

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

UNITED STATES OF AMERICA,)
)
 Plaintiff,)
)
 and)
)
 STATE OF KANSAS, and)
 STATE OF WYOMING,)
)
 Intervenor,)
)
 v.)
)
 FRONTIER REFINING INC., and)
 FRONTIER EL DORADO REFINING)
 COMPANY,)
)
 Defendants.)
 _____)

Civil Action Case No.

CONSENT DECREE

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I. INTRODUCTION

WHEREAS, 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”), has simultaneously filed a Complaint, filed herewith, against Frontier Refining Inc. (“FRI”) and Frontier El Dorado Refining Company (“FEDRC”) and lodged this Consent Decree resolving alleged environmental violations at petroleum refineries owned by FRI in Cheyenne, Wyoming and FEDRC in El Dorado, Kansas (collectively, the “Covered Refineries”);

WHEREAS, upon information and belief the United States alleges that, at the Covered Refineries, FRI and FEDRC have violated and/or continue to violate the following statutory and regulatory provisions:

- (A) Prevention of Significant Deterioration (“PSD”) requirements found at Part C of Subchapter I of the Clean Air Act, 42 U.S.C. § 7475, and the regulations promulgated thereunder at 40 C.F.R. § 52.21 (the “PSD Rules”); and portions of the applicable state implementation plans (“SIPs”) and related rules adopted as required by 40 C.F.R. §§ 51.165 and 51.166, for heaters and boilers and fluid catalytic cracking unit catalyst regenerators for nitrogen oxide (“NO_x”), sulfur dioxide (“SO₂”), carbon monoxide (“CO”) and particulate matter (“PM”);
- (B) New Source Performance Standards (“NSPS”) found at 40 C.F.R. Part 60, Subparts A and J, under Section 111 of the Clean Air Act, 42 U.S.C. § 7411 (“Refinery NSPS Regulations”), for sulfur recovery plants, fuel gas combustion

devices, and fluid catalytic cracking unit catalyst regenerators;

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

(D) National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Benzene Waste Operations promulgated pursuant to Section 112(e) of the Clean Air Act, and found at 40 C.F.R. Part 61, Subpart FF (“National Emission Standard for Benzene Waste Operations”);

(E) Release reporting requirements found at Section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), 42 U.S.C. § 9603(a), and Section 304 of the Emergency Planning and Community Right-to-Know Act (“EPCRA”), 42 U.S.C. § 11004; and

(F) Risk Management Program and Plan requirements of Section 112(r)(7) of the Clean Air Act, 42 U.S.C. § 7412(r)(7), and 40 C.F.R. Part 68;

WHEREAS, the State of Kansas, on behalf of the Kansas Department of Health and Environment, and the State of Wyoming, on behalf of the Wyoming Department of Environmental Quality, (the States are collectively referred to herein as the “Intervenors”) have joined in this matter to enforce the requirements of this Consent Decree at the Covered Refinery located in their respective States;

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

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

WHEREAS, EPA recognizes that “Malfunction[s],” as defined in Subparagraph 10.gg of this Consent Decree and in 40 C.F.R. § 60.2, of the “Sulfur Recovery Plants” or of “Upstream Process Units,” as defined, respectively, in Paragraphs 10.ccc and 10.iii, may on occasion result in flaring of “Acid Gas” or “Sour Water Stripper Gas,” as defined, respectively, in Paragraphs 10.b and 10.yy, and that such flaring events do not violate 40 C.F.R. § 60.11(d) if the owner or operator, to the extent practicable, maintains and operates such units in a manner consistent with good air pollution control practice for minimizing emissions during these events;

WHEREAS, EPA alleges that FEDRC failed to fully and appropriately develop and implement a Risk Management Program and/or submit a Risk Management Plan, in violation of

Section 112(r)(7) of the Clean Air Act, 42 U.S.C. § 7412(r)(7), and 40 C.F.R. Part 68.

WHEREAS, FRI and FEDRC deny that they have violated and/or continue to violate the foregoing federal statutory, regulatory, or SIP provisions or any state statutory or regulatory provisions, local rules, or permits incorporating and implementing the foregoing federal requirements, and maintain that they have been and remain in compliance with all applicable state and/or federal statutes, regulations and permits and that they are not liable for civil penalties and injunctive relief as alleged in the Complaint;

WHEREAS, the United States is engaged in a federal strategy for achieving cooperative agreements with petroleum refineries located in the United States to achieve across-the-board reductions in emissions (“Global Settlement Strategy”);

WHEREAS, despite its denial of the allegations in the Complaint, FRI and FEDRC each voluntarily consents to the simultaneous filing of the Complaint, intervention of the States of Kansas and Wyoming, and lodging of this Consent Decree against FRI and FEDRC to accomplish this Consent Decree’s objective of cooperatively reconciling the goals of the United States, the State of Kansas, the State of Wyoming, and FRI and FEDRC (the “Parties”) under the Clean Air Act, 42 U.S.C. §§ 7401 to 7671q (“Act” or “CAA”), and the corollary state statutes, and hereby agree to undertake the installation of air pollution control equipment and enhancements to their air pollution management practices at the Covered Refineries to reduce air emissions by participating in the Global Settlement Strategy;

WHEREAS, by entering into this Consent Decree, FRI and FEDRC are committed to pro-actively resolving environmental concerns relating to their operations at the Covered Refineries;

WHEREAS, the Parties anticipate that the Affirmative Relief identified in Section VI. of this Consent Decree will reduce the Covered Refineries' annual emissions of nitrogen oxide by approximately 2,098 tons per year, of sulfur dioxide by approximately 2,987 tons per year, of particulate matter by approximately 589 tons per year, and of carbon monoxide by 622 tons per year;

WHEREAS, FRI and the State of Wyoming entered into a consent decree (the "Wyoming Decree") dated February 11, 2005, covering compliance with NSPS Subparts A and J and related permitting issues concerning FRI's refinery coker flare, and the State of Wyoming and FRI desire to have the injunctive and civil penalty relief contained in the Wyoming Decree recognized in this Consent Decree;

WHEREAS, complex, intensive, arms' length discussions among the Parties has resulted in the settlement embodied in this Consent Decree;

WHEREAS, FRI and FEDRC have waived any applicable federal, state or local requirements of statutory notice of the alleged violations;

WHEREAS, notwithstanding the foregoing, the Parties agree that settlement of the matters alleged in the Complaint is in the best interests of the Parties and the public and that entry of this Consent Decree without litigation is the most appropriate means of resolving this matter;

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

NOW THEREFORE, with respect to the matters alleged in the Complaint, 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, it is hereby **ORDERED, ADJUDGED** and **DECREED** as follows:

II. 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, 1355, 1367, and 1395, Sections 113(b) and 167 of the CAA, 42 U.S.C. §§ 7413(b) and 7477, Sections 109(c) and 113(b) of CERCLA, 42 U.S.C. §§ 9609(c) and 9613(b), and Section 325(b)(3) of EPCRA, 42 U.S.C. § 11045(b)(3). The complaint filed in this action states a claim upon which relief may be granted for injunctive relief and civil penalties against FRI and FEDRC under the CAA, CERCLA, and EPCRA. Authority to bring this suit is vested in the United States Department of Justice by 28 U.S.C. §§ 516 and 519, and Section 305 of the CAA, 42 U.S.C. § 7605.

2. Venue is proper in the District of Kansas pursuant to 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 113(b) of CERCLA, 42 U.S.C. § 9613(b), and 28 U.S.C. §§ 1391(b) and (c), and 1395(a). FRI and FEDRC consent to the personal jurisdiction of this Court, waive any objections to venue in this District, and do not object to the participation of the Intervenors in this action.

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

Kansas and the State of Wyoming have joined in this matter to enforce the requirements of this Consent Decree at the Covered Refineries located in their respective State.

III. APPLICABILITY AND BINDING EFFECT

4. The provisions of this Consent Decree shall apply to and be binding upon FRI and upon FEDRC and their agents, successors, and assigns. The provisions of this Consent Decree shall also apply to and be binding upon the United States and the Intervenors.

5. FRI and FEDRC consent to the entry of this Consent Decree and agree not to contest the validity of this Consent Decree in any subsequent proceeding to implement or enforce its terms.

6. Commencing upon the Date of Entry of this Consent Decree and through the date this Consent Decree terminates, FRI and FEDRC agree that the Covered Refineries are subject to this Consent Decree.

7. Commencing upon the Date of Lodging of this Consent Decree and until the date this Consent Decree terminates, FRI and/or FEDRC, as appropriate, shall give written notice of this Consent Decree to any successors-in-interest to either Covered Refinery prior to the transfer, in whole or part, of any ownership interest in, or operational responsibility for, that Covered Refinery.

a. FRI and/or FEDRC, as appropriate, shall provide a copy of this Consent Decree to any successor-in-interest.

b. At least thirty (30) days prior to any transfer of a Covered Refinery, FRI and/or FEDRC, as appropriate, shall notify the United States and the Applicable Intervenor(s) in accordance with the notice provisions set forth in Section XIX (General Provisions),

Paragraph 356 (Notice), of the identity of any successor-in-interest, and the interest to be assumed by that successor-in-interest.

c. FRI and/or FEDRC, as appropriate, shall condition any transfer of any ownership or operational interest (exclusive of any non-controlling non-operational shareholder interest) in any Covered Refinery, upon the execution of a modification to this Consent Decree by the successor-in-interest which makes all the terms and conditions of this Consent Decree that apply to the respective Covered Refinery applicable to the successor-in-interest.

d. By no earlier than thirty (30) days after the notice required by Paragraph 7.b., FRI and/or FEDRC shall file a motion with the Court to modify this Consent Decree to make the terms and conditions of this Consent Decree applicable to the successor-in-interest.

e. Unless the United States opposes the motion required by Paragraph 7.d. and the Court finds that the successor-in-interest does not have the financial and technical ability to assume the obligations and liabilities under this Consent Decree, FRI and/or FEDRC, as appropriate in light of the Covered Refinery subject to the transfer, shall be released from the post-transfer obligations and liabilities of this Consent Decree.

8. FRI and/or FEDRC, as appropriate in light of the Covered Refinery subject to the terms and conditions herein, shall at their respective refineries each be solely responsible for ensuring that performance of the actions required under Section VI (Affirmative Relief) of this Consent Decree is undertaken in accordance with the deadlines and requirements contained in this Consent Decree. FRI and/or FEDRC, as appropriate in light of the Covered Refinery for

which the work is to be done, shall, upon execution of any contract relating to such work, provide a copy of the applicable provisions of this Consent Decree to each and every firm that is retained to perform any work required under Section VI (Affirmative Relief) of this Consent Decree. Copies of the applicable portions of this Consent Decree need not be supplied to firms retained solely to supply the materials or equipment necessary to perform any work required under Section VI (Affirmative Relief) of this Consent Decree.

IV. OBJECTIVES

9. It is the purpose of the Parties to this Consent Decree to further the objectives of the CAA, the Wyoming Environmental Quality Act, Wyo. Stat. Ann. 35-11-101 through -1904, the Kansas Air Quality Act, Kan. Stat. Ann. § 65 - 3001 et seq., the reporting requirements of CERCLA Section 103, EPCRA Section 304, the Risk Management Program requirements of Section 112(r)(7) of the CAA, 42 U.S.C. 7412(r)(7), and to settle and resolve, as provided in Section XVIII of this Consent Decree, all allegations in the Complaint brought by the Plaintiffs in the matter.

V. DEFINITIONS

10. Unless otherwise defined herein, terms used in this Consent Decree shall have the meaning given to those terms in the CAA and the implementing regulations promulgated thereunder. The following terms used in this Consent Decree shall be defined, solely for purposes of this Consent Decree and the reports and documents submitted pursuant thereto, as follows:

- a. **“7-day rolling average”** and **“365-day rolling average”** shall mean the average

emission rate during the preceding seven (7) days, or three hundred and sixty-five (365) days, as applicable, that the emission unit was operating, calculated on a daily basis, commencing seven (7) days, or three hundred and sixty-five (365) days, as applicable, following the date upon which such emission rate becomes effective under this Consent Decree;

b. “**Acid Gas**” or “**AG**” shall mean any gas that contains hydrogen sulfide and is generated at a Covered Refinery by the regeneration of an amine scrubber solution.

“Acid Gas” or “AG” does not mean Tail Gas;

c. “**Acid Gas Flaring**” or “**AG Flaring**” shall mean the combustion of Acid Gas and/or Sour Water Stripper Gas in an AG Flaring Device. Nothing in this definition shall be construed to modify, limit, or affect the authority of EPA or the Applicable Intervenor to regulate the flaring of gases that do not fall within this Consent Decree’s definitions of Acid Gas or Sour Water Stripper Gas;

d. “**Acid Gas Flaring Device**” or “**AG Flaring Device**” shall mean all devices identified in Appendix E to this Consent Decree that are used at either Covered Refinery to combust Acid Gas and/or Sour Water Stripper Gas. The term “**Acid Gas Flaring Device**” does not include facilities in which gases are combusted to produce sulfur or sulfuric acid. From the Date of Entry through termination of this Consent Decree pursuant to Section XX (Termination), if any Covered Refinery utilizes any device other than those specified in Appendix E for the purpose of combusting Acid Gas and/or Sour Water Stripper Gas, that device shall be deemed an AG Flaring Device and shall be

subject to the requirements of this Consent Decree;

e. **“Acid Gas Flaring Incident”** or **“AG Flaring Incident”** shall mean the continuous or intermittent combustion of Acid Gas and/or Sour Water Stripper Gas from one or more AG Flaring Device(s) at a Covered Refinery that results in the emission of sulfur dioxide equal to, or in excess of, five-hundred (500) pounds in any twenty-four (24) hour period; provided, however, that if five-hundred (500) pounds or more of sulfur dioxide have been emitted at a Covered Refinery 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, under this Consent Decree, only one AG Flaring Incident shall be deemed to have occurred at that Covered Refinery. Subsequent, contiguous, non-overlapping periods shall be measured from the initial commencement of flaring within the AG Flaring Incident;

f. **“Applicable Intervenor”** or **“Intervenor”** shall mean the following states with respect to the following refineries:

- i. The State of Wyoming through the WDEQ with regard to FRI; and
- ii. The State of Kansas through the KDHE with regard to FEDRC;

g. **“Average Weight % of Total Catalyst Added”** (as determined on a seven (7) - day rolling average basis) shall mean:

the Amount of SO₂ or NO_x Reducing Catalyst Added (in pounds per day as received) x 100 percent / Total Catalyst Addition Rate (in pounds per day as received);

- h. **“Calendar Quarter”** shall mean any three-month period ending on either March 31, June 30, September 30, or December 31;
- i. **“CEMS”** shall mean Continuous Emissions Monitoring System;
- j. **“Combustion Units”** shall mean those heaters and boilers which each have a capacity of greater than 40 mmBtu/hr (million British Thermal Units per hour) at Higher Heating Value (“HHV”) at the Covered Refineries that are listed in Appendix A;
- j.* **“Complaint”** shall mean the complaint filed in this matter by the United States and any joinder or complaint in intervention filed in this action by the States of Kansas and/or Wyoming;
- k. **“Consent Decree”** or **“Decree”** shall mean this Consent Decree, including any and all appendices attached to this Consent Decree, and any subsequent modification to this Consent Decree and appendices which are made in accordance with the provisions of Section XIX. (General Provisions), Paragraph 360 (Modification) of this Consent Decree;
- l. **“Covered Refineries”** shall mean:
 - i. the Cheyenne, Wyoming Refinery, owned and operated by Frontier Refining Inc., located in Cheyenne, Wyoming (“FRI”); and
 - ii. the El Dorado Refinery, owned and operated by the Frontier El Dorado Refining Company and located in El Dorado, Kansas (“FEDRC”);
- m. **“CO”** shall mean carbon monoxide;
- n. **“Current Generation Ultra-Low NO_x Burners”** shall mean the Current Generation Ultra-Low NO_x Burners that are designed to achieve a NO_x emission rate of

0.020 to 0.040 lb/mmBTU HHV when firing natural gas at 3% stack oxygen at full design load without air preheat, even if upon installation actual emissions exceed 0.040 lb/mmBTU HHV;

o. **“Date of Entry of the Consent Decree”** or **“Date of Entry”** shall mean the date this Consent Decree is approved or signed by the United States District Court Judge and formally entered in the Court docket by the Clerk of the Court of the United States District Court for the District of Kansas;

p. **“Date of Lodging of the Consent Decree”** or **“Date of Lodging”** shall mean the date this Consent Decree is lodged for public comment with the Clerk of the Court for the United States District Court for the District of Kansas;

q. **“Day”** or **“Days”** shall mean a calendar day or days unless provided otherwise in this Consent Decree;

r. **“EPA”** shall mean the United States Environmental Protection Agency;

s. **“FCCU”** shall mean a fluidized catalytic cracking unit, its regenerator and associated CO boiler(s) and CO furnace(s) where present;

t. **“FCCU Feed Hydrotreater”** shall mean any device or unit that pre-treats feed to an FCCU in order to reduce the sulfur or nitrogen content of feedstock. The Gofiner/Isotherming Unit at FEDRC is an FCCU Feed Hydrotreater;

u. **“FCCU Feed Hydrotreater Outage”** shall mean the period of time during which the FCCU operation is affected as a result of catalyst change-out operations or shutdowns required by the American Society of Mechanical Engineers (“ASME”) pressure vessel

requirements or state boiler codes, or as a result of a Malfunction, that prevents the hydrotreater from effectively producing the quantity and quality of feed necessary to achieve established FCCU emission performance;

v. “**FEDRC**” shall mean the Frontier El Dorado Refining Company and/or the Covered Refinery located in El Dorado, Kansas;

w. “**Flaring Device**” shall mean any AG Flaring Device and/or an HC Flaring Device;

x. “**Flaring Incident**” shall mean any AG Flaring Incident, Tail Gas Incident, and/or HC Flaring Incident;

y. “**FRI**” shall mean Frontier Refining Inc. and/or the Covered Refinery located in Cheyenne, Wyoming.

z. “**Frontier**” shall mean either, individually or collectively, Frontier Refining Inc. and/or Frontier El Dorado Refining Company, depending upon the context in which the term is used;

aa. “**Fuel Oil**” shall mean any liquid fossil fuel with sulfur content of greater than 0.05% by weight;

bb. “**Hydrocarbon Flaring**” or “**HC Flaring**” shall mean the combustion of refinery-generated gases, excluding Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas, in a Hydrocarbon Flaring Device. Nothing in this definition shall be construed to modify, limit, or affect EPA’s or any Intervenor’s authority to regulate the flaring of gases that do not fall within the definitions contained in this Consent Decree;

cc. **“Hydrocarbon Flaring Device”** or **“HC Flaring Device”** shall mean the devices listed in Appendix G that are used by a Covered Refinery to control (through combustion) any excess volume of a refinery-generated gas other than Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas. To the extent that any Covered Refinery utilizes Flaring Devices other than those specified in Appendix G for the purpose of combusting any excess of a refinery-generated gas other than Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas, those Flaring Devices shall be deemed HC Flaring Devices and shall be subject to the provisions of this Consent Decree;

dd. **“Hydrocarbon Flaring Incident”** or **“HC Flaring Incident”** shall mean the continuous or intermittent Hydrocarbon Flaring at a Hydrocarbon Flaring Device that results in the emission of sulfur dioxide equal to, or greater than five hundred (500) pounds in a 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 HC Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the HC Flaring Incident;

dd.* **“Incident Report”** shall mean the report required under Paragraph 71 of this Consent Decree;

ee. **“KDHE”** shall mean the Kansas Department of Health and Environment;

- ff. **“Low NO_x Combustion Promoter”** shall mean a catalyst that is added to an FCCU that minimizes NO_x emissions while maintaining its effectiveness as a combustion promoter without the use of platinum;
- gg. **“Malfunction”** as specified by 40 C.F.R. § 60.2, shall mean: “[A]ny sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions;”
- hh. **“Natural Gas Curtailment”** shall mean a restriction imposed by a natural gas supplier, which limits the ability of either FRI and/or FEDRC, as appropriate, to obtain natural gas;
- ii. **“Next Generation Ultra-Low NO_x Burners”** or **“Next Generation ULNBs”** shall mean those burners that are designed to achieve a NO_x emission rate of less than or equal to 0.020 lb/mm BTU HHV when firing natural gas at 3% stack oxygen at full design load without air preheat, regardless of whether upon installation actual emissions exceed 0.020 lb/mm BTU HHV;
- jj. **“NO_x”** shall mean nitrogen oxides;
- kk. **“NO_x Additives”** shall mean Low NO_x Combustion Promoters and NO_x Reducing Catalyst Additives;
- ll. **“NO_x Reducing Catalyst Additive”** shall mean a catalyst additive that is introduced to an FCCU to reduce NO_x emissions through reduction or controlled oxidation of intermediates;
- mm. **“NSPS Flaring Device”** shall mean a Flaring Device listed in Appendix E or

Appendix G;

nn. **“Paragraph”** shall mean a portion of this Consent Decree identified by an Arabic numeral;

oo. **“Parties”** shall mean the United States, the Intervenors, and FRI and FEDRC;

pp. **“PEMS”** shall mean **P**redictive **E**missions **M**onitoring **S**ystems;

qq. **“PM”** shall mean particulate matter as measured by 40 C.F.R. Part 60, Appendix A-3 Method 5B or 5F;

rr. **“Pollutant Reducing Catalyst Additive”** shall mean NO_x and/or SO₂ reducing catalyst additive;

ss. **“Qualifying Controls”** for the purposes of NO_x control technology for heaters and boilers, shall mean: SCR or SNCR; Current Generation or Next Generation Ultra-Low NO_x Burners; or other technologies or combination of technologies which either FRI or FEDRC, as appropriate, demonstrates, to EPA’s satisfaction, will reduce NO_x emissions to 0.040 lbs. per mmBTU or lower. NO_x control technology may include the permanent shutdown of a heater or boiler with revocation of its federally enforceable operating and construction permits;

tt. **“Root Cause”** shall mean the primary cause(s) of an AG Flaring Incident(s), Hydrocarbon Flaring Incident(s), or Tail Gas Incident(s) as determined through a process of investigation;

uu. **“Scheduled Turnaround”**

i. For the FRI FCCU shall mean maintenance, modification, or repair on the

FRI FCCU which, at the Date of Entry, FRI has identified as being scheduled for implementation in 2010 and 2014.

ii. For the FEDRC FCCU shall mean maintenance, modification, or repair on the FEDRC FCCU which, at the Date of Entry, FEDRC has identified as being scheduled for implementation in 2009 and 2013;

uu.* **“Section”** shall mean a portion of this Consent Decree identified by a Roman numeral;

vv. **“Selective Catalytic Reduction”** or **“SCR”** shall mean an air pollution control device consisting of ammonia injection and a catalyst bed to selectively catalyze the reduction of NO_x with ammonia to nitrogen and water;

ww. **“Selective Non-Catalytic Reduction”** or **“SNCR”** shall mean an air pollution control system consisting of ammonia or urea injection without a catalyst bed to selectively catalyze the reduction of NO_x with ammonia or urea to nitrogen and water;

xx. **“Shutdown”** shall mean the cessation of operation of an “affected facility,” as defined in 40 C.F.R. § 60.2, for any purpose;

yy. **“Sour Water Stripper Gas”** or **“SWS Gas”** shall mean the gas produced by the process of stripping or scrubbing refinery sour water;

zz. **“SO₂”** shall mean sulfur dioxide;

aaa. **“SO₂ Reducing Catalyst Additive”** shall mean a catalyst additive that is introduced to an FCCU to reduce SO₂ emissions by reduction and adsorption;

bbb. **“Startup”** as specified in 40 C.F.R. § 60.2, shall mean the setting in operation of

an “affected facility,” as defined in 40 C.F.R. § 60.2, for any purpose;

ccc. **“Sulfur Recovery Plant”** or **“SRP”** shall mean any process unit(s) that recover(s) sulfur from hydrogen sulfide by a vapor phase catalytic reaction of sulfur dioxide and hydrogen sulfide;

ddd. **“Tail Gas”** or **“TG”** shall mean exhaust gas from the Claus trains and/or the tail gas treatment unit (**“TGTU”**) section of the SRP;

eee. **“Tail Gas Incident.”** For the purposes of identifying a Tail Gas Incident under this Consent Decree, FRI and FEDRC shall use engineering judgment and/or other monitoring data to estimate emissions during periods in which the SO₂ continuous emission analyzer has exceeded the range of the instrument or periods when the continuous emission analyzer is out of service. Applying the foregoing criteria, **“Tail Gas Incident”** shall mean combustion of Tail Gas that either is:

- i. combusted in a flare and results in 500 pounds or more of SO₂ emissions in any 24-hour period; or
- ii. combusted in a thermal incinerator and results in excess emissions of 500 pounds or more of SO₂ in any 24-hour period. Only those time periods which are in excess of a SO₂ concentration of 250 parts per million (“ppm”) (rolling 12-hour average) shall be used to determine the amount of excess SO₂ emissions from the incinerator;

fff. **“Tail Gas Treatment Unit”** or **“TGTU”** shall mean a control system utilizing a technology for reducing emissions of sulfur compounds from a Sulfur Recovery Plant;

ggg. “**Torch Oil**” shall mean FCCU feedstock or cycle oils that are combusted in the FCCU regenerator to assist in starting up or restarting the FCCU, hot standby of the FCCU, or to maintain regenerator heat balance in the FCCU;

hhh. “**Total Catalyst**” shall mean all forms of catalyst added to the FCCU, including but not limited to base catalyst, equilibrium catalyst and Pollutant Reducing Catalyst Additive;

iii. “**Upstream Process Units**” shall mean all amine contactors, amine scrubbers, amine regenerators and sour water strippers at the Covered Refineries, as well as all process units at the refineries that produce gaseous or aqueous waste streams that are processed at amine contactors, amine scrubbers, or sour water strippers;

jjj. “**VOC**” shall mean volatile organic compound; and

kkk. “**WDEQ**” shall mean the Wyoming Department of Environmental Quality.

VI. AFFIRMATIVE RELIEF

A. NO_x Emissions Reductions from FCCUs

11. FRI and FEDRC shall implement programs to reduce NO_x emissions from the FCCUs at their respective Covered Refineries, as specified in this Section VI.A. FRI and FEDRC shall incorporate lower NO_x emission limits established for their respective Covered Refineries under this Consent Decree into federally enforceable permits and shall each demonstrate future compliance with the lower emission limits through the use of CEMS.

12. FRI FCCU NO_x Emission Limits. By no later than one hundred and eighty (180) days from the Date of Entry of this Consent Decree, FRI shall notify EPA and the Applicable

Intervenor as to which one of the following two options that it shall comply with:

- a. Paragraph 13 of this Consent Decree; or
- b. Paragraph 14 of this Consent Decree.

13. If FRI elects to comply with Paragraph 12.a above, then by no later than December 31, 2010, FRI shall comply with final FCCU NO_x concentration emission limits of 40 Parts Per Million, Volumetric Dry (“ppmvd”) on a 365-day rolling average basis, and 80 ppmvd on a 7-day rolling average basis, both at 0% oxygen.

14. If FRI elects to comply with Paragraph 12.b above, then FRI shall:

- a. By no later than one hundred and eighty (180) days from the Date of Entry, comply with interim FCCU NO_x concentration emission limits of 60 ppmvd on a 365-day rolling average basis, and 120 ppmvd on a 7-day rolling average basis, both at 0% oxygen; and
- b. By no later than December 31, 2015, comply with FCCU NO_x concentration emission limits of 40 ppmvd on a 365-day rolling average basis, and 80 ppmvd on a 7-day rolling average basis, both at 0% oxygen.

15. FEDRC FCCU NO_x Emission Limits. FEDRC shall complete any necessary installation and begin operation of a NO_x control system at the FEDRC FCCU by no later than October 31, 2013. By no later than December 31, 2013, the FEDRC FCCU shall comply with a NO_x concentration emission limit of 20 ppmvd on a 365-day rolling average basis, and 40 ppmvd on a 7-day rolling average basis, both at 0% oxygen.

16. Interim Emissions Limits - NO_x Reducing Catalyst Additive for the FEDRC

FCCU. Except as noted in Paragraph 16.a. below, by the Date of Entry, FEDRC shall completely replace platinum-based combustion promoter with an EPA-approved Low NO_x Combustion Promoter. If the FEDRC FCCU exceeds the NO_x emission limits of 40 ppmvd on a 365-day rolling average or 80 ppmvd on a 7-day rolling average basis, then by the later of the Date of Entry, or within 15 calendar days after either emission limit is exceeded, and continuing until December 31, 2009, FEDRC shall also add an EPA-approved NO_x Reducing Catalyst Additive at a rate of 42 pounds per day (based on 1% of total catalyst added to the FCCU for a period from January 2003 to December 2004). From December 31, 2009 until no later than December 31, 2013, the FEDRC FCCU shall comply with FCCU NO_x concentration emission limits of 40 ppmvd on a 365-day rolling average basis and 80 ppmvd on a 7-day rolling average basis, both at 0% oxygen.

- a. FEDRC may use conventional combustion promoter on an intermittent basis as needed to avoid unsafe operation of the FCCU regenerator and to comply with CO emission limits. FEDRC will undertake appropriate measures and/or adjust operating parameters with the goal of eliminating such use. Notwithstanding the foregoing, FEDRC will not be required to adjust operating parameters in a way that would limit conversion or processing rates. From Date of Entry and continuing until December 31, 2013, when the final NO_x limits of paragraph 15 apply, FEDRC shall, within thirty (30) days of using a conventional combustion promoter, submit a report to EPA documenting when and why FEDRC used the conventional combustion promoter and the actions taken to discontinue its use and return to the use of the EPA-Approved Low NO_x Combustion

Promoter.

17. At FRI and/or FEDRC, NO_x emissions during periods of Startup, Shutdown, or Malfunction of an FCCU controlled by catalyst additives, or NO_x emissions during periods of Malfunction of an FCCU, or during periods of Malfunction of a NO_x Control Technology used to meet NO_x emissions limits required by this Consent Decree, shall not be used in determining compliance with the seven (7)-day rolling average NO_x emission limits established pursuant to Paragraphs 11 - 16, provided that during such periods FRI or FEDRC, as appropriate, implements good air pollution control practices to minimize NO_x emissions.

18. Demonstrating Compliance With FCCU Emissions Limits. For each FCCU at FRI and FEDRC, beginning no later than the Date of Entry, FRI and FEDRC shall each use NO_x, SO₂, CO and O₂ CEMS to monitor the performance of their respective FCCUs and to report upon compliance with the terms and conditions of this Consent Decree. CEMS shall be used to demonstrate compliance with the respective NO_x emission limits established pursuant to Paragraphs 11 - 16 of this Decree, the SO₂ emission limits established pursuant to Paragraphs 19 - 25 of this Decree, and CO emission limits established pursuant to Paragraphs 32 - 35 of this Decree. FRI and FEDRC shall, upon request, each make all CEMS data available to EPA and the Applicable Intervenor.

a. FRI and FEDRC each shall install, certify, calibrate, maintain, and operate all CEMS required by Paragraph 18 in accordance with the provisions of 40 C.F.R. § 60.13 that are applicable to CEMS (excluding those provisions applicable only to Continuous Opacity Monitoring Systems), 40 C.F.R. Part 60 Appendices A and F, and the applicable

performance specification tests of 40 C.F.R. Part 60 Appendix B.

b. Unless 40 C.F.R. Part 60 Appendix F requirements are specifically mandated by Subpart J or the applicable Intervenor, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, FRI or FEDRC may opt to conduct either a Relative Accuracy Audit (“RAA”) or a Relative Accuracy Test Audit (“RATA”) on each CEMS at least once every three (3) years. If FRI or FEDRC elect such an option, they must conduct a Cylinder Gas Audit (“CGA”) each calendar quarter during which an RAA or RATA is not performed.

