11	**Light-duty Conversions**	**285 days**	**Mon 1/12/09**	**Fri 2/12/10**
12	Review fleet, select VINs	5 days	Mon 1/12/09	Fri 1/16/09
13	Build prototype(s)	10 days	Mon 1/26/09	Fri 2/6/09
14	Perform emission tests	20 days	Mon 2/9/09	Fri 3/6/09
15	File Certification application(s)	20 days	Mon 3/9/09	Fri 4/3/09
16	Receive EPA Certificate(s)	45 days	Mon 4/6/09	Fri 6/5/09
17	Convert LD vehicles	180 days	Mon 6/8/09	Fri 2/12/10
18	**Fuel Stations**	**200 days**	**Mon 12/8/08**	**Fri 9/11/09**
19	Preliminary site review	5 days	Mon 12/8/08	Fri 12/12/08
20	Site selection	5 days	Mon 12/15/08	Fri 12/19/08
21	File permit applications	20 days	Mon 1/5/09	Fri 1/30/09
22	Receive permits	60 days	Mon 2/2/09	Fri 4/24/09
23	Order station equipment	30 days	Mon 4/27/09	Fri 6/5/09
24	Construction	60 days	Mon 6/8/09	Fri 8/28/09
25	Station launch	10 days	Mon 8/31/09	Fri 9/11/09
26	**Service Center**	**55 days**	**Mon 1/5/09**	**Fri 3/20/09**
27	Prelimnary selection review	5 days	Mon 1/5/09	Fri 1/9/09
28	Final selection	5 days	Mon 1/12/09	Fri 1/16/09
29	Training	10 days	Mon 1/19/09	Fri 1/30/09
30	Equipment and inventory	30 days	Mon 2/2/09	Fri 3/13/09
31	Service Center launch	5 days	Mon 3/16/09	Fri 3/20/09



Project: Texas_City
Date: Mon 11/17/08

Task | Milestone | External Tasks
Split | Summary | External Milestone
Progress | Project Summary | Deadline

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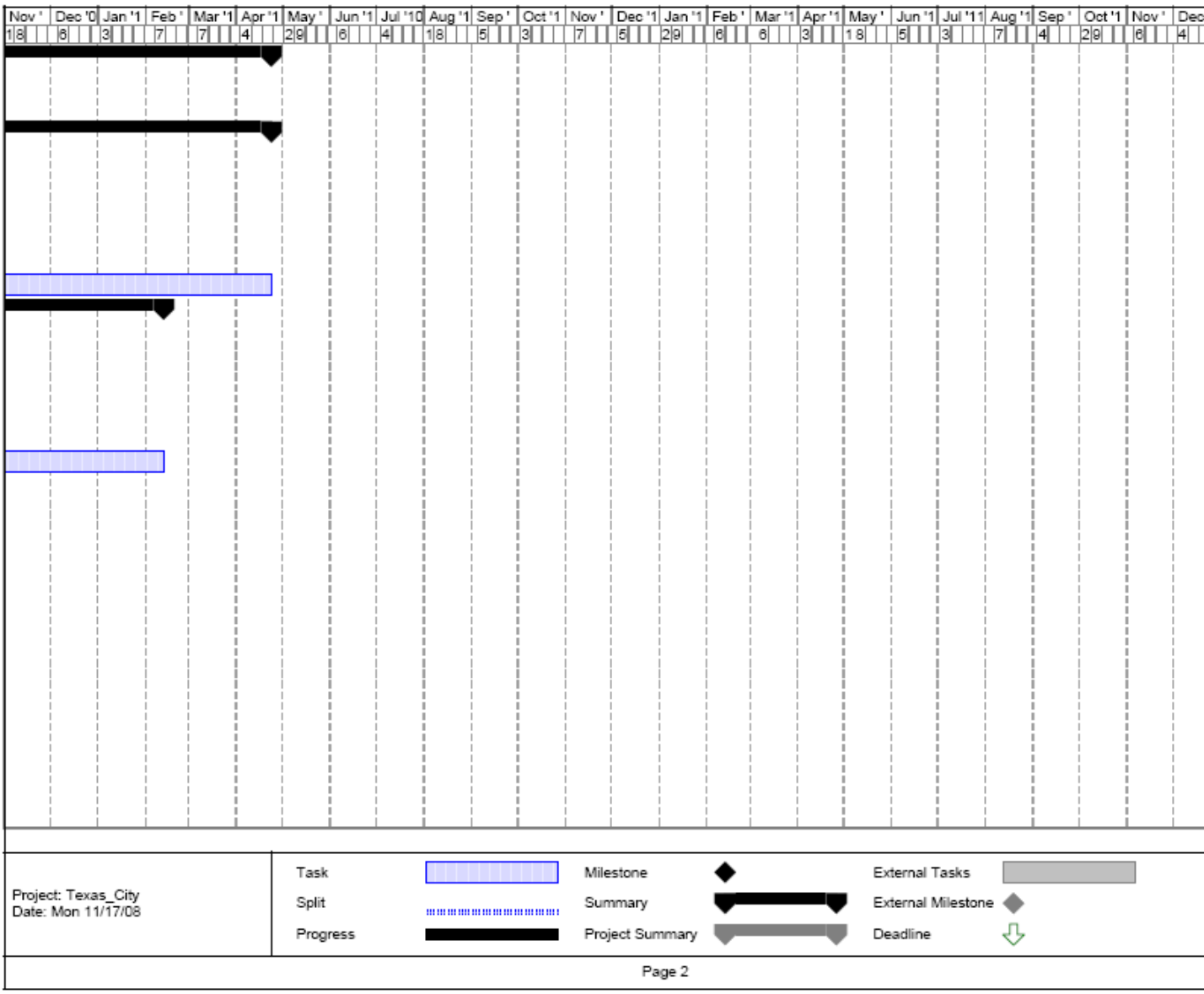
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Jan '1
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Mar '1
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Mar '1
Apr '1
May '
Jun '1
Jul '11
Aug '1
Sep '
Oct '1
Nov '
Project: Texas_City
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Task
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Milestone
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Appendix P:

