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## CONSENT DECREE

WHEREAS, Plaintiff the United States of America ("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"), and Co-Plaintiff the State of Utah ("Utah" or "Co-Plaintiff"), on behalf of the Utah Department of Environmental Quality, have simultaneously filed a Complaint and lodged this Consent Decree against defendant Holly Refining and Marketing Company – Woods Cross ("Holly" or "Defendant") for alleged environmental violations at the Holly Petroleum Refinery ("Refinery") located in Woods Cross, Utah;

WHEREAS, the United States alleges, upon information and belief, that Holly has violated and/or continues to violate the following statutory and regulatory provisions:

1) Prevention of Significant Deterioration ("PSD") requirements found at Part C of Subchapter I of the Clean Air Act (the "Act"), 42 U.S.C. §§ 7475, and the regulations promulgated thereunder at 40 C.F.R. § 52.21 (the "PSD Rules"); and "Plan Requirements for Non-Attainment Areas" at Part D of Subchapter I of the Act, 42 U.S.C. §§ 7502-7503, and the regulations promulgated thereunder at 40 C.F.R. § 51.165(a) and (b) and at Title 40, Part 51, Appendix S, and at 40 C.F.R. § 52.24 ("PSD/NSR Regulations"), for heaters and boilers and fluid catalytic cracking unit catalyst regenerators for nitrogen oxide ("NO<sub>x</sub>"), sulfur dioxide ("SO<sub>2</sub>"), carbon monoxide ("CO"), and particulate matter ("PM");

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

3) Leak Detection and Repair ("LDAR") requirements promulgated pursuant to Sections 111 and 112 of the Act, and found at 40 C.F.R. Part 60 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”); and

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

WHEREAS, the United States also specifically alleges with respect to the Refinery that, upon information and belief, Holly has been and/or continues to be in violation of the state implementation plan (“SIP”) and other state rules and regulations adopted by the state in which the Refinery is located to the extent that such plans, rules, or regulations implement, adopt or incorporate the above-described federal requirements;

WHEREAS, the United States further alleges that Holly has violated and/or continues to violate the 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(b) and (c) of the Emergency Planning and Community Right-to-Know Act (“EPCRA”), 42 U.S.C. § 11004(b) and (c), and the regulations promulgated thereunder;

WHEREAS, Utah has joined in this matter alleging violations of their respective applicable SIP provisions and/or other state rules and regulations incorporating and implementing the foregoing federal requirements;

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

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

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

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

WHEREAS, projects undertaken pursuant to this Consent Decree are for the purposes of abating or controlling atmospheric pollution or contamination by removing, reducing, or preventing the creation of emission of pollutants (“pollution control facilities”) and as such, may be considered for certification as pollution control facilities by federal, state, or local authorities;



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

WHEREAS, by entering into this Consent Decree, Holly has indicated that it is committed to proactively resolving environmental concerns relating to its operations;

WHEREAS, the United States anticipates that the affirmative relief in Part V of this Consent Decree will reduce emissions of nitrogen oxide by approximately 106.5 tons annually, will reduce emissions of sulfur dioxide by approximately 315 tons annually, and will also result in reductions of volatile organic compounds and particulate matter (“PM”).

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

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

WHEREAS, notwithstanding the foregoing reservations, the Parties agree that:  
(a) settlement of the matters set forth in the Complaint (filed herewith) is in the best interests of the Parties and the public; and (b) entry of the Consent Decree without litigation is the most appropriate means of resolving this matter;

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

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

## **I. JURISDICTION AND VENUE**

1. This Court has jurisdiction over the subject matter of this action and over the Parties pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367(a). In addition, this Court has jurisdiction over the subject matter of this action pursuant to Sections 113(b) and 167 of the CAA, 42 U.S.C. §§ 7413(b) and 7477, Section 325(b) of EPCRA, 42 U.S.C. § 11045(b), and Section 109(c) of CERCLA, 42 U.S.C. § 9609(c). The Complaint states a claim upon which relief may be granted for injunctive relief and civil penalties against Holly under the Clean Air Act, EPCRA, and CERCLA. The authority of the United States 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, Section 325 of EPCRA, 42 U.S.C. § 11045, and Section 109(c) of CERCLA, 42 U.S.C. § 9606(c).

2. Venue is proper in the United States District Court for the District of Utah pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b) and (c), and 1395(a). Holly consents to the personal jurisdiction of this Court and waives any objections to venue in this District.

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

## **II. APPLICABILITY AND BINDING EFFECT**

4. The provisions of the Consent Decree shall apply to the Refinery. The provisions of the Consent Decree shall be binding upon the United States, the Co-Plaintiff, and Holly, including Holly's agents, officers, successors and assigns.

5. Subject to Paragraph 260 (Public Notice and Comment), the Parties agree not to contest the validity of the Consent Decree in any subsequent proceeding to implement or enforce its terms.

6. Effective from the Date of Entry of the Consent Decree until its termination, Holly agrees that the Refinery is covered by this Consent Decree. Effective from the Date of Lodging of the Consent Decree, Holly shall give written notice of the Consent Decree to any successors in interest prior to the transfer of ownership or operation of any portion of the Refinery and shall provide a copy of the Consent Decree to any successor in interest. Holly shall notify the United States and the Co-Plaintiff in accordance with the notice provisions set forth in Paragraph 261 (Notice), of any successor in interest at least thirty (30) days prior to any such transfer.

7. Holly will condition any transfer, in whole or in part, of ownership of, operation of, or other interest (exclusive of any non-controlling non-operational shareholder interest) in, the Refinery upon the execution by the transferee of a modification to the Consent Decree which makes the terms and conditions of the Consent Decree that apply to such Refinery applicable to the transferee. As soon as possible prior to the transfer, Holly shall notify the United States and the Co-Plaintiff of the proposed transfer and of the specific Consent Decree provisions that the transferee is assuming. Simultaneously, Holly shall provide a certification from the transferee that the transferee has the financial and technical ability to assume the obligations and liabilities under this Consent Decree that are related to the transfer. By no later than sixty (60) days after the transferee executes a document agreeing to substitute itself for Holly for all terms and conditions of this Consent Decree that apply to the Refinery that is being transferred, the United States, the Co-Plaintiff, Holly, and the transferee shall jointly file with the Court a motion requesting the Court to substitute the transferee as the Defendant for those terms and conditions

of this Consent Decree that apply to the Refinery that is being transferred. If Holly does not secure the agreement of the United States and the Co-Plaintiff to a Joint Motion within sixty (60) days, then Holly and the transferee may file a motion without the agreement of the United States and the Co-Plaintiff. The United States and the Co-Plaintiff thereafter may file an opposition to the motion. Holly will not be released from the obligations and liabilities of any provision of this Consent Decree unless and until the Court grants the motion substituting the transferee as the Defendant to those provisions.