B. SO₂ Emissions Reductions From FCCUs

19. FRI and FEDRC shall implement those programs identified under this Section VI.B. of this Consent Decree to reduce SO₂ emissions from the FRI and FEDRC FCCUs. FRI and FEDRC each shall incorporate lower SO₂ emission limits into federally enforceable permits and each shall demonstrate future compliance with the lower emission limits through the use of CEMS.

20. FRI FCCU SO₂ Emission Limits. By no later than one hundred and eighty (180) days from the Date of Entry, FRI shall notify EPA and the Applicable Intervenor of which one of the following two options that FRI shall comply with:

- a. Paragraph 21 of this Consent Decree; or
- b. Paragraph 22 of this Consent Decree.

21. If FRI elects to comply with Paragraph 20.a above, then by no later than December 31, 2010, FRI shall comply with a final FCCU SO₂ concentration emission limit of 25

ppmvd on a 365-day rolling average basis and a final FCCU SO₂ concentration emission limit of 50 ppmvd on a 7-day rolling average basis, both at 0% oxygen.

22. If FRI elects to comply with Paragraph 20.b above, then FRI shall:

a. By no later than one hundred and eighty (180) days from the Date of Entry, and continuing until FRI begins to comply with Paragraph 22.b., infra, FRI shall add an EPA-approved SO₂ reducing additive at a rate of 396 pounds per day (based on 10% of total catalyst added to the FCCU for a period from August 2006 to September 2008); and

b. By no later than September 30, 2015, comply with FCCU SO₂ concentration emission limit of 25 ppmvd on a 365-day rolling average basis and a FCCU SO₂ concentration emission limit of 50 ppmvd on a 7-day rolling average basis, both at 0% oxygen.

If the SO₂ Reducing Catalyst Additive addition rate required by this Paragraph 22.a. limits the processing rate or the conversion capability of the FRI FCCU in a manner that cannot be reasonably compensated for by adjustment of other parameters, FRI may, up until 12 months from the Date of Entry, submit a request to EPA to reduce the SO₂ Reducing Catalyst Additive addition rate to a level at which the additive no longer causes such limits or effects. Such a request shall include all data that demonstrates the limit on processing rate or conversion capability with evidence that links these limits to the SO₂ Reducing Catalyst Additive and that documents all efforts made to compensate by adjustment of other parameters. If EPA provides written approval, FRI may reduce the SO₂ Reducing Catalyst Additive addition rate required by this Paragraph 22.a. to the level that EPA allows in its approval.

23. FEDRC FCCU SO₂ Emission Limits . By no later than December 31, 2009, FEDRC shall accept and comply with an SO₂ emission limit of 25 ppmvd on a 365 - day rolling average basis and an SO₂ emission limit of 50 ppmvd on a 7 - day rolling average basis, both at 0% oxygen.

24. Startup, Shutdown, or Malfunction. At FRI and/or FEDRC, SO₂ emissions during periods of Startup, Shutdown, or Malfunction of an FCCU or during periods of a Malfunction of an FCCU catalyst additive system or other SO₂ emission control device shall not be used by FRI or FEDRC in determining compliance with the 7-day rolling average SO₂ emission limits established pursuant to Paragraphs 20 - 25, provided that during such periods FRI and FEDRC, as applicable, implement good air pollution control practices to minimize SO₂ emissions.

25. Alternative Operating Scenario for FCCU Hydrotreater: The applicable 7-day SO₂ emission limit for the FRI or FEDRC FCCU shall apply during the period of any FCCU Hydrotreater outage, except as provided in this Paragraph. By no later than ninety (90) days months prior to the first FCCU Hydrotreater outage for which either FRI or FEDRC wishes to utilize the alternative operating scenario provided for in this Paragraph, FRI or FEDRC shall submit for approval by EPA a plan for the operation of the FCCU (including associated air pollution control equipment) during the FCCU 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 SO₂ emission limit shall not apply during periods of FCCU Hydrotreater outages provided that FRI or FEDRC 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 either FRI or FEDRC asserts that the basis for a specific FCCU Hydrotreater outage is a Shutdown required by ASME pressure vessel requirements or applicable State boiler requirements, where no catalyst change-out occurs, FRI or FEDRC, as appropriate, shall submit a report to EPA identifying the relevant requirements and justifying the decision to implement the Shutdown during the selected time period.

C. Particulate Matter Emissions Reductions From FCCUs

26. FRI and FEDRC shall maintain particulate matter (“PM”) emissions from their FCCUs in accordance with the requirements of this Section VI.C. of this Consent Decree and shall incorporate those requirements into federally enforceable permits.

27. By no later than December 31, 2009, FEDRC shall comply with an emission limit of 0.50 pounds of PM per 1000 pounds of coke burned on a 3-hour average basis.

28. By the second turnaround of the FRI FCCU or December 31, 2015, whichever occurs first, FRI shall accept and comply with an emission limit of 1.0 pounds of PM per 1,000 pounds of coke burned on a 3-hour average basis. By the second turnaround of the FRI FCCU or December 31, 2015, whichever occurs first, upon prior written notice to EPA pursuant to Section XIX (General Provisions) Paragraph 356 (Notice), FRI may choose to accept and comply with an emission limit of 0.50 pounds of PM per 1,000 pounds of coke burned, in which case FRI shall receive the release from liability provided in Paragraph 331.

29. PM Testing. To measure PM emissions from their FCCUs, FRI and FEDRC shall each follow the test protocol specified in 40 C.F.R. § 60.106(b)(2) and use EPA Reference

Method 5B or 5F to measure PM emissions identified in Paragraphs 26 - 28 from each of their FCCUs. FEDRC shall conduct its first stack test by June 30, 2010 and submit a stack test protocol to the Applicable Intervenor for approval no later than sixty (60) days prior to the stack test. FRI shall conduct its first stack test one hundred and eighty (180) days from the second FCCU turnaround after entry of this Consent Decree but no later than June 30, 2016. FRI shall submit a stack test protocol to the Applicable Intervenor for approval no later than sixty (60) days prior to the stack test. FRI and FEDRC shall thereafter conduct annual stack tests for their FCCUs and include stack test results in the semi-annual reports required under Paragraph 216, Section XI. (Reporting and Record Keeping) of this Consent Decree for the period in which such stack test(s) occurred. Not less than forty-five (45) days before the conduct of any stack test, FRI or FEDRC, shall give notice to EPA and the Applicable Intervenor pursuant to Section XIX. (General Provisions), Paragraph 356 (Notice) of the time and date upon which the test shall be conducted. Within sixty (60) days of completion of any stack test, test reports shall be sent to EPA and the Applicable Intervenor. Upon demonstrating through at least three (3) annual tests that a particular FCCU's PM limits are not being exceeded, FRI or FEDRC, as appropriate, may request EPA approval to conduct these stack tests less frequently than annually at such FCCU.

30. Neither FRI nor FEDRC shall use PM emissions during periods of Startup, Shutdown, or Malfunction of an FCCU or Malfunction of a PM control device to determine compliance with the emission limits established in Paragraphs 27 and 28 provided that during such periods FRI or FEDRC, as applicable, implement good air pollution control practices to minimize PM emissions.

31. Opacity Monitoring At FCCUs. FRI, by June 30, 2015, and FEDRC, by December 31, 2009, shall each install and operate a Continuous Opacity Monitoring System (“COMS”) to monitor opacity at each of the Covered Refineries’ FCCUs. If Wet Gas Scrubber(s) are installed at either Covered Refinery, FRI and FEDRC, as applicable, shall operate the Wet Gas Scrubber(s) pursuant to an EPA-approved Alternative Monitoring Plan for opacity. FRI and FEDRC, as appropriate, shall install, certify, calibrate, maintain, and operate all COMS required by this Consent Decree in accordance with 40 C.F.R. §§ 60.11, 60.13 and Part 60 Appendix A, and the applicable performance specification test of 40 C.F.R. Part 60 Appendix B.

D. CO Emissions Reductions From FCCUs

32. FRI and FEDRC shall operate the FCCUs at the Covered Refineries in a manner that minimizes CO emissions and shall reduce emissions further at each FCCU in accordance with the requirements of this Section VI.D of this Consent Decree. FRI and FEDRC shall incorporate the requirements of this Section VI.D. into federally enforceable permits for their respective Covered Refineries.

33. FRI CO Emissions Limits. By no later than the Date of Entry of this Consent Decree, the FRI FCCU shall meet an emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour block average basis and 100 ppmvd CO corrected to 0% O₂ on a 365-day rolling average basis.

34. FEDRC CO Emissions Limits. By no later than December 31, 2009, the FEDRC FCCU shall meet an emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour block average basis and 100 ppmvd CO corrected to 0% O₂ on a 365-day rolling average basis.

35. CO emissions during periods of Startup, Shutdown, or Malfunction of an FCCU or Malfunction of a CO control device shall not be used in determining compliance with the emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis, provided that during such periods FRI or FEDRC, as appropriate, implement good air pollution control practices to minimize CO emissions.

E. NSPS Applicability to FCCU Regenerators.

36. FRI FCCU Catalyst Regenerators. By no later than the dates specified below for each pollutant, the FRI FCCU Catalyst Regenerator shall be an “affected facility,” as defined in 40 C.F.R. § 60.2, under NSPS Subpart J, and shall comply with the applicable requirements of NSPS Subparts A and J for each of the following pollutants by the specified dates:

SO ₂	September 30, 2015;
PM	September 30, 2015; and
CO	Date of Entry.

37. FEDRC FCCU Catalyst Regenerators. By no later than the dates specified below for each pollutant, the FEDRC FCCU Catalyst Regenerator shall be an “affected facility,” as defined in 40 C.F.R. § 60.2, under NSPS Subpart J, and shall comply with the applicable requirements of NSPS Subparts A and J for those pollutants:

SO ₂	December 31, 2009;
PM	December 31, 2009; and
CO	December 31, 2009.

38. For FCCU Catalyst Regenerators that become “affected facilities,” as defined in

40 C.F.R. § 60.2, under NSPS Subpart J pursuant to this Section VI.E., entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree at the Covered Refineries' FCCUs shall satisfy the notice requirements of 40 C.F.R. § 60.7(a) and the initial performance test requirement of 40 C.F.R. § 60.8(a).

a. If prior to the termination of this Consent Decree, the FCCU becomes subject to NSPS Subpart Ja for a particular pollutant due to a "modification" (as that term is defined in the final Subpart Ja rule), the modified affected facility shall be subject to and comply with NSPS Subpart Ja in lieu of NSPS, Subpart J for that regulated pollutant to which a standard applies as a result of the modification.

b. If prior to the termination of this Consent Decree, the FCCU becomes subject to NSPS Subpart Ja due to a "reconstruction" (as that term is defined in the final Subpart Ja rule), the reconstructed facility shall be subject to and comply with NSPS Subpart Ja for all pollutants in lieu of Subpart J.

39. [RESERVED].

F. NO_x Emission Reductions From Heaters and Boilers

40. FRI and FEDRC shall each implement programs to reduce NO_x emissions from refinery heaters and boilers at their respective Covered Refineries to meet the requirements of Paragraphs 42, 45 and 46 through the installation of NO_x controls and the acceptance of federally enforceable permit emission limits on the units controlled, or the shut down of certain units. Further, at their respective Covered Refineries, FRI and FEDRC shall monitor compliance with the emission limits through stack testing, use of CEMS, or PEMS.

41. Installation of NO_x Control Technology. For each Covered Refinery, FRI and FEDRC shall select one or any combination of the following “Qualifying Controls” to satisfy the requirements of Paragraphs 42, 45 and 46:

- a. SCR or SNCR;
- b. Current Generation or Next Generation Ultra-Low NO_x Burners;
- c. Other technologies or combination of technologies which FRI or FEDRC, as appropriate, demonstrates to EPA’s satisfaction shall reduce NO_x emissions to 0.040 lbs. per mmBTU or lower; or
- d. Permanent shutdown of a heater or boiler with revocation of its federally enforceable operating permit.

42. On or before December 31, 2013, for each Covered Refinery, FRI and FEDRC shall use Qualifying Controls to reduce the aggregate NO_x emissions (i.e. combined NO_x emissions of both Covered Refineries) from the Heaters and Boilers listed in Appendix A by at least 649 tons per year, so as to satisfy the following inequality:

$$\sum_{i=1}^n [(E_{\text{actual}})_i - (E_{\text{allowable}})_i] \geq 649 \text{ tons of NO}_x \text{ per year}$$

Where:

$(E_{\text{allowable}})_i = [(\text{The permitted allowable pounds of NO}_x \text{ per million BTU for heater or boiler } i, \text{ or, the requested portion of the permitted reduction pursuant to Paragraph 213(a) } / (2000 \text{ pounds per ton})] \times [(\text{the lower of permitted or maximum heat input rate}$

capacity in million BTU per hour for heater or boiler i) x (the lower of 8760 or permitted hours per year)];

$(E_{\text{actual}})_i =$ The tons of NO_x per year prior actual emissions during calendar years 2003 and 2004 (unless prior actual emissions exceed allowable emissions, then use allowable) as shown in Appendix A for heater or boiler i and

$n =$ The number of heaters and boilers with Qualifying Controls from those listed in Appendix A that are selected by FRI or FEDRC, as appropriate, to satisfy the requirements of the equation set forth in this Paragraph 42 of this Consent Decree.

Federally enforceable permit limits established to implement this Paragraph 42 may use a 365 - day rolling average for heaters and boilers that use a CEMS or PEMS to monitor compliance.

43. Appendix A to this Consent Decree provides the following information for heaters or boilers larger than 40 mmBTU/hr that operated during calendar years 2003 or 2004 at each of the Covered Refineries:

- a. the maximum heat input capacity or, if less, the allowable heat input capacity in mmBTU/hr (HHV);
- b. the actual NO_x emission rate for both calendar years 2003 and 2004 in lbs/mmBTU (HHV) and tons per year;
- c. the type of data used to derive the emission estimate (*i.e.*, emission factor, stack test, or CEMS data); and
- d. the utilization rate in annual average mmBTU/hr (HHV) for calendar years 2003 and 2004.

44. For their respective Covered Refineries, FRI and FEDRC shall each submit a detailed NO_x control plan (“Control Plan”) to EPA and the Applicable Intervenor for review by no later than one hundred and eighty (180) days after Date of Entry, with annual updates, covering the prior calendar year, on August 31st of each year thereafter until implementation of the Control Plan is complete. The Control Plan and its updates shall describe the achieved and anticipated progress of the NO_x emissions reductions program for heaters and boilers and shall contain the following information for each heater and boiler greater than 40 mmBTU/hr that FRI and FEDRC plan to use to satisfy the requirements of Paragraphs 42, 45 and 46:

- a. All of the information in Appendix A;
- b. Identification of the type of Qualifying Controls installed or planned with date installed or planned (including identification of the heaters and boilers to be permanently shut down);
- c. To the extent limits exist or are planned, the allowable NO_x emission rates (in lbs/mmBTU (HHV), with averaging period) and allowable heat input rate (in mmBTU/hr (HHV)) obtained or planned with dates obtained or planned;
- d. The results of emissions tests and annual average CEMS or PEMs data (in ppmvd at 3% O₂, lbs/mmBTU) conducted pursuant to Paragraph 47 and tons per year; and
- e. The amount in tons per year applied or to be applied toward satisfying Paragraph 42.

Appendix A and the Control Plans and updates required by this Paragraph 44 shall be for informational purposes only and may contain estimates. They shall not be used to develop

federally enforceable permit requirements or other operating restrictions. Either FRI or FEDRC, as appropriate, may change any projections, plans, or information that is included in the Control Plan or updates.

45. By December 31, 2009, FRI and FEDRC each shall install at their respective Covered Refineries Qualifying Controls and have by December 31, 2009 also applied for emission limits from the appropriate permitting authority sufficient to achieve, in the aggregate, two-thirds of the NO_x emissions reductions required by Paragraph 42. No later than March 31, 2010, FRI and FEDRC shall each provide to EPA and the Applicable Intervenor a report showing how they have satisfied the requirement of this Paragraph 45 at their respective Covered Refineries.

46. By no later than December 31, 2013, heaters and boilers with Qualifying Controls shall represent at least 30% of the total maximum heat input capacity or, if less, the allowable heat input capacity, as shown in Appendix A, of all heaters and boilers greater than 40 mmBTU/hr at each Covered Refinery. Any Qualifying Controls can be used to satisfy this requirement, regardless of when the Qualifying Controls were installed.

47. Beginning no later than one hundred and eighty (180) days after installing Qualifying Controls on and commencing operation of a heater or boiler that shall be used to satisfy the requirements of Paragraphs 42, 45, and 46, at each Covered Refinery FRI and FEDRC shall monitor the heaters or boilers as follows:

- a. For heaters and boilers with a capacity greater than 150 mmBTU/hr (HHV), install or continue to operate a NO_x CEMS;
- b. For heaters and boilers with a capacity greater than 100 mmBTU/hr (HHV) but

less than or equal to 150 mmBTU/hr (HHV), install or continue to operate a NO_x CEMS, or monitor NO_x emissions with a predictive emissions monitoring system (“PEMS”) developed and operated pursuant to the requirements of Appendix B (Predictive Emissions Monitoring Systems for Heaters and Boilers with Capacities Between 100 and 150 Mmbtu/hr) of this Consent Decree;

c. For heaters and boilers with a capacity of less than or equal to 100 mmBTU/hr (HHV), conduct an initial performance test and any periodic tests that may be required by EPA or by the applicable State or local permitting authority under other applicable regulatory authority. FRI and FEDRC shall report the results of the initial performance testing at their respective Covered Refinery to EPA and the Applicable Intervenor;

d. FRI and FEDRC shall use Method 7E in conjunction with Method 19 or an EPA-approved alternative test method to conduct initial performance testing for NO_x emissions required by Subparagraph 47.c. Monitoring with a PEMS that is required by this Paragraph shall be conducted in accordance with the requirements of Appendix B. Units with Qualifying Controls installed before the Date of Entry that are subject to this Paragraph shall comply with this Paragraph by Date of Entry; and

e. Any heater or boiler included in Appendix A that (i) already had Qualifying Controls installed prior to January 1, 2003, and (ii) is used solely to meet the heat input capacity requirement in Paragraph 46, shall install CEMS by December 31, 2013.

48. Beginning no later than one hundred and eighty (180) days after installing Qualifying Controls and commencing operation of a heater or boiler that shall be monitored by

use of a NO_x CEMS that is required by Paragraph 47, at their respective Covered Refineries, FRI and FEDRC shall each install, certify, calibrate, maintain, and operate these CEMS in accordance with the provisions of 40 C.F.R. § 60.13 that are applicable to CEMs (excluding those provisions applicable only to Continuous Opacity Monitoring Systems) and Part 60 Appendices A and F, and the applicable performance specification test of 40 C.F.R. Part 60 Appendix B. Unless Appendix F requirements are specifically required by NSPS or state regulations, with respect to 40 C.F.R. Part 60, Appendix F, in lieu of the requirements of 40 C.F.R. Part 60, Appendix F §§ 5.1.1, 5.1.3 and 5.1.4, FRI and/or FEDRC, as appropriate, must conduct either a Relative Accuracy Audit (“RAA”) or a Relative Accuracy Test Audit (“RATA”) on each CEMS at least once every three (3) years. At their respective Covered Refinery, FRI and FEDRC each shall conduct a Cylinder Gas Audit (“CGA”) each calendar quarter during which a RAA or a RATA is not performed.

49. The requirements of this Section VI.F. do not exempt FRI and FEDRC from complying with any and all Federal, state, regional, and local requirements that may mandate technology, equipment, monitoring, or other upgrades that are: (a) based on actions or activities occurring after the Date of Lodging of this Consent Decree; or (b) based upon new or modified regulatory, statutory, or permit requirements. FRI and FEDRC are not prohibited from using additional emission reductions from Combustion Units that are not required by this Consent Decree for any other purpose as allowed by Paragraph 213.

50. For their respective Covered Refineries, FRI and FEDRC shall retain all records required to support their reporting requirements under this Section VI.F. this Consent Decree

until termination of this Consent Decree, Section XX. (Termination). Upon request, FRI and FEDRC shall submit said records to EPA or the Applicable Intervenor.

51. If FRI and/or FEDRC transfer ownership of any Covered Refinery before achieving all of the NO_x reductions required by Paragraph 42, FRI and/or FEDRC, as appropriate, shall, as provided in Section III of this Consent Decree, notify EPA and the Applicable Intervenor of the transfer(s), and shall submit an allocation to EPA and the Applicable Intervenor for the share of NO_x reduction requirements of Paragraph 42 that shall apply individually to the transferred Covered Refinery(ies) after such transfer. If FRI and/or FEDRC chooses, such allocation may be zero.

G. SO₂ Emissions Reductions from and, NSPS Applicability to, Heaters and Boilers and Other Specified Equipment.

52. At their respective Covered Refineries, FRI and FEDRC shall undertake measures to reduce SO₂ emissions from refinery heaters and boilers and other specified equipment by restricting hydrogen sulfide (“H₂S”) in refinery fuel gas and by agreeing not to burn Fuel Oil except as specifically permitted under the provisions set forth herein.

53. NSPS Applicability to Heaters and Boilers and Other Specified Equipment.

a. Upon the Date of Entry, all heaters and boilers at each Covered Refinery shall be “affected facilities” as defined by 40 C.F.R. § 60.2 under NSPS Subpart J, and shall comply with the applicable requirements of NSPS Subparts A and J for fuel gas combustion devices, except for those heaters and boilers listed in Appendix C, which shall be “affected facilities” as defined by 40 C.F.R. § 60.2, and shall be subject to and comply with the applicable requirements of NSPS Subparts A and J for fuel gas

combustion devices by the dates listed in Appendix C.

b. Upon the Date of Entry all equipment listed in Appendix D shall be “affected facilities” as defined by 40 C.F.R. § 60.2, under NSPS Subpart J, and shall comply with the applicable requirements of NSPS Subparts A and J for fuel gas combustion devices by the dates listed in Appendix D.

c. Where Appendix C or D specifies an alternative monitoring plan (“AMP”) submittal date (rather than a final NSPS Subpart J compliance date), FRI and FEDRC shall submit to EPA and the Applicable Intervenor a timely and complete AMP application. Such an AMP may be based on alternative monitoring for H₂S or SO₂. If an AMP is not approved, FRI and/or FEDRC, as appropriate, shall, within ninety (90) days of receiving notice of such disapproval submit to EPA for approval, and send a copy to the Applicable Intervenor, a plan and schedule that provide for compliance with the monitoring requirements of NSPS Subpart J in accordance with the schedules contained in Appendices C and D. The plan may include a revised AMP application, physical or operational changes to the equipment, or additional or different monitoring.

d. For some heaters and boilers that combust low-flow VOC streams from vents, pump seals, and other sources, it is anticipated that some of the AMP applications shall rely in part on calculating a weighted average H₂S concentration of all VOC and fuel gas streams that are burned in a single heater or boiler and demonstrating with alternative monitoring that either the SO₂ emissions from the heater or boiler shall not exceed 20 ppm or that the weighted average H₂S concentration is not likely to exceed 162 ppm H₂S.

EPA shall not reject an AMP solely due to the AMP's use of one of these approaches to demonstrating compliance with NSPS Subpart J.

e. For heaters, boilers and other equipment used as fuel gas combustion devices that become "affected facilities" as defined by 40 C.F.R. § 60.2, under NSPS Subpart J pursuant to this Paragraph 53 and/or Appendices C and D, entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree shall satisfy the notice requirements of 40 C.F.R. § 60.7(a) and the initial performance test requirement of 40 C.F.R. § 60.8(a).

f. If prior to the termination of this Consent Decree, any heater, boiler or other specified equipment becomes subject to NSPS Subpart Ja for a particular pollutant due to a "modification" (as that term is defined in the final Subpart Ja rule), the modified affected facility shall be subject to and comply with NSPS Subpart Ja in lieu of NSPS, Subpart J for that regulated pollutant to which a standard applies as a result of the modification.

g. If prior to the termination of this Consent Decree, any heater, boiler or other specified equipment becomes subject to NSPS Subpart Ja due to a "reconstruction" (as that term is defined in the final Subpart Ja rule), the reconstructed facility shall be subject to and comply with NSPS Subpart Ja for all pollutants in lieu of Subpart J.

54. Elimination/Reduction of Fuel Oil Burning. Effective on the Date of Entry, neither FRI nor FEDRC shall burn Fuel Oil in any Combustion Unit at their respective Covered Refineries except that:

- a. Either FRI or FEDRC may burn Fuel Oil at their respective Covered Refineries during periods of Natural Gas Curtailment, test runs, and operator training; and
- b. Either FRI or FEDRC may burn Torch Oil in FCCU regenerators at their respective Covered Refineries to assist in starting, restarting, hot standby, or to maintain regenerator heat balance.

H. Sulfur Recovery Plants

55. FRI and FEDRC own and operate Claus Sulfur Recovery Plants (“SRPs”) at their Covered Refineries.

- a. FRI SRP. The SRP at FRI (“FRI SRP”) consists of two Claus trains, FRI Sulfur Recovery Unit (“SRU”) #1 and FRI SRU #2. There is a single SCOT Tail Gas Treatment Unit (“TGTU”) which serves as the control device for the two Claus trains.
- b. FEDRC SRP. The SRP at FEDRC (“FEDRC SRP”) consists of two Claus trains, FEDRC SRU 2 and FEDRC SRU 3. There is a single TGTU which serves as the control device for the two Claus trains.

56. Claus Sulfur Recovery Plant NSPS Applicability. Upon the Date of Entry of this Consent Decree, the FRI SRP and the FEDRC SRP shall continue to be “affected facilities,” as defined by 40 C.F.R. § 60.2, under NSPS, 40 C.F.R. Part 60, Subparts A and J and shall, except as provided below in Paragraphs 57, 57.a. and 57.b., comply with all provisions applicable to such an “affected facility” as defined in 40 C.F.R. Part 60, Subparts A and J.

- a. Except as provided in Paragraph 58 of this Consent Decree, the FRI SRP shall

fully comply with all provisions under NSPS, 40 C.F.R. Part 60, Subparts A and J, in effect on the Date of Entry, including periods of TGTU maintenance turnarounds; and

b. Except as provided in Paragraph 59 of this Consent Decree the FEDRC SRP shall fully comply with all provisions under NSPS, 40 C.F.R. Part 60, Subparts A and J, in effect on that date, including periods of TGTU maintenance turnarounds.

57. Claus Sulfur Recovery Plant NSPS Compliance. Except as provided for the two scheduled tail gas unit maintenance turnarounds set forth in Paragraphs 58 and 59 below, the FRI and FEDRC SRPs shall comply with all applicable provisions of NSPS set forth at 40 C.F.R. Part 60, Subparts A and J, including, but not limited to, the following:

a. Emission Limit. FRI and FEDRC shall, for all periods of operation of the SRPs at the Covered Refineries, comply with 40 C.F.R. § 60.104(a)(2) at each SRP except during periods of Startup, Shutdown, or Malfunction of that SRP, or during a Malfunction of a TGTU serving as a control device for that SRP. For the purpose of determining compliance with the Sulfur Recovery Plant emission limits of 40 C.F.R. § 60.104(a)(2), the “Startup/Shutdown” provisions set forth in NSPS Subpart A shall apply to each SRP and not to the independent start-up or shutdown of a TGTU serving as a control device for that SRP. However, the Malfunction exception set forth in NSPS Subpart A, 40 C.F.R. § 60.8 shall apply to each SRP and to the TGTU serving as the control device for that SRP.

b. Monitoring. At their respective refineries, FRI and FEDRC shall monitor tail gas emissions points (stacks) for tail gas emissions and shall report excess emissions from

each of these emissions points as required by 40 C.F.R. §§ 60.7(c), 60.13, and 60.105(a)(5), (6) or (7). FRI and FEDRC shall monitor emissions from their respective SRPs with CEMS at all of the emission points, unless an SO₂ alternative monitoring procedure has been approved by EPA, per 40 C.F.R. § 60.13(i.), for any of the emission points. The requirement for continuous monitoring of the SRP emission points is not applicable to the Acid Gas Flaring Devices used to flare the Acid Gas or Sour Water Stripper Gas diverted from the SRPs.

58. Interim SRP Requirements For The FRI TGTU Maintenance Turnarounds. FRI shall implement the following interim measures at the FRI SRP for any two maintenance turnarounds of the existing TGTU scheduled between June 30, 2008 and March 31, 2016:

- a. FRI shall monitor the emissions from the FRI Claus Trains during the TGTU maintenance turnaround in accordance with 40 C.F.R. Part 60, Subpart A, § 60.13 or other EPA approved alternative monitoring plan.
- b. By no later than one hundred and eighty (180) days after Date of Entry, FRI shall complete an optimization study, or submit a copy of a recent optimization study, to identify ways to minimize emissions and maximize sulfur recovery efficiencies at FRI SRU No.1 and SRU No.2 and shall submit a copy of that study to EPA and WDEQ. This study shall meet the requirements set forth in Paragraph 60 (Optimization). FRI shall promptly implement the physical improvements and operating parameters recommended in the study to optimize performance of FRI SRU No. 1 and SRU No. 2 during TGTU maintenance turnarounds in accordance with the schedule submitted under Paragraph

58.c, as applicable.

c. By no later than ninety (90) days after completion of the optimization study in Paragraph 58.b above, FRI shall submit a report to EPA and WDEQ that proposes an appropriate interim performance standard (percent recovery efficiency and/or emission limitation) and, if necessary, a schedule for implementing related optimization study recommendations that are necessary to comply with FRI's proposed interim standard. Beginning with the date of such submission, FRI shall comply with its proposed interim performance standard and, if necessary, its proposed optimization study implementation schedule during TGTU turnarounds.

d. If, within thirty (30) days of receipt of the report required under Subparagraph 58.c., EPA, after consultation with WDEQ, determines that a more stringent interim performance standard and/or a different implementation schedule is appropriate and can be achieved with a reasonable certainty of compliance, EPA shall notify FRI of its determination. Unless FRI disputes EPA's determination(s) within ninety (90) days of FRI's receipt of EPA's notice, FRI shall, within that ninety (90) day period, comply with such new interim performance standard and/or a different implementation schedule or, if necessary, such other period as may be established by EPA based upon the approved implementation schedule. FRI shall comply with the appropriate interim performance standard for the two scheduled TGTU maintenance turnarounds that occur prior to March 31, 2016.

59. Interim SRP Requirements for the FEDRC TGTU Maintenance Turnarounds.

FEDRC shall implement the following interim measures at the FEDRC SRP for the two

maintenance turnarounds of the existing TGTU scheduled prior to December 31, 2013:

- a. FEDRC shall monitor the emissions from the FEDRC Claus Trains during the TGTU maintenance turnaround in accordance with 40 C.F.R. Part 60, Subpart A, § 60.13 or other EPA approved alternative monitoring plan.
- b. By no later than one hundred and eighty (180) days after date of entry of this Consent Decree, FEDRC shall complete an optimization study, or submit a copy of a recent optimization study, to identify ways to minimize emissions and maximize sulfur recovery efficiencies at FEDRC SRU No. 2 and SRU No. 3 and shall submit a copy of that study to EPA and KDHE. This study shall meet the requirements set forth in Paragraph 60 (Optimization). FEDRC shall promptly implement any reasonable physical improvements and operating parameters recommended in the study to optimize performance of FEDRC SRU No. 2 and SRU No. 3 during TGTU maintenance turnarounds in accordance with the schedule submitted under Paragraph 59.c, as applicable.
- c. By no later than two hundred and seventy (270) days from the date of entry of this Consent Decree, FEDRC shall submit a report to EPA and KDHE that proposes an appropriate interim performance standard (percent recovery efficiency and/or emission limitation) and, if necessary, a schedule for implementing related optimization study recommendations that are necessary to comply with FEDRC's proposed standard. Beginning with the date of such submission, FEDRC, if necessary, shall comply with its proposed interim performance standard and its proposed optimization study

implementation schedule during TGTU turnarounds .

d. If, within thirty (30) days of receipt of the report required under Subparagraph 59.c., EPA, after consultation with KDHE, determines that a more stringent interim performance standard and/or a different implementation schedule is appropriate and can be achieved with a reasonable certainty of compliance, EPA shall notify FEDRC of its determination. Unless FEDRC disputes EPA's determination(s) within ninety (90) days of FEDRC's receipt of EPA's notice, FEDRC shall, within that ninety (90) day period, comply with such new interim performance standard and/or a different implementation schedule or, if necessary, such other period as may be established by EPA based upon the approved implementation schedule. FEDRC shall comply with the appropriate interim performance standard for all such TGTU maintenance turnarounds that occur prior to December 31, 2013. FEDRC shall monitor the emissions from FEDRC SRU No. 2 and SRU No. 3 during the TGTU maintenance turnarounds in accordance with 40 C.F.R. Part 60, Subpart A, § 60.13.