Dry Weather Sump Reliability Project Scope

Unit	Existing Pump/Level Control	Pump Project Modification Details	Level Control Modification Details
ULC East	1 Progressing Cavity Pump	Add one centrifugal pump, operate in parallel with progressing cavity pump	Upgrade to Radar
ULC West	1 Progressing Cavity Pump	No pump change	Upgrade to Radar
RHU East	2 Progressing Cavity Pumps	Second progressing cavity pump operates as a spare	Upgrade to Radar
RHU West	2 Progressing Cavity Pumps	Second progressing cavity pump operates as a spare	Upgrade to Radar
CFHU	1 Progressing Cavity Pump	No pump change	Upgrade to Radar
DDU	1 Progressing Cavity Pump	No pump change	Upgrade to Radar
PS 3A	2 Centrifugals	No pump change	Upgrade to Radar
PS 3B	2 Progressing Cavity Pumps	Replace one progressing cavity pump with a centrifugal	Upgrade to Radar
PS 3B Proto	1 Progressing Cavity Pump	Add one centrifugal pump	Upgrade to Radar
FCU 3 South	2 Progressing Cavity Pumps	Replace one progressing cavity pump with a centrifugal	Upgrade to Radar
FCU 3 North	1 Centrifugal pump	Replace the centrifugal with another centrifugal	Upgrade to radar
AU2	1 Progressing Cavity Pump, radar level	No changes	No changes
ARU	1 Progressing Cavity Pump	Add 1 centrifugal to operate in parallel with progressing cavity pump	Upgrade Radar
UU4	1 Progressing Cavity Pump	Add 1 centrifugal to operate in parallel with progressing cavity pump	Upgrade Radar
Env Facility LS 1	2 Progressing Cavity Pumps	No pump modifications	Upgrade to Radar
Env Facility LS 3	2 Progressing Cavity Pumps	No pump modifications	Upgrade to Radar

UU3 East	1 Progressing Cavity Pump	No pump modifications	Upgrade to Radar
UU3 West	1 Progressing Cavity Pump	No pump modifications	Upgrade to Radar
RDU	1 Progressing Cavity Pump	No pump modifications	Upgrade to Radar
Coker	1 Centrifugal pump	Add 2nd centrifugal pump	Upgrade to Radar
FCU 1	1 Centrifugal pump, Radar level	No changes	No changes
OMCC	No dry weather sump	NA	NA