8. Except as provided in Paragraph 7, Holly shall be solely responsible for ensuring that performance of the work required under this Consent Decree is undertaken in accordance with the deadlines and requirements contained in this Consent Decree and any attachments hereto. Holly shall provide a copy of the applicable provisions of this Consent Decree to each consulting or contracting firm that is retained to perform work required under Part V of this Consent Decree, upon execution of any contract relating to such work. No later than thirty (30) days after the Date of Entry of the Consent Decree, Holly also shall provide a copy of the applicable provisions of this Consent Decree to each consulting or contracting firm that Holly already has retained to perform the work required under Part V of this Consent Decree. Copies of the Consent Decree do not need to be supplied to firms who are retained to supply materials or equipment to satisfy requirements under this Consent Decree.

### **III. OBJECTIVES**

9. It is the purpose of the Parties in this Consent Decree to further the objectives of the federal Clean Air Act, the Utah Clean Air Act, and the rules and regulations promulgated thereunder.

#### **IV. DEFINITIONS**

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

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

b. “Acid Gas Flaring” shall mean the combustion of Acid Gas and/or Sour Water Stripper Gas in an Acid Gas Flaring Device.

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

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

e. “Alternative NO<sub>x</sub> Control Technology” shall mean any technology designed to achieve 0.020 lbs/mmBTU NO<sub>x</sub> or lower on a controlled heater or boiler.

f. “AMP” or “Alternative Monitoring Plan” shall mean a monitoring plan, upon approval by EPA, which Holly may use in lieu of a regulatory monitoring requirement.

g. “Calendar quarter” shall mean the three month period ending on March 31st, June 30th, September 30th, and December 31<sup>st</sup>.

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

i. “CO” shall mean carbon monoxide.

j. “Combustion Units” shall mean the heaters and boilers at the Refinery

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

l. “Co-Plaintiff” shall mean the State of Utah on behalf of UDEQ.

m. “Controlled Heater and Boiler” shall be those heaters or boilers listed in Appendix B.

- n. “Court” shall mean the United States District Court for the District of Utah.
- o. “Current Generation Ultra-Low NO<sub>x</sub> Burners” shall mean those burners that are designed to achieve a NO<sub>x</sub> emission rate of 0.020 to 0.040 lb NO<sub>x</sub>/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 NO<sub>x</sub>/mmBTU (HHV).
- p. “Date of Entry of the Consent Decree” or “Date of Entry” shall mean the date the Consent Decree is entered by the United States District Court for the District of Utah.
- q. “Date of Lodging of the Consent Decree” or “Date of Lodging” or “DOL” shall mean the date the Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the District of Utah.
- r. “Day” or “Days” as used herein shall mean a calendar day or days.
- s. “FCCU” shall mean the FCCU that Holly owns and/or operates at the Woods Cross Refinery. “FCCU” as used herein shall mean a fluidized catalytic cracking unit and its regenerator and CO boiler(s) (where present).
- t. “FCCU Feed Hydrotreater” shall mean a refinery process unit designed to reduce the sulfur content of the feed to and products from an FCCU through a process of hydrogenation using hydrogen under high temperature and pressure across a catalyst bed.
- u. “Flaring Device” shall mean either an Acid Gas and/or a Hydrocarbon Flaring Device. The Flaring Devices that Holly owns and operates at the Refinery are identified in Appendix A.
- v. “Fuel Oil” shall mean any liquid fossil fuel with a sulfur content of greater than 0.05% by weight.
- w. “Holly” shall mean the Holly Refining & Marketing Company – Woods Cross and its successors and assigns.

x. “Hydrocarbon Flaring” shall mean the combustion of refinery-generated gases, except for Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas, in a Hydrocarbon Flaring Device.

y. “Hydrocarbon Flaring Device” shall mean a device at the Refinery that is used to safely control (through combustion) any excess volume of a refinery-generated gas other than Acid Gas and/or Sour Water Stripper Off Gas and/or Tail Gas. The Hydrocarbon Flaring Devices currently in service at the Refinery are identified in Appendix A to the Consent Decree. To the extent that, during the duration of the Consent Decree, the Refinery utilizes Hydrocarbon Flaring Devices other than those specified in Appendix A for the purpose of combusting any excess of a refinery-generated gas other than Acid Gas and/or Sour Water Stripper Gas, those Hydrocarbon Flaring Devices shall be covered under this Consent Decree.

z. “Hydrocarbon Flaring Incident” shall mean the continuous or intermittent combustion of refinery-generated gases, except for Acid Gas or Sour Water Stripper Gas or Tail Gas, that results in the emission of sulfur dioxide equal to, or greater than five-hundred (500) pounds in a twenty-four (24) hour period; provided, however, that if five-hundred (500) pounds or more of sulfur dioxide have been emitted in any 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 Hydrocarbon Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the Hydrocarbon Flaring Incident.



aa. “Malfunction” shall mean, as specified in 40 C.F.R. Part 60.2, “any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.”

bb. “Natural Gas Curtailment” shall mean a restriction imposed by a natural gas supplier limiting Holly’s ability to obtain or use natural gas.

cc. “NO<sub>x</sub> Control System” shall mean any technology that can be designed to meet NO<sub>x</sub> emission limits of 20 ppmvd or lower on a three-hundred sixty five (365) day rolling average basis and 40 ppmvd on a seven (7) day rolling average basis, each corrected to 0% O<sub>2</sub> when applied to the FCCU at the Woods Cross Refinery.

dd. “Next Generation Ultra-Low NO<sub>x</sub> Burners” or “Next Generation ULNBs” shall mean those burners that are designed to achieve a NO<sub>x</sub> emission rate of less than or equal to 0.020 lb NO<sub>x</sub>/mmBTU (HHV) when firing natural gas at 3% stack oxygen at full design load without air preheat, even if upon installation actual emissions exceed 0.020 lb NO<sub>x</sub>/mmBTU (HHV).

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

ff. “Parties” shall mean the United States, the Co-Plaintiff, and Holly.

gg. “PM” shall mean particulate matter as measured by 40 CFR Part 60, Appendix A, Method 5B or 5F.

hh. “Refinery” shall mean the Woods Cross Refinery owned and operated by Holly in Woods Cross, Utah, which is subject to the requirements of this Consent Decree.

ii. “Root Cause” shall mean the primary cause(s) of an Acid Gas Flaring Incident(s) or Hydrocarbon Flaring Incident(s), as determined through a process of investigation.

jj. “Root Cause Analysis” shall mean an investigation that identifies the Root Cause and all significant contributing causes of an Acid Gas Flaring Incident or Hydrocarbon Flaring Incident. The requirements for a Root Cause Analysis are set forth in Sections V.J. and K. of this Consent Decree.

kk. “Scheduled Turnaround” shall mean the Shutdown of any emission unit or control equipment that is scheduled at least six (6) months in advance of the Shutdown and the purpose of such Shutdown is to (1) perform general equipment cleaning and repairs due to normal equipment wear and tear; (2) perform required equipment tests and internal inspections; (3) install any unit or equipment modifications/additions, or make provisions for a future modification or addition; and/or (4) perform normal end-of-run catalyst changeouts or refurbishments.

ll. “7-day rolling average” and “365-day rolling average” shall mean the average emission rate during the preceding 7 or 365 days (as applicable) that the emission unit was operating, calculated on a daily basis and commencing 7 and 365 days following the date on which such emission rate is effective under this Consent Decree.

mm. “Shutdown”, as specified in 40 C.F.R. Section 60.2, shall mean the cessation of operation of an affected facility for any purpose.