60. Optimization. Each optimization study required for SRPs at FRI or FEDRC under Paragraph 58.b. or Paragraph 59.b of this Consent Decree shall:

- a. contain a detailed evaluation of plant design and capacity, operating parameters and efficiencies - including catalytic activity, and material balances;
- b. contain 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 those Claus trains;

- c. contain a 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;
- d. establish baseline data through testing and measurement of key parameters throughout the Claus train;
- e. establish a thermodynamic process model of the Claus train;
- f. for any key parameters that have been determined to be at less than optimal levels, identify each change necessary to move such parameters toward their optimal values and a schedule for the implementation of those change(s);
- g. verify through testing, analysis of continuous emission monitoring data or other means, of incremental and cumulative improvements in sulfur recovery efficiency, if any;
- h. establish new operating procedures, if needed, for long-term efficient operation; and
- i. be conducted to optimize the performance of the Claus trains in light of the actual characteristics of the feeds to the trains.

61. Sulfur Pit Emissions. FRI and FEDRC shall continue to route or re-route all sulfur pit emissions at their respective refineries so that sulfur pit emissions are eliminated, controlled, or included and monitored as part of the SRPs' emissions subject to the NSPS Subpart J limit for SO₂, 40 C.F.R. § 60.104(a)(2).

62. Good Operation and Maintenance. By no later than two hundred and seventy

(270) days after the Date of Entry of this Consent Decree, FRI and FEDRC shall submit to EPA and the Applicable Intervenor a summary of the plans, implemented or to be implemented, at the their respective refineries for enhanced maintenance and operation of the FRI and FEDRC SRPs and the appropriate Upstream Process Units. The plans shall be entitled “Preventive Maintenance and Operation Plan” (“PMO Plan”). The PMO Plan shall be a compilation of approaches for exercising good air pollution control practices and for minimizing SO₂ emissions from sulfur processing through applying good operating practices at the sulfur processing equipment and other production processes at the Covered Refineries. PMO Plans shall have as their goals the elimination of Acid Gas Flaring and the minimization of emissions from SRPs between scheduled maintenance turnarounds. The PMO Plan shall include as appropriate, but not be limited to:

- a. sulfur shedding procedures;
- b. Startup and Shutdown procedures for SRPs;
- c. control devices and Upstream Process Units;
- d. emergency procedures and schedules to coordinate maintenance turnarounds of the SRPs’ Claus trains; and
- e. any control devices to coincide with scheduled turnarounds of major Upstream Process Units.

At their respective Covered Refineries, FRI and FEDRC shall implement the PMO Plans at all times, including periods of Startup, Shutdown, upset, and Malfunction of its SRPs.

Changes to a PMO Plan related to minimizing Acid Gas Flaring and/or SO₂ emissions shall be summarized and reported by FRI and FEDRC to EPA and the Applicable Intervenor in the

semi-annual report required under Paragraph 216.

63. EPA, WDEQ, and KDHE do not, by their review of a PMO Plan and/or by their comment, or failure to comment, on a PMO Plan, warrant or aver in any manner that any of the actions that FRI and/or FEDRC may take pursuant to such PMO Plan shall result in compliance with the provisions of the CAA or any other applicable federal, state, or local law or regulation. Notwithstanding the review by EPA, WDEQ, and/or KDHE of a PMO Plan, FRI and FEDRC shall, at their respective Covered Refineries, remain solely responsible for compliance with the CAA and such other laws and regulations.

I. Hydrocarbon Flaring

64. Good Air Pollution Control Practices. On and after the Date of Entry, FRI and FEDRC, at their respective Covered Refineries, shall at all times and to the extent practicable, including during periods of Startup, Shutdown, upset and/or Malfunction, implement good air pollution control practices to minimize emissions from its Hydrocarbon Flaring Devices consistent with 40 C.F.R. § 60.11(d). FRI and FEDRC, at their respective Covered Refineries, shall implement such good air pollution control practices to minimize Hydrocarbon Flaring Incidents by investigating, reporting, and correcting all Hydrocarbon Flaring Incidents in accordance with the procedures in Paragraph 85.

65. NSPS Applicability to Hydrocarbon Flaring Devices. FRI and FEDRC, at their respective Covered Refineries, own and operate the Hydrocarbon Flaring Devices identified in Appendix G to this Consent Decree. FRI and FEDRC agree that each Hydrocarbon Flaring Device identified in Appendix G shall be an “affected facility,” as that term is used in NSPS, 40

C.F.R. Part 60, and shall be subject to and required to comply with, the requirements of 40 C.F.R. Part 60, Subparts A and J, for fuel gas combustion devices used as emergency control devices for the quick and safe release of gases. FRI and FEDRC shall by the dates specified in Appendix G meet the NSPS Subparts A and J requirements for each Hydrocarbon Flaring Device identified in Appendix G. FRI and FEDRC shall achieve compliance with Subparts A and J requirements for each Hydrocarbon Flaring Device identified in Appendix G through the use of one or any combination of the following methods identified in Subparagraphs 65.a. - 65.e.:

- a. Operating and maintaining a flare gas recovery system to prevent continuous or routine combustion in the Hydrocarbon Flaring Device. Use of a flare gas recovery system on a flare obviates the need to continuously monitor emissions as otherwise required by 40 C.F.R. § 60.105(a)(4);
- b. Eliminating the routes of continuous or intermittent, routinely-generated refinery fuel gases to an Hydrocarbon Flaring Device and operating the Flaring Device such that it receives only non-routinely generated gases, process upset gases, fuel gas released as a result of relief valve leakage or gases released due to other Malfunctions;
- c. Operating the Hydrocarbon Flaring Device as a fuel gas combustion device, monitoring it for the continuous or intermittent, routinely-generated refinery fuel gas streams put into the flare header, with a CEMS as required by 40 C.F.R. § 60.105(a)(4) or with a parametric monitoring system approved by EPA as an alternative monitoring system under 40 C.F.R. § 60.13(i.) and complying with emission limits when and as

required by Paragraph 68.a.; or

d. During the term of this Consent Decree eliminate to the extent practicable routes of continuous or intermittent routinely generated fuel gases to a Flaring Device and monitor the mass flow of sulfur dioxide emitted by use of a CEMS and flow meter; provided however, that this compliance method may not be used unless FRI and/or FEDRC, as appropriate:

- i. demonstrates to EPA and the Applicable Intervenor that the Flaring Device in question emits less than 500 pounds per day of SO₂ under normal conditions; and by the dates specified in Appendix G
- ii. secures EPA and the Applicable Intervenor's approval for use of this method as the selected compliance method; and
- iii. uses this compliance method for only one of the Flaring Devices listed in Appendix G at each Covered Refinery;

e. FRI and/or FEDRC may submit to EPA and the Applicable Intervenor a timely and complete application for an Alternative Monitoring Plan ("AMP") for a Flaring Device listed in Appendix E and Appendix G, by the applicable date listed in those appendices (rather than a final NSPS Subpart J compliance date). Such an AMP may be based on alternative monitoring for H₂S or SO₂. If an AMP is not approved by EPA, FRI and/or FEDRC, as appropriate, shall, within ninety (90) days of receiving notice of such disapproval submit to EPA for approval, with a copy to the Applicable Intervenor, a plan and schedule that provide for compliance with the monitoring requirements of NSPS

Subpart J in accordance with the schedules contained in Appendices E and G. Such plan may include a revised AMP application, physical or operational changes to the equipment, or additional or different monitoring.

f. For Flaring Devices that combust low-flow VOC streams from vents, pump seals, and other sources, it is anticipated that some of the AMP applications shall rely in part on calculating a weighted average H₂S concentration of all VOC and fuel gas streams that are burned in a single Flaring Device and demonstrating with alternative monitoring that either the SO₂ emissions from the Flaring Device shall not exceed 20 ppm or that the weighted average H₂S concentration is not likely to exceed 162 ppm H₂S. EPA shall not reject an AMP solely due to the AMP's use of one of these approaches to demonstrating compliance with NSPS Subpart J.

g. If prior to the termination of this Consent Decree, a Flaring Device becomes subject to NSPS Subpart Ja for a particular pollutant due to a "modification" (as that term is defined in the final Subpart Ja rule), the modified affected facility shall be subject to and comply with NSPS Subpart Ja in lieu of NSPS, Subpart J for that regulated pollutant to which a standard applies as a result of the modification.

h. If prior to the termination of this Consent Decree, a Flaring Device becomes subject to NSPS Subpart Ja due to a "reconstruction" (as that term is defined in the final Subpart Ja rule), the reconstructed facility shall be subject to and comply with NSPS Subpart Ja for all pollutants in lieu of Subpart J.

66. At their respective Covered Refineries, FRI and FEDRC shall implement the compliance option chosen for each Hydrocarbon Flaring Device according to the schedule in

Appendix G and identify the option that was implemented for each Hydrocarbon Flaring Device in the first Semi-Annual Report due under Paragraph 216 after such compliance option is chosen. The Parties recognize that periodic maintenance may be required for properly designed and operated flare gas recovery systems. At their respective Covered Refineries, FRI and FEDRC shall take all reasonable measures to minimize emissions while such periodic maintenance is being performed on any flare gas recovery system installed. FRI may request from WDEQ permission to temporarily operate the Old Flare (identified in Appendix G) at the FRI Refinery for only those periods of maintenance scheduled for the Main Flare. During such periods of operation, FRI must operate the Old Flare in compliance with NSPS Subpart J.

67. Within one hundred and eighty (180) days after bringing an Hydrocarbon Flaring Device into compliance with 40 C.F.R. Part 60, Subparts A and J, at their respective Covered Refineries, FRI and FEDRC shall conduct a flare performance test pursuant to 40 C.F.R. § 60.18, or an EPA-approved equivalent method. In lieu of conducting the velocity test required in 40 C.F.R. § 60.18, FRI and FEDRC may submit velocity calculations to EPA and the Applicable Intervenor which demonstrate that the NSPS Hydrocarbon Flaring Device meets the performance specification required by 40 C.F.R. § 60.18. Operation of an adequately sized flare gas recovery unit that recovers all routine continuous and intermittent gases sent to the flare obviates the need to conduct a performance test pursuant to methods in 40 C.F.R. 60.18(f) on the associated flare(s).

68. Compliance With the Emissions Limit at 40 C.F.R. § 60.104(a)(1).

a. Continuous or Intermittent, Routinely-Generated Refinery Fuel Gases. For

continuous or intermittent, routinely-generated refinery fuel gases that are combusted in any of the NSPS Hydrocarbon Flaring Devices at their respective Covered Refineries, FRI and FEDRC shall comply with the emission limit at 40 C.F.R. § 60.104(a)(1) by the dates specified in Appendix G.

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

J. Control of Acid Gas Flaring and Tail Gas Incidents

69. **Flaring History and Corrective Measures.** FRI has conducted a look-back analysis of AG Flaring Incidents that occurred at the FRI Refinery from second quarter 2001 through first quarter 2007. FEDRC has conducted a look-back analysis of AG Flaring Incidents that occurred at the FEDRC Refinery from June 2000 through early June of 2007. FRI and FEDRC have submitted their respective look-back reports on such incidents to EPA.

70. **Future Acid Gas and Tail Gas Flaring Incidents.** At their respective Covered Refineries, FRI and FEDRC shall, pursuant to the requirements of Paragraphs 71 and 72, investigate the cause of future Acid Gas Flaring and Tail Gas Incidents and take reasonable steps to correct the conditions that have caused or contributed to such Acid Gas Flaring and Tail Gas Incidents, and minimize Acid Gas Flaring and Tail Gas Incidents at the Covered Refineries.

71. Investigation and Reporting. Commencing upon the Date of Entry and thereafter, no later than sixty (60) days following the end of any Acid Gas Flaring Incident, at their respective Covered Refineries, FRI and FEDRC shall conduct an investigation into the root cause(s) of the incident and record the findings of the investigation in a report (the “Incident Report”). Each Incident Report shall be included in the Semi-Annual Report required by Paragraph 84. The Incident Report for each incident shall include the following:

- a. The date and time that the Acid Gas Flaring Incident started and ended and, to the extent that the Acid Gas Flaring Incident involved multiple releases either within a twenty-four (24) hour period or within subsequent, contiguous, non-overlapping twenty-four (24) hour periods, 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 were taken to limit the duration and/or quantity of sulfur dioxide emissions associated with the Acid Gas Flaring Incident;
- d. A detailed analysis that sets forth the Root Cause (“Root Cause Analysis”) and all significant contributing causes of that Acid Gas 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 an Acid Gas Flaring Incident resulting from the same Root Cause or related, significant contributing causes in the future. If two or more reasonable alternatives exist to address the Root Cause, the Root Cause Analysis shall discuss those

alternatives, and the probable effectiveness and cost of those alternatives, and whether or not an outside consultant should be retained to assist in the analysis. Matters to be evaluated in the Root Cause Analysis shall include, but not be limited to, possible design, operation, and maintenance changes. If the Root Cause Analysis concludes that corrective action(s) is (are) required under Paragraph 72, the Root Cause Analysis 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 the Root Cause Analysis concludes that corrective action is not required under Paragraph 72, the report shall explain the basis for that conclusion;

- f. The Root Cause Analysis shall also include statements that:
 - i. specifically identify each of the grounds for stipulated penalties in Paragraphs 74 and 75 of this Decree and describe whether or not the Acid Gas Flaring Incident falls under any of those grounds, provided, however, that FRI and/or FEDRC, as appropriate, may choose to submit with the Semi-Annual Report required by Paragraph 84 a payment of stipulated penalties in the nature of settlement without the need to specifically identify the grounds for the penalty. Such payment of stipulated penalties shall not constitute an admission of liability, nor shall it raise any presumption whatsoever about the nature, existence or strength of the potential defenses of FRI and/or FEDRC;
 - ii. if an Acid Gas Flaring Incident falls under Paragraph 76 of this Decree,

describe whether Subparagraph 76.a or 76.b applies and why; and

iii. if an Acid Gas Flaring Incident falls under either Subparagraph 76.a or 76.b, state whether or not FRI and/or FEDRC assert any defenses to the Flaring Incident and set forth specific descriptions of said defenses;

g. To the extent that investigations of the causes and/or possible corrective actions still are underway on the date the Semi-Annual Report is required to be completed, at their respective Covered Refineries, FRI and/or FEDRC shall prepare a statement specifying the anticipated date by which a follow-up Incident Report fully conforming to the requirements of Subparagraphs 71.d and 71.e shall be completed. If, however, FRI and/or FEDRC, as applicable, have not completed any Incident Report containing the information required under this Paragraph within the sixty (60) day time period set forth in this Paragraph 71 (or such additional time as EPA may allow) after the date upon which the initial Incident Report for the Acid Gas Flaring Incident is due to be completed, the stipulated penalty provisions of Section XIII shall apply. FRI and FEDRC shall retain the right to dispute, under the dispute resolution provision of this Consent Decree, Section XVII. (Retention of Jurisdiction/Dispute Resolution), any demand for stipulated penalties that was issued as a result of a failure to complete the Root Cause Analysis required under this Paragraph within the time frame set forth. Nothing in this Paragraph shall be deemed to excuse FRI and/or FEDRC from their investigation, reporting, and corrective action obligations under this Consent Decree or applicable law for any Acid Gas Flaring Incident that occurs after an Acid Gas Flaring

Incident for which FRI and/or FEDRC, as appropriate, has prepared a statement referenced in the first sentence of this Subparagraph 71.g;

h. To the extent that completion of the implementation of corrective action(s), if any, is not finalized at the time of the completion of the Incident Report required under this Paragraph, then, by no later than thirty (30) days after completion of the implementation of corrective action(s), FRI and/or FEDRC, as applicable, shall supplement the Incident Report identifying the corrective action(s) taken and the dates of commencement and completion of implementation.

72. Corrective Action. In response to any AG Flaring Incident occurring after the Date of Entry, at their respective Covered Refineries, FRI and FEDRC shall take, as expeditiously as practicable, such interim and/or long-term corrective actions, if any, as are consistent with good engineering practice to minimize the likelihood of a recurrence of the Root Cause and all significant contributing causes of that AG Flaring Incident.

a. After a review of any report required to be prepared by Paragraph 71 and submitted to EPA and the Applicable Intervenor as required by Paragraph 84, EPA shall notify FRI and/or FEDRC, as applicable, in writing of (1) any deficiencies in the corrective action(s) listed in the findings and/or (2) any objections to the schedule(s) of implementation, and explain the basis for EPA's objection(s). FRI and/or FEDRC, as applicable, will implement an alternative or revised corrective action or implementation schedule based on EPA's comments. If a corrective action that EPA has identified as deficient is already completed, then FRI and/or FEDRC, as applicable, is not obligated to

implement the corrective action identified by EPA for that Flaring Incident. However, FRI and/or FEDRC, as applicable, will be put on notice that such corrective action is deficient and not acceptable for remedying any subsequent, similar root cause(s) of any incident.

b. EPA does not, however, by its agreement to entry of this Consent Decree or failure to object to any corrective action that FRI or FEDRC may take in the future, warrant or aver in any manner that any corrective actions in the future shall result in compliance with the provisions of the CAA or its implementing regulations.

c. Nothing in this Section VI.J shall be construed to limit the right of FRI and/or FEDRC to take such corrective actions as they deem necessary and appropriate immediately following an Acid Gas Flaring Incident or in the period during preparation and review of any reports required under Paragraph 71.

73. Stipulated Penalties for Acid Gas Flaring Incidents. The provisions of Paragraphs 74 through 76 are intended to implement the process outlined in the logic diagram attached hereto as Appendix F to this Consent Decree. These provisions shall be interpreted and construed, to the maximum extent feasible, to be consistent with that Appendix. However, in the event of a conflict between the language of those Paragraphs and Appendix F, the language of those Paragraphs shall control. The provisions of Paragraphs 74 through 76 are to be used by EPA in assessing stipulated penalties for AG Flaring Incidents occurring after the Date of Entry of this Consent Decree and by the United States in demanding stipulated penalties under this Section VI.J. The provisions of Paragraphs 74 through 76 do not apply to Hydrocarbon Flaring

Incidents.

74. The stipulated penalty provisions of Section XIII. (Stipulated Penalties) shall apply to any Acid Gas Flaring Incident for which the Root Cause was one or more of the following acts, omissions, or events:

- a. At FRI and FEDRC, an error resulting from careless operation by the personnel charged with the responsibility for the Sulfur Recovery Plant, TGTU, or Upstream Process Units;
- b. At FRI and FEDRC, a failure to follow written procedures;
- c. At FRI and FEDRC, a failure of equipment that is due to a failure by FRI and/or FEDRC, as appropriate, to operate and maintain that equipment in a manner consistent with good engineering practice;
- d. Root Causes Previously Addressed. The following Root Causes shall not provide a basis for asserting a Malfunction defense unless FRI and/or FEDRC, as appropriate, can demonstrate to EPA that such root cause(s) substantially differ from the Root Causes in this Paragraph 74(d)(i) and (ii) which were identified prior to Lodging of this Consent Decree.

- i. At FRI:

- (1) A shutdown of the air blower on SRU No. 2 due to an improperly-set over speed limit; or
- (2) A shutdown of SRU No. 2 due to incorrect level readings, a failure of the level sensor, or a failure of a level limit on the SRU No. 2

Acid Gas Knockout Drum, 23-D-001.

- ii. At FEDRC: Unnecessary TDC logic and a misaligned limit switch on the air flow control valve in the FEDRC SRP.

75. If the Acid Gas Flaring Incident is not a result of one of the Root Causes identified in Paragraph 74, then the stipulated penalty provisions of Section XIII. (Stipulated Penalties) shall apply if the Acid Gas Flaring Incident:

- a. Results in emissions of SO₂ at a rate greater than twenty (20) pounds per hour continuously for three (3) consecutive hours or more and FRI or FEDRC, as appropriate, failed to act in accordance with its PMO Plan and/or to take any action during the Acid Gas Flaring Incident to limit the duration and/or quantity of SO₂ emissions associated with such incident; or
- b. Causes the total number of Acid Gas Flaring Incidents in a rolling twelve (12) month period to exceed five (5) per Covered Refinery.

76. With respect to any Acid Gas Flaring Incident not identified in Paragraphs 74 or 75 the following provisions shall apply:

- a. First Time: If the Root Cause of the Acid Gas Flaring Incident was not a recurrence of the same Root Cause that resulted in a previous Acid Gas Flaring Incident that occurred since Date of Entry, then:
 - i. If the Root Cause of the Acid Gas 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 Acid Gas Flaring Incidents;

- ii. If the Root Cause of the Acid Gas Flaring Incident was sudden and infrequent, and was reasonably preventable through the exercise of good engineering practice, then FRI and/or FEDRC, as appropriate, shall implement corrective action(s) pursuant to Paragraph 72, and the stipulated penalty provisions of Section XIII. (Stipulated Penalties) shall not apply.

b. Recurrence: If the Root Cause is a recurrence of the same Root Cause that resulted in a previous Acid Gas Flaring Incident that occurred since the Date of Entry, then FRI and/or FEDRC, as appropriate, shall be liable for stipulated penalties under Section XIII. (Stipulated Penalties) unless:

- i. the Flaring Incident resulted from a Malfunction; or
- ii. the Root Cause previously was designated as an agreed-upon Malfunction under Paragraph 76.a.(i.)
- iii. the AG Flaring Incident had as its Root Cause the recurrence of a Root Cause for which FRI and/or FEDRC, as appropriate, had previously developed, or was in the process of developing, a corrective action plan and for which implementation was not yet completed.
- iv. Corrective Actions Recently Completed:

(1) At FRI: A new Amine Unit (“Alky Feed Amine Unit”) was

installed and placed into operation at FRI. FRI represents that this project was completed in October, 2008.

- (2) At FEDRC: The pumps in the SRU 2 amine knock out system will be replaced to keep up with a rapid increase in liquid from hydrocarbon carryover. FEDRC represents that this project was completed in February, 2008.

77. Defenses. FRI and/or FEDRC, as appropriate, may raise the following affirmative defenses in response to a demand by the United States for stipulated penalties:

- a. Force majeure;
- b. As to Paragraph 74, the Acid Gas Flaring Incident does not meet the criteria identified in that Paragraph;
- c. As to Paragraph 75, the Acid Gas Flaring Incident does not meet the criteria identified in that Paragraph and/or was due to a Malfunction; and
- d. As to Paragraph 76, the Acid Gas Flaring Incident does not meet the criteria identified in that Paragraph and/or was due to a Malfunction.

78. In the event a dispute under Paragraphs 74 through 77 is brought to the Court pursuant to the Dispute Resolution provisions of this Consent Decree, Section XVII. (Retention of Jurisdiction/Dispute Resolution), FRI and/or FEDRC, as appropriate, may also assert a Startup, Shutdown and/or upset defense (including an individual sulfur recovery unit within an SRP), but the United States shall be entitled to assert that such defenses are not available. If FRI, or FEDRC, as appropriate, prevails in persuading the Court that the defenses of Startup,

Shutdown and/or upset are available for AG Flaring Incidents under 40 C.F.R. § 60.104(a)(1), FRI, or FEDRC, as appropriate, shall not be liable for stipulated penalties for emissions resulting from such Startup, Shutdown and/or upset. If the United States prevails in persuading the Court that the defenses for Startup, Shutdown and/or upset are not available, FRI or FEDRC, as appropriate, shall be liable for such stipulated penalties.

79. Other than for a Malfunction or force majeure, if no Acid Gas Flaring Incident occurs at either the FEDRC or FRI Refinery for a rolling 36-month period, then the stipulated penalty provisions of Paragraph 254 of Section XIII. (Stipulated Penalties) shall no longer apply to that refinery. EPA may elect to reinstate the stipulated penalty provision if such refinery has an Acid Gas Flaring Incident that 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 Covered Refinery.

80. Emissions Calculations.

a. Calculation of the Quantity of Sulfur Dioxide Emissions Resulting from AG Flaring. For purposes of this Consent Decree, FRI and FEDRC shall calculate the quantity of SO₂ emissions resulting from an AG Flaring Incident by applying the following formula:

$$\text{Tons of SO}_2 = [\text{FR}][\text{TD}][\text{ConcH}_2\text{S}][8.44 \times 10^{-5}]$$

The quantity of SO₂ 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 SO₂ emitted

shall be rounded to 10.1 tons.) For purposes of determining the occurrence of, or the total quantity of SO₂ emissions resulting from, an AG Flaring Incident that consists of intermittent AG Flaring, the quantity of SO₂ emitted shall be equal to the sum of the quantities of SO₂ flared during each 24-hour period starting when the Acid Gas was first flared.

b. Calculation of the Rate of SO₂ Emissions During AG Flaring. For purposes of this Consent Decree, the rate of SO₂ emissions resulting from an AG Flaring Incident shall be expressed in terms of pounds per hour and shall be calculated by the following formula:

$$ER = [FR][ConcH_2S][0.169]$$

The emission rate shall be rounded to one decimal point. (Thus, for example, for a calculation that results in an emission rate of 19.95 pounds of SO₂ per hour, the emission rate shall be rounded to 20.0 pounds of SO₂ per hour; for a calculation that results in an emission rate of 20.05 pounds of SO₂ per hour, the emission rate shall be rounded to 20.1.)

81. Meaning of Variables and Derivation of Multipliers Used in the Equations in Paragraph 80.a and b.:

ER	=	Emission Rate in pounds of SO ₂ per hour
FR	=	Average Flow Rate to Flaring Device(s) during Flaring Incident in standard cubic feet per hour (“scf”)
TD	=	Total Duration of Flaring Incident in hours
ConcH ₂ S	=	Average Concentration of Hydrogen Sulfide in gas during Flaring Incident

(or immediately prior to Flaring Incident if all gas is being flared)

expressed as a volume fraction (scf H₂S/scf gas)

$$8.44 \times 10^{-5} = [1.0 \text{ lb mole H}_2\text{S}/379 \text{ scf H}_2\text{S}][64 \text{ lbs SO}_2/1.0 \text{ lb mole H}_2\text{S}][\text{Ton}/2000 \text{ lbs}]$$

$$0.169 = [1.0 \text{ lb mole H}_2\text{S}/379 \text{ scf H}_2\text{S}][1.0 \text{ lb mole SO}_2/1.0 \text{ lb mole H}_2\text{S}][64 \text{ lb SO}_2/1.0 \text{ lb mole SO}_2]$$

The flow of gas to the AG Flaring Device(s) (“FR”) shall be as measured by the relevant flow meter or reliable flow estimation parameters. Hydrogen sulfide concentration (“ConcH₂S”) shall be determined from the Sulfur Recovery Plant feed gas analyzer, from knowledge of the sulfur content of the process gas being flared, by direct measurement by Tutwiler or Draeger tube analysis or by any other method approved by EPA or the Applicable Intervenor. In the event that any of these data points are unavailable or inaccurate, the missing data point(s) shall be estimated according to best engineering judgment. The report required under Paragraph 71 shall include the data used in the calculation and an explanation of the basis for any estimates of missing data points.

82. Tail Gas Incidents: Investigation, Reporting, Corrective Action and Stipulated Penalties. For Tail Gas Incidents, FRI and/or FEDRC, as appropriate, shall follow the same investigative, reporting, corrective action and assessment of stipulated penalty procedures as those set forth in Paragraphs 71 through 79 for Acid Gas Flaring Incidents. Those procedures shall be applied to TGTU shutdowns, bypasses of a TGTU, or other events which result in a Tail Gas Incident, including unscheduled Shutdowns of a Claus Sulfur Recovery Plant.

Notwithstanding the foregoing, during the interim periods identified in Paragraphs 58 and 59, stipulated penalties shall not apply to a Tail Gas Incident attributable to the scheduled Startup or Shutdown of an individual train at the FRI SRP or at the FEDRC SRP, provided that FRI and/or FEDRC, as appropriate, demonstrate in their Tail Gas Incident Report that they have implemented good air pollution control practices. This Paragraph 82 shall apply without the exemption from stipulated penalties for all Tail Gas Incidents that occur after the effective dates of full NSPS applicability for SRPs, as provided in Paragraph 56 above.

83. Calculation of the Quantity of SO₂ Emissions Resulting From A Tail Gas Incident. For the purposes of this Consent Decree, the quantity of SO₂ emissions resulting from a Tail Gas Incident shall be calculated by one of the following methods, based on the type of event:

- a. If Tail Gas is combusted in a flare, the SO₂ emissions are calculated using the methods outlined in Paragraph 80; or
- b. If Tail Gas exceeding the 250 ppmvd (NSPS J limit) is emitted from a monitored SRP incinerator, then the following formula applies:

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

Where:

ER_{TGI} = Emissions from Tail Gas Unit at the SRP incinerator, pounds of SO₂ over a 24 hour period

TD_{TGI} = Hours when the incinerator CEM was exceeding 250 ppmvd SO₂ on a

rolling twelve hour average, corrected to 0% O₂, in each 24 hour period of the Incident

i = Each hour within TD_{TGI}

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

Conc. SO₂ = The average SO₂ concentration (CEMS data) that is greater than 250 ppm in the incinerator exhaust gas, ppmvd corrected to 0% O₂, for each hour of the Incident

% O₂ = O₂ concentration (CEMS data) in the incinerator exhaust gas in volume % on dry basis for each hour of the Incident

$$0.169 \times 10^{-6} = [1.0 \text{ lb mole of SO}_2 / 379 \text{ SO}_2] [64 \text{ lbs SO}_2 / 1.0 \text{ lb mole SO}_2] [1 \times 10^{-6}]$$

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

In the event the concentration SO₂ data point is inaccurate or not available or a flow meter for FR_{Inc.} does not exist or is inoperable, then either FRI or FEDRC, as applicable, shall estimate emissions based on best engineering judgment.

84. Semi-Annual Reporting. Within thirty (30) calendar days after the end of the first semi-annual period after the Date of Entry of this Consent Decree (i.e., January 31st or July 31st), and on each subsequent January 31st and July 31st thereafter, FRI and FEDRC shall submit to EPA and the Applicable Intervenor a Semi-Annual report that includes copies of each and every report of all Acid Gas Flaring Incidents and Tail Gas Incidents that FRI and FEDRC was required to prepare under Paragraphs 71 and 82 during the previous six month period (e.g., July to December). FRI and/or FEDRC may elect to submit the Semi-Annual report required by this Paragraph with the Semi-Annual progress report required by Paragraph 216. Each Semi-Annual report shall also include a summary of the Incidents including the following:

- a. Date;
- b. Summary of root cause(s);
- c. Duration;
- d. Amount of SO₂ released;
- e. Any associated penalties for each Incident;
- f. Corrective Action completed; and
- g. A list of all Acid Gas Flaring Incidents, Tail Gas Incidents, and Hydrocarbon Flaring Incidents for which corrective actions are still outstanding.

Such Semi-Annual report shall also include a summary analysis of any trends identified by FRI and/or FEDRC, as appropriate, in the number, Root Cause, types of corrective action, or other relevant information regarding Acid Gas and Tail Gas Incidents during the previous six-month period.

K. Control of Hydrocarbon Flaring Incidents

85. For Hydrocarbon Flaring Incidents occurring more than 180 days after the Date of Entry, at their respective Covered Refineries, FRI and FEDRC shall follow the same investigative, reporting, and corrective action procedures as those set forth in Section VI.J., Paragraphs 71 through 72 for Acid Gas Flaring Incidents; provided however, that in lieu of analyzing possible corrective actions under Paragraph 71.e and taking interim and/or long-term corrective action under Paragraph 72 for a Hydrocarbon Flaring Incident attributable to the Startup or Shutdown of a unit that FRI and/or FEDRC has previously analyzed under this Paragraph, FRI and/or FEDRC, as applicable, may identify such prior analysis when submitting the report required under this Paragraph. At their respective Covered Refineries, FRI and FEDRC shall submit the Hydrocarbon Flaring Incident(s) reports as part of the Semi-Annual

Reports required pursuant to Paragraph 84. Stipulated penalties under Paragraphs 74 through 76 shall not apply to Hydrocarbon Flaring Incident(s). The formulas at Paragraph 80, used for calculating the quantity and rate of sulfur dioxide emissions during AG Flaring Incidents, shall be used to calculate the quantity and rate of sulfur dioxide emissions during Hydrocarbon Flaring Incidents.

L. Benzene Waste NESHAP Program Enhancements

86. At each of the Covered Refineries, FRI and FEDRC agree to comply with all applicable requirements of 40 C.F.R. Part 61, Subpart FF (“**Benzene Waste Operations NESHAP**” or “**Subpart FF**” or “**BWON**”) and to undertake the measures set forth in this Section VI.L. for ensuring future compliance with Subpart FF and minimizing or eliminating fugitive benzene waste emissions.

87. Current Compliance Status - FEDRC. On and after the Date of Entry, FEDRC’s Refinery shall continue to 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) (the “**2 Mg compliance option**”).

88. FRI Refinery Compliance Status Changes. FRI has reported a Total Annual Benzene (“**TAB**”) of less than 10 Mg/yr. If at any time from the Date of Entry of this Consent Decree through its termination, FRI is determined to have a TAB equal to or greater than 10 Mg/yr, FRI shall utilize the appropriate compliance option specified below.

- a. If the TAB exceeds 10 Mg/yr based on errors, omissions, or mischaracterization of waste streams existing at the refinery as of the Date of Entry, FRI shall utilize the compliance option set forth at 40 C.F.R. § 61.342(e) (the “**6 BQ compliance option**”).
- b. If the TAB exceeds 10 Mg/yr based on increased throughput/capacity expansion,

FRI may select either the 2 Mg or 6 BQ compliance option.

89. FRI shall consult with EPA and the Applicable Intervenor before making any change in compliance strategy required by Paragraph 88. All changes must be undertaken in accordance with the regulatory provisions of the BWON.

90. One-Time Review and Verification of Each Covered Refinery's TAB: Phase One of the Review and Verification Process. By no later than 12 months after the Date of Entry, FRI and FEDRC shall complete a Phase One review and verification of each Covered Refinery's TAB and compliance with the 2 Mg compliance option at the FEDRC Refinery. For each Covered Refinery, the Phase One review and verification process shall include, at a minimum:

- a. an identification of each waste stream as defined in Subpart FF that is required to be included in the Covered Refinery's TAB;
- b. a review and identification of the calculations and/or measurements used to determine the flows of each waste stream for the purpose of ensuring the accuracy of the annual waste quantity for each waste stream;
- c. an identification of the benzene concentration in each waste stream. FRI and FEDRC shall be required to sample for benzene concentration at no less than ten (10) waste streams per Covered Refinery consistent with the requirements of 40 C.F.R. § 61.355(c)(1) and (3). FRI and FEDRC may use previous analytical data or documented knowledge of waste streams in accordance with 40 C.F.R. § 61.355(c)(2) for any remaining waste streams not sampled; and
- d. an identification of whether or not the waste stream is controlled consistent with the requirements of Subpart FF.

91. Phase One Report. By no later than fifteen (15) months after Date of Entry FRI

and FEDRC shall submit to EPA and the Applicable Intervenor a BWON Compliance Review and Verification Report for their respective Covered Refinery that sets forth the results of Phase One, including but not limited to the items identified in (a) through (d) of Paragraph 90.

92. One-Time Review and Verification of Each Covered Refinery's TAB: Phase Two of the Review and Verification Process. Based on EPA's review of the BWON Compliance Review and Verification Reports and after an opportunity for consultation with the Applicable Intervenor, EPA may select up to twenty (20) additional waste streams at each Covered Refinery for sampling for benzene concentration. At their respective Covered Refinery, FRI and FEDRC shall conduct the required sampling and submit the results to EPA within sixty (60) days of receipt of EPA's request. FRI and FEDRC shall use the results of this additional sampling to reevaluate the TAB and the uncontrolled benzene quantity and to amend the BWON Compliance Review and Verification Report, as needed. To the extent that EPA requires FRI and FEDRC to sample a waste stream as part of the Phase Two review that FRI and/or FEDRC sampled and included as part of its Phase One review, each may average the results of such sampling at their respective Covered Refinery. FRI and FEDRC shall submit an amended BWON Compliance Review and Verification Report within one-hundred twenty (120) days following the date of the completion of the required Phase Two sampling, if Phase Two sampling is required by EPA. This amended BWON Compliance Review and Verification Report shall supercede and replace the originally-submitted BWON Compliance Review and Verification Report. If Phase Two sampling is not required by EPA, the originally-submitted BWON Compliance Review and Verification Report shall constitute the final report.

93. Amended TAB Reports. If the results of the BWON Compliance Review and Verification Report indicate that a Covered Refinery's TAB report filed most recently before this

Consent Decree does not satisfy the requirements of Subpart FF, the Covered Refinery shall submit, by no later than one-hundred twenty (120) days after completion of the BWON Compliance Review and Verification Report, an amended TAB report to EPA. The BWON Compliance Review and Verification Report submitted by FRI and/or FEDRC, as appropriate, shall be deemed an amended TAB report for purposes of Subpart FF reporting to EPA.

94. Implementation of Actions Necessary to Correct Non-Compliance: FRI. If the results of the BWON Compliance Review and Verification Report indicate that FRI has a TAB of over 10 Mg/yr, FRI shall submit to EPA, by no later than one-hundred eighty (180) days after completion of the BWON Compliance Review and Verification Report, a Compliance Plan that identifies with specificity:

- a. the actions it shall take to ensure that the FRI's TAB remains below 10 Mg/yr for 2009 and each calendar year thereafter; or
- b. a compliance strategy and schedule that FRI shall implement to ensure that FRI complies with the 6 BQ or the 2Mg compliance option as soon as practicable but by no later than December 31, 2010, if it cannot ensure a consistent TAB below 10 Mg/yr.

95. Implementation of Actions Necessary to Correct Non-Compliance: FEDRC. If the results of the BWON Compliance Review and Verification Report indicate that the FEDRC Refinery is not in compliance with the 2 Mg compliance option, FEDRC shall submit to EPA, by no later than one-hundred eighty (180) days after completion of the BWON Compliance Review and Verification Report, a Compliance Plan that identifies with specificity: (a) the actions it shall take to ensure that the FEDRC Refinery complies with the 2 Mg option; and (b) a schedule to implement those necessary actions as soon as practicable but no later than December 31, 2010.

96. Implementation of Actions Necessary to Correct Non-Compliance: Review and

Approval of Plans. Any plans submitted pursuant to Paragraphs 94 and 95 shall be subject to the approval of, disapproval of, or modification by EPA, after an opportunity for consultation with the Applicable Intervenor. Within sixty (60) days after receiving any notification of disapproval or request for modification from EPA, FRI and/or FEDRC, as appropriate, shall submit to EPA and the Applicable Intervenor a revised plan that responds to all identified deficiencies. Unless EPA disapproves or requests modifications of the revised plan within sixty (60) days, FRI and/or FEDRC, as appropriate, shall implement its proposed plan.

97. Implementation of Actions Necessary to Correct Non-Compliance: Certification of Compliance. By no later than thirty (30) days after completion of the implementation of all actions, if any, required pursuant to Paragraphs 94 and 95 to come into compliance with the applicable compliance option, FRI and FEDRC shall for their respective Covered Refinery submit, pursuant to Paragraph 139 of this Consent Decree, their certifications and a report, pursuant to Section XIX (General Provisions), Paragraph 356 (Notice), to EPA and the Applicable Intervenor that such refinery complies with the BWON.

98. Carbon Canisters. FRI and FEDRC shall comply with the requirements of Paragraphs 98 - 108 at all locations at the Covered Refineries where at least one carbon canister is utilized as a control device under the BWON. To the extent that any applicable state or local rule, regulation, or permit contains more stringent definitions, standards, limitations, or work practices than those set forth in Paragraphs 98 - 108, then those definitions, standards, limitations or work practices shall apply instead.

99. Installation of Primary and Secondary Canisters Operated in Series. By no later than June 30, 2009, FEDRC shall replace all single carbon canisters or dual canister systems in parallel with primary and secondary carbon canisters and operate them in series.

100. Report Certifying Installation. By no later than August 31, 2009, FEDRC shall submit a report to EPA and the Applicable Intervenor certifying the completion of the installations required by Paragraph 99. The report shall include a list of all locations within FEDRC where carbon canisters are used to control benzene under the BWON, a list of all locations within FEDRC where secondary carbon canisters were installed, the installation date of each secondary canister, the date that each secondary canister was put into operation, whether FEDRC is monitoring for breakthrough of VOCs or benzene, and the concentration of the monitored parameter FEDRC uses as its definition of “breakthrough.” FEDRC must provide written notification to EPA and the Applicable Intervenor at least thirty (30) days prior to changing either the parameter that it is monitoring and/or the concentration that it defines as “breakthrough.”

101. Prohibition of Use of Single Canisters. Except as expressly allowed in Paragraph 105, FRI and FEDRC shall not use single carbon canisters for any new units or installations that require vapor control pursuant to the BWON at any of their Covered Refineries.

102. Definition of “Breakthrough” In Dual Canister Systems. For dual carbon canister systems in series and depending upon the parameter that FRI and/or FEDRC decide to monitor, “breakthrough” between the primary and secondary canister shall be defined as any reading equal to or greater than either 50 ppm VOC or 5 ppm benzene.

103. Monitoring for Breakthrough in Dual Canister Systems. By the later of either the Date of Entry or seven (7) days after the installation of any new dual canister, FRI and FEDRC shall start to monitor for Breakthrough between the primary and secondary carbon canisters at times when there is actual flow into the carbon canister, in accordance with the frequency specified in 40 C.F.R. § 61.354(d), and shall monitor the outlet of the secondary canister on a

monthly basis or at its design replacement interval (whichever is less) to verify the proper functioning of the system.

104. Replacing Canisters in Dual Canister Systems. FRI and FEDRC shall replace each original primary carbon canister (or route the flow to an appropriate alternative control device) immediately when any Breakthrough is detected. The original secondary carbon canister shall become the new primary carbon canister and a fresh carbon canister shall become the secondary canister unless both the primary and secondary carbon canisters are replaced. For purposes of this Paragraph, “immediately” shall mean within twenty-four (24) hours. As an alternative, FRI and FEDRC may continue to operate the dual carbon canister system after Breakthrough is detected provided VOC monitoring is conducted at the outlet of the secondary carbon canister on a daily basis. If any VOC reading is detected at the outlet of the secondary carbon canister, both canisters must be replaced within twelve (12) hours.

105. Limited Use of Single Canisters. FRI and FEDRC may utilize properly sized single canisters for short-term operations such as with temporary storage tanks or as temporary control devices. For canisters operated as part of a single canister system, Breakthrough is defined for purposes of this Decree as any reading of VOC or benzene above background. Beginning no later than the Date of Entry, FRI and FEDRC shall monitor for Breakthrough from each single carbon canister each day there is actual flow to the carbon canister.

106. Replacing Canisters in Single Canister Systems. FRI and FEDRC shall replace each single carbon canister with a fresh carbon canister, discontinue flow, or route the stream to an alternate, appropriate device immediately when any Breakthrough is detected. For this Paragraph, “immediately” shall mean within eight (8) hours for canisters of 55 gallons or less and within twenty-four (24) hours for canisters greater than 55 gallons. If flow to a single

canister is discontinued under this Paragraph, such canister may not be placed back into BWON vapor control service until it has been appropriately regenerated or replaced.

107. Maintaining Canister Supplies. At their respective Covered Refineries, FRI and FEDRC shall maintain a supply of fresh activated carbon canisters at all times.

108. Records Relating to Canisters. FRI and FEDRC shall maintain records for the requirements of Paragraphs 98 - 107 in accordance with 40 C.F.R. § 61.356(j)(10). Additionally, all VOC and/or benzene measurements used to calculate removal efficiencies through control carbon canisters shall be maintained in a logbook or electronic database. The date, time, monitoring instrument type, instrument reading, and canister location shall be maintained in the logbook or database.

109. Annual Review. By no later than sixty (60) days after Date of Entry, at their respective Covered Refineries, FRI and FEDRC shall modify existing Management of Change (“MOC”) procedures or develop a new program to annually review process and project information for each Covered Refinery, including but not limited to construction projects, to ensure that all new benzene waste streams are included in each Covered Refinery’s waste stream inventory during the life of this Consent Decree.

110. Laboratory Audits. FRI and FEDRC shall conduct audits as required by Paragraphs 111 - 112, below, of all laboratories that perform analyses of their respective BWON samples to ensure that proper analytical and quality assurance/quality control procedures are followed.

111. Within one year from the Date of Entry, FRI and FEDRC shall complete audits of all of the laboratories they each use to perform analyses of BWON samples. Thereafter, FRI and FEDRC shall audit any new laboratory to be used for analyses of BWON samples prior to such

use.

112. Until this Consent Decree is terminated, FRI and FEDRC shall conduct subsequent audits of each of their respective laboratories used for BWON analyses at least once every two years.

113. FRI and FEDRC may retain third parties to conduct these audits or use audits conducted by others, but it is the sole responsibility and obligation of FRI and FEDRC to ensure that the Covered Refineries comply with this Consent Decree and Subpart FF.

114. Benzene Spills. Beginning no later than the Date of Entry, at their respective Covered Refineries, FRI and FEDRC shall continue to review spills to determine whether more than ten (10) pounds of benzene waste was generated in any twenty-hour (24) hour period at either Covered Refinery. FRI and FEDRC shall continue to include the benzene generated by such spills in the TAB and in the uncontrolled benzene quantity calculations for each Covered Refinery in accordance with the applicable compliance option as required by Subpart FF.

115. Benzene Waste Sample Training. By the later of the Date of Entry or March 31, 2009, FRI and FEDRC shall develop and begin annual (i.e., once each calendar year) training for all employees asked to draw BWON samples at either of the Covered Refineries.

116. Standard Operating Procedures for BWON Equipment. By the later of the Date of Entry or March 31, 2009, FEDRC shall complete the development of standard operating procedures for all control equipment used to comply with the BWON at the Covered Refinery.

- a. On or before June 1, 2009, FEDRC shall complete an initial training program regarding these procedures for all operators assigned to this equipment. FEDRC shall provide comparable training to any persons who subsequently become operators, prior to their assumption of this duty. Until termination of this Decree, “refresher” training in

these procedures shall be performed at a minimum on a three (3) year cycle.

b. The FRI Refinery shall comply with the provisions of Paragraph 116 if and when its TAB reaches 10 Mg/yr. FRI shall propose a schedule for training at the same time that FRI proposes a plan, pursuant to Paragraph 94, that identifies the compliance strategy and schedule that FRI shall implement to maintain compliance with the waste benzene NESHAP.

117. Training: Contractors. As part of their training program, FRI and FEDRC must ensure that the employees of any contractors hired to perform the requirements of Paragraphs 115 and 116 are properly trained to implement all applicable provisions of this Section VI.L.

118. Wastes Subject to Subpart FF: Schematics. By no later than one hundred and eighty (180) days after the Date of Entry, FRI and FEDRC shall each submit to EPA and the Applicable Intervenor schematics for their respective Covered Refineries that:

- a. depict the waste management units (including sewers) that handle, store, and transfer wastes subject to Subpart FF;
- b. identify the control status of each waste management unit; and
- c. show how such waste is transferred within the Covered Refinery.

FRI and FEDRC shall include with the schematics a quantification of all uncontrolled wastes subject to Subpart FF. If requested by EPA, FRI and/or FEDRC, as appropriate, shall submit to EPA within ninety (90) days of the request, revised schematics regarding the characterization of these wastes and the appropriate control standards.

119. Wastes Subject to Subpart FF: Non-Aqueous Benzene Waste Streams. By Date of Lodging, all waste management units at each Covered Refinery handling non-exempt, non-aqueous benzene wastes, as defined in Subpart FF, shall meet the applicable control

standards of Subpart FF.

120. Wastes Subject to Subpart FF: Aqueous Benzene Waste Streams. For purposes of calculating each Covered Refinery's TAB pursuant to the requirements of 40 C.F.R. § 61.342(a), FRI and FEDRC shall include all wastes subject to Subpart FF that become "aqueous" until such streams are recycled to a process or put into a process feed tank (unless the tank is used primarily for the storage of wastes). Appropriate adjustments shall be made to such calculations to avoid the double-counting of benzene. For purposes of complying with the 2 Mg or 6 BQ compliance option, by Date of Lodging, all waste management units at each Covered Refinery handling BWON waste streams either shall meet the applicable control standards of Subpart FF or shall have their uncontrolled benzene quantity count toward the applicable 2 Mg or 6 BQ limit.

121. BWON Sampling Plans: General. By no later than the completion of the BWON training specified in Paragraph 115, FRI and FEDRC shall each submit to EPA and the Applicable Intervenor, for approval, BWON Sampling Plans for their respective Covered Refineries to describe the sampling of BWON streams that FRI and FEDRC shall undertake to estimate quarterly and annual TABs (for FRI) or quarterly and annual uncontrolled benzene quantities for Covered Refineries with a TAB greater than or equal to 10 Mg/yr (for FEDRC and FRI if and when FRI's TAB exceeds 10 Mg/yr).

122. BWON Sampling Plans: Content Requirements. For a Covered Refinery with a TAB less than 10 Mg/yr, the Sampling Plan shall identify:

- a. annually, each waste stream that has contributed 0.05 Mg/yr or more at the point of generation to the previous year's TAB calculations; and

b. quarterly, the proposed **End-of-Line** (“EOL”) sampling locations and methods for flow calculations to be used in calculating projected quarterly and annual TAB calculations under the terms of Paragraph 129.

123. The Sampling Plan shall commit FRI and/or FEDRC, as appropriate, to analyze, in each calendar quarter at least three representative samples from all waste streams identified in Paragraph 122.a and all locations identified in Paragraph 122.b.

124. For Covered Refineries with a TAB greater than or equal to 10 Mg/yr, the Sampling Plans shall identify:

a. each uncontrolled waste stream that contains greater than 0.05 Mg/yr of benzene at the point of generation;

b. if the Covered Refinery is complying with the 2 Mg compliance option, each uncontrolled waste stream, at the point of generation, that qualifies for the 10 parts per million by weight (“ppmw”) exemption (40 C.F.R. § 61.342(c)(2)) and that contains greater than 0.1 Mg/yr of benzene; and

c. the proposed End-of-Line sampling locations and methods for flow calculations to be used in calculating projected quarterly and annual uncontrolled benzene quantity calculations under the terms of Paragraph 129.

125. The Sampling Plan required under Paragraph 124 shall commit FRI and/or FEDRC, as appropriate, to analyze, in each calendar quarter, at least three representative samples from all waste streams identified in Subparagraphs 124.a and 124.b and all locations identified in Subparagraph 124.c.

126. Compliance Plan under Paragraphs 94 and 95. If either Covered Refinery is required to implement a Compliance Plan under Paragraphs 94 and 95, FRI and/or FEDRC, as

appropriate, may submit a proposed Sampling Plan that does not include sampling points in locations within the Covered Refinery that are subject to changes proposed in the Compliance Plan. To the extent that FRI and/or FEDRC, as appropriate, believes that such sampling shall not be effective until they complete implementation of the Compliance Plan and by no later than sixty (60) days prior to the due date for the submission of the Sampling Plan, FRI and/or FEDRC, as appropriate, may request EPA approval for postponing submission of a sampling plan and commencing sampling until the Compliance Plan is completed. Unless EPA disapproves the request within thirty (30) days, then FRI and/or FEDRC, as appropriate, may postpone submission of the Sampling Plan and commencement of sampling until the proposed submission date contained in the request.

127. BWON Sampling Plans: Timing for Implementation. At their respective Covered Refineries, FRI and FEDRC shall implement the sampling required under their Sampling Plan during the first full calendar quarter after they submit that plan. FRI and FEDRC shall, at their respective Covered Refinery, continue to implement the Sampling Plan:

- a. unless and until EPA disapproves the plan; or
- b. unless and until FRI and/or FEDRC modifies a plan, with EPA's approval, under Paragraph 128.

128. BWON Sampling Plans: Modifications.

- a. Changes in Processes, Operations, or Other Factors. If changes in processes, operations, or other factors lead FRI and/or FEDRC to conclude that a Sampling Plan for a Covered Refinery may no longer provide an accurate basis for estimating that Covered Refinery's quarterly or annual TABs or benzene quantities under Paragraph 129, then by no later than ninety (90) days after FRI and/or FEDRC, as appropriate, determine that the

plan no longer provides an accurate measure, they shall submit to EPA and the Applicable Intervenor a revised Sampling Plan for EPA approval. In the first full calendar quarter after submitting the revised plan, FRI and/or FEDRC, as appropriate shall implement the revised plan. FRI and/or FEDRC, as appropriate, shall continue to implement the revised plan unless and until EPA disapproves the revised plan after an opportunity for consultation with the Applicable Intervenor.

b. Requests for Modifications. After two (2) years of implementing a Sampling Plan, FRI and/or FEDRC, as appropriate, may submit a request to EPA for approval, with a copy to the Applicable Intervenor, to revise a Covered Refinery's sampling plan, including sampling frequency. EPA shall not unreasonably withhold its consent. FRI and FEDRC shall not implement any proposed revisions under this Subparagraph until EPA provides its approval after an opportunity for consultation with the Applicable Intervenor.

129. Quarterly and Annual Estimations of TABs and Uncontrolled Benzene Quantities.

At the end of each calendar quarter and based on sampling results and approved flow calculations, FRI and FEDRC shall calculate a quarterly and projected annual:

- a. TAB for each Covered Refinery with a TAB less than 10 Mg/yr; and
- b. uncontrolled benzene quantity for each Covered Refinery with a TAB greater than or equal to 10 Mg/yr.

130. In making the calculations required under Paragraph 129, FRI and FEDRC shall use the average of the three (3) samples collected at each sampling location. If these calculations do not identify any potential violations of the BWON, FRI and FEDRC shall submit these calculations in the reports due under Section XI. (Reporting and Record Keeping) of this Decree.

131. Corrective Measures: Basis. Except as set forth in Paragraph 132, FRI and FEDRC shall implement corrective measures specified in Paragraph 133 of this Consent Decree at the applicable Covered Refinery if:

- a. For a Covered Refinery with a TAB less than 10 Mg/yr, the quarterly TAB equals or exceeds 2.5 Mg or the projected annual TAB equals or exceeds 10 Mg for the then-current compliance year;
- b. For any Covered Refinery with a TAB greater than or equal to 10 Mg/yr and electing the 2 Mg compliance option, the quarterly uncontrolled benzene quantity equals or exceeds 0.5 Mg or the projected annual uncontrolled benzene quantity equals or exceeds 2 Mg for the then-current compliance year; or
- c. For any Covered Refinery with a TAB greater than or equal to 10 Mg/yr and electing the 6 BQ compliance option, the quarterly uncontrolled benzene quantity equals or exceeds 1.5 Mg or the projected annual uncontrolled benzene quantity equals or exceeds 6 Mg for the then-current compliance year.

132. Exception to Implementing Corrective Measures. If, at their respective Covered Refineries, FRI and/or FEDRC can identify the reason(s) in any particular calendar quarter that the quarterly and projected annual calculations result in benzene quantities in excess of those identified in Paragraph 133 and state that they do not expect such reason or reasons to recur, then FRI and/or FEDRC, as appropriate, may exclude the benzene quantity attributable to the identified reason(s) from the projected calendar year quantity. EPA and the Applicable Intervenor may dispute any determination made by FRI or FEDRC. If that exclusion results in no potential violation of the BWON, FRI and/or FEDRC, as appropriate, shall not be required to implement corrective measures under Paragraph 131, and may exclude the uncontrolled benzene attributable to the identified reason(s) in determining the applicability of Paragraph 133. At any

time that either FRI or FEDRC proceeds under this Paragraph, they shall describe how they have satisfied the conditions in this Paragraph in the reports due under Section XI. (Reporting and Record Keeping) of this Decree.

133. Compliance Assurance Plan - Corrective Measures. If at their respective Covered Refineries, FRI and/or FEDRC meets one or more conditions in Paragraph 131 (except as provided under Paragraph 132), then by no later than sixty (60) days after the end of the calendar quarter in which one or more of the conditions were met, FRI and/or FEDRC, as appropriate, shall submit a Compliance Assurance Plan to EPA for approval, with a copy to the Applicable Intervenor. In that Compliance Assurance Plan, FRI and/or FEDRC shall identify the quantity and cause(s) of the potentially-elevated benzene quantities, all corrective measures that they have taken or plan to take to ensure that the cause(s) shall not recur, and the schedule of actions that they shall take to ensure that the subject refinery complies with the BWON for the calendar compliance year. At their respective Covered Refinery, FRI and/or FEDRC shall implement the plan unless and until EPA disapproves after an opportunity for consultation with the Applicable Intervenor.

134. Third-Party Assistance. If the projected annual benzene quantity under Paragraph 129 exceeds, in two consecutive quarters, 10 Mg/yr for a Covered Refinery subject to Paragraph 131.a, 2 Mg/yr for a Covered Refinery subject to Paragraph 131.b, or 6 Mg/yr for a Covered Refinery subject to Paragraph 131.c., and FRI and/or FEDRC cannot identify the reason for the exceedances as allowed under Paragraph 132, they shall within thirty (30) days retain a third-party contractor during the following quarter to undertake a TAB study and compliance review at that Covered Refinery. By no later than ninety (90) days after they receive the results of the third-party TAB study and compliance review, FRI and/or FEDRC, as appropriate, shall

submit such results and a plan and schedule for remedying any deficiencies identified in the third-party study and compliance review to EPA and the Applicable Intervenor. At their respective Covered Refinery, FRI and FEDRC shall implement their proposed plan unless and until EPA disapproves after an opportunity for consultation with the Applicable Intervenor. By no later than thirty (30) days after completion of the implementation of all actions, if any, required to come into compliance with the applicable compliance option, FRI and FEDRC shall submit their respective certifications, pursuant to Paragraph 139 of this Consent Decree, and a report, pursuant to Section XIX (General Provisions), Paragraph 356 (Notice), to EPA and the Applicable Intervenor that such Covered Refinery complies with the BWON.

135. Miscellaneous Measures.

a. For the FRI Refinery, by no later than the date FRI submits a Compliance Plan under Paragraph 94.a, FRI shall:

- i. Conduct monthly visual inspections of all Subpart FF water traps within the FRI Refinery's individual drain systems;
- ii. On a weekly basis, visually inspect all Subpart FF conservation vents on process sewers for detectable leaks; reset any vents where leaks are detected; and record the results of the inspections. After two (2) years of weekly inspections, and based upon an evaluation of the recorded results, FRI may submit a request to the Applicable EPA Region to modify the frequency of the inspections. EPA shall not unreasonably withhold its consent. Nothing in this Subparagraph shall require FRI to monitor conservation vents on fixed roof tanks. Alternatively, for conservation vents with indicators that identify whether flow has occurred, FRI may

elect to visually inspect such indicators on a monthly basis and, if flow is then detected, FRI shall then visually inspect that indicator on a weekly basis for four (4) weeks. If flow is detected during any two (2) of those four (4) weeks, FRI shall install a carbon canister on that vent until appropriate corrective action(s) can be implemented to prevent such flow;

- iii. Conduct quarterly monitoring of the controlled oil-water separators in benzene service in accordance with the “no detectable emissions” provision in 40 C.F.R. § 61.347, or quarterly measurements of the oil-water separator seal gap if using the alternative control requirements allowed under 40 C.F.R. § 61.352, if the separator is a control device under Subpart FF; and
 - iv. Continue to manage all groundwater remediation wastes that are covered by Subpart FF at the FRI Refinery in appropriate waste management units under and as required by the BWON.
- b. For the FEDRC Refinery, by no later than Date of Entry, FEDRC shall
- i. Identify and mark all area drains at the FEDRC Refinery that are segregated storm water drains; and
 - ii. Continue to manage all groundwater remediation wastes that are covered by Subpart FF at the FEDRC Refinery in appropriate waste management units under and as required by the BWON.

136. Reporting and Record Keeping Requirements for this Section VI.L. Outside of the Reports Required under 40 C.F.R. § 61.357 or under the Progress Report Procedures of

Section XI (Reporting and Record Keeping). At the times specified in the applicable provisions of this Section VI.L. for their respective Covered Refineries, FRI and FEDRC shall submit, as and to the extent required, copies of the following reports to EPA and the Applicable Intervenor:

- a. A BWON Compliance Review and Verification Report, Paragraph 90, as amended, if necessary, by Paragraph 92;
- b. An Amended TAB Report, if necessary (Paragraph 93);
- c. A Plan for the FRI Refinery to come into compliance with the 6 BQ or the 2Mg compliance option if and when FRI discovers that its TAB equals or exceeds 10 Mg/yr through the BWON Compliance Review and Verification Report (Paragraph 94), or through sampling (Paragraph 133);
- d. A compliance certification, if necessary (Paragraph 97);
- e. A report certifying the completion of the installation of dual carbon canisters (Paragraph 100);
- f. Schematics of Subpart FF waste movements (Paragraph 118), as revised, if necessary;
- g. Sampling Plans (Paragraph 121), and revised Sampling Plans, if necessary (Paragraph 128); and
- h. A Compliance Assurance Plan to ensure that uncontrolled benzene does not equal or exceed, as applicable, 6 BQ or 2 Mg/yr (Paragraph 133).

137. Record Keeping and Reporting Requirements for this Section VI.L.: As part of either the reports required under 40 C.F.R. § 61.357 or the progress report procedures of Part IX of this Consent Decree (Record Keeping and Reporting), for their respective Covered Refinery, FRI and FEDRC shall submit the following information as part of the quarterly report required pursuant to 40 C.F.R. § 61.357(d)(6) and (7) (“Section 61.357 Reports”) (for FEDRC) or in the

reports due pursuant to Paragraph 216 of this Decree:

- a. Sampling Results under Paragraphs 123, 124, and 125. The report shall include a list of all waste streams sampled, the results of the benzene analysis for each sample, and the computation of the quarterly and projected calendar year TAB (for the FRI Refinery) and the quarterly and projected calendar year uncontrolled benzene quantity (for the FEDRC Refinery);
- b. Training. Initial and/or subsequent training conducted by FRI and FEDRC in accordance with Paragraphs 115 - 117;
- c. Laboratory Audits. Initial and subsequent audits conducted by FRI and FEDRC pursuant to Paragraphs 110 - 113, through the calendar quarter for which the quarterly report is due, including in each such report, at a minimum, the identification of each laboratory audited, a description of the methods used in the audit, and the results of the audit.

138. At any time after two years of reporting pursuant to the requirements of Paragraphs 136 and 137, FRI or FEDRC may submit a request to EPA to modify the reporting frequency for any or all of the reporting categories. This request may include a request to report the previous year's projected calendar year TAB and uncontrolled benzene quantity in the Part XI report due on February 28th of each year, rather than semi-annually on February 28th and August 31st of each year. FRI and FEDRC shall not change the due dates for their reports under Paragraphs 136 and 137 unless and until EPA approves their request after an opportunity for consultation with the Applicable Intervenor.