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

oo. “SO<sub>2</sub>” shall mean sulfur dioxide.

pp. “Startup”, as specified in 40 C.F.R. Section 60.2, shall mean the setting in operation of an affected facility for any purpose.

qq. “Sulfur Recovery Plant” or “SRP” shall mean a process unit that recovers sulfur from hydrogen sulfide by a vapor phase catalytic reaction of sulfur dioxide and hydrogen sulfide.

rr. “Sulfur Recovery Unit” or “SRU” shall mean a single component of a Sulfur Recovery Plant, commonly referred to as a Claus train.

ss. “Tail Gas” shall mean exhaust gas from the Claus trains and the tail gas unit (“TGU”) section of the SRP.

tt. “Tail Gas Unit” or “TGU” shall mean a control system utilizing a technology for reducing emissions of sulfur compounds from a Sulfur Recovery Plant.

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

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

ww. “UDEQ” shall mean the Utah Department of Environmental Quality and any successor departments or agencies of the State of Utah.

xx. “Wet Gas Scrubber” shall mean a system for treating a gas stream to remove SO<sub>2</sub> and PM that consists of vessels of sufficient size that provide sufficient contact time with a caustic assisted scrubbing liquor in a manner that provides sufficient efficiency such that emissions limits required by this Consent Decree can be met at all times.

## **V. AFFIRMATIVE RELIEF/ENVIRONMENTAL PROJECTS**

### **A. NO<sub>x</sub> Emissions Reductions from the FCCU**

11. As specified in this Section V.A., Holly shall implement a program to reduce NO<sub>x</sub> emissions from the Covered FCCU, incorporate lower NO<sub>x</sub> emission limits into federally enforceable permits, and demonstrate future compliance with such limits through the use of CEMs.

12. By no later than December 31, 2010, whichever is later, Holly shall submit for EPA review and comment a detailed design for the NO<sub>x</sub> Control System at the FCCU. Holly shall design the NO<sub>x</sub> Control System to achieve a NO<sub>x</sub> concentration of 20 ppmvd or lower on a three-hundred sixty five (365) day rolling average basis and 40 ppmvd on a seven (7) day rolling average basis, each corrected to 0% O<sub>2</sub>.

13. By no later than December 31, 2012, Holly shall complete installation and begin operation of the NO<sub>x</sub> Control System at the FCCU. The NO<sub>x</sub> Control System shall be installed and designed as described by the detailed design submitted to EPA pursuant to Paragraph 12.

14. Interim Limits. By no later than April 1, 2009, Holly shall commence a 15-month demonstration (“Interim Demonstration Period”) to determine an interim NO<sub>x</sub> emission limit for the FCCU. The Interim Demonstration Period shall include collection of data during the startup period. During the Interim Demonstration Period, Holly shall operate the FCCU Feed Hydrocracker, FCCU, and CO Boiler (if in service for the FCCU) in a manner that minimizes NO<sub>x</sub> emissions to the maximum extent practicable and without interfering with conversion or processing rates.

15. By no later than 90 days following completion of the Interim Demonstration Period, Holly shall report the results of the Interim Demonstration Period to EPA (“Interim Demonstration Report”). The Interim Demonstration Report shall include, at a minimum, all

data listed below on a daily average basis (except as noted) for each day of the Interim Demonstration Period.

- a. CO Boiler combustion temperature and flue gas flow rate (estimated or measured), if in service for the FCCU;
- b. Coke burn rate in pounds per hour;
- c. FCCU feed rate in barrels per day;
- d. FCCU feed API gravity;
- e. Estimated percentage or directly measured percentage (if available) of each type of FCCU feed component (i.e., atmospheric gas oil, vacuum gas oil, atmospheric tower bottoms, vacuum tower bottoms, etc.);
- f. Amount and type of hydrotreated feed (i.e., volume % of feed that is hydrotreated and the type of hydrotreated feed such as AGO, VGO, ATB, VTB, etc.);
- g. FCCU feed nitrogen (on a weekly basis) and FCCU feed sulfur (on a daily basis) content, as a weight %;
- h. CO boiler firing rate and fuel type, if in service for the FCCU; and
- i. NO<sub>x</sub> and CO concentrations at the point of emission to the atmosphere by means of a CEMS, when CEMS are installed and operational.

16. In the Interim Demonstration Report, Holly shall propose a concentration-based NO<sub>x</sub> emission limit based on 7-day and 365-day rolling averages, corrected to 0% oxygen and may propose an alternative emissions limit to be applicable during Hydrotreater outages or other alternative operating scenarios. Holly shall comply with the emission limit it proposes immediately upon submission of the Interim Demonstration Report and continue to comply with this limit unless and until required to comply with the emissions limits set by EPA

pursuant to Paragraph 17, below. Upon request, Holly shall submit any additional available data that EPA determines it needs to evaluate the Interim Demonstration Report.

17. EPA will use the data collected during the Interim Demonstration Period, as well as all other available and relevant information, to establish interim limits for NO<sub>x</sub> emissions from the FCCU. EPA may establish NO<sub>x</sub> concentration-based interim emission limits based on 7-day and 365-day rolling averages, each corrected to 0% oxygen. EPA will determine such interim limits based on: (i) the level of performance during the optimization and demonstration periods; (ii) a reasonable certainty of compliance; and (iii) any other available and relevant information. EPA will notify Holly of its determination of the concentration-based NO<sub>x</sub> interim emission limits and averaging times, and may establish alternative interim emission limits to be applicable during Hydrotreater Outages or other alternative operating scenarios. Holly shall immediately (or within ninety (90) days, if EPA's limit is more stringent than the limit proposed by Holly) comply with the EPA-established emissions limits, unless disputed by Holly. Disputes regarding the appropriate emission limits shall be resolved in accordance with the dispute resolution provisions of this Decree; provided Holly invokes such procedures within 90 days of EPA's notification of emission limits and provided further that during the period of dispute resolution, Holly shall operate the FCCU Feed Hydrocracker, FCCU, and CO Boiler (if in service for the FCCU) in a manner that minimizes NO<sub>x</sub> emissions to the maximum extent practicable and without interfering with conversion or processing rates as required during the Interim Demonstration Period.

18. NO<sub>x</sub> emissions during periods of Startup, Shutdown, or Malfunction of an FCCU, or during periods of Malfunction of a NO<sub>x</sub> Control System, will not be used in determining compliance with the seven (7) day average NO<sub>x</sub> emission limits established pursuant to Paragraphs 16, 17, 21 and 22, provided that during such periods Holly implements

good air pollution control practices to minimize NO<sub>x</sub> emissions. Nothing in this Paragraph shall be construed to relieve Holly of any obligation under any Federal or State law, regulation, or permit to report emissions during periods of Startup, Shutdown, or Malfunction, or to document the occurrence and/or cause of a Startup, Shutdown, or Malfunction event.