139. Certifications Required in Section VI.L. Certifications required under this Section shall include the following statement:

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

M. Leak Detection and Repair (“LDAR”) Program Enhancements

140. FRI and FEDRC shall undertake the following measures to improve each Covered Refinery’s LDAR program, to minimize or eliminate fugitive emissions from equipment in light liquid and/or in gas/vapor service at each Covered Refinery, and to make all existing facilities at FRI and FEDRC “affected facilities,” within the meaning of 40 C.F.R. §§ 60.2 and 60.590(a)(3), subject to NSPS Subpart GGG.

141. In order to minimize or eliminate fugitive emissions of volatile organic compounds (“VOCs”), benzene, volatile hazardous air pollutants (“VHAPs”), and organic hazardous air pollutants (“HAPs”) from equipment in light liquid and/or in gas/vapor service, FRI and FEDRC shall, for each of the Covered Refinery’s LDAR programs under 40 C.F.R. Part 60, Subpart GGG; Part 61, Subparts J and V; Part 63, Subparts F, H, and CC, implement the enhancements required by Paragraph 142 through Paragraph 171 of this Consent Decree. The terms “**equipment**,” “**in light liquid service**” and “**in gas/vapor service**” shall have the definitions set forth in the applicable provisions of Title 40 C.F.R. Part 60, Subparts VV and GGG; Part 61, Subparts J and V; and Part 63, Subparts F, H and CC.

142. FRI - Affected Facilities. Upon the Date of Entry, all equipment, as defined by 40 C.F.R. § 60.591, within each process unit and all compressors at FRI shall become “affected

facilities” for purposes of 40 C.F.R. Part 60, Subpart GGG, and shall become subject to and comply with the requirements of 40 C.F.R. Part 60, Subpart GGG, and the requirements of Section VI.M. of this Consent Decree.

143. FEDRC - Affected Facilities. Within ninety (90) days after the Date of Entry of this Consent Decree, FEDRC shall submit a plan, for review and approval by EPA and the Applicable Intervenor, for the group of all equipment (as defined by 40 C.F.R. § 60.591) within each process unit and all compressors for each “affected facility,” as defined in 40 C.F.R. § 60.2, at FEDRC which sets forth the means and schedule that FEDRC shall implement to bring the Covered Refinery into compliance with the requirements of this Consent Decree. The plan shall include interim milestone dates and shall specify when and how the “affected facilities” shall be phased into compliance with the requirements of 40 C.F.R. Part 60, Subpart GGG, and the requirements of Section VI.M. of this Consent Decree. The plan shall require full compliance at FEDRC within two years after the Date of Entry. EPA and the applicable Intervenor shall notify FEDRC after the plan is approved. If the plan is not approved, FEDRC shall modify and resubmit the plan as required by EPA and the Applicable Intervenor.

144. Written Refinery-Wide LDAR Program. No later than one-hundred and eighty (180) days after the Date of Entry FRI and FEDRC shall for each Covered Refinery develop and maintain a written refinery-wide program for compliance with all applicable federal and state LDAR regulations. FRI and FEDRC shall implement this program on a refinery-wide basis and update such program as may be necessary to ensure continuing compliance through and after termination of this Consent Decree. The refinery-wide program shall include at a minimum:

- a. A facility-wide leak rate goal that includes specific process-unit leak rate goals that shall be targets for achievement;

- b. An identification of all equipment in light liquid and/or in gas/vapor service in each of the Covered Refineries that has the potential to leak VOCs, HAPs, VHAPs, and benzene;
- c. Procedures for identifying leaking equipment within process units in each of the Covered Refineries;
- d. Procedures for repairing and keeping track of leaking equipment;
- e. Procedures (e.g., a Management of Change program) to ensure that components subject to LDAR requirements that are added to each facility during scheduled maintenance and construction activities are integrated into the LDAR program;
- f. A process for evaluating new and replacement LDAR equipment that includes active consideration of equipment or techniques that shall minimize leaks and/or eliminate chronic leakers; and

g. A definition of “**LDAR Personnel**” and a process for accountability, identifying for each facility the person or position that shall be the “**LDAR Coordinator.**”

Consistent with FRI and FEDRC management authorities, this person shall have the responsibility to implement improvements to the LDAR program.

145. FRI and FEDRC shall submit a copy of each Covered Refinery’s initial written LDAR Program to EPA and to the Applicable Intervenor with the first Semi-Annual Progress Report required by Paragraph 170(a). EPA shall review and may comment on the written program after an opportunity for consultation with the Applicable Intervenor. FRI and/or FEDRC, as appropriate, shall address EPA’s comments (if any). A description of program changes shall be maintained on-site during the term of this Consent Decree but need not be submitted to the agencies.

146. Training. If not already in place, FRI and FEDRC shall commence implementation of the following training programs at each Covered Refinery:

- a. As of the Date of Entry of this Consent Decree, for any employee newly-assigned to LDAR responsibilities, FRI and FEDRC shall require that each such employee satisfactorily complete LDAR training prior to beginning any LDAR work;
- b. By no later than the Date of Entry, for all FRI and FEDRC employees assigned specific LDAR responsibilities as a primary job function, such as monitoring technicians, database users, quality assurance/quality control (“QA/QC”) personnel and the LDAR Coordinator, FRI and FEDRC shall provide and require completion of annual LDAR refresher training and initial training before the employee begins LDAR responsibilities;
- c. By no later than the Date of Entry, for all other FRI and FEDRC employee operations and maintenance personnel, FRI and FEDRC shall provide and require completion of an initial training program that includes instruction on aspects of LDAR that are relevant to the person’s duties. Refresher training for these personnel shall be performed every three years;
- d. If contract employees are performing LDAR work, FRI and/or FEDRC, as appropriate, shall maintain all training records, as required under this Paragraph, for the contract employees; and
- e. Training records shall be kept for a period of five (5) years.

147. LDAR Audits. At their respective Covered Refineries, FRI and FEDRC shall implement the refinery-wide audits set forth in Paragraphs 147 - 150 to ensure each Covered Refinery’s compliance with all applicable LDAR requirements. The LDAR audits shall include but not be limited to, comparative monitoring, observation of the LDAR technicians’ calibration

and monitoring techniques, records review to ensure monitoring and repairs were completed in the required periods, a field audit to ensure affected equipment has been identified and included in the facility LDAR program, and a review to ensure records and reports have been maintained and submitted as required. During the LDAR audits, leak rates shall be calculated for each process unit where comparative monitoring was performed. Each LDAR audit shall be conducted by personnel with expertise in LDAR regulations.

148. Initial Compliance Audit. By no later than the Date of Entry, at their respective Covered Refineries, FRI and FEDRC shall engage a third-party contractor to undertake a refinery-wide audit of its compliance with the LDAR regulations at each of the Covered Refineries, including, at a minimum, each of the audit requirements set forth in Paragraph 147. No later than sixty (60) days after completion of each audit, FRI and FEDRC shall report to EPA and the Applicable Intervenor any areas of non-compliance identified as a result of its refinery-wide audits and submit in writing proposed compliance schedule for correcting any non-compliance. If the proposed compliance schedule(s) extends for more than sixty (60) days beyond the audit completion date, FRI and/or FEDRC, as applicable, must seek approval of the compliance schedule from EPA. At their respective Covered Refineries, FRI and FEDRC shall implement the compliance schedule as proposed until the schedule is approved or disapproved by EPA. Unless the request for a schedule extension is approved by EPA, within ninety (90) days of completing each audit and by no later than two hundred and forty (240) days after the Date of Entry, FRI and FEDRC shall certify to EPA that each Covered Refinery:

- a. is in compliance;
- b. has completed related corrective action (if necessary) and/or is on a compliance schedule; and

c. specifically certify that all affected equipment has been identified and included in the facility LDAR program to the extent of the program as of the Date of Entry.

149. Third-Party Audits. FRI and FEDRC shall retain one or more independent contractor(s) to perform a third-party audit of each of the Covered Refineries' LDAR programs, including compliance with LDAR regulations and the LDAR requirements under Section VI.M. of this Consent Decree, at least once every four (4) years.

150. Internal Audits. FRI and FEDRC shall conduct internal audits of each of the Covered Refineries' LDAR programs by sending personnel from one Covered Refinery to audit the other Covered Refinery's LDAR program. The audits, among other things, shall include a review of compliance with LDAR regulations and the LDAR requirements under Section VI.M. of this Consent Decree. FRI and FEDRC shall complete the first internal LDAR audit at each Covered Refinery by no later than two years after the initial third-party audit for the Covered Refinery was conducted according to Paragraph 148. Internal audits of each of the Covered Refineries shall be conducted at least once every four years thereafter. FRI and/or FEDRC may elect to retain third-parties to undertake these internal audits, provided that an audit of each of the Covered Refineries occurs every two (2) years.

151. Audit Every Two Years. To ensure that an audit at each of the Covered Refineries occurs every two years, third-party and internal audits shall be separated by two years.

152. Implementation of Actions Necessary to Correct Non-Compliance. If the results of any of the audits conducted pursuant to Paragraphs 147 - 150 identify any areas of non-compliance, FRI and FEDRC, as applicable, shall implement all steps necessary to correct the area(s) of non-compliance as soon as possible and to prevent a recurrence of the cause of the non-compliance. For purposes of this Paragraph, a ratio of the process unit valve leak

percentage established through a comparative monitoring audit conducted under Paragraphs 147 through 150 to determine the average valve leak percentage reported for the process unit for the four quarters immediately preceding the audit in excess of 3.0 % shall be cause for corrective action and shall be subject to stipulated penalties as provided in Paragraph 294. If the calculated ratio yields an infinite result, FRI and FEDRC shall assume 1 leaking valve was found during the 4-quarter period and shall recalculate the ratio. Until two years after termination of this Consent Decree FRI and FEDRC shall retain the audit reports generated pursuant to Paragraphs 147 through 150 and shall maintain a written record of the corrective actions taken at each of the Covered Refineries in response to any deficiencies identified in any audits. In the semi-annual report submitted pursuant to the provisions of Paragraph 216 of this Consent Decree (Reporting and Record Keeping) for the first calendar half of each year, FRI and FEDRC shall submit the audit reports and corrective action records for audits performed and actions taken during the previous calendar year.

153. Internal Leak Definition for Valves and Pumps. Except as provided in Subparagraph 153.c., on and after the Date of Entry, for the Covered Refineries FRI and FEDRC shall utilize the following internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions:

- a. Leak Definition for Valves. 500 ppm VOCs for all the Covered Refinery's valves, excluding pressure relief devices; and
- b. Leak Definition for Pumps. 2,000 ppm VOCs for all of the Covered Refinery's pumps.
- c. For components at FEDRC that shall be brought into compliance with 40 C.F.R.

Part 60, Subpart GGG under the plan and schedule required under Paragraph 143, FEDRC shall apply and thereafter utilize the leak definition rates identified in this Paragraph 153. a. and b. at the time those components become subject to Subpart GGG as specified under the plan and schedule to be submitted by FEDRC in accordance with Paragraph 143.

154. Reporting of Valves and Pumps Based on the Internal Leak Definitions. For regulatory reporting purposes, FRI and FEDRC may continue to report leak rates in valves and pumps against the applicable regulatory leak definition or use the lower, internal leak definitions specified in Paragraph 153. FRI and FEDRC shall identify in the report which definition is being used.

155. Recording, Tracking, Repairing and Re-Monitoring Leaks Based on the Internal Leak Definitions. By no later than the date FRI and FEDRC implement the lower leak definitions under Paragraph 153, each shall record, track, repair and re-monitor all leaks in excess of the internal leak definitions in Paragraph 153. FRI and FEDRC shall have five (5) days to make an initial repair attempt and re-monitor the component under Paragraph 157.a and thirty (30) days either to make repairs and re-monitor leaks that are greater than the internal leak definitions but less than the applicable regulatory leak definitions or to place the component on the delay of repair list according to Paragraph 167. All records of repairs, repair attempts, and re-monitoring shall be maintained for the life of this Consent Decree.

156. Election of Compliance for Initial Attempt at Repair or Use of IR Camera. Within thirty (30) days of the Date of Entry of this Consent Decree, for each Covered Refinery, FRI and FEDRC shall notify EPA and the Applicable Intervenor as to which one of the following options it shall comply with:

- a. FRI and/or FEDRC shall comply with Paragraph 157.a. of this Consent Decree;
- or
- b. FRI and/or FEDRC shall comply with Paragraph 157.b. of this Consent Decree.

If either FRI or FEDRC elects the option in Paragraph 156.a., above, at any time after the Date of Entry of this Consent Decree, either may, at its option, conduct a study of the efficacy of reducing VOC emissions from utilizing the 200 ppm of VOCs leak level for the initial attempt at repair. FRI or FEDRC may submit the results of such study to EPA with a request for EPA approval to change its election to the option in Paragraph 156.b. above.

157. Additional VOC Monitoring. Upon the election of the compliance option under Paragraph 156, FRI and FEDRC shall comply with at least one of the following additional VOC monitoring requirements:

- a. Initial Attempt at Repair. No later than sixty (60) days after the Date of Entry, FRI and FEDRC shall promptly make an “initial attempt” at repair on all valves that have a reading greater than 200 ppm of VOCs, excluding control valves. FRI and FEDRC, shall re-monitor the leaking valve within five (5) days of identification.
 - i. If the re-monitored leak rate is below the applicable leak definition, Paragraph 153, no further action shall be necessary.
 - ii. If the re-monitored leak reading is greater than the applicable leak definition, Paragraph 153, repair the leaking valve according to the requirements under Paragraph 155. All records of repairs, repair attempts, and re-monitoring shall be maintained for the life of this Consent Decree.
 - iii. If FRI or FEDRC can demonstrate with sufficient monitoring and repair data that this “initial attempt” at repair requirement at 200 ppm does not

reduce emissions, after two (2) years of implementing the “initial attempt” requirement, either may request that the EPA reconsider or amend this requirement; or

b. Use of Optical Imaging. At least once every two (2) months, commencing no later than sixty (60) days of the Date of Entry, or, if either FRI or FEDRC commence the program in this Subparagraph after, with EPA approval, opting out of the program in Subparagraph 157.a., two (2) months after such EPA approval it shall conduct optical imaging of process units and tanks in hydrocarbon service using an infrared camera capable of detecting hydrocarbons.

i. Leaking equipment subject to regulation. For any leaks detected from equipment subject to regulation under provisions cited in Paragraph 141, FRI and/or FEDRC shall make a first attempt to repair the leaks within five (5) days of identification, and make final repairs to the leaks or place such equipment on a delay of repair list within fifteen (15) days and in accordance with applicable regulations and Paragraph 167 below.

ii. Leaks from equipment not subject to regulation. For any leaks detected from currently unregulated equipment, FRI and FEDRC shall, unless a shorter time period applies under federal, state, or local law, (a) make a first attempt at repair within fifteen (15) calendar days of identifying the leak and a second attempt at repair within forty-five (45) calendar days of identifying the leak, or (b) if necessary place the equipment on a delay of repair list until the next unit turnaround.

158. LDAR Monitoring Frequency: Pumps. Unless more frequent monitoring is required by a federal or state regulation when the lower internal leak definition for pumps

becomes applicable pursuant to the provisions of Paragraph 153, FRI and FEDRC shall begin monitoring pumps in light liquid service, other than dual-mechanical seal pumps or pumps vented to a control device, at the lower leak definition on a monthly basis.

159. LDAR Monitoring Frequency: Valves. Unless more frequent monitoring is required by a federal or state regulation when the lower internal leak definition for valves becomes applicable pursuant to the provisions of Paragraph 153, FRI and FEDRC shall monitor valves, other than difficult-to-monitor or unsafe-to-monitor valves, on a quarterly basis.

160. Electronic Storing and Reporting of LDAR Data. FRI and FEDRC have and shall continue to maintain an electronic database for record keeping of all LDAR monitoring and repair data from each of the Covered Refineries.

161. Electronic Data Collection During LDAR Monitoring and Transfer. Beginning no later than the Date of Entry, FRI and FEDRC shall use data loggers and/or electronic data collection devices during LDAR monitoring. FRI and FEDRC, or their respective designated contractor(s), shall use their best efforts to transfer, on a daily basis, electronic data from electronic data logging devices to the electronic database required by Paragraph 160. For all monitoring events in which an electronic data collection device is used, the collected monitoring data shall include a time and date stamp, and instrument and operator identification. FRI and FEDRC may use paper logs where necessary or more feasible (e.g., small rounds, remonitoring, or when data loggers are not available or broken), and shall record, at a minimum, the identification of the technician undertaking the monitoring, the date, the daily start and end time for monitoring, and the identification of the monitoring equipment. FRI and FEDRC shall transfer any manually recorded monitoring data to the electronic database required by Paragraph 160 within seven (7) days of monitoring. FRI and FEDRC shall maintain the LDAR information

required by this Paragraph for the life of this Consent Decree.

162. QA/QC of LDAR Data. If not already in place, beginning no later than the Date of Entry, FRI and FEDRC shall develop and implement a procedure to ensure a QA/QC review of all data generated by LDAR monitoring technicians. At their respective Covered Refineries, FRI and FEDRC shall ensure that monitoring collected by monitoring technicians is reviewed for QA/QC by the technician daily. At least once per calendar quarter, FRI and FEDRC shall QA/QC the monitoring data collected during the quarter which shall include, but not be limited to, an evaluation of the number of components monitored per technician, time between monitoring events, and abnormal data patterns. Results from LDAR monitoring indicating any leaks requiring a first-attempt repair shall be reported to unit supervisors daily.

163. LDAR Personnel. By no later than one-hundred and eighty (180) days after the Date of Entry, at their respective Covered Refineries, FRI and FEDRC shall establish a program that shall hold LDAR personnel accountable for LDAR performance. FRI and FEDRC shall maintain a position responsible for LDAR management, with authority to implement improvements, (“**LDAR Coordinator**”) at each Covered Refinery .

164. Adding New Valves and Pumps. By no later than one-hundred and eighty (180) days after the Date of Entry, FRI and FEDRC shall establish a tracking program for maintenance records (e.g., a Management of Change program) to ensure that new valves and pumps added to each of the Covered Refineries during maintenance and construction are integrated into the LDAR program.

165. Calibration. FRI and FEDRC shall conduct all calibrations of LDAR monitoring equipment using methane as the calibration gas, in accordance with 40 C.F.R. Part 60, Appendix A, EPA Reference Test Method 21, and shall maintain records of the calibrations for the life of

this Consent Decree.

166. Calibration Drift Assessment. Beginning no later than the Date of Entry, FRI and FEDRC shall, at each Covered Refinery, at a minimum conduct calibration drift assessments of LDAR monitoring equipment at the end of each monitoring shift. FRI and FEDRC shall conduct the calibration drift assessment using, at a minimum, a 500 ppm calibration gas. If any calibration drift assessment after the initial calibration shows a negative drift of more than 10% from the previous calibration, FRI and FEDRC shall re-monitor all valves that were monitored since the last calibration that had a reading greater than 100 ppm and shall re-monitor all pumps that were monitored since the last calibration that had a reading greater than 500 ppm.

167. Delay of Repair. Beginning no later than the Date of Entry, at their respective Covered Refinery, FRI and FEDRC shall implement the following requirements:

a. For all equipment:

- i. Require sign-off by the unit supervisor that the piece of equipment is technically infeasible to repair without a process unit shutdown, before the component is eligible for inclusion on the “delay of repair” list; and
- ii. Include equipment that is placed on the “delay of repair” list in regular LDAR monitoring.

b. For valves: For valves (other than control valves) leaking at a rate of 10,000 ppm or greater that cannot otherwise be repaired, FRI and FEDRC shall use “drill and tap” or similarly effective repair methods to repair such leaking valves unless they can document that there is a safety, mechanical, or major environmental concern posed by repairing the leak in this manner. FRI and FEDRC shall make two repair attempts (if necessary) using “drill and tap” or similarly effective repair method within thirty (30) days of

identification of the leak.

168. New Method of Repair for Leaking Valves. If a new valve repair method not currently in use by the refining industry is planned to be used by FRI or FEDRC, they shall advise EPA pursuant to Section XIX (General Provisions), Paragraph 356 (Notice) prior to implementing such a method or, if prior notice is not practicable, as soon as practicable after implementation.

169. Chronic Leaker Program. FRI and FEDRC shall replace, re-pack, or perform similarly effective repairs on all chronically leaking non-control valves at the next process unit turnaround. A chronic leaker shall be defined as any component that leaks above 10,000 ppm twice in any consecutive four (4) quarters. If a component has not leaked above 10,000 ppm for a period of twelve (12) consecutive quarters or more prior to a turnaround, it is exempt from the requirements in this Paragraph.

170. Record Keeping and Reporting. Consistent with the requirements of Section XI. (Reporting and Record Keeping), FRI and FEDRC shall maintain records to demonstrate compliance with the requirements of Section VI.M. of this Consent Decree, and shall include the information set forth below in the designated semi-annual progress report(s):

a. First Semi-Annual Progress Report Due under this Consent Decree. At the later of the first semi-annual progress report due under this Consent Decree, or the first semi-annual progress report in which the requirement becomes due, for their respective Covered Refinery, FRI and FEDRC shall include the following:

- i. Copies of the written Refinery-wide LDAR Program required by Paragraph 144;
- ii. A certification of the implementation of the lower leak definitions and

- monitoring frequencies in Paragraphs 153, 154, 155, 158, and 159;
- iii. A certification of the implementation of the “initial attempt at repair” or “optical imaging” program of Paragraphs 156 and 157;
 - iv. A certification of the implementation of QA/QC procedures for review of data generated by LDAR technicians as required by Paragraph 162;
 - v. An identification of the individual at each of the Covered Refineries responsible for LDAR performance as required by Paragraph 144. g.;
 - vi. A certification of the development of a tracking program for new valves and pumps added during maintenance and construction as required by Paragraph 164;
 - vii. A certification of the implementation of the calibration drift assessment procedures of Paragraph 166;
 - viii. A certification of the implementation of the “delay of repair” procedures of Paragraph 167; and
 - ix. report of the implementation of the “chronic leaker” program of Paragraph 169.

b. Semi-Annual Progress Report for the First Calendar Half of Each Year. In the semi-annual progress report that FRI and FEDRC submit pursuant to Section XI. (Reporting and Record Keeping) for the first calendar half of each year, they shall include an identification of each audit that was conducted pursuant to the requirements of Paragraphs 147 - 150 in the previous calendar year including an identification of the auditors, a summary of the audit results, and a summary of the actions that each took or intends to take to correct all deficiencies identified in the audits.

171. Reports due under 40 C.F.R. § 63.654. In each report due under 40 C.F.R.

§ 63.654, FRI and FEDRC shall include:

- a. Training. Information identifying the measures implemented to comply with the provisions of Paragraphs 146 and 163; and
- b. The following information on LDAR monitoring and repairs:
 - i. the number of valves and pumps present in each process unit during the quarter;
 - ii. the number of valves and pumps monitored in each process unit;
 - iii. an explanation for missed monitoring if the number of valves and pumps present exceeds the number of valves and pumps monitored during the quarter;
 - iv. the number of valves and pumps found leaking via Method 21;
 - v. the number of leaks identified through optical imaging (if performing);
 - vi. the number of “difficult to monitor” pieces of equipment monitored;
 - vii. a list of all equipment currently on the “delay of repair” list and the date each component was placed on the list;
 - viii. the number of repair attempts not completed promptly according to Paragraph 155 or completed within five (5) days pursuant to Paragraph 157;
 - ix. the number of repairs not completed within thirty (30) days or placed on the delay of repair list according to Paragraph 155 and/or Paragraph 167;
 - x. the number of chronic leakers that do not get repaired according to the

requirements of Paragraph 169; and

- xi. the number of repairs to leaks identified through optical imaging which are not performed within five (5), or fifteen (15), or forty-five (45) days, respectively, according to Paragraphs 157.b.

N. CERCLA/EPCRA Reviews

172. CERCLA/EPCRA Compliance Review. FRI and FEDRC shall each conduct a CERCLA/EPCRA Compliance Review at their respective Covered Refinery of the five (5) year period prior to the Date of Entry of this Consent Decree to identify any releases that may have been reportable under Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004, or similar or corresponding state reporting regulations. Upon completion of this review, FRI and FEDRC shall resolve their respective liability for potential violations of Section 103(a) of CERCLA and Section 304 of EPCRA, or similar or corresponding state reporting regulations, with respect to the events identified in its Compliance Review by completing the following activities no later than one hundred and twenty (120) days after the Date of Entry:

- a. For all releases for which FRI and FEDRC seek a resolution of liability, submit a CERCLA/EPCRA Compliance Review Report to EPA and the Applicable Intervenor that identifies potential violations of Section 103(a) of CERCLA and Section 304 of EPCRA, or similar or corresponding state reporting regulations;
- b. Based on the Compliance Review Report, correct and/or update release reporting procedures and identify specific steps FRI and FEDRC shall take to ensure compliance in the future. FRI and FEDRC shall submit a copy of the corrected reporting procedures to EPA and the Applicable Intervenor; and

c. Conduct training for the environmental compliance staffs at FRI and FEDRC to instruct them on the reporting requirements of Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004, or similar or corresponding state reporting regulations, and to acquaint the compliance staffs with the procedures adopted by FRI and FEDRC to meet those requirements.

173. FEDRC Continuous Release Review. For the period five (5) years prior to the Date of Entry of this Consent Decree, FEDRC shall conduct an audit of all hazardous substances and extremely hazardous substances used at FEDRC and determine whether a Continuous Release Report in accordance with 40 C.F.R. §§ 302 and 355 is appropriate. FEDRC shall submit a Continuous Release Review Report summarizing the findings of the audit to EPA and the Kansas State Emergency Response Commission (“**SERC**”). Upon completion of this review, FEDRC shall resolve its liability for potential violations of Section 103(a) of CERCLA and Section 304 of EPCRA, or similar or corresponding state reporting regulations, with respect to the events identified in its Continuous Release Review Report by completing the following activities no later than one hundred and twenty (120) days after the Date of Entry:

- a. For all continuous releases for which FEDRC seeks a resolution of liability, submit a Continuous Release Review Report to EPA and the Kansas SERC that identifies releases at FEDRC which should be reported as “Continuous,” within the meaning of 40 C.F.R. § 302.8, or similar or corresponding state reporting regulations;
- b. Based on the Continuous Release Review Report, correct and/or update release reporting procedures and identify specific steps FEDRC shall take to ensure compliance in the future. FEDRC shall submit a copy of the corrected procedures to EPA and the Kansas SERC; and

c. Conduct training for the environmental compliance staffs at FEDRC to instruct them on the reporting requirements of 40 C.F.R. Part 302, or similar or corresponding state reporting regulations, and to acquaint their compliance staffs with the procedures adopted by FEDRC to meet those requirements.

O. FEDRC Reciprocating Internal Combustion Engine J-2001E.

174. By no later than the Date of Entry of this Consent Decree, FEDRC shall submit an application for a construction permit incorporating the following emission limits from the reciprocating internal combustion engine J-2001E: (a) NO_x emissions shall be limited to 0.74 lbs. No_x/mmBTU; and (b) CO emissions shall be limited to 3.34 lbs CO/mmBTU.

175. Compliance with the emission limits set forth in Paragraph 174 shall be determined by conducting performance tests using EPA Test Methods 7E, 10 or an EPA approved alternative test method. The results shall be based on the average of three (3) one-hour testing periods of these tests.

176. Upon the issuance of the final construction permit with the limits described in Paragraph 174 and modification to the CAA Title V air operating permit incorporating the limits described in Paragraph 174 and the removal of any permit limitations that restrict the heat input rate for FEDRC unit B-109, FEDRC's operating unit B-109 shall be allowed to operate up to the emission limits represented in the June 2007 construction permit application for the Ultra Low Sulfur Gasoline project.

P. FEDRC Risk Management Program Requirements

177. Risk Management Plan. Upon completion of all work described in Paragraphs 178 through 187, below, FEDRC shall review, update, and resubmit to EPA's Risk Management Reporting Center a Risk Management Plan for FEDRC which complies with Section 112(r)(7) of

the CAA, 42 U.S.C. § 7412(r)(7), and 40 C.F.R. Part 68.

178. Process Safety Information. For equipment in a Risk Management Program process at FEDRC, FEDRC shall:

- a. compile and document written information pertaining to the design codes and standards applicable to that equipment;
- b. document that the equipment complies with recognized and generally accepted good engineering practices; and
- c. for any equipment designed or constructed in accordance with codes, standards, or practices that are no longer in general use, determine and document whether that equipment is designed, inspected, tested, maintained, and operated in a safe manner.

179. Within ninety (90) days from the Date of Entry of this Consent Decree FEDRC shall demonstrate that it has complied with the requirements of Paragraph 178 by submitting a notice of completion to EPA pursuant to Section XIX (General Provisions), Paragraph 356 (Notice) stating that it has completed the work required in Subparagraphs 178.a. through 178.c.

180. Mechanical Integrity: Inspection and Testing. FEDRC shall ensure inspections and tests are performed on the following process equipment in any Risk Management Program process at FEDRC:

- a. pressure vessels and storage tanks;
- b. piping systems (including piping components such as valves);
- c. relief and vent systems and devices;
- d. emergency shut down systems;
- e. controls (including monitoring devices and sensors, alarms, and interlocks); and
- f. pumps.

181. For all equipment identified in Paragraph 180, FEDRC shall gather, input, and analyze all inspection and testing information using, in accordance with API Recommended Practices 510 and 570, FEDRC's Risk Based Mechanical Integrity Inspection System, or, for equipment other than pressure vessels, other recognized and generally accepted engineering practices, including but not limited to, API Recommended Practices 520, 570, 576, 650, 653, or manufacturer's recommendation. For all requirements in Paragraph 180, FEDRC shall follow all inspection and testing procedures and recognized and generally accepted good engineering practices. The frequency of inspections and tests shall be consistent with applicable manufacturer's recommendations and good engineering practices, but shall be conducted more frequently if determined to be necessary by prior operating experience. If a scheduled inspection date will not be met, the equipment's fitness for use shall be evaluated and documented.

182. Within ninety (90) days from the Date of Entry of this Consent Decree, FEDRC shall demonstrate that it has complied with the requirements of Paragraphs 180 and 181 by submitting a notice of completion to EPA pursuant to Section XIX (General Provisions), Paragraph 356 (Notice) stating that it has completed all work required in Paragraphs 180 through 181.

183. Special Tank /Container Report. FEDRC shall, within ninety (90) days after the Date of Entry of this Consent Decree, submit a report to EPA. The reporting requirements of this Paragraph 183 shall be limited to the following equipment in the Risk Management Program process at FEDRC: T-165; T-254; T-255; T-406; T-407; T-434; T-435; T-458; T-456; T-457; for any equipment that contains 400,000 pounds or more of a regulated flammable substance or 500 pounds or more of hydrogen fluoride/hydrofluoric acid; and the pressure-relieving devices for this specified equipment. The report at a minimum shall include:

- a. the date of the most recent internal, external and, if performed, on-stream

inspection/test; and the scheduled date for the next planned internal, external and, if applicable, on-stream inspection/test;

b. an explanation of how the frequency of inspections referenced in Subparagraph 183.a. are consistent with applicable manufacturer's recommendations and good engineering practices;

c. for the most recent internal, external and, if performed, on-stream inspection(s)/test(s) provide:

- i. the date of the inspection(s)/test(s);
- ii. the serial number or other identifier of the equipment on which the inspection(s)/test(s) were performed;
- iii. a description of the inspection(s)/test(s) performed;
- iv. the name and credentials of the inspector(s);
- v. the name of inspector's employer;
- vi. the inspector's certification(s) to perform the relevant inspections;
- vii. the inspector's report of the results of the inspection(s)/test(s); and
- viii. any subsequent reports addressing findings resulting from the most recent inspections/tests;

d. all process safety documentation required pursuant to Paragraph 178 above for the equipment referenced in this Paragraph 183. In addition, when applicable under standards, determine and document the calculated life of the equipment referenced in this Paragraph 183, or provide documentation explaining why such a determination is not needed; and

e. The report required under this Paragraph 183 shall include the certification

required by Paragraph 219 of this Consent Decree.