19. Final Limits. Upon startup of the NO<sub>x</sub> Control System, as provided in Paragraph 13, Holly shall commence a 15-month demonstration (“Demonstration Period”) to determine final NO<sub>x</sub> emission limits for the FCCU. The Demonstration Period shall include collection of data during the startup period. During the Demonstration Period, Holly shall operate the NO<sub>x</sub> Control System, FCCU, CO Boiler (if in service for the FCCU) and FCCU Feed Hydrocracker in a manner that minimizes NO<sub>x</sub> emissions to the maximum extent practicable and without interfering with conversion or processing rates.

20. By no later than 90 days following completion of the Demonstration Period, Holly shall report the results of the NO<sub>x</sub> Demonstration Period to EPA (“Demonstration Report”). The Demonstration Report shall include, at a minimum, all data listed below on a daily average basis (except as noted) for each day of the Demonstration Period.

- a. CO Boiler combustion temperature and flue gas flow rate (estimated or measured), if in service for the FCCU;
- b. Coke burn rate in pounds per hour;
- c. FCCU feed rate in barrels per day;
- d. FCCU feed API gravity;
- e. Estimated percentage or directly measured percentage (if available) of each type of FCCU feed component (i.e., atmospheric gas oil, vacuum gas oil, atmospheric tower bottoms, vacuum tower bottoms, etc.);

- f. Amount and type of hydrotreated feed (i.e., volume % of feed that is hydrotreated and the type of hydrotreated feed such as AGO, VGO, ATB, VTB, etc.);
- g. FCCU feed nitrogen (on a weekly basis) and FCCU feed sulfur (on a daily basis) content, as a weight %;
- h. CO boiler firing rate and fuel type, if in service for the FCCU;
- i. NO<sub>x</sub> Control System ozone addition rates (if applicable);
- j. NO<sub>x</sub> Control System Quench system inlet and outlet temperature (if applicable);
- k. NO<sub>x</sub> Control System power usage and oxygen usage (if applicable);
- l. NO<sub>x</sub> and O<sub>2</sub> concentrations at the point of emission to the atmosphere by means of a CEMS; and
- m. NO<sub>x</sub> concentrations at the inlet to the NO<sub>x</sub> Control System (if an inlet NO<sub>x</sub> analyzer is installed).

21. In the Demonstration Report, Holly shall propose concentration-based NO<sub>x</sub> emission limits based on 7-day and 365-day rolling averages, corrected to 0% oxygen and may propose alternative emissions limits to be applicable during Hydrotreater Outages or other alternative operating scenarios. The proposed limits shall be no higher than 40 ppmvd at 0% O<sub>2</sub> on a three-hundred sixty five (365) day rolling average basis and 80 ppmvd at 0% O<sub>2</sub> on a seven (7) day rolling average basis. Holly shall comply with the emission limits it proposes immediately upon submission of the Demonstration Report and continue to comply with these limits unless and until required to comply with the emissions limits set by EPA pursuant to Paragraph 22, below. Upon request, Holly shall submit any additional available data that EPA determines it needs to evaluate the demonstration.

22. EPA will use the data collected during the optimization and demonstration periods, as well as all other available and relevant information, to establish limits for NO<sub>x</sub>



emissions from the FCCU. EPA may establish NO<sub>x</sub> concentration-based emission limits based on 7-day and 365-day rolling averages, each corrected to 0% oxygen. The limits established by EPA shall be no lower than 20 ppmvd at 0% O<sub>2</sub> on a three-hundred sixty-five day rolling average basis and 40 ppmvd at 0% O<sub>2</sub> on a seven (7) day rolling average basis and no higher than 40 ppmvd at 0% O<sub>2</sub> on a three-hundred sixty five (365) day rolling average basis and 80 ppmvd at 0% O<sub>2</sub> on a seven (7) day rolling average basis. EPA will determine such limits based on: (i) the level of performance during the optimization and demonstration periods; (ii) a reasonable certainty of compliance; and (iii) any other available and relevant information. EPA will notify Holly of its determination of the concentration-based NO<sub>x</sub> emissions limits and averaging times and may establish alternative emissions limits to be applicable during Hydrotreater Outages or other alternative operating scenarios. Holly shall immediately (or within ninety (90) days, if EPA's limit is more stringent than the limit proposed by Holly) comply with the EPA-established emissions limits, unless disputed by Holly. Disputes regarding the appropriate emission limits shall be resolved in accordance with the dispute resolution provisions of this Decree; provided Holly invokes such procedures within 90 days of EPA's notification of emission limits and provided further that during the period of dispute resolution, Holly shall operate the NO<sub>x</sub> Control System, FCCU, CO Boiler (if in service for the FCCU) and FCCU Feed Hydrocracker in a manner that minimizes NO<sub>x</sub> emissions to the maximum extent practicable and without interfering with conversion or processing rates as required during the demonstration period.

23. Demonstrating Compliance with FCCU Interim and Final NO<sub>x</sub> Emission Limits.

Beginning no later than April 1, 2009, Holly shall use NO<sub>x</sub> and O<sub>2</sub> CEMS to monitor performance of the FCCU.

The CEMS shall be used to demonstrate compliance with the NO<sub>x</sub> emission limits established pursuant to this Section V.A. Upon reasonable request from EPA, Holly shall make CEMS data available to EPA and the Co-Plaintiff as soon as practicable. Holly shall install, certify, calibrate, maintain, and operate all CEMS required by this Paragraph 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.

**B. SO<sub>2</sub> Emissions Reductions from the FCCU**

24. As specified in this Section V.B, Holly shall implement a program to reduce SO<sub>2</sub> emissions from the Covered FCCU, incorporate lower SO<sub>2</sub> emission limits into federally enforceable permits, and demonstrate future compliance with such limits through the use of CEMS.

25. Installation and Operation of a Wet Gas Scrubber at the FCCU. By no later than December 31, 2012, Holly shall complete installation and begin operation of a Wet Gas Scrubber at the FCCU. Holly shall design the Wet Gas Scrubber to achieve an SO<sub>2</sub> concentration of 25 ppmvd or lower on a three-hundred sixty five (365) day rolling average basis and 50 ppmvd on a seven (7) day rolling average basis, each corrected to 0% O<sub>2</sub>. By no later than June 30, 2013, Holly shall begin complying with the SO<sub>2</sub> concentration limit of 25 ppmvd at the FCCU on a three-hundred sixty five (365) day rolling average basis and 50 ppmvd on a seven (7) day rolling average basis, each corrected to 0% O<sub>2</sub>.

26. Interim Limits. By no later than April 1, 2009, Holly shall commence a 15-month demonstration (“Interim Demonstration Period”) to determine an interim SO<sub>2</sub> emission limit for the FCCU. The Interim Demonstration Period shall include collection of data during the startup period. During the Interim Demonstration Period, Holly shall operate the FCCU Feed Hydrocracker, FCCU, and CO Boiler (if in service for the FCCU) in a manner that minimizes SO<sub>2</sub> emissions to the maximum extent practicable and without interfering with conversion or processing rates.

27. By no later than 90 days following completion of the Interim Demonstration Period, Holly shall report the results of the Interim Demonstration Period to EPA (“Interim Demonstration Report”). The Interim Demonstration Report shall include, at a minimum, all data listed below on a daily average basis (except as noted) for each day of the Interim Demonstration Period.

- a. CO Boiler combustion temperature and flue gas flow rate (estimated or measured), if in service for the FCCU;
- b. Coke burn rate in pounds per hour;
- c. FCCU feed rate in barrels per day;
- d. FCCU feed API gravity;
- e. Estimated percentage or directly measured percentage (if available) of each type of FCCU feed component (i.e., atmospheric gas oil, vacuum gas oil, atmospheric tower bottoms, vacuum tower bottoms, etc.);
- f. Amount and type of hydrotreated feed (i.e., volume % of feed that is hydrotreated and the type of hydrotreated feed such as AGO, VGO, ATB, VTB, etc.);
- g. FCCU feed sulfur (on a daily basis) content, as a weight %;
- h. CO boiler firing rate and fuel type, if in service for the FCCU; and

i. SO<sub>2</sub> concentrations at the point of emission to the atmosphere by means of a CEMS, when CEMS are installed and operational.

28. In the Interim Demonstration Report, Holly shall propose a concentration-based SO<sub>2</sub> emission limit based on 7-day and 365-day rolling averages, corrected to 0% oxygen and may propose alternative emissions limits to be applicable during Hydrotreater outages or other alternative operating scenarios. Holly shall comply with the emission limits it proposes immediately upon submission of the Interim Demonstration Report and continue to comply with these limits unless and until required to comply with the emissions limits set by EPA pursuant to Paragraph 29, below. Upon request, Holly shall submit any additional available data that EPA determines it needs to evaluate the Interim Demonstration Report.

29. EPA will use the data collected during the Interim Demonstration Period, as well as all other available and relevant information, to establish interim limits for SO<sub>2</sub> emissions from the FCCU. EPA may establish SO<sub>2</sub> concentration-based interim emission limits based on 7-day and 365-day rolling averages, each corrected to 0% oxygen. EPA will determine such interim limits based on: (i) the level of performance during the optimization and demonstration periods; (ii) a reasonable certainty of compliance; and (iii) any other available and relevant information. EPA will notify Holly of its determination of the concentration-based SO<sub>2</sub> interim emissions limits and averaging times, and may establish alternative interim emissions limits to be applicable during Hydrotreater Outages or other alternative operating scenarios. Holly shall immediately (or within ninety (90) days, if EPA's limit is more stringent than the limit proposed by Holly) comply with the EPA-established emissions limits, unless disputed by Holly. Disputes regarding the appropriate emission limits shall be resolved in accordance with the dispute resolution provisions of this Decree; provided Holly invokes such procedures within 90 days of EPA's notification of emission limits and provided further that during the period of dispute resolution, Holly shall operate the FCCU Feed Hydrocracker, FCCU, and CO Boiler (if in service for the FCCU) in a manner that minimizes SO<sub>2</sub> emissions to the maximum extent practicable and without interfering with conversion or processing rates as required during the Interim Demonstration Period.

30. SO<sub>2</sub> emissions during periods of Startup, Shutdown, or Malfunction of a FCCU, not controlled by a WGS or during periods of Malfunction of a WGS will not be used in determining compliance with the seven (7) day average SO<sub>2</sub> emission limits established pursuant to Paragraphs 25, 28 and 29 provided that during such periods Holly implements good air pollution control practices to minimize SO<sub>2</sub> emissions. Nothing in this Paragraph shall be construed to relieve Holly of any obligation under any Federal or State law, regulation, or permit to report emissions during periods of Startup, Shutdown, or Malfunction, or to document the occurrence and/or cause of a Startup, Shutdown, or Malfunction event.

31. Demonstrating Compliance with FCCU Interim and Final SO<sub>2</sub> Emission Limits. Beginning no later than April 1, 2009, Holly shall use SO<sub>2</sub> and O<sub>2</sub> CEMS to monitor performance of the FCCU.

The CEMS shall be used to demonstrate compliance with the respective SO<sub>2</sub> emission limits established pursuant to this Section V.B. Upon reasonable request from EPA, Holly shall make CEMS data available to EPA and the Co-Plaintiff as soon as practicable. Holly shall install, certify, calibrate, maintain, and operate all CEMS required by this Paragraph 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.

**C. PM Emissions Reductions from the FCCU**

Holly shall implement a program to reduce PM emissions from the FCCU, as specified in this Section V.C, incorporate lower PM emission limits into federally enforceable permits and demonstrate future compliance with such limits through the use of PM testing.

32. PM Emission Limits for the FCCU. Consistent with the NSPS regulations at 40 C.F.R. Part 60, Subpart J, Holly shall comply with an emission limit of 1.0 pounds of PM per 1000 pounds of coke burned for the FCCU by June 30, 2013.

33. Emission Limits for PM for the FCCU. By no later than December 31, 2012, Holly shall complete installation and begin operation of a Wet Gas Scrubber at the FCCU. By June 30, 2013, Holly shall comply with an emission limit of 0.5 pounds of PM per 1000 pounds of coke burned for the FCCU.

34. PM emissions during periods of Startup, Shutdown or Malfunction of the FCCU, or during periods of Malfunction of the wet gas scrubber will not be used in determining compliance with the emission limits of 0.5 pounds of PM per 1000 pounds of coke burned set forth in this Section V.C, provided that during such periods Holly implements good air pollution control practices to minimize PM emissions.

35. Demonstrating Compliance with PM Emission Limits Set Forth in Section V.C and V.E. Holly shall follow the test methods specified in 40 C.F.R. § 60.106(b)(2) to measure PM emissions from the FCCU on a three (3) hour average basis. Holly shall conduct the first test no later than October 31, 2013. Beginning the subsequent calendar year, Holly shall conduct annual tests at the FCCU no later than October 31<sup>st</sup> of each year and shall submit the results in the first semi-annual report under Part IX that is due at least three (3) months after the test. Upon demonstrating through at least three (3) annual tests that the PM limits are not being exceeded at the FCCU, Holly may request EPA approval to conduct tests less frequently than annually at the FCCU.

**D. CO Emissions Reductions from the FCCU**

36. CO Emissions Limits for the FCCU. Beginning December 31, 2009, Holly shall comply with a CO emission limit of 500 ppmvd 1-hour average at 0% oxygen.