184. 2005 Compliance Audit. FEDRC shall, within ninety (90) days after the Date of Entry of this Consent Decree, submit a report to EPA detailing the responses to each of the findings identified in the 2005 Compliance Audit. This report shall:

- a. identify the disposition of each finding identified in the 2005 Compliance Audit, including any findings that have been closed out;
- b. provide a synopsis of the resolution of each finding; and
- c. for findings that have not been closed out, provide a summary of the steps taken as of the date of the report, describe further planned actions, and set forth a schedule for the resolution of each open finding.

185. 2008 Compliance Audit. FEDRC has completed a Compliance Audit consistent with 40 C.F.R. § 68.79. The Compliance Audit and a report of the audit findings and planned actions, including an approximate schedule for the resolution of all findings, shall be submitted to EPA - Region 7 by no later than December 31, 2008.

- a. FEDRC shall submit quarterly reports describing the steps taken to resolve all 2008 Compliance Audit findings and recommendations until all identified findings and recommendations are resolved or until such time as EPA notifies FEDRC in writing that no further reports are required.
- b. FEDRC shall, by November 30, 2010, resolve all findings and recommendations of the 2008 Compliance Audit. If resolution of all findings and recommendations cannot be completed within the time frame established above, FEDRC shall, by August 31, 2010, submit for EPA review and comment documentation that:
 - i. identifies unresolved findings and recommendations;
 - ii. summarizes steps taken to date to resolve these findings and

recommendations;

- iii. explains reasons the resolution has not been completed;
- iv. provides anticipated actions to resolve the findings and recommendations;
and
- v. provides a time line for completion.

c. If EPA determines that additional information is required, upon EPA's request FEDRC shall submit such information to EPA.

186. 2004 Process Hazard Analysis ("PHA"). FEDRC shall, within ninety (90) days after the Date of Entry of this Consent Decree, submit a report to EPA detailing the steps taken and further planned actions, including an approximate schedule, to resolve all action items identified in the "Unit/PHA Action Item List Report (HF Alkylation Unit PHAR 2004)," dated May 1, 2006, attached hereto as Appendix H. FEDRC shall submit quarterly reports describing the steps taken pursuant to this Paragraph 186 to address all action items in the "Unit/PHA Action Item List Report," Appendix H, until all identified findings and recommendations are resolved or until such time as EPA notifies FEDRC in writing that no further reports are required.

187. 2009 Alkylation Unit Process Hazard Analysis. FEDRC shall complete the 2009 Alkylation Unit Process Hazard Analysis no later than October 9, 2009, and submit to EPA the PHA report and a report of the findings and planned actions, including an approximate schedule for the completion of all findings, no later than March 1, 2010.

- a. FEDRC shall submit quarterly reports describing the steps taken to address all high risk (Consequence A and B) findings and recommendations of the 2009 Alkylation Unit Process Hazard Analysis until all identified findings and recommendations are

resolved or until such time as EPA notifies FEDRC in writing that no further reports are required.

b. FEDRC shall, by April 30, 2012, resolve all high risk (Consequence A and B) findings and recommendations of the 2009 Alkylation Unit Process Hazard Analysis. If resolution of all findings and recommendations cannot be completed within the time frame established above, FEDRC shall, by February 28, 2012, submit for EPA review and comment documentation that:

- i. identifies unresolved findings and recommendations;
- ii. summarizes steps taken to date to resolve these findings and recommendations;
- iii. explains reasons the resolution has not been completed;
- iv. provides anticipated actions to resolve the findings and recommendations;
and
- v. provides a time line for completion.

c. In addition to the high risk (Consequence A and B) findings and recommendations identified in the 2009 Alkylation Unit Process Hazard Analysis, EPA may request information regarding the findings and recommendations of the 2009 Alkylation Unit Process Hazard Analysis other than those reported by FEDRC pursuant to Subparagraphs a and b of this Paragraph 187.

VII. ENVIRONMENTALLY BENEFICIAL PROJECTS

188. **FRI SEP.** In accordance with the requirements set forth in Paragraphs 200 - 206 of this Consent Decree, FRI shall at its Cheyenne, Wyoming Refinery spend no less than \$405,000 to implement and complete the Supplemental Environmental Project (“SEP”) described in Paragraphs 189 and 190, infra.

189. FRI shall install a geodesic dome fixed roof on one 70 foot diameter finished gasoline storage tank. Prior to SEP implementation, FRI shall determine whether it will convert Tank 2-70 or Tank 2-71 and shall inform EPA and WDEQ of FRI's election in accordance with Section XIX. (General Provisions), Paragraph 356 (Notice). Installing the geodesic dome roof will convert the current external floating roof tank to an internal floating roof tank which FRI represents will reduce the amount of VOC and other hazardous air pollutants from the converted tank by approximately 25,600 pounds per year ("lb/yr").

190. FRI shall submit a detailed description of the SEP, a work plan, and SEP implementation schedule to EPA and WDEQ for review and approval within one hundred and eighty (180) days of the Date of Entry of this Consent Decree. Installing the fixed roof requires that the tank be taken out of service for approximately four to six weeks. This has the potential to impact gasoline supplies in the area. FRI shall select the tank and develop a work plan to minimize any such impacts. Within thirty (30) days of final approval by EPA, FRI shall implement the SEP in accordance with the approved work plan and schedule. FRI shall complete implementation of the project in accordance with the election made under Paragraph 220 unless an alternative schedule is approved in writing by EPA and WDEQ.

191. FEDRC SEP - Tank 449. In accordance with the requirements set forth in Paragraphs 200 - 206 of this Consent Decree, FEDRC at its El Dorado, Kansas refinery shall spend no less than \$217, 000 to implement and complete the SEP described in Paragraphs 192 - 193 below.

192. Tank 449 is currently a double-sealed external floating roof tank containing primarily aromatic hydrocarbons. FEDRC shall install a geodesic dome on Tank 449 to convert it from an external floating roof tank to an internal floating roof tank. FEDRC estimates that this

SEP will result in a reduction of approximately 1,738 lbs/yr of VOC emissions, of which approximately 1,010 lbs/yr will be aromatic hydrocarbons (benzene) emissions.

193. FEDRC shall submit a detailed description of the Tank 449 SEP, a work plan and SEP implementation schedule to EPA and KDHE for review and approval within one hundred and eighty (180) days of the Date of Entry of this Consent Decree. Installing the fixed roof requires that the tank be taken out of service for approximately four to six weeks. This has the potential to impact gasoline supplies in the area. FEDRC shall develop a work plan to minimize any such impacts. Within thirty (30) days of final approval by EPA and KDHE, FEDRC shall implement the Tank 449 SEP in accordance with the approved work plan and schedule. FEDRC shall complete implementation of the project in accordance with the election made under Paragraph 220 unless an alternative schedule is approved in writing by EPA and KDHE.

194. FEDRC SEP - Geodome Cover. In accordance with the requirements set forth in Paragraphs 200 - 206, FEDRC, at its El Dorado, Kansas Refinery, shall spend no less than \$505,000 to implement and complete the SEP described in Paragraphs 195 and 196 below.

195. FEDRC shall install a geodesic dome fixed roof on a one hundred and twenty-two (122) foot diameter finished gasoline storage tank. Prior to SEP implementation, FEDRC shall determine whether it will convert Tank 17, Tank 18, Tank 19, or Tank 20 and shall inform EPA and KDHE of FEDRC's election in accordance with Section XIX. (General Provisions), Paragraph 356 (Notice). FEDRC shall convert the current external floating roof on the selected tank to an internal floating roof. FEDRC estimates that installing a geodesic dome fixed roof on the tank will, depending on the tank selected, reduce VOC emissions at FEDRC by approximately 23,000 lb/yr to 45,000 lb/yr.

196. FEDRC shall submit a detailed description of the SEP described in Paragraph

195, a work plan, and SEP implementation schedule to EPA and KDHE for review and approval within one hundred and eighty (180) days of the Date of Entry of this Consent Decree. Installing the fixed roof requires that the tank be taken out of service for approximately four to six weeks. This has the potential to impact gasoline supplies in the area. FEDRC shall select the tank and develop a work plan to minimize any such impacts. Within thirty (30) days of final approval by EPA and KDHE, FEDRC shall implement the SEP in accordance with the approved work plan and schedule. FEDRC shall complete implementation of the project in accordance with the election made under Paragraph 220 unless an alternative schedule is approved in writing by EPA and KDHE.

197. FEDRC SEP - Rapid Deployment Kit. In accordance with the requirements set forth in Paragraphs 200 - 206, FEDRC shall spend no less than \$180,000 to implement and complete the SEP described in Paragraphs 198 and 199 below in mitigation of penalties assessed for alleged Risk Management Program violations, Section 112(r)(7) of the Act, 42 U.S.C. § 7412(r)(7), and 40 C.F.R. Part 68, at its El Dorado, Kansas refinery.

198. By no later than ninety (90) days following the entry of this Consent Decree, FEDRC shall place a binding order for a Rapid Deployment Kit (“**RDK**”) designed to provide a quick assessment of gaseous threats in release scenarios. The RDK will be located at FEDRC’s refinery and will include a base station with at least two (2) remote stations that will continuously sample air for parameters of concern and transmit that information to the base station when the units are deployed. FEDRC represents that: (a) the RDK shall be configured to provide air sampling data for, at a minimum, SO₂, benzene, and hydrocarbons; (b) FEDRC will consult with the City of El Dorado Fire Chief to determine whether the RDK should be configured to detect other contaminants and pollutants of concern; (c) the RDK shall be made available to federal, state, and local emergency responders for use in monitoring air quality

during release scenarios occurring inside FEDRC's fence line or occurring within a 100-mile radius of FEDRC's El Dorado refinery; (d) the RDK remote sensors shall be portable, wireless, and usable outside of the refinery property; (e) an FEDRC employee trained in the use of the RDK shall be deployed along with the RDK to set up the RDK and provide support to the relevant incident commander; and (f) the RDK shall be compatible with existing equipment provided by the Kansas Fire Marshal's Office and State of Kansas HAZMAT.

199. FEDRC shall have the RDK available and operating at FEDRC by no later than thirty (30) days following the delivery of the RDK. FEDRC shall maintain the RDK, or equivalent capacity, under the provisions of Paragraph 198, for a period of ten (10) years after the Date of Entry.

200. SEP Performance. SEPs described in this Section VII. shall conform to the requirements of EPA's "EPA Supplemental Projects Policy" (effective May 1, 1998). SEP work plans submitted under this Section VI.I are incorporated by reference herein and are enforceable as part of this Consent Decree.

201. If at any time prior to the completion of the projects identified in Paragraphs 188 through 199, either FEDRC or FRI is required to perform any of those projects pursuant to a federal, state, or local statute, regulation, or permit, then FEDRC and/or FRI, as applicable, shall not receive SEP credit for the amounts expended on that project. Within one hundred and twenty (120) days of any event that invalidates a specific SEP:

- a. For FEDRC, FEDRC shall propose for approval by EPA and KDHE an additional SEP of equal or greater value to be performed at FEDRC or in the same community as the invalidated SEP; and
- b. For FRI, FRI shall propose for approval by EPA and WDEQ an additional SEP of

equal or greater value to be performed at FRI or in the same community as the invalidated SEP.

202. FRI and FEDRC are responsible for the satisfactory completion of the SEPs identified in Paragraphs 188 through 199 of this Consent Decree. Upon completion of each SEP, FEDRC and/or FRI, as applicable, shall submit to EPA and the Applicable Intervenor a SEP construction completion and cost report (documenting SEP expenditures and including copies of invoices, receipts, purchase orders, etc.) accompanied by a certification by a responsible corporate official in the form required pursuant to Paragraph 219 of this Consent Decree.

a. If FRI and/or FEDRC do not expend the entire projected cost of any SEP, then FRI and/or FEDRC, as applicable, shall pay a stipulated penalty equal to the difference between the amount expended as demonstrated in the certified cost report and the projected cost with one half of that amount payable to EPA and the remaining half payable to the Applicable Intervenor. The stipulated penalty shall be paid as provided in Section XIII (Stipulated Penalties) of this Consent Decree.

b. If FRI and/or FEDRC withdraw a SEP, or otherwise do not implement a SEP required under this Consent Decree, then FRI and/or FEDRC, as applicable, shall either: (i.) Notwithstanding the election in Paragraph 220, pay a stipulated penalty equal to one hundred and ten percent (110%) of the full cost of the withdrawn SEP. This stipulated penalty shall apply in lieu of stipulated penalties under Paragraph 298 of this Consent Decree. One half of the foregoing amount shall be payable to EPA and the remaining half payable to the Applicable Intervenor; or (ii.) Propose for approval by EPA and the Applicable Intervenor a substitute SEP or SEPs of equal or greater value to be performed at the Covered Refinery or in the same community as the withdrawn SEP.

203. Should FEDRC or FRI, as applicable, fail to implement any SEP in accordance with the schedule approved by EPA and the Applicable Intervenor, FEDRC or FRI, as applicable, shall be liable for the payment of stipulated penalties in accordance with the provisions of Section XIII. (Stipulated Penalties) of this Consent Decree as specified in Paragraph 298 of this Consent Decree.

204. By signing this Consent Decree, FRI and FEDRC each certifies for its respective refinery that it is not required, and has no liability under any federal, state or local law or regulation or pursuant to any agreement or order of any court, to perform or develop any of the SEP projects identified in Paragraphs 188 through 199 of this Consent Decree. Further, FRI and FEDRC each certifies for its respective refinery that it has not applied for or received, and will not in the future apply for or receive credit as a SEP or other penalty offset in any other enforcement action for any project set forth in Paragraphs 188 through 199 of this Consent Decree and, except as otherwise specifically provided in this Consent Decree, credit for any emissions reduction resulting from any SEP project set forth in Paragraphs 188 through 199 of this Consent Decree in any federal, state or local emissions netting, trading, or early reduction program, or similar emissions compliance program. For federal income tax purposes, FRI and FEDRC each agree for its respective refinery that it will neither capitalize into inventory or basis nor deduct any costs or expenditures incurred in performing SEPs.

205. FRI and FEDRC shall include in each Report required by Paragraph 216 of this Consent Decree a progress report for each SEP being performed under Paragraphs 188 through 199 of this Consent Decree. In addition to the information required by Paragraph 216 of this Consent Decree, for the reporting period in which any SEP identified in Paragraphs 188 through 199 of this Consent Decree is completed, the following information with respect to each completed SEP shall be included in the report required by Paragraph 216:

- a. A report containing a detailed description of the SEP as implemented;
- b. A brief description of any significant operating problems encountered, including any that had an impact on the environment, and the solutions for each problem;
- c. Certification, in the form required by Paragraph 219 of this Consent Decree, that the SEP has been fully implemented pursuant to the provisions of this Consent Decree together with a statement of the total SEP cost upon completion; and
- d. 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).

206. FRI and FEDRC each agree that in any public statements regarding these SEPs, FRI and FEDRC shall clearly indicate that these projects are being undertaken as part of the settlement of an enforcement action for alleged violations of the CAA and corollary state statutes.

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

207. Obtaining Permit Limits for Consent Decree Emission Limits That Are Effective Upon Entry. By no later than one hundred and twenty (120) days after the Date of Entry of this Consent Decree, FRI and FEDRC shall submit applications to the Applicable Intervenor(s) to incorporate the emission limits and standards required by this Consent Decree that are effective as of the Date of Entry into federally enforceable minor or major new source review permits or other permits (other than CAA Title V permits). Following submission of the permit applications, FRI and FEDRC shall cooperate with the Applicable Intervenor by promptly submitting to the Applicable Intervenor all information that the Applicable Intervenor seeks

following their receipt of the permit applications. Upon issuance of such permits or in conjunction with such permitting, FRI and FEDRC shall file any applications necessary to incorporate the requirements of those permits into the CAA Title V permit for the relevant Covered Refinery.

208. Obtaining Permit Limits for Consent Decree Emission Limits That Become Effective After Date of Entry. As soon as practicable, but in no event later than ninety (90) days after the effective date or establishment of any emission limits and/or standards under Section VI. (Affirmative Relief) of this Consent Decree, FRI and FEDRC, as appropriate, shall submit applications to the Applicable Intervenor to incorporate those emission limits and/or standards into federally enforceable minor or major new source review permits or other permits, other than CAA Title V permits, which are federally enforceable. Following submission of the permit application(s), FRI and FEDRC, as appropriate, shall cooperate with the Applicable Intervenor by promptly submitting to the Applicable Intervenor all information that the Applicable Intervenor seeks following its receipt of the permit application. Upon issuance of such permit or in conjunction with such permitting, FRI and FEDRC, as applicable, shall file any applications necessary to incorporate the requirements of that permit into the Title V permit of the appropriate Covered Refinery.

209. Mechanism For Title V Incorporation. The Parties agree that the incorporation of any emission limits or other standards into the CAA Title V permits for the Covered Refineries where required by this Consent Decree shall be in accordance with the applicable state or local CAA Title V rules.

210. Construction Permits. FRI and FEDRC each agree to use best efforts to obtain all required, federally enforceable permits for the construction of the pollution control technology

and/or the installation of equipment necessary to implement the affirmative relief and environmental projects set forth in Section VI. (Affirmative Relief) and Section VII (Environmentally Beneficial Projects) of this Consent Decree. To the extent that FRI and/or FEDRC must submit permit applications for this construction or installation to the Applicable Intervenor(s), they each shall cooperate with the Applicable Intervenor by promptly submitting to the Applicable Intervenor all information that the Applicable Intervenor seeks following its receipt of the permit application.

IX. EMISSION CREDIT GENERATION

211. Summary. The intent of this Section generally is to prohibit FRI and FEDRC from using the emissions reductions that shall result from the installation and operation of the controls required by this Consent Decree (“CD Emissions Reductions”) for the purpose of emissions netting or emissions offsets, while still allowing FRI and FEDRC to use a fraction of the CD Emissions Reductions if the emissions from those modified or newly-constructed units are below the levels outlined in Paragraph 213 prior to the commencement of operation of the emissions units for which FRI and/or FEDRC seek to use the CD Emissions Reductions.

212. Prohibition. FRI and FEDRC shall not generate or use any emissions reductions that result from any projects conducted, or controls required, pursuant to this Consent Decree as netting reductions or emissions offsets in any PSD, major non-attainment and/or minor New Source Review (“NSR”) permit or permit proceeding.

213. Outside the Scope of the Prohibition. Nothing in this Consent Decree is intended to prohibit FRI or FEDRC from seeking to:

- a. utilize or generate netting reductions or emission offset credits from refinery units that are covered by this Consent Decree to the extent that the proposed netting reductions

or emission offset credits represent the difference between the emissions limitations set forth in or established pursuant to this Consent Decree for these refinery units and the more stringent emissions limitations that FRI or FEDRC may elect to accept for these refinery units in a permitting process;

- b. utilize or generate netting reductions or emission offset credits for refinery units that are not subject to an emission limitation pursuant to this Consent Decree;
- c. utilize emissions reductions from the installation of controls required by this Consent Decree in determining whether a project that includes both the installation of controls under this Consent Decree and other construction that occurs at the same time and is permitted as a single project triggers major New Source Review requirements;
- d. utilize CD Emission Reductions for a Covered Refinery's compliance with any rules or regulations designed to address regional haze or the non-attainment status of any area (excluding PSD and Non-Attainment New Source Review rules) that apply to the particular Covered Refinery; provided, however, that FRI and FEDRC shall not be allowed to trade or sell any CD Emissions Reductions; or
- e. utilize any emission reduction credits recognized under permits identified in Appendix I which were previously issued to either FRI or FEDRC or applied for prior to the Date of Lodging of this Consent Decree.

X. MODIFICATIONS TO IMPLEMENTATION SCHEDULES

214. Securing Permits. For any work under Section VI. (Affirmative Relief) of this Consent Decree that requires a federal, state and/or local permit or approval, FRI and FEDRC shall be responsible for submitting in a timely fashion applications for federal, state and local permits and approvals for work and activities required so that permit or approval decisions can

be made in a timely fashion. FRI and FEDRC shall use their best efforts to: (a) submit permit applications (i.e., applications for permits to construct, operate, or their equivalent) that comply with all applicable requirements; and (b) secure permits after filing the applications, including timely provision of additional information, if requested. If it appears that the failure of a governmental entity to act upon a timely-submitted permit application may delay performance of work according to an applicable implementation schedule, FRI and/or FEDRC, as appropriate, shall notify EPA and the Applicable Intervenor of any such delays as soon as it reasonably concludes that the delay could affect its ability to comply with the implementation schedules set forth in this Consent Decree. FRI and/or FEDRC, as appropriate, shall propose for approval by EPA a modification to the applicable schedule of implementation. EPA, in consultation with the Applicable Intervenor, shall not unreasonably withhold its consent to requests for modifications of schedules of implementation if the requirements of this Paragraph are met. All modifications to any dates initially set forth in this Consent Decree or in any approved schedule of implementation shall be signed in writing by EPA and FRI or FEDRC, as appropriate, and neither the United States nor FRI nor FEDRC shall be required to file such modifications with the Court in order for the modifications to be effective. Stipulated penalties shall not accrue nor be due and owing during any period between a scheduled implementation date and an approved modification to such date; provided however, that EPA and the Applicable Intervenor shall retain the right to seek stipulated penalties if EPA does not approve a modification to a date or dates. The failure of a governmental entity to act upon a permit application which is timely-submitted shall not constitute a force majeure event triggering the requirements of Section XVI. (Force Majeure); in its place this Paragraph 214 shall apply.

215. Commercial Unavailability of Control Equipment and/or Additives. FEDRC

and/or FRI, as applicable, shall be solely responsible for compliance with any deadline or the performance of any work described in Section VI. (Affirmative Relief) of this Consent Decree that requires the acquisition and installation of control equipment, including NO_x - Reducing and SO₂ - Reducing Catalyst Additives. If it appears that the commercial unavailability of any control equipment may delay a Covered Refinery's performance of work according to an applicable implementation schedule, the Covered Refinery shall notify EPA and the Applicable Intervenor of any such delays as soon as the Covered Refinery reasonably concludes that the delay could affect its ability to comply with the implementation schedule set forth in this Consent Decree.

- a. FRI or FEDRC, as applicable, shall propose for approval by EPA, after consultation with the Applicable Intervenor, a modification to the applicable schedule of implementation. Prior to the notice required by this Paragraph 215, the applicable Covered Refinery must have contacted a reasonable number of vendors of such equipment or additive and obtained a written representation (or equivalent communication to EPA) from the vendor that the equipment or additive is commercially unavailable. In the notice required by this Paragraph 215, the Covered Refinery shall reference this Paragraph, and identify the milestone date(s) it contends it shall not be able to meet, provide the EPA and the Applicable Intervenor with written correspondence to the vendor made to secure the control equipment, correspondence from the vendor that the equipment or additive is commercially unavailable, and describe the specific efforts that the Covered Refinery has taken and shall continue to take to find such equipment or additive. The Covered Refinery may propose a modified schedule or modification of other requirements of this Consent Decree to address such commercial unavailability.

b. Section XVII. (Retention of Jurisdiction/Dispute Resolution) shall govern the resolution of any claim of commercial unavailability made under this Paragraph 215. EPA, in consultation with the Applicable Intervenor, shall not unreasonably withhold its consent to requests for modifications of schedules of implementation if the requirements of this Paragraph 215 are met. All modifications to any dates initially set forth in this Consent Decree or in any approved schedule of implementation shall be signed in writing by EPA and FRI or FEDRC, as applicable, and neither the United States nor FRI nor FEDRC shall be required to file such modifications with the Court in order for the modifications to be effective. Stipulated penalties shall not accrue nor be due and owing during any period between an originally-scheduled implementation date and an approved modification to such date; provided however, that EPA and the Applicable Intervenor shall retain the right to seek stipulated penalties if EPA does not approve a modification to a date or dates. The failure by a Covered Refinery to secure control equipment shall not constitute a force majeure event triggering the requirements of Section XVI. (Force Majeure); this Paragraph 215 shall apply.

XI. REPORTING AND RECORD KEEPING

216. FRI and FEDRC shall submit to EPA and the Applicable Intervenor, semi-annual reports due on August 31st (covering the prior period from January 1st to June 30th) and February 28th (covering the prior period from July 1st to December 31st), with the first such report due on August 31, 2009. The semi-annual reports shall contain the following information for each relevant Covered Refinery:

a. For the period covered by the report, a summary of the emissions data for the Covered Refinery that is specifically required by the reporting requirements of the

Consent Decree;

- b. A description of any problems anticipated with respect to meeting the requirements of this Consent Decree at each Covered Refinery;
- c. A description of all Supplemental Environmental Projects and implementation activity in accordance with this Consent Decree;
- d. Any such additional matters as FRI or FEDRC believes should be brought to the attention of the Applicable Federal and State Agencies; and
- e. Any additional items required by any other Paragraph of this Consent Decree to be submitted with a semi-annual report including but not limited to reports required under Paragraphs 137, 152, 170, and 205.

217. In the semi-annual report required to be submitted on August 31st of each year, FRI and FEDRC shall provide a summary of annual emissions data for each Covered Refinery for the prior calendar year, to include:

- a. NO_x emissions in tons per year for each heater and boiler greater than 40 mmBTU/hr maximum fired duty;
- b. NO_x emissions in tons per year as a sum for all heaters and boilers less than 40 mmBTU/hr maximum fired duty;
- c. SO₂, CO and PM emissions in tons per year as a sum for all heaters and boilers;
- d. SO₂ emissions from all Sulfur Recovery Plants in tons per year;
- e. SO₂ emissions from all Acid Gas Flaring and Tail Gas Incidents by flare in tons per year; and
- f. NO_x, SO₂, PM and CO emissions in tons per year as a sum at each Covered Refinery for all other emissions units for which emissions information is required to be

included in the facilities' annual emissions summaries and that are not identified above;
and

- g. SO₂, NO_x, CO and PM emissions in tons per year for each FCCU, and
- h. for each of the estimates or calculations in Subparagraphs 217.a. through 217.g. above, the basis for the emissions estimate or calculation (i.e. stack tests, CEMS, emission factor, etc.).

To the extent that the required emissions summary data is available in other reports generated by FRI and/or FEDRC, as appropriate, such other reports can be attached or the appropriate information can be extracted from such other reports and attached to the semi-annual report to satisfy the requirement.

218. In each semi-annual report required under Paragraph 216 for each Covered Refinery, FRI and FEDRC shall provide a summary of all exceedances of emission limits required or established by this Consent Decree, which shall include:

- a. for operating units emissions limits that are required by this Consent Decree and monitored with CEMS, for each CEMS:
 - i. total period where the emissions limit was exceeded, if applicable, expressed as a percentage of operating time for each calendar quarter;
 - ii. where the operating unit has exceeded the emissions limit more than 1% of the total time of the calendar quarter, identification of each averaging period that exceeded the limit by time and date, the actual emissions of that averaging period (in the units of the limit), and any identified cause for the exceedance (including Startup, Shutdown, maintenance or Malfunction), and, if it was a Malfunction, an explanation and any corrective actions taken;

- iii. total downtime of the CEMS, if applicable, expressed as a percentage of operating time for the calendar quarter;
 - iv. where the CEMS downtime is greater than 5% of the total time in a calendar quarter for a unit, identify the periods of downtime by time and date, and any identified cause of the downtime (including maintenance or Malfunction), and, if it was a Malfunction, an explanation and any corrective action taken; and
 - v. If a report filed pursuant to another applicable legal requirement contains all of the information required by this paragraph in a similar or same format, the requirements of this paragraph may be satisfied by attaching a copy of such report.
- b. for any exceedance of an emissions limit required by this Consent Decree from an operating unit monitored through stack testing:
- i. a summary of the results of the stack test in which the exceedance occurred;
 - ii. a copy of the full stack test report in which the exceedance occurred;
 - iii. to the extent that a Covered Refinery has already submitted the stack test results to the EPA and the Applicable Intervenor, the refinery need not resubmit them, but may instead reference the submission in the report (e.g., date, addressee, reason for submission).

219. Each Covered Refinery's semi-annual report shall be certified by either the person responsible for environmental management and compliance for that Covered Refinery, or by a person responsible for overseeing implementation of this Consent Decree. The certification

shall state:

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.

XII. CIVIL PENALTY

220. In satisfaction of the civil claims asserted by the United States and the Intervenors in the Complaint filed in this matter, within thirty (30) days of the Date of Entry of this Consent Decree, FRI and FEDRC shall pay a combined civil penalty under one of the two options below, depending upon the implementation schedule that FRI and FEDRC elect to apply to performance of the Environmentally Beneficial Projects described in Section VII. of this Consent Decree. FRI and FEDRC shall notify the United States and the Intervenors of the elected option in accordance with Section XIX. (General Provisions), Paragraph 356 (Notice) no later than fifteen (15) days after Entry of this Consent Decree:

a. If FRI and FEDRC elect to complete implementation of the Environmentally Beneficial Projects described in Section VII. of this Consent Decree within twelve (12) months of Entry of this Consent Decree, a total combined civil penalty of \$874,177 (in connection with the National Petroleum Refining Initiative enforcement program) and \$358,051 (in connection with the United States' claims under the Clean Air Act Section 112(r) set forth in Paragraph 343 of this Consent Decree) shall be paid as follows:

- i. \$843,251 to the United States;
- ii. \$17,777 to Intervenor the State of Wyoming; and
- iii. \$371,200 to Intervenor the State of Kansas;

or

b. If FRI and FEDRC elect to complete implementation of the Environmentally Beneficial Projects described in Section VII. of this Consent Decree within twenty-four (24) months of Entry of this Consent Decree, a total combined civil penalty of \$930,527 (in connection with the National Petroleum Refining Initiative enforcement program) and \$358,051 (in connection with the United States' claims under the Clean Air Act Section 112(r) set forth in Paragraph 343 of this Consent Decree) shall be paid as follows:

- i. \$871,426 to the United States;
- ii. \$27,902 to Intervenor the State of Wyoming; and
- iii. \$389,250 to Intervenor the State of Kansas.

221. FRI and FEDRC shall make a combined payment to the United States for the amount specified in Paragraph 220 by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing USAO File Number 2008V00801, DOJ Case Number 90-5-2-1-08660, and the civil action case name and case number of this action in the District of Kansas. The costs of such EFT shall be the responsibility of FRI and FEDRC. Payment required by Paragraph 220 shall be made in accordance with instructions provided to FRI and FEDRC by the Financial Litigation Unit of the U.S. Attorney's Office for the District of Kansas. Any funds received after 11:00 a.m. (EST) shall be credited on the next business day. As provided in Section XIX. (General Provisions), Paragraph 356 (Notice), notice to the Department of Justice and to EPA shall reference USAO File Number 2008V00801, DOJ Case Number 90-5-2-1-08660, and the civil action case name and case number.

222. FEDRC shall make a payment for the amount specified in Paragraph 220 to the

State of Kansas by certified or corporate check made payable to the Kansas Department of Health and Environment and sent to the following address:

Mr. Vick Cooper,
Bureau of Air and Radiation
Kansas Department of Health and Environment
1000 SW Jackson, Suite 310
Topeka, KS. 66612-1366

223. FRI shall make a payment for the amount specified in Paragraph 220 to the State of Wyoming by certified or corporate check made payable to the Wyoming Department of Environmental Quality and sent to the following address:

Wyoming Attorney Generals Office
Attn: Nancy E. Vehr
123 Capitol Building
Cheyenne, WY 82002

224. The civil penalty set forth in Paragraph 220 of this Consent Decree is a penalty within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C. § 162(f). Neither FRI nor FEDRC shall treat these penalty payments as tax deductible for purposes of federal, state, or local law.

225. Upon the Date of Entry of this 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 and the Intervenors shall be deemed judgment creditors for purposes of collecting any unpaid amounts of the civil and stipulated penalties and interest.