37. NSR Emission Limits for CO for the FCCU. At any time during the term of the Consent Decree, Holly may accept a Final CO Limit of 100 ppmvd on a three-hundred sixty five (365) day rolling average basis at 0% O<sub>2</sub> for the FCCU. Upon accepting such limit: Holly's liability for potential NSR violations for CO emissions from the FCCU shall be resolved pursuant to Paragraph 237 provided that such limits are incorporated into an appropriate permit under Paragraph 137.

38. CO emissions during periods of Startup, Shutdown or Malfunction of the FCCU shall not be used in determining compliance with the emission limits of 500 ppmvd CO at 0% O<sub>2</sub> on a one (1) hour average basis, provided that during such periods Holly implements good air pollution control practices to minimize CO emissions.

39. Demonstrating Compliance with CO Emission Limits. Beginning December 31, 2009, Holly shall use CO and O<sub>2</sub> CEMS to monitor performance of the FCCU.

40. The CEMS shall be used to demonstrate compliance with the respective CO emission limits established pursuant to this Section V.D. Upon reasonable request by EPA Holly shall make CEMS data available to EPA and the Co-Plaintiff as soon as practicable. Holly shall install, certify, calibrate, maintain, and operate all CEMS required by this Paragraph 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 is otherwise required by the NSPS, state law or regulation, or a permit or approval, in lieu of the requirements of 40 C.F.R. Part 60, Appendix



F, §§ 5.1.1, 5.1.3 and 5.1.4, Holly 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. Holly must also conduct Cylinder Gas Audits (“CGA”) each calendar quarter during which a RAA or a RATA is not performed

**E. NSPS Applicability of the FCCU Catalyst Regenerator**

41. The FCCU catalyst regenerator shall be an “affected facility,” as that term is used in the Standards of Performance for New Stationary Sources (“NSPS”), 40 C.F.R. Part 60, and shall be subject to and comply with the requirements of NSPS Subparts A and J for each of the following pollutants by the following dates:

<u>SO<sub>2</sub></u>	<u>PM</u>	<u>CO</u>
June 30, 2013	June 30, 2013	December 31, 2009

42. The deadlines imposed under Sections V.C and V.D shall not affect Holly’s obligation to comply with the MACT II (40 C.F.R. §63.640) in a timely manner.

43. Opacity Monitoring at the FCCUs. By no later than December 31, 2012, Holly shall install and operate a Continuous Opacity Monitoring System (“COMS”) to monitor opacity at the FCCU. Holly 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.

44. As an alternative to the requirement to install and or operate a COMS, Holly may request from EPA an AMP to demonstrate compliance with the NSPS opacity limits at 40 C.F.R. §60.105(a)(1) for the FCCU with the wet gas scrubber.

45. When the FCCU Catalyst Regenerator becomes an affected facility under NSPS Subpart J pursuant to Paragraph 41, entry of this Consent Decree and compliance with the relevant monitoring requirements of this Consent Decree for the FCCU 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. NO<sub>x</sub> Emissions Reductions from Heaters and Boilers**

46. Summary. Holly shall implement a program to reduce NO<sub>x</sub> emissions from the heaters and boilers listed in Appendix B (“Controlled Heaters and Boilers”) by installing Next Generation Ultra Low-NO<sub>x</sub> Burners (“Next Generation ULNBs”) or Alternative NO<sub>x</sub> Control Technology, and demonstrating continuous compliance with lower emission limits through the use of source testing, CEMS, and/or parametric monitoring.

a. Installation of NO<sub>x</sub> Control Technology: Holly shall install Next Generation ULNBs or Alternative NO<sub>x</sub> Control Technology for all Controlled Heaters and Boilers listed in Appendix B by the dates specified therein.

b. Testing and Monitoring NO<sub>x</sub> Emissions from Controlled Heaters and Boilers.  
Holly shall monitor the Controlled Heaters and Boilers to meet the requirements of Paragraph 46.b. as follows:

(1) For heaters and boilers with a heat input capacity greater than 100 mmBTU/hr (HHV), Holly shall install or continue to operate CEMS to measure NO<sub>x</sub> and O<sub>2</sub> by no later than the date of the installation of the applicable NO<sub>x</sub> Control Technology on the heater or boiler. Holly shall install and operate CEMS to measure NO<sub>x</sub> and O<sub>2</sub> emissions from the atmospheric heater by no later than 6 months after installation of NO<sub>x</sub> control technology. Holly shall install, certify, calibrate, maintain, and operate all CEMS required by this Paragraph 46 in accordance with the requirements of 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, Appendices B and F. These CEMS shall be used to demonstrate compliance with emission limits. Holly shall make CEMS and process data available to the Applicable Federal and State Agencies upon demand as soon as practicable; and

(2) For heaters and boilers with a heat input capacity of equal to or less than 100 mmBTU/hr (HHV), Holly shall, by no later than sixty (60) days after the date of installation of the applicable NO<sub>x</sub> Control Technology, conduct an initial performance test. The results of this test shall be reported based upon the average of three (3) one hour testing periods and shall be used to develop representative operating parameters for each unit, which shall be used as indicators of compliance.

c. Establishing NO<sub>x</sub> Permit Limits for Heaters and Boilers. Within one-hundred and twenty (120) days after the start-up of the operation of any NO<sub>x</sub> Control Technology required by this Paragraph 46, Holly shall submit a permit application to UDEQ in which Holly proposes NO<sub>x</sub> emission limits in lb/mmBtu on a three (3) hour average basis. The proposed permit limits shall be based on actual performance as demonstrated by CEMS and performance tests and shall be low enough to ensure proper operation of the NO<sub>x</sub> Control Technology and high enough to provide a reasonable certainty of compliance.

d. Recordkeeping and Reporting. Commencing in 2008 Holly shall submit a report to EPA and the UDEQ on December 31 of each calendar year about the progress of installation of NO<sub>x</sub> Control Technology required by this Paragraph 46 and other requirements of this Paragraph. This report shall contain:

(1) A list of all Controlled Heaters and Boilers on which NO<sub>x</sub> Control Technology was installed;

(2) The type of NO<sub>x</sub> Control Technology that was installed on each heater and boiler with a detailed description of the manufacturer name and model and the designed emission factors;

(3) The results of all performance tests conducted on each heater and boiler pursuant to the requirements of Paragraph 46.b;

(4) A list of all heaters and boilers scheduled to have NO<sub>x</sub> Control Technology installed during the next calendar year, the projected date of installation, and the type of NO<sub>x</sub> Control Technology that will be installed on those units; and

(5) An identification of proposed and established permit limits applicable to each heater or boiler for which NO<sub>x</sub> Control Technology has been installed pursuant to this Paragraph.

**G. SO<sub>2</sub> Emissions Reductions from and NSPS Applicability to Heaters and Boilers**

47. Holly shall undertake measures to reduce SO<sub>2</sub> emissions from the Refinery heaters and boilers and other specified equipment by restricting H<sub>2</sub>S in refinery fuel gas and by agreeing not to burn Fuel Oil except as specifically permitted under the provisions set forth herein.