226. [Reserved]

XIII. STIPULATED PENALTIES

227. Stipulated penalties shall be paid to the United States and to the Applicable Intervenor for each failure by FRI and FEDRC to comply with the terms of this Consent Decree as provided herein, provided further that in no event shall any stipulated penalty assessed exceed \$32,500 per day for any individual violation of this Consent Decree. Stipulated penalties shall be calculated in the amounts specified in this Section XIII. For those provisions where a stipulated penalty of either a fixed amount or 1.2 times the economic benefit of delayed compliance is available, the decision of which alternative to seek shall rest exclusively within the discretion of the United States or the Applicable Intervenor.

A. Non-Compliance with Requirements for NO_x Emission Reductions from FCCUs: Section VI.A.

228. For failure to comply with any requirements of Paragraphs 16 regarding the Low NO_x Combustion Promoter and NO_x Reducing Catalyst Additive protocol set forth in Section VI.A., per unit, per day:

<u>Period of Delay or Non-Compliance</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$1,000
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

229. For failure to meet any emissions limit for NO_x set forth in Section VI.A., or any emissions limit proposed by a Covered Refinery or established by EPA (final or interim) for NO_x pursuant to Section VI.A., per day, per unit: \$750 for each calendar day in a calendar quarter on which the short-term rolling average exceeds the applicable limit; and \$2,500 for each calendar day in a calendar quarter on which the specified 365-day rolling average exceeds the applicable limit.

230. For failure to prepare and/or submit written deliverables required by Section

VI.A., per day penalties:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 200
31 st through 60 th day after deadline	\$ 500
Beyond 60 th day after deadline	\$1000

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

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 200
31 st through 60 th day after deadline	\$ 500
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

B. Non-Compliance with Requirements for SO₂ Emission Reductions from FCCUs: Section VI.B.

232. For failure to comply with any requirement of Paragraph 22 regarding the SO₂-reducing catalyst additives protocol, set forth in Section VI.B., per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$ 750
Beyond 60 th day after deadline	\$1,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

233. For each failure to meet any SO₂ emission limit set forth in Section VI.B., or each failure to meet any SO₂ emissions limit proposed by FEDRC and/or FRI, per unit, per day: \$750 for each calendar day in a calendar quarter on which the specified 7-day rolling average exceeds the applicable limit; \$2,500 for each calendar day in a calendar quarter on which the specified 365-day rolling average exceeds the applicable limit.

234. For failure to prepare and/or submit written deliverables required by Section

VI.B., per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 200
31 st through 60 th day after deadline	\$ 500
Beyond 60 th day after deadline	\$1,000

235. For failure to install, certify, calibrate, maintain, and/or operate a SO₂ CEMS as required by Paragraph 18, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,000
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

C. Non-Compliance with Requirements for PM Emissions Reductions from FCCUs: Section VI.C.

236. For each failure to meet applicable PM emission limits for FCCUs as set forth in Section VI.C., or as later accepted by FRI and/or FEDRC, as appropriate, pursuant to Section VI.C., per day, per unit: \$750 for each calendar day in a calendar quarter on which the Covered Refinery exceeds the emission limit. For failure to conduct a stack test, \$500 per day per test. For failure to prepare and/or submit written deliverables required by Section VI.C., per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 200
31 st through 60 th day after deadline	\$ 500
Beyond 60 th day after deadline	\$1,000

237. For failure to install, certify, calibrate, maintain, and/or operate a COMS to monitor Opacity as required by Paragraph 31, or to conduct PM testing on FCCUs as required by Paragraph 29, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500

31 st through 60 th day after deadline	\$1,000
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

D. Non-Compliance with Requirements for CO Emissions Reductions from FCCUs: Section VI.D.

238. For each failure to meet the applicable CO emission limits for FCCUs as set forth in Section VI.D., Paragraphs 33, 34, and 35: \$500 for each calendar day in a calendar quarter on which the specified 1-hour rolling average exceeds the applicable limit; and \$2,500 for each calendar day in a calendar quarter on which the specified 365-day rolling average exceeds the applicable limit.

239. For failure to install, certify, calibrate, maintain, and/or operate a CO and O₂ CEMS as required by Paragraph 18, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,000
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

E. Non-Compliance with Requirements for NSPS Applicability on the FCCU Regenerators: Section VI.E.

240. For failure to comply with any NSPS requirements applicable to any FCCU regenerator at FRI or FEDRC as set forth in Section VI.E., per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$1,000
31 st through 60 th day after deadline	\$2,000
Beyond 60 th day after deadline	\$3,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

F. Non-Compliance with Requirements for NO_x Emission Reductions from Heaters and Boilers: Section VI.F.

241. For failure to install Qualifying Controls on heaters and boilers and/or to submit permit applications sufficient to comply with the requirements of Section VI.F., per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 625
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,500 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

242. For failure to comply with the applicable monitoring requirements as set forth in Paragraphs 47 and 48, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,000
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

243. For failure to submit any written deliverable required by Section VI.F., per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 200
31 st through 60 th day after deadline	\$ 500
Beyond 60 th day after deadline	\$1,000 or an amount equal to 1.2 times the economic benefit of delayed compliance whichever is greater. See Paragraph 227.

G. Non-Compliance with Requirements for SO₂ Emission Reductions from and NSPS Applicability to Heaters and Boilers and Other Specified Equipment: Section VI.G.

244. a. For burning any fuel gas that contains H₂S in excess of the applicable requirements of NSPS Subparts A and J in one or more heaters or boilers or other specified equipment listed in Appendix C or D after the date set forth in this Consent Decree on which the

respective unit becomes an “affected facility,” as defined in 40 C.F.R. § 60.2 subject to NSPS

Subparts A and J, per event, per day in a calendar quarter:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 st through 30 th day	\$2,500
Beyond 31 st day	\$3,750 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

b. For failure to comply with the monitoring requirements of NSPS Subparts A and J of Section VI.G:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance whichever is greater. See Paragraph 227.

245. For burning Fuel Oil in a manner inconsistent with the requirements of Paragraph 54, per unit, per day:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 st through 30 th day	\$1,750
Beyond 31 st day	\$5,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

H. Non-Compliance with Requirements for Sulfur Recovery Plants: Section VI.H.

246. For failure to route all sulfur pit emissions in accordance with the requirements of Paragraph 61, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day	\$1,000
31 st through 60 th day	\$1,750
Beyond 60 th day	\$4,000 or an amount equal to 1.2 times the economic benefit of delayed compliance

whichever is greater. See Paragraph 227.

247. For failure to comply with the NSPS Subpart J emission limits, including interim performance standards, at the FRI or FEDRC SRPs, per unit, per day in a calendar quarter:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day	\$1,000
31 st through 60 th day	\$2,000
Beyond 60 th day	\$3,000 or an amount equal to 1.2 times the economic benefit of delayed compliance whichever is greater. See Paragraph 227.

248. For failure to comply with the monitoring requirements of Subparagraph 57.b., 58.a., and 59.a. per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000

249. For failure to complete an Optimization Study, Paragraph 58.b., 59.b., and 60, at the Covered Refineries, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000

250. For failure to develop and comply with the Preventive Maintenance and Operation Plan as specified in Paragraph 62, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000

251. For failure to provide any written deliverable required by Section VI.H., other

than the Optimization Studies and the PMO Plans, for which this Paragraph 251 shall apply in lieu of any other potentially applicable stipulated penalties for late deliverables required by Section VI.H., per deliverable, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 200
31 st through 60 th day after deadline	\$ 500
Beyond 60 th day after deadline	\$1,000

I. Non-Compliance with Requirements for Hydrocarbon Flaring: Section VI.I.

252. For failure to comply with NSPS Subpart J at the flares listed on Appendix G after the date on which FRI and/or FEDRC, as appropriate, has accepted NSPS applicability for the relevant flare as set forth in Paragraph 65:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000

253. For failure to submit the NSPS Subpart J compliance report required by Paragraph 85:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 500
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$2,000

J. Non-Compliance with Requirements for Control of Acid Gas Flaring Incidents and Tail Gas Incidents: Section VI.J.

254. For AG Flaring Incidents and/or Tail Gas Incidents for which Section VI.J. makes FRI and/or FEDRC, as appropriate, liable for stipulated penalties:

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

For purposes of calculating stipulated penalties pursuant to this Paragraph, 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 \$1,200)]. For purposes of determining which column in the table set forth in this Paragraph

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 (a) starts at 1:00 p.m. on Day 1 and ends at 1:30 p.m. on Day 1; (b) recommences at 4:00 p.m. on Day 1 and ends at 4:30 p.m. on Day 1; (c) recommences at 1:00 a.m. on Day 2 and ends at 1:30 a.m. on Day 2; and (d) 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.

K. Non-Compliance with Requirements for Acid Gas, Tail Gas, and Hydrocarbon Flaring Incidents, Sections VI. I., VI.J. and VI. K.

255. For failure to timely submit any report required by Sections VI.I., VI.J., or VI.K., or for submitting any report that does not substantially conform to the applicable requirements:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 750
31 st through 60 th day after deadline	\$1,500
Beyond 60 th day after deadline	\$3,000

256. For those corrective action(s) with respect to Acid Gas Flaring, Tail Gas Incidents, or Hydrocarbon Flaring which FRI and/or FEDRC, as appropriate: (a) agrees to undertake following receipt of an objection by EPA pursuant to Paragraph 72.a and 72.b.; or (b) is required to undertake following dispute resolution, then, from the date of EPA’s receipt of the report from FRI and/or FEDRC, as appropriate, under Paragraph 71 of this Consent Decree until

the date that either: (c) a final agreement is reached between EPA and FRI and/or FEDRC, as appropriate, regarding the corrective action; or (d) a court order regarding the corrective action is entered, FRI and/or FEDRC, as applicable, shall be liable for stipulated penalties as follows:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 120 th day	\$ 50
121 st through 180 th day	\$ 100
181 st through 365 th day	\$ 300
Over 365 Days	\$3,000; or 1.2 times the economic benefit resulting from failure to implement the corrective action(s). See Paragraph 227.

257. For failure to complete any corrective action with respect to Acid Gas Flaring, Tail Gas Incidents, or Hydrocarbon Flaring under Paragraph 72 of this Consent Decree in accordance with the schedule for such corrective action agreed to by FRI and/or FEDRC, as appropriate, or imposed on them pursuant to the dispute resolution provisions of this Consent Decree, Section XVII (Retention of Jurisdiction/Dispute Resolution) (with any such extensions thereto as to which EPA and FRI and/or FEDRC, as appropriate, agree in writing):

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day	\$1,000
31 st through 60 th day	\$2,000
Beyond 60 th day	\$5,000

258. For each failure to perform a Root Cause Analysis as required by Paragraph 71:

<u>Period of Delay or Non-Compliance</u>	<u>Penalty per day per Incident</u>
1st through 30th day	\$ 500
31st through 60th day	\$1,500
Beyond 60th day	\$2,000 or 1.2 times the economic benefit resulting from failure to implement the corrective action(s). See Paragraph 227.

L. Non-Compliance with Requirements for Benzene Waste NESHAP Program Enhancements: Section VI.L.

259. For failure to comply with the requirements of Paragraph 88, per day:

<u>Period of Delay</u>	<u>Penalty per day per Incident</u>
1st through 30th day	\$1,000
31st through 60th day	\$2,000
Beyond 60th day	\$3,000 or 1.2 times the economic benefit resulting from failure to implement the corrective action(s). See Paragraph 227.

260. For failure to complete the BWON Compliance Review and Verification Reports as required by Paragraph 90 and 91, and if necessary, Paragraphs 92 and 93 - \$5,000 per month, per refinery.

261. For failure to submit a plan that provides for actions necessary to correct non-compliance as required by Paragraphs 94 through 96, or for failure to implement the actions necessary to correct non-compliance and to certify compliance as required by Paragraph 97, per refinery:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$1,250
31 st through 60 th day after deadline	\$3,000
Beyond 60 th day after deadline	\$5,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

262. For failure to comply with the requirements set forth in Paragraphs 98 - 107 for use, monitoring and replacement of carbon canisters - \$1,000 per incident of non-compliance, per day.

263. For failure to submit or maintain any records or materials required by Paragraph

108 of this Consent Decree, \$2,000 per record or submission.

264. For failure to establish an annual review program to identify new benzene waste streams as required by Paragraph 109 - \$2,500 per month, per refinery.

265. For failure to perform laboratory audits as required by Paragraphs 110 -113 - \$5,000 per month, per audit.

266. For failure to implement the training requirements as set forth in Paragraphs 115 - 117 - \$10,000 per quarter, per Covered Refinery.

267. For failure to install controls on waste management units handling organic wastes as required by Paragraphs 119 - \$10,000 per month per waste management unit.

268. For failure to submit any plans or other deliverables required by Paragraphs 121 - 133, Section VI.L., or for failure to comply with the requirements of Paragraph 134 for, where applicable, retaining third party assistance - \$5,000 per month, per refinery.

269. For failure to conduct sampling in accordance with the sampling plans required by Paragraphs 123 - 128 - \$250 per week, per waste stream or \$15,000 per quarter, per stream, whichever is greater, but not to exceed \$75,000 per quarter, per refinery.

270. For failure to conduct monthly visual inspections of all Subpart FF water traps as required by Paragraph 135.a.(i) - \$500 per drain not inspected.

271. For failure to identify/mark segregated storm water drains as required in Subparagraph 135.b. - \$1,000 per week, per drain.

272. For failure to monitor Subpart FF conservation vents as required by Subparagraph 135.a.(ii.) - \$500 per vent not monitored.

273. For failure to conduct monitoring of oil-water separators as required by Paragraph 135.a.(iii.) - \$1,000 per month, per unit.

274. For failure to submit the written deliverables required by Paragraphs 136 and 137 - \$1,000 per week, per deliverable.

275. If it is determined through federal, state, or local investigation that any Covered Refinery has failed to include all benzene waste streams in its TAB calculation submitted pursuant to Section VI.L., FRI and/or FEDRC, as appropriate, shall pay the following, per waste stream:

<u>Waste Stream</u>	<u>Penalty</u>
for waste streams < 0.03 Mg/yr	\$ 250
for waste streams between 0.03 and 0.1 Mg/yr	\$ 1,000
for waste streams between 0.1 and 0.5 Mg/yr	\$ 5,000
for waste streams > 0.5 Mg/yr	\$10,000

M. Non-Compliance with Requirements for Leak Detection and Repair Program Enhancements: Section VI.M.

276. For failure to develop an LDAR Program as required by Paragraph 144 - \$3,500 per week, per refinery.

277. For failure to implement the training programs specified in Paragraph 146 - \$10,000 per month, per program, per refinery.

278. For failure to conduct any of the audits required by Paragraph 147 - 151 - \$5,000 per month, per audit.

279. For failure to implement any actions necessary to correct non-compliance as required by Paragraph 152:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$1,250

31 st through 60 th day after deadline	\$3,000
Beyond 60 th day after deadline	\$5,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater. See Paragraph 227.

280. For failure to submit a plan within ninety (90) days after Date of Entry of this Consent Decree according to Paragraph 143, for FEDRC to comply with the requirements of 40 C.F.R. Part 60, Subpart GGG and Section VI.M., including interim milestone dates, designed to achieve full compliance within two years after the Date of Entry of this Consent Decree - \$1,000 per week.

281. Failure to comply with the requirements of 40 C.F.R. Part 60, Subpart GGG, and the requirements of Section VI.M., after the Date of Entry for FRI, and within two years after the Date of Entry of this Consent Decree for FEDRC:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1st through 30th day	\$ 625
31st through 60th day	\$1,500
Beyond 60th day	\$2,500 or an amount equal to 1.2 times the economic benefit of delayed compliance whichever is greater. See Paragraph 227.

282. For failure to perform monitoring utilizing the lower internal leak rate definitions as specified in Paragraph 153 - \$100 per component, but not greater than \$10,000 per month, per process unit.

283. For failure to repair and re-monitor leaks, as required by Paragraph 155, in excess of the lower leak definitions specified in Paragraph 153, or for the failure to repair leaks identified by optical imaging under Paragraph 157.b., if required - \$500 per component, but not greater than \$10,000 per month, per refinery.

284. For failure to implement the “initial attempt” repair program in Paragraph 157, if required: \$100 per valve, but not greater than \$10,000 per month, per refinery.

285. For failure to implement optical imaging according to Subparagraph 157.b., if required - \$10,000 per month, per refinery.

286. For failure to implement the quarterly QA/QC procedures described in Paragraph 162 - \$5,000 per month, per refinery.

287. For failure to implement and comply with the LDAR monitoring program as required by Paragraphs 158 and 159 - \$100 per component, but not greater than \$10,000 per month, per unit.

288. For failure to use data loggers or maintain electronic data as required by Paragraph 160 - 161 - \$5,000 per month, per refinery.

289. For failure to designate and/or maintain an individual as accountable for LDAR performance as required in Paragraph 163, or for failure to implement the maintenance tracking program in Paragraphs 164 - \$3,750 per week, per refinery.

290. For failure to conduct the calibration drift assessments or re-monitor valves and pumps based on calibration drift assessments in Paragraph 165 - 166 - \$100 per missed event, per refinery.

291. For failure to comply with the requirements for repair set forth at Paragraphs 167, 168, and 169 - \$5,000 per valve or pump, per incident of non-compliance.

292. For failure to submit any written deliverables required by Paragraphs 170 and 171 - \$1,000 per week, per report.

293. If it is determined through a federal, state, or local investigation that FRI and/or FEDRC, as appropriate, has failed to include all valves and pumps in its LDAR program, FRI and/or FEDRC, as appropriate, shall pay \$350 per component that it failed to include. If FRI and/or FEDRC, as appropriate, determine that it (they) has failed to include all valves and pumps in its LDAR program, FRI and/or FEDRC, as appropriate, shall pay \$175 per component that it failed to include.

294. For failure to perform Method 21 monitoring as evidenced by a ratio of leak rates in excess of 3.0%, determined according to Paragraphs 152 and 157:

- a. For ratios greater than 3.0% and less than or equal to 4.0% - \$15,000 per process unit;
- b. For ratios greater than 4.0% and less than or equal to 5.0% - \$30,000 per process unit;
- c. For ratios greater than 5.0% and less than or equal to 6.0% - \$45,000 per process unit; and
- d. For ratios greater than 6.0% - \$60,000 per process unit.

N. **Non-Compliance with Requirements for Reporting and Record Keeping: Section XI.**

295. For failure to submit reports as required by Section XI., per report, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$ 300
31 st through 60 th day after deadline	\$1,000
Beyond 60 th day after deadline	\$2,000

O. Non-Compliance with Requirements for Payment of Civil Penalties: Section XII.

296. For failure to pay the civil penalties as specified in Section XII. of this Consent Decree, FRI and/or FEDRC, as appropriate, shall be liable for \$10,000 per day plus interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

P. Non-Compliance with Requirement to Pay Stipulated Penalties: Section XIII.

297. For failure to pay stipulated penalties as required by Section XIII. of this Consent Decree, FRI and/or FEDRC, as appropriate, shall be liable for \$2,500 per day, and interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

Q. Failure To Implement SEPs: Section VII.

298. For an inadequate SEP work plan under Paragraph 200, for failure to implement any SEP in accordance with the approved schedule under Paragraph 203, or for failure to make the reports required under Paragraph 205 of this Consent Decree, FRI and/or FEDRC, as applicable, shall be liable for \$2,500 per day, and interest on the amount due at the rate specified in 28 U.S.C. § 1961(a).

R. Failure To Conduct CERCLA/EPCRA Compliance Review.

299. FEDRC shall be liable for stipulated penalties in the amount set forth below, for failure to timely and adequately comply with the requirements of Paragraphs 172. The following stipulated penalty shall accrue for failure to submit an adequate report within the time frame described in Paragraphs 172.

<u>Period</u>	<u>Penalty per day</u>
1st through 30th day	\$250
31st through 60th day	\$1,000

Beyond 60th day \$2,000

S. Failure To Perform Continuous Release Review

300. FEDRC shall be liable for stipulated penalties in the amount set forth below, for failure to timely and adequately comply with the requirements of Paragraph 173:

<u>Period</u>	<u>Penalty per day</u>
1st through 30th day	\$ 250
31st through 60th day	\$1,000
Beyond 60th day	\$2,000

T. Failure To Incorporate Consent Decree Requirements Into Permits.

301. For Failure to incorporate Consent Decree requirements into relevant local, state and/or federal permits, FRI and FEDRC, as appropriate, shall be liable for \$2,500 per day, and interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

U. FEDRC Reciprocating Internal Combustion Engine J-2001E.

302. For failure to comply with the permitting requirements of Section VI.O. of this Consent Decree:

<u>Period</u>	<u>Penalty per day</u>
1st through 30th day	\$1,250
31st through 60th day	\$3,000
Beyond 60th day	\$5,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater

303. [RESERVED]

V. Non-Compliance with Requirements for Risk Management Program for the El Dorado Refinery

304. For each failure to comply with the requirements of Paragraph 177 and Paragraphs 183 through 187 of this Consent Decree:

<u>Period</u>	<u>Penalty per day</u>
1st through 30th day	\$ 750
Beyond 30th day	\$1500

305. For failure to meet the requirements of Paragraphs 178 through 182 above, upon voluntary disclosure by FEDRC, or notification by EPA of the non-compliance, FEDRC shall have forty-five (45) days from the date of disclosure or notification to either cure the non-compliance(s), or request an extension to cure from EPA. If FEDRC believes that it will take more than forty-five (45) days to come into compliance with requirements, FEDRC shall provide notice pursuant to Section XIX. (General Provisions), Paragraph 356 (Notice) and a proposed schedule and description of the work to be undertaken. EPA shall either approve the schedule submitted by FEDRC or seek to resolve any differences through the dispute resolution provisions of this Consent Decree, Section XVII. (Retention of Jurisdiction/Dispute Resolution) . Should FEDRC fail to either cure the non-compliance(s) or request an extension within forty-five (45) days, FEDRC will be subject to a stipulated penalty of \$750/day starting the forty-sixth (46th) day after the non-compliance(s) is disclosed or notification is made by EPA until all non-compliance(s) are cured.

W. Non-Compliance with Any Decree Requirement Not Specifically Identified in Section XIII. A - V.

306. For any term, condition or requirement of this Decree for which a specific penalty is not provided in Section XIII.A. - V., \$200 per day, per violation.

X. Payment of Stipulated Penalties.

307. FRI and/or FEDRC, as appropriate, shall pay stipulated penalties upon written demand by the United States, or the Applicable Intervenor, no later than sixty (60) days after either receives such demand. Demand from one agency shall be deemed a demand from all applicable agencies, but the agencies shall consult with each other prior to making a demand. Stipulated penalties owed by FRI and/or FEDRC shall be paid 50% to the United States and 50% to the Applicable Intervenor. Stipulated penalties shall be paid to the United States and Applicable Intervenor in the manner set forth in Section XII. (Civil Penalty) of this Consent Decree. A demand for the payment of stipulated penalties shall identify the particular violation(s) to which the stipulated penalty relates, the stipulated penalty amount that EPA or the Applicable Intervenor is demanding for each violation (as can be best estimated), the calculation method underlying the demand, and the grounds upon which the demand is based. After consultation with each other, the United States and the Applicable Intervenor may, in their unreviewable discretion, waive payment of any portion of stipulated penalties that may accrue under this Consent Decree.

308. Stipulated Penalties Dispute. Should FRI or FEDRC dispute the United States' and/or an Intervenor's demand for all or part of a stipulated penalty, it may avoid the imposition of a stipulated penalty for failure to pay a stipulated penalty under Paragraph 307 by placing the disputed amount demanded in a commercial escrow account pending resolution of the matter and by invoking the dispute resolution provisions of Section XVII. (Retention of Jurisdiction/Dispute Resolution) within the time provided in Paragraph 307 for payment of stipulated penalties. If the dispute is thereafter resolved in favor of FRI or FEDRC, the escrow amount plus accrued interest

shall be returned; otherwise, EPA and the Applicable Intervenor shall be entitled to the amount that was determined to be due by the Court, plus the interest that has accrued in the escrow account on such amount. The United States and the Intervenors reserve the right to pursue any other non-monetary remedies to which they are legally entitled, including but not limited to, injunctive relief for violations of this Consent Decree.

XIV. INTEREST

309. FRI and FEDRC shall be liable for interest on the unpaid balance of the civil penalty specified in Section XII. (Civil Penalty), and for interest on any unpaid balance of stipulated penalties to be paid in accordance with Section XIII. 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 this Consent Decree. Interest shall be computed daily and compounded annually. Interest shall be calculated from the date payment is due under this Consent Decree through the date of actual payment. For purposes of this Paragraph 309, interest pursuant to this Paragraph shall cease to accrue on the amount of any stipulated penalty payment made into an interest bearing escrow account as contemplated by Paragraph 308 of this Consent Decree. Monies timely paid into escrow shall not be considered to be an unpaid balance under this Section.

XV. RIGHT OF ENTRY

310. Any authorized representative of EPA or the Applicable Intervenor, including independent contractors, upon presentation of credentials, shall have a right of entry upon the premises of the facilities of the Covered Refineries at any reasonable time for the purpose of

monitoring compliance with the provisions of this Consent Decree, including inspecting plant equipment and systems, and, except for privileged documents, inspecting and copying all records maintained by FRI and/or FEDRC required by this Consent Decree or deemed necessary by EPA or the Applicable Intervenor to verify compliance with this Consent Decree. FRI and/or FEDRC shall retain such records for the period of this Consent Decree. Nothing in this Consent Decree shall limit the authority of EPA or the Applicable Intervenor to conduct tests, inspections, or other activities under any statutory or regulatory provision.

XVI. FORCE MAJEURE

311. If any event occurs or fails to occur that causes or may cause a delay or impediment to performance in complying with any provision of this Consent Decree, the Covered Refinery shall notify EPA and the Applicable Intervenor pursuant to Section XIX. (General Provisions), Paragraph 356 (Notice) in writing as soon as practicable, but in any event within twenty (20) business days of the date when the Covered Refinery first knew of the event or should have known of the event by the exercise of due diligence. In this notice, the Covered Refinery shall specifically reference this Paragraph 311 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 the Covered Refinery to prevent or minimize the delay and the schedule by which those measures shall be implemented. The Covered Refinery shall take all reasonable steps to avoid or minimize such delays. The notice required by this Section shall be effective upon the mailing of the same by certified mail, return receipt requested, to the applicable state and federal representatives specified in Section XIX. (General Provisions),

Paragraph 356 (Notice).

312. Failure by FRI and FEDRC to substantially comply with the notice requirements of Section XIX. (General Provisions), Paragraph 356 (Notice) as specified above shall render this Section XVI. (Force Majeure) voidable by the United States, in consultation with the Applicable Intervenor, as to the specific event for which a Covered Refinery has failed to comply with such notice requirement, and, if voided, is of no effect as to the particular event involved.

313. The United States, after consultation with the Applicable Intervenor, shall notify the Covered Refinery 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 Section XIX. (General Provisions), Paragraph 356 (Notice).

314. If the United States, after consultation with the Applicable Intervenor, agrees that the delay or impediment to performance has been or shall be caused by circumstances beyond the control of the Covered Refinery including any entity controlled by that refinery and that Covered Refinery could not have prevented the delay by the exercise of due diligence, the appropriate Parties shall stipulate in writing 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 treated as a non-material modification to this Consent Decree pursuant to the modification procedures established in this Consent Decree. The Covered Refinery shall not be liable for stipulated penalties for the period of any such delay.

315. If the United States, after consultation with the Applicable Intervenor, does not

accept the Covered Refinery's claim of a delay or impediment to performance, the Covered Refinery 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 the Covered Refinery has submitted this matter to the Court, the United States and the Applicable Intervenor shall have twenty (20) business days to file their responses to the petition. If the Court determines that the delay or impediment to performance has been or shall be caused by circumstances beyond the control of the Covered Refinery including any entity controlled by that refinery and that the delay could not have been prevented by the exercise of due diligence, the Covered Refinery 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.

316. The Covered Refinery shall bear the burden of proving that any delay of any requirement(s) of this Consent Decree was caused by or shall be caused by circumstances beyond its/their control, including any entity controlled by it, and that it could not have prevented the delay by the exercise of due diligence. The Covered Refinery 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 shall not necessarily result in an extension of a subsequent compliance date or dates.

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

318. Notwithstanding any other provision of this Consent Decree, the Court shall not

draw any inferences nor establish any presumptions adverse to any Party as a result of the Covered Refinery serving a force majeure notice or the Parties' inability to reach agreement.

319. As part of the resolution of any matter submitted to the Court under this Section XVI., the appropriate Parties by agreement, or the 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 any delay or impediment to performance agreed to by the United States or approved by the Court. The Covered Refinery shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule.

XVII. RETENTION OF JURISDICTION/DISPUTE RESOLUTION

320. This Court shall retain jurisdiction of this matter for the purposes of implementing and enforcing the terms and conditions of this Consent Decree and for the purpose of adjudicating all disputes (including, but not limited to, determinations under Section VI. (Affirmative Relief) of this Consent Decree) between the United States and the Applicable Intervenor and FRI and FEDRC that may arise under the provisions of this Consent Decree, until this Consent Decree terminates in accordance with Section XX. of this Consent Decree (Termination).

321. The dispute resolution procedure set forth in this Section XVII. shall be available to resolve any and all disputes arising under this Consent Decree, including assertion of commercial unavailability under Paragraph 215 of this Consent Decree, provided that the Party making such application has made a good faith attempt to resolve the matter with the other Party.

322. The dispute resolution procedure required herein shall be invoked upon the giving

of written notice pursuant to Section XIX. (General Provisions), Paragraph 356 (Notice) by one of the Parties to this Consent Decree to another advising the other appropriate Party(ies) of a dispute pursuant to this Section XVII. The notice shall describe the nature of the dispute, and shall state the noticing Party's position with regard to such dispute.

323. 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 ninety (90) calendar days from the date of the first meeting between representatives of the Parties, unless it is agreed that this period should be extended.

324. In the event that the Parties are unable to reach agreement during such informal negotiation period, the United States or the Applicable Intervenor, as applicable, shall provide FRI and/or FEDRC, as appropriate, with a written summary of its position regarding the dispute. The position advanced by the United States or the Applicable Intervenor shall be considered binding unless, within forty-five (45) calendar days of receipt of the written summary of the United States' or the Applicable Intervenor's position, FRI or, as appropriate, FEDRC files with the Court a petition which describes the nature of the dispute. The United States or the Applicable Intervenor shall respond to the petition within forty-five (45) calendar days of filing. In resolving the dispute between the parties, the position of the United States and the Applicable Intervenor shall be upheld if supported by substantial evidence in the administrative record.

325. In the event that the United States and the Applicable Intervenor make differing determinations or take differing actions that affect the rights or obligations of FRI or FEDRC under this Consent Decree, the final decisions of the United States shall take precedence.

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

327. The Parties do not intend that the invocation of this Section XVII. by a Party shall cause the Court to draw any inferences nor establish any presumptions adverse to either Party as a result of invocation of this Section.

328. 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. FRI, or as appropriate, FEDRC shall be liable for stipulated penalties for their failure thereafter to complete the work in accordance with the extended or modified schedule.

XVIII. EFFECT OF SETTLEMENT

329. For purposes of this Section XVIII. (Effect of Settlement), the following definitions apply:

- a. **“Applicable NSR/PSD Requirements”** shall mean: PSD requirements at Part C of Subchapter I of the Act, 42 U.S.C. § 7475, and the regulations promulgated thereunder at 40 C.F.R. §§ 52.21 and 51.166; the portions of the applicable SIPs and related rules adopted as required by 40 C.F.R. §§ 51.165 and 51.166; “Plan Requirements for Non-Attainment Areas” at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7502-7503, and the regulations promulgated thereunder at 40 C.F.R. §§ 51.165 (a) and (b), 40 C.F.R.