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

a. Upon the Date of Entry, all heaters and boilers at the Holly Refinery shall be affected facilities under NSPS Subpart J and shall comply with the applicable requirements of NSPS Subparts A and J for fuel gas combustion devices.

b. For heaters, boilers and other equipment used as fuel gas combustion devices that become affected facilities under NSPS Subpart J pursuant to this Paragraph 48, 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).

49. To the extent that Holly seeks to use an alternative monitoring method at a particular fuel gas combustion device to demonstrate compliance with the limits at 40 C.F.R. § 60.104(a)(1), Holly may begin to use the method immediately upon submitting the application for approval to use the method, provided that the alternative method for which approval is being sought is the same as or is substantially similar to the method identified as the “Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas” attached hereto as Appendix C.

50. Elimination/Reduction of Fuel Oil Burning.

a. Existing Combustion Devices. From the Date of Lodging of this Consent Decree, Holly shall not burn Fuel Oil in any existing combustion device at the Refinery except during periods of Natural Gas Curtailment. Nothing in this prohibition limits Holly's ability to burn Torch Oil in an FCCU regenerator to assist in starting, restarting, maintaining hot standby, or maintaining regenerator heat balance.

b. Combustion Devices Constructed After Lodging. After the Date of Lodging, Holly shall not construct any new combustion device at the Refinery that burns fuel oil unless the air pollution control equipment controlling the combustion device either (i) has an SO<sub>2</sub> control efficiency of 90% or greater; or (ii) achieves an SO<sub>2</sub> concentration of 20 ppm at 0% O<sub>2</sub> or less on a three-hour rolling average basis. Nothing in this Paragraph shall exempt Holly from securing all necessary permits before constructing a new combustion device.

**H. NSPS Applicability to the Sulfur Recovery Plant**

51. Description of the Sulfur Recovery Plant. Holly owns and operates a Claus Sulfur Recovery Plant ("SRP") at the Woods Cross Refinery. The SRP was designed and constructed to handle as low as 2.5 LTPD and maximum of 10 Long Tons Per Day (LTPD).

52. Sulfur Recovery Plant and NSPS Applicability. NSPS Subparts A and J shall apply to the SRP in the event that the sulfur input to the SRP exceeds twenty (20) long tons in any calendar day.

a. Holly shall comply with a 95% recovery efficiency requirement for all periods of operation except during periods of Startup, Shutdown, or Malfunction of the SRP. In addition, Holly shall not exceed a sulfur dioxide emission limit of 1.6 tons/day from the SRP except during periods of Startup, Shutdown, or Malfunction of the SRP. The 95% recovery efficiency shall be determined on a daily basis; however, compliance will be determined on a rolling thirty (30) day average basis. Holly shall determine the percent recovery by measuring

the flow rate and concentration of hydrogen sulfide in the feed streams going to the SRU and by measuring the sulfur dioxide emissions with the CEMS at the SRU incinerator. The flow rate shall be determined continuously; the hydrogen sulfide concentration shall be determined quarterly for the first four (4) quarters from the Date of Lodging of the Consent Decree and at least semiannually thereafter (samples may be collected as manual grabs or through remote monitoring). The flow rate and hydrogen sulfide concentration values will be used to determine the daily feed rate. Holly shall install and commence operation of the CEMS at the SRU incinerator no later than the Date of Entry of the Consent Decree.

b. Holly shall complete an SRP optimization study at the Refinery no later than one year after the Date of Entry of the Consent Decree. (For purposes of Paragraphs 52 and 53 only, the "SRP" includes the amine unit, the sour water stripper, the SRU and the SRU tail gas incinerator.) The optimization study shall meet the requirements set forth at Paragraph 53. Holly shall submit a copy of the optimization study report and a schedule for implementing the recommendations in the report to EPA Region 8 and UDEQ. Holly shall implement the physical improvements and changes in operating parameters recommended in the study to optimize performance of the SRP in accordance with the proposed schedule.

c. Holly shall operate the SRP at all times in accordance with the good engineering practices as recommended in the optimization study.

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

e. Holly shall submit a semi-annual report to Region 8 and the UDEQ showing all daily percent sulfur recovery values, the rolling thirty (30) day sulfur recovery average, all daily emissions (tons/day) as recorded by a CEMS, the operating parameters established in the SRP optimization study, and the daily feed (calculated from daily flow rate and quarterly hydrogen sulfide concentration) to the SRU.

f. By no later than two hundred seventy (270) days from the Date of Entry of the Consent Decree, Holly shall submit to EPA, a Plan for Maintenance and Operation (“PMO”) of its SRP and Upstream Process Units in Accordance with Good Air Pollution Control Practices for Minimizing Emissions. The Plan shall provide for continuous operation between scheduled maintenance turnarounds for minimization of emissions from the SRP. Such Plan shall include, but not be limited to sulfur shedding procedures, and schedules to coordinate maintenance turnarounds of its SRP Claus train to coincide with scheduled turnarounds of major upstream sulfur producing units. Holly shall comply with the PMO at all times, including periods of Startup, Shutdown, and Malfunction of the SRP. Holly may make reasonable modifications to the PMO under this Paragraph, provided that Holly provides EPA with a copy of the modification.

g. For purposes of this Consent Decree, Holly will not be in violation of the provisions of Paragraphs 52.a. or c. during defined periods of scheduled maintenance of the SRP, if Holly demonstrates compliance with the requirements of the optimization study set forth in Paragraphs 52.b. and 53 and the PMO required by Paragraph 52.f., and the excess emissions are due to the performance of the scheduled maintenance.

h. No later than one hundred twenty (120) days from the date the sulfur input to the SRP exceeds twenty (20) long tons in any calendar day, Holly shall submit to EPA a proposed schedule to comply with all applicable NSPS provisions, including the installation of

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

53. Optimization Study: The optimization study required for the Refinery shall meet the following requirements:

- a. A detailed evaluation of plant design and capacity, operating parameters and efficiencies including catalytic activity, and material balances;
- b. An analysis of the composition of the acid gas and sour water stripper gas resulting from the processing of crude slate actually used, or expected to be used, in the SRP;
- c. A thorough review of each critical piece of process equipment and instrumentation within the Claus train that is designed to correct deficiencies or problems that prevent the Claus train from achieving its optimal sulfur recovery efficiency and expanded periods of operation;
- d. Establishment of baseline data through testing and measurement of key parameters throughout the Claus train;



- e. Establishment of a thermodynamic process model of the Claus train;
  - f. For any key parameters that have been determined to be at less than optimal levels, initiation of logical, sequential, or stepwise changes designed to move such parameters toward their optimal values;
  - g. Verification through testing, analysis of continuous emission monitoring data or other means, of incremental and cumulative improvements in sulfur recovery efficiency, if any;
  - h. Establishment of new operating procedures for long term efficient operation;
- and
- i. Each study shall be conducted to optimize the performance of the Claus trains in light of the actual characteristics of the feeds to the SRUs.

54. Sulfur Pit Emissions. Holly shall route all emissions at all sulfur pits at the Refinery to its SRU incinerator to ensure that the emissions are eliminated or controlled.