Part 51, Appendix S, and 40 C.F.R. § 52.24, and any CAA Title V regulations that implement, adopt or incorporate the specific regulatory requirements identified above; any applicable, federally-enforceable state or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified above, and any Title V permit provisions that implement, adopt or incorporate the specific regulatory requirements identified above; and any applicable state or local regulations enforceable by the Applicable Intervenor that implement, adopt, or incorporate the specific federal regulatory requirements identified above.

b. **“Applicable NSPS Subparts A and J Requirements”** shall mean the standards, monitoring, testing, reporting and record keeping requirements, found at 40 C.F.R. §§ 60.100 through 60.109 (Subpart J), relating to a particular pollutant and a particular “affected facility,” and the corollary general requirements found at 40 C.F.R. §§ 60.1 through 60.19 (Subpart A) that are applicable to any “affected facility,” as defined in 40 C.F.R. § 60.2, covered by Subpart J.

c. **“Post-Lodging Compliance Dates”** shall mean any dates in this Section XVIII. (Effect of Settlement) after the Date of Lodging. Post-Lodging Compliance Dates include dates certain (e.g., “December 31, 2008”), dates after Lodging represented in terms of “months after Lodging” (e.g., “Twelve Months after the Date of Lodging”), and dates after Lodging represented by actions taken (e.g., “Date of Certification”). The Post-Lodging Compliance Dates represent the dates by which work is required to be completed or an emission limit is required to be met under the applicable provisions of

this Consent Decree.

330. Resolution of Liability Regarding the Applicable NSR/PSD Requirements. With respect to emissions of the following pollutants from the following units, entry of this Consent Decree shall resolve all civil liability of FRI and FEDRC to the United States and each Intervenor for violations of the Applicable NSR/PSD Requirements resulting from pre-Lodging construction or modification. Relief from these pre-Lodging violations is provided up through the following

dates:

<u>Refinery/Unit</u>	<u>Pollutant</u>	<u>Date</u>
FRI FCCU	NO _x	December 31, 2015 (or December 31, 2010 if ¶13 option applies)
	SO ₂	September 30, 2015 (or December 31, 2010 if ¶21 option applies)
	CO	Date of Entry
FEDRC FCCU	NO _x	December 31, 2013
	SO ₂	December 31, 2009
	CO	December 31, 2009
	PM	December 31, 2009
<u>Heaters & Boilers</u>	<u>Pollutant</u>	<u>Date</u>
Heaters and boilers on which Qualifying Controls are installed and which are used to satisfy the requirements of ¶ 42	NO _x	Later of Date of Lodging or date of installation of Qualifying Controls
	SO ₂	
All other heaters and boilers	NO _x SO ₂	Date of Lodging or Appendix C dates if other than Date of Lodging

331. Resolution of Liability at FRI for PM Emissions Under the Applicable NSR/PSD Requirements. With respect to emissions of PM from the FCCU at FRI, if and when FRI accepts an emission limit of 0.50 pound PM per 1000 pounds of coke burned on a 3-hour average basis, Paragraph 28 of this Consent Decree, and demonstrates compliance by conducting a 3-hour performance test representative of normal operating conditions for PM emissions at FRI, then all civil liability of FRI to the United States and the Applicable Intervenor shall be resolved for violations of the Applicable NSR/PSD Requirements relating to PM emissions at FRI resulting from pre-Lodging construction or modification of FRI's FCCU.

332. Reservation of Rights: Release for Violations Continuing After the Date of Lodging Can Be Rendered Void. Notwithstanding the resolution of liability in Paragraphs 330 - 331, the releases of liability by the United States and the Applicable Intervenor for violations of the Applicable NSR/PSD Requirements during the period between the Date of Lodging of this Consent Decree and the Post-Lodging Compliance Dates shall be rendered void if FRI or FEDRC materially fail to comply with any of the corresponding obligations and requirements of Section VI.A. to VI.E. (relating to FCCUs) or Sections VI.F. and VI.G. (relating to heaters and boilers) of this Consent Decree; provided, however, that the releases in Paragraphs 330 - 331 shall not be rendered void if the Covered Refinery remedies such material failure and pays any stipulated penalties due as a result of such material failure.

333. Exclusions from Release Coverage Regarding Applicable NSR/PSD Requirements. Construction and/or Modification Not Covered by Paragraphs 330 - 331. Notwithstanding the resolution of liability in Paragraphs 330 - 331, nothing in this Consent

Decree precludes the United States and/or the Applicable Intervenor from seeking from the Covered Refinery injunctive relief, penalties, or other appropriate relief for violations by the Covered Refinery of the Applicable NSR/PSD Requirements resulting from: (a) construction or modification that commenced prior to the Date of Lodging of this Consent Decree, if the resulting violations relate to pollutants or units not covered by this Consent Decree; or (b) any construction or modification that commences after the Date of Lodging of this Consent Decree.

334. Evaluation of Applicable NSR/PSD Requirements Must Occur. Increases in emissions from units covered by this Consent Decree, where the increases result from the Post-Lodging construction or modification of any units within the Covered Refineries, are beyond the scope of the release in Paragraphs 330 - 331, and FRI and/or FEDRC, as appropriate, must evaluate any such increases in accordance with the Applicable NSR/PSD Requirements.

335. Resolution of Liability Regarding Applicable NSPS Subparts A and J Requirements. With respect to emissions of the following pollutants from the following units, entry of this Consent Decree shall resolve all civil liability of the Covered Refinery to the United States and the Applicable Intervenor for violations of the Applicable NSPS Subparts A and J Requirements from the date that the claims of the United States and the Applicable Intervenor accrued up to the following dates:

<u>Unit</u>	<u>Pollutant</u>	<u>Date</u>
FRI FCCU	SO ₂	September 30, 2015
	CO	Date of Entry
	PM and Opacity	September 30, 2015
FEDRC FCCU	SO ₂	December 31, 2009
	CO	December 31, 2009

	PM and Opacity	December 31, 2009
All heaters and boilers	SO ₂	Date of Lodging or Dates set forth in Appendix C if other than Date of Lodging
Other specified equipment listed in Appendix D	SO ₂	Dates set forth in Appendix D
All Flaring Devices listed in Appendices E & G	SO ₂	Date of Entry or dates set forth in Appendices E & G if other than Date of Entry
Sulfur Recovery Plants	SO ₂	Date of Lodging

336. Reservation of Rights Regarding Applicable NSPS Subparts A and J

Requirements - Release for NSPS Violations Occurring After the Date of Lodging Can Be

Rendered Void. Notwithstanding the resolution of liability in Paragraph 335, the release of

liability by the United States and the Applicable Intervenor for violations of any Applicable

NSPS Subparts A and J Requirements that occurred between the Date of Lodging of this Consent

Decree and the Post-Lodging Compliance Dates shall be rendered void if the Covered Refinery

materially fails to comply with any of the corresponding obligations and requirements of

Sections VI.E. through VI.K of this Consent Decree; provided, however, that the release in

Paragraph 335 shall not be rendered void if the Covered Refinery remedies such material failure

and pays any stipulated penalties due as a result of such material failure.

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

338. Resolution of Liability Regarding Benzene Waste NESHAP Requirements. Entry of this Consent Decree shall resolve all civil liability of the Covered Refinery to the United States and the Applicable Intervenor for violations of the statutory and regulatory requirements set forth below in Subparagraphs a. through c. (the “BWON Requirements”) that commenced and ceased prior to the Date of Entry of this Consent Decree and commenced prior to the Date of Entry of this Consent Decree and/or continued past the Date of Entry, provided that the events giving rise to such post-Entry violations are identified by the Covered Refinery in its BWON Compliance Review and Verification Report(s) submitted pursuant to Paragraph 91 and corrected as required under Paragraphs 92 and 93.

- a. Benzene Waste NESHAP. The National Emission Standard for Benzene Waste Operations, 40 C.F.R. Part 61, Subpart FF, promulgated pursuant to Section 112(e) of the Act, 42 U.S.C. § 7412(e), including any federal regulation that adopts or incorporates the requirements of Subpart FF by express reference, but only to the extent of such adoption or incorporation; and
- b. Any applicable, federally-enforceable state or local regulations that implement, adopt, or incorporate the specific federal regulatory requirements identified in Paragraph 338.a; and
- c. Any applicable state or local regulations enforceable by the Intervenors that implement, adopt, or incorporate the specific federal regulatory requirements identified in Paragraph 338.a.

339. The release of liability in Paragraph 338.a - c shall be rendered void if the

Covered Refinery materially fails to comply with the corresponding obligations and requirements of Section VI.L. of this Consent Decree; provided, however, that the release in Paragraph 338.a - c shall not be rendered void if the Covered Refinery remedies such material failure and pays any stipulated penalties due as a result of such material failure.

340. Resolution of Liability Regarding LDAR Requirements. Entry of this Consent Decree shall resolve all civil liability of FRI and FEDRC to the United States and the Applicable Intervenor for violations of the statutory and regulatory requirements set forth below in Subparagraphs a through c. that commenced and ceased prior to the Date of Entry of this Consent Decree or commenced prior to the Date of Entry of this Consent Decree and continued past the Date of Entry, provided that the events giving rise to such post-Entry violations are identified by FRI and/or FEDRC, as appropriate, in its (their) Initial Third-Party Audit Report(s) submitted pursuant to Paragraph 148 and corrected as required under Paragraph 152:

- a. LDAR Requirements. For all equipment in light liquid service and gas and/or vapor service, the LDAR requirements of the Applicable Intervenor under state implementation plans adopted pursuant to the CAA or promulgated by EPA pursuant to Sections 111 and 112 of the CAA, and codified at 40 C.F.R. Part 60, Subparts VV and GGG; 40 C.F.R. Part 61, Subparts J and V; and 40 C.F.R. Part 63, Subparts F, H, and CC;
- b. Any applicable, federally-enforceable state or local regulations or permits that implement, adopt, or incorporate the specific regulatory requirements identified in Paragraph 340.a; and

c. Any state or local regulations or permits enforceable by the Applicable Intervenor that implement, adopt, or incorporate the specific regulatory requirements identified in Paragraph 340.a.

341. Reservation of Rights Regarding Benzene NESHAP and LDAR Requirements.

Notwithstanding the resolution of liability in Paragraphs 338 - 340, nothing in this Consent Decree precludes the United States and/or the Intervenor from seeking injunctive and/or other equitable relief or civil penalties for any violations by a Covered Refinery of the Benzene Waste NESHAP and/or LDAR requirements that:

- a. commenced prior to the Date of Entry of this Consent Decree and continued after the Date of Entry if the Covered Refinery fails to identify and address such violations as required by Paragraphs 94, 95, and 152 of this Consent Decree; or
- b. commenced after the Date of Entry of this Consent Decree.

342. Resolution of Liability Regarding CERCLA/EPCRA Reporting Requirements for Pre-Lodging Events.

a. Upon receipt by EPA and the Applicable Intervenor of the CERCLA/EPCRA Compliance Review Reports submitted by FEDRC and FRI pursuant to Paragraph 172.a. of this Consent Decree and a certification that the requirements of Paragraph 172.b. and c. have been completed, this Consent Decree shall resolve FRI and FEDRC of all civil liability to the United States and the Applicable Intervenor for all pre-Lodging events and associated violations of Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004, or similar or corresponding state reporting regulations, occurring before the Date of Entry of this Consent Decree, that FRI and

FEDRC have identified in their respective CERCLA/EPCRA Compliance Review Reports and corrected as set forth in Paragraph 172.

b. Upon receipt by EPA and the Kansas SERC of the Continuous Release Review Report submitted by FEDRC pursuant to Paragraph 173.a. of this Consent Decree and a certification that the requirements of Paragraph 173.b. and c. have been completed, this Consent Decree shall resolve FEDRC of all civil liability to the United States and the Applicable Intervenor for all pre-Lodging events and associated violations of Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004, or similar or corresponding state reporting regulations, occurring before the Date of Entry of this Consent Decree, that FEDRC has identified in its Continuous Release Review Report and corrected as set forth in Paragraph 173.

343. Resolution of Liability Regarding FEDRC Risk Management Program. Entry of this Consent Decree shall resolve FEDRC's civil liability to the United States for pre-Lodging violations under Section 112(r)(7) of the Clean Air Act, 42 U.S.C. § 7412(r)(7) and its implementing regulations at 40 C.F.R. Part 68 that EPA alleged in its complaint or that EPA could have alleged based on information: (a) disclosed by FEDRC to EPA during EPA's May 2006 inspection and related investigation of FEDRC; or (b) information contained in the "Clean Air Act Section 112(r) (RMP) Inspection Report" ("RMP Inspection Report") based on EPA's May 1, 2006 inspection of FEDRC and signed June 19, 2008 by EPA's contractor, Russell Seybert of McKinzie.

344. Audit Policy. Nothing in this Consent Decree is intended to limit or disqualify FEDRC or FRI, on the grounds that information was not discovered and supplied voluntarily,

from seeking to apply EPA's Audit Policy or any state or local audit policy to any violations or non-compliance that FEDRC or FRI discovers during the course of any investigation, audit, or enhanced monitoring that FEDRC or FRI is required to undertake pursuant to this Consent Decree.

345. Claim/Issue Preclusion. In any subsequent administrative or judicial proceeding initiated by the United States or the Applicable Intervenor for injunctive relief, penalties, or other appropriate relief relating to FRI and FEDRC for violations of any PSD/NSR, NSPS, NESHAP, and/or LDAR requirements not identified in Section XVIII. (Effect of Settlement) of this Consent Decree and/or the Complaint, FRI and FEDRC shall not:

- a. assert or may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, or claim-splitting; or
- b. assert or maintain, any other defenses based upon any contention that the claims raised by the United States or the Intervenor in the subsequent proceeding were or should have been brought in the instant case.

Nothing in this Paragraph 345.a. or 345.b. is intended to affect the ability of FRI or FEDRC to assert that the claims are deemed resolved by virtue of Section XVII. (Retention of Jurisdiction/Dispute Resolution) of this Consent Decree.

346. Except as set forth in Paragraph 345.b, above, the United States and the Intervenor may not assert or maintain that this Consent Decree constitutes a waiver or determination of, or otherwise obviates, any claim or defense whatsoever, or that this Consent Decree constitutes acceptance by FRI and FEDRC of any interpretation or guidance issued by

EPA related to the matters addressed in this Consent Decree.

347. Imminent and Substantial Endangerment. Nothing in this Consent Decree shall be construed to limit the authority of the United States and the Intervenors to undertake any action against any person, including FRI or FEDRC, to abate or correct conditions that may present an imminent and substantial endangerment to the public health, public welfare, or the environment.

XIX. GENERAL PROVISIONS

348. Other Laws. Except as specifically provided by this Consent Decree, nothing in this Consent Decree shall relieve FRI and FEDRC of their obligations to comply with all applicable federal, state, and local laws and regulations, including but not limited to more stringent standards and all state permitting requirements. In addition, nothing in this Consent Decree shall prohibit or prevent the United States or Intervenors from developing, implementing, and enforcing more stringent standards subsequent to the Date of Lodging of this Consent Decree through rulemaking, the permit process, or as otherwise authorized or required under federal, state, or local laws and regulations. Subject to Section XVIII. (Effect of Settlement) and Paragraphs 329 and 333 of this Consent Decree, nothing contained in this Consent Decree shall be construed to prevent or limit the rights of the United States or the Applicable Intervenor to seek or obtain other remedies or sanctions available under other federal, state, or local statutes or regulations, by virtue of FRI's or FEDRC's violation of this Consent Decree or of the statutes and regulations upon which this Consent Decree is based, or for violations of any applicable provision of law. This shall include the right of the United States or the Applicable Intervenor to

invoke the authority of the Court to order compliance with this Consent Decree in a subsequent contempt action. The requirements of this Consent Decree do not exempt FRI and FEDRC from complying with any and all new or modified federal, state, and/or local statutory or regulatory requirements that may require technology, equipment, monitoring, or other upgrades after the Date of Lodging of this Consent Decree. Except as otherwise expressly provided in this Consent Decree, nothing in this Consent Decree is intended to eliminate, limit or otherwise restrict any compliance options, exceptions, exclusions, waivers, variances, or other right otherwise provided or available to FRI and/or FEDRC, as appropriate, under any applicable statute, regulation, ordinance, regulatory or statutory determination, or permitting process.

a. Changes to Law. In the event that during the term of this Consent Decree there is a change in the statutes or regulations that provide the underlying basis for this Consent Decree such that FRI and/or FEDRC would not otherwise be required to perform any of the obligations herein, or would have the option to undertake or demonstrate compliance in an alternative or different manner, FRI and/or FEDRC may petition the Court for relief from any such requirements, in accordance with Rule 60 of the Federal Rules of Civil Procedure. However, if FRI and/or FEDRC applies to the Court for relief under this Paragraph, the United States and the Applicable Intervenor reserve the right to seek to void all or part of the resolution of liability reflected in Section XVIII (Effect of Settlement). Nothing in this Paragraph is intended to enlarge the Parties' rights under Rule 60, nor is this Paragraph intended to confer on any Party any independent basis, outside of Rule 60, for seeking such relief. This Paragraph 348.a does not apply to FRI's

and/or FEDRC's obligation to complete the environmentally beneficial projects referred to in Section VII of this Consent Decree.

349. Post-Permit Violations. Nothing in this Consent Decree shall be construed to prevent or limit the right of the United States or the Intervenors to seek injunctive or monetary relief for violations of limits that have been incorporated into permits pursuant to this Consent Decree; provided, however, that with respect to monetary relief, the United States and the Intervenors must elect between filing a new action for such monetary relief or seeking stipulated penalties under this Consent Decree, if stipulated penalties also are available for the alleged violation(s).

350. Failure of Compliance. The United States and the Intervenors do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that FRI's and FEDRC's complete compliance with this Consent Decree shall result in compliance with the provisions of the Act. Notwithstanding the review or approval by EPA or the Applicable Intervenor of any plans, reports, policies or procedures formulated pursuant to this Consent Decree, FRI and FEDRC shall remain solely responsible for compliance with the terms of this Consent Decree, except as provided in Section XVI. (Force Majeure), all applicable permits, and all applicable federal, state, and local laws and regulations.

a. Effect of Shutdown of Refinery or Source. The permanent shutdown of a unit and the surrender of all permits for that unit will be deemed to satisfy all requirements of this Consent Decree applicable to that unit on and after the later of: (i) the date of the shutdown of the unit; or (ii) the date of the surrender of all permits. The permanent

shutdown of a Refinery and the surrender of all air permits for that Refinery will be deemed to satisfy all requirements of this Consent Decree applicable to that Refinery on and after the later of: (i) the date of the shutdown of the Refinery; or (ii) the date of the surrender of all permits.

351. Service of Process. FRI and FEDRC hereby agree to accept service of process by mail with respect to all matters arising under or related to the Complaint 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. FRI, FEDRC, the United States, and the Applicable Intervenor hereby agree to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree. The persons identified by FRI, FEDRC, the United States, and the Applicable Intervenor in Section XIX. (General Provisions), Paragraph 356 (Notice) are authorized to accept service of process with respect to all matters arising under or relating to this Consent Decree.

352. Post-Lodging/Pre-Entry Obligations. Obligations of FRI and FEDRC under this Consent Decree to perform duties scheduled to occur after the Date of Lodging of this Consent Decree, but prior to the Date of Entry of this Consent Decree, shall be legally enforceable only on and after the Date of Entry of this 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 or the Applicable Intervenor as provided in this Consent Decree, provided that the stipulated penalties that may have accrued between the Date of Lodging of this Consent Decree and the Date of Entry of this Consent Decree may not be

collected unless and until this Consent Decree is entered by the Court.

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

354. Public Documents. All information and documents submitted by FRI and/or FEDRC to EPA and the Applicable Intervenor pursuant to this Consent Decree shall be subject to public inspection in accordance with the respective statutes and regulations that are applicable to EPA and the Applicable Intervenor, unless subject to legal privileges or protection or identified and supported as trade secrets or business confidential in accordance with the respective state or federal statutes or regulations. The Confidentiality Agreement, dated September 28, 2005, signed by FRI, FEDRC, the United States, and the Applicable Intervenor shall continue to apply to information and documents submitted in connection with the negotiations leading up to this Consent Decree.

355. Public Notice and Comment. The Parties agree to this Consent Decree and agree that this Consent Decree may be entered upon compliance with the public notice procedures set forth at 28 C.F.R. § 50.7, and upon notice to this Court from the United States Department of Justice requesting entry of this Consent Decree. The United States reserves the right to withdraw or withhold its consent to this Consent Decree if public comments disclose facts or considerations indicating that this Consent Decree is inappropriate, improper, or inadequate.

356. Notice. Unless otherwise provided herein, notifications to or communications between the Parties shall be deemed submitted on the date they are postmarked and sent by U.S. Mail, postage pre-paid, except for notices under Section XVI. (Force Majeure) and Section XVII. (Retention Jurisdiction/Dispute Resolution) which shall be sent by overnight mail or by

certified or registered mail, return receipt requested. Each report, study, notification or other communication from FRI and/or FEDRC, as appropriate, shall be submitted as specified in this Consent Decree, with copies to EPA Headquarters (except for RMP-related reports required under Section VI.P. of this Consent Decree) and the Applicable EPA Region and the Applicable Intervenor. If the date for submission of a report, study, notification or other communication falls on a Saturday, Sunday or legal holiday, the report, study, notification or other communication shall be deemed timely if it is submitted the next business day. 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 Applicable Intervenor, and FRI and/or FEDRC, as appropriate, shall be addressed as follows:

As to the United States:

Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, DC 20044-7611
Reference Case No. 90-5-2-1-08660

As to EPA Headquarters :

Director, Air Enforcement Division
Office of Civil Enforcement
U.S. Environmental Protection Agency
Mail Code 2242-A
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-0001

with a hard copy to:

Director, Air Enforcement Division
Office of Civil Enforcement
U.S. Environmental Protection Agency
c/o Matrix New World Engineering Inc.
120 Eagle Rock Ave., Suite 207
East Hannover, NJ 07936-3159

and an electronic copy to:

csullivan@matrixnewworld.com
foley.patrick@epa.gov

EPA Regions:

Region 7:

Chief
Air Permitting and Compliance Branch
EPA - R7
901 North 5th Street
Kansas City, Kansas 66101

for RMP EPCRA/CERCLA Items

Chief
Chemical Risk Information Branch
EPA-R7
901 North 5th Street
Kansas City, Kansas 66101

Region 8:

Air Director Technical Enforcement Program
Mail Code 8 ENF-T
Office of Enforcement, Compliance & Environmental Justice
USEPA Region 8
1595 Wynkoop St.
Denver, CO 80202-1129

Intervenors:

Kansas
Section Chief, Compliance and Enforcement Section

Bureau of Air and Radiation
Kansas Department of Health and Environment
1000 SW Jackson, Suite 310
Topeka, KS. 66612-1366

Wyoming

Wyoming Department of Environmental Quality
Air Quality Division
Herschler Building
122 W. 25th Street
Cheyenne, WY 82002

As to FRI:

All communications to FRI shall be addressed to:
Vice President - Refining, Refinery Manager
P.O. Box 1588
2700 E. 5th Street
Cheyenne, WY 82007

With a copy to:
Director of Environmental Compliance
4610 S. Ulster, Suite 200
Denver, CO 80237-4322

Vice President of Government Relations and Environmental Affairs
4610 S. Ulster, Suite 200
Denver, CO 80237-4322

Executive Vice President Refining and Marketing
4610 S. Ulster, Suite 200
Denver, CO 80237-4322

As to FEDRC:

All communications to FEDRC shall be addressed to:
Vice President - Refining, Refinery Manager
1401 S. Douglas Rd.
El Dorado, KS 67042

With a copy to:

Director of Environmental Compliance
4610 S. Ulster, Suite 200
Denver, CO 80237-4322

Vice President of Government Relations and Environmental Affairs
4610 S. Ulster, Suite 200
Denver, CO 80237-4322

Executive Vice President Refining and Marketing
4610 S. Ulster, Suite 200
Denver, CO 80237-4322

357. Any party may change either the notice recipient or the address for providing notices to it identified in Paragraph 356 (Notice) 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 this 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 EPA, but need not be filed with the Court to be effective.

358. Approvals. All requests to EPA for approvals or comments required under this Decree shall be in writing and shall be addressed to the appropriate EPA regional office. All requests for approvals to either Intervenor shall be sent to the offices identified in Paragraph 356 (Notice).

a. Opportunity for Comment by Intervenors. For all provisions of Part VI of this Consent Decree where EPA approval is required, the Applicable Intervenor is entitled to provide comments to and consult with EPA regarding the issue.

359. 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.

360. Modification. This 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 this Consent Decree shall not be used in any action involving the interpretation or enforcement of this Consent Decree. Non-material modifications to this Consent Decree shall be effective when signed by EPA and FRI and FEDRC. The United States shall file non-material modifications with the Court on a periodic basis. For purposes of this paragraph, non-material modifications include, but are not limited to, modifications to the frequency of reporting obligations and modifications to schedules that do not extend the date for compliance with emissions limitations following the installation of control equipment, provided that such changes are agreed upon in writing between EPA and FRI, or as appropriate, FEDRC. Material modifications to this Consent Decree shall be in writing, signed by EPA, the Applicable Intervenor, and FRI, or as appropriate, FEDRC, and shall be effective upon approval by the Court. Specific provisions in this Consent Decree that govern specific types of modifications shall be effective as set forth in the specific provision governing the modification.

XX. TERMINATION

361. This Consent Decree shall be subject to termination upon motion by the United States, FRI, or FEDRC under the conditions identified in this Paragraph. Prior to seeking termination, FRI and FEDRC must have completed and satisfied all of the following requirements of this Consent Decree:

- a. installation of control technology systems as specified in this Consent Decree;
- b. compliance with all provisions contained in this Consent Decree, which compliance may be established for specific parts of this Consent Decree in accordance with Paragraph 362 below;
- c. payment of all penalties and other monetary obligations due under the terms of this Consent Decree; no penalties or other monetary obligations due hereunder can be outstanding or owed to the United States or the Intervenors;
- d. application for and receipt of permits incorporating the surviving emission limits and standards established under Section VI (Affirmative Relief); and
- e. operation for at least one year of each unit in compliance with the emission limits established herein, and certification of such compliance for each unit within the first progress report following the conclusion of the compliance period.

362. Certification of Completion. Prior to moving for termination, FRI and FEDRC may certify completion for each Covered Refinery of one or more of the following parts of this Consent Decree, provided that all of the related requirements for that Covered Refinery have been satisfied:

- a. Sections VI.A through VI.E.- Fluid Catalytic Cracking Unit; and
- b. Sections VI.F. and VI.G – Heaters and Boilers (including operation of the relevant units for one year after completion in compliance with the emission limit set pursuant to this Consent Decree);

363. Within 90 days after FRI, or as appropriate, FEDRC concludes that any of the

parts of this Consent Decree identified Paragraph 362 a and b. have been completed for any one of the Covered Refineries, FRI, or as appropriate, FEDRC may submit a written report to EPA and the Applicable Intervenor describing the activities undertaken and certifying that the applicable Sections have been completed in full satisfaction of the requirements of this Consent Decree, and that FRI, or as appropriate, FEDRC is in substantial and material compliance with all of the other requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of FRI, or as appropriate, FEDRC:

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

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

a. If EPA concludes that the requirements have not been fully complied with, EPA shall notify FRI, or as appropriate, FEDRC as to the activities that must be undertaken to complete the applicable Paragraphs of this Consent Decree. FRI, or as appropriate, FEDRC shall perform all activities described in the notice, subject to its right to invoke

the dispute resolution procedures set forth in Section XVII. (Retention of Jurisdiction/Dispute Resolution).

b. If EPA concludes that the requirements of the applicable Paragraphs have been completed in accordance with this Consent Decree, EPA shall so certify in writing to FRI, or as appropriate, FEDRC. This certification shall constitute the certification of completion of the applicable Paragraphs for purposes of this Consent Decree.

c. Nothing in this Paragraph 364 shall preclude the United States or the Intervenors from seeking stipulated penalties for a violation of any of the requirements of this Consent Decree regardless of whether a Certification of Completion has been issued under this Paragraph 364 of this Consent Decree. In addition, nothing in this Paragraph 364 shall permit FRI or FEDRC to fail to implement any ongoing obligations under this Consent Decree regardless of whether a Certification of Completion has been issued with respect to this Paragraph 364 of this Consent Decree.

365. At such time as FRI, or as appropriate, FEDRC believes that it has satisfied the requirements for termination set forth in Paragraph 361.a - e., it/they shall certify such compliance and completion to the United States and the Intervenors in writing. Unless, within 120 days of receipt of FRI's, or as appropriate, FEDRC's certification under this Paragraph 365, either the United States or either Intervenor objects in writing with specific reasons, the Court may upon motion by FRI, or as appropriate, FEDRC order that this Consent Decree be terminated. If either the United States or any Intervenor objects to the certification then the matter shall be submitted to the Court for resolution under Section XVII. (Retention of

Jurisdiction/Dispute Resolution) of this Consent Decree. In such case, FRI, or as appropriate, FEDRC shall bear the burden of proving that this Consent Decree should be terminated.

XXI. SIGNATORIES

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

Dated and entered this _____ day of _____, 200__.

UNITED STATES DISTRICT JUDGE

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: 2/2/2009

JOHN CRUDEN
Acting Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice

Date: 2/5/2009

JOHN N. MOSCATO
Senior Counsel
Environmental Enforcement Section
Environment and Natural Resources
Division
United States Department of Justice
1961 Stout Street, 8th Floor
Denver, Colorado 80294

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7

**FOR THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY:**

Date: 1/30/09

~~CATHERINE R. McCABE~~
Acting Assistant Administrator
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

Date: 1/26/09

ADAM M. KUSHNER
Director, Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

Date: 1/28/09

MATTHEW W. MORRISON
Acting Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

Date: 1-26-09

JOHN FOGARTY
Senior Attorney, Air Enforcement Division
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

**FOR THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY,
REGION 7**

Date: Dec 29 2008

JOHN B. ASKEW
Regional Administrator
United States Environmental Protection Agency
Region 7
901 N. 5th Street
Kansas City, Kansas 66101

Date: Dec 23 2008

DAVID COZAD
Regional Counsel
United States Environmental Protection Agency
Region 7
901 N. 5th Street
Kansas City, Kansas, 66101

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

**FOR THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY,
REGION 8**

Date: Jan. 8, 2009

ANDREW M. GAYDOSH
Assistant Regional Administrator
Office of Enforcement, Compliance, and
Environmental Justice
United States Environmental Protection Agency
Region 8
1595 Wynkoop
Denver, Colorado 80202

WE HEREBY CONSENT to the entry of this Consent Decree in United States, et al. v. Frontier Refining, Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR INTERVENOR THE STATE OF KANSAS

Date: 1/15/09

Roderick L. Bremby, Secretary
Kansas Department of Health and Environment

Date: 1-15-09

Yvonne Anderson, Chief Legal Counsel
Kansas Department of Health and Environment

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR INTERVENOR THE STATE OF WYOMING

Date: 1/21/09

John Corra, Director
Wyoming Department of Environmental Quality

Date: 1/16/09

David Finley, Administrator
Air Quality Division
Wyoming Department of Environmental Quality

Date: January 12, 2009

Approved As to form
Nancy E. Vehr, Sr. Asst. Attorney General
Wyoming Attorney General's Office
Approved as to Form

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

**FOR DEFENDANT FRONTIER REFINING
INC.,**

DEC 16 2008
Date: _____

Mike Milam
Vice President - Refining, Refinery Manager
Frontier Refining Inc.

WE HEREBY CONSENT to the entry of this Consent Decree in United States et al. v. Frontier Refining Inc., and Frontier El Dorado Refining Company subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

**FOR DEFENDANT FRONTIER EL DORADO
REFINING COMPANY**

Date: DEC 16 2008

J.M. Stump
Vice President - Refining, Refinery Manager
Frontier El Dorado Refining Company.