**I. NSPS Applicability to Flaring Devices**

55. Good Air Pollution Control Practices. On and after the Date of Lodging, Holly shall at all times and to the extent practicable, including during periods of Startup, Shutdown, and/or Malfunction, implement good air pollution control practices to minimize emissions from its Flaring Devices as required by 40 C.F.R. §60.11(d). Holly shall implement such good air pollution control practices to minimize Hydrocarbon Flaring Incidents by investigating, reporting and correcting all such incidents in accordance with the procedures in Paragraph 68.

56. Flaring Devices and NSPS Applicability. Holly owns and operates the Flaring Devices identified in Appendix A. Each such Flaring Device listed in Appendix D shall be an “affected facility” (as that term is used in NSPS, 40 C.F.R. Part 60) and shall comply with all applicable requirements of 40 C.F.R. Part 60, Subparts A and J for fuel gas combustion devices used as emergency control devices for quick and safe release of combustible gases by the dates

listed in Appendix D.

a. Holly shall meet the NSPS Subparts A and J requirements for each Flaring

Device by using one or any combination of the following methods:

(1) Design, install, operate and maintain a flare gas recovery system to control continuous or routine combustion in the 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) and 60.7;

(2) Eliminate the routing of continuous or intermittent, routinely-generated refinery fuel gases to a Flaring Device and operate the Flaring Device such that it only receives process upset gases, fuel gas released as a result of relief valve leakage or gases released due to other emergency Malfunctions; or

(3) Operate the Flaring Device as a fuel gas combustion device and comply with NSPS monitoring requirements by the use of a CEMS pursuant to 40 C.F.R. §60.105(a)(4) or with a parametric monitoring system approved by EPA as an alternative monitoring system under 40 C.F.R. §60.13(i).

b. Within one-hundred and eighty (180) days after bringing a Flaring Device into compliance with NSPS Subparts A and J, Holly shall conduct a flare performance test pursuant to 40 C.F.R. §§ 60.8 and 60.18, or an EPA-approved equivalent method. In lieu of conducting the velocity test required in 40 C.F.R. § 60.18, Holly may submit velocity calculations which demonstrate that the Flaring Device meets the performance specification required by 40 C.F.R. § 60.18. Holly may utilize its demonstration of compliance with Refinery MACT I if such provides substantially equivalent assurance of NSPS compliance, as may then be determined by EPA after an opportunity for consultation with the Co-Plaintiff.

57. Compliance with the Emission 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 gases that are combusted in any Flaring Device, Holly shall comply with the emission limit at 40 C.F.R. § 60.104(a)(1).

b. Non-Routinely Generated Gases. The combustion of gases generated by the

Startup, Shutdown, or Malfunction of the Refinery process unit or released to a Flaring Device as a result of relief valve leakage or emergency Malfunction are exempt from the requirement to comply with 40 C.F.R. § 60.104(a)(1).

**J. Control of Acid Gas Flaring Incidents**

58. Future Acid Gas Flaring. Holly has conducted a look-back analysis of Acid Gas Flaring Incidents that occurred at the Refinery from July 1, 2000 through June 30, 2005, and has submitted a report on such incidents to EPA. Holly shall investigate the cause of future Acid Gas Flaring under Paragraph 59 and take corrective action as set forth in Paragraph 60.

59. Investigation and Reporting. No later than forty-five (45) days following the end of an Acid Gas Flaring Incident occurring on and after the Date of Entry, Holly shall submit to EPA and the Co-Plaintiff a Root Cause Analysis report that sets forth the following:

a. The date and time that the Acid Gas Flaring Incident started and ended. 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, Holly shall set forth the starting and ending dates and times of each release;

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

c. The steps, if any, that Holly took 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 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 significant contributing causes in the future. If two or more reasonable alternatives exist to address the

Root Cause, the analysis shall discuss the alternatives, if any, that are available, the probable effectiveness and cost of the alternatives, and whether or not an outside consultant should be retained to assist in the analysis. Possible design, operation and maintenance changes shall be evaluated. If Holly concludes that corrective action(s) is (are) required under Paragraph 60, the report shall include a description of the action(s) and, if not already completed, a schedule for its (their) implementation, including proposed commencement and completion dates. If Holly concludes that corrective action is not required under Paragraph 60, the report shall explain the basis for that conclusion;

f. A statement that: (a) specifically identifies each of the grounds for stipulated penalties in Paragraphs 62 and 63 of this Decree and describes whether or not the Acid Gas Flaring Incident falls under any of those grounds, provided, however, that Holly may choose to submit with the Root Cause Analysis a payment of stipulated penalties in the nature of settlement without the need to specifically identify the grounds for the penalty. Such payment of stipulated penalties shall not constitute an admission of liability, nor shall it raise any presumption whatsoever about the nature, existence or strength of Holly's potential defenses; (b) if an Acid Gas Flaring Incident falls under Paragraph 64 of this Decree, describes which Subparagraph 64.a or 64.b applies and why; and (c) if an Acid Gas Flaring Incident falls under either Paragraph 63 or 64.b, states whether or not Holly asserts a defense to the Flaring Incident, and if so, a description of the defense;

g. To the extent that investigations of the causes and/or possible corrective actions still are underway on the due date of the report, a statement of the anticipated date by which a follow-up report fully conforming to the requirements of Subparagraphs 59.d and 59.e shall be submitted; provided, however, that if Holly has not submitted a report or a series of reports containing the information required to be submitted under this Paragraph within the forty-five

(45) day time period set forth in this Paragraph 59 (or such additional time as EPA may allow) after the due date for the initial report for the Acid Gas Flaring Incident, the stipulated penalty provisions of Part XI shall apply, but Holly shall retain the right to dispute, under the dispute resolution provision of this Consent Decree, any demand for stipulated penalties that was issued as a result of Holly's failure to submit the report required under this Paragraph within the time frame set forth. Nothing in this Paragraph shall be deemed to excuse Holly from its investigation, reporting, and corrective action obligations under this Section for any Acid Gas Flaring Incident which occurs after an Acid Gas Flaring Incident for which Holly has requested an extension of time under this Subparagraph 59.g; and

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

60. Corrective Action.

a. In response to any Acid Gas Flaring Incident, Holly 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 Acid Gas Flaring Incident.

b. If EPA does not notify Holly in writing within forty-five (45) days of receipt of the report(s) required by Paragraph 59 that it objects to one or more aspects of the proposed corrective action(s) and schedule(s) of implementation, if any, then that (those) action(s) and schedule(s) shall be deemed acceptable for purposes of compliance with Paragraph 60.a of this Decree. EPA does not, however, by its failure to object to any corrective action that Holly may

take in the future, warrant or aver in any manner that any corrective actions in the future shall result in compliance with the provisions of the Clean Air Act or its implementing regulations.

c. If EPA objects, in whole or in part, to the proposed corrective action(s) and/or the schedule(s) of implementation or, where applicable, to the absence of such proposal(s) and/or schedule(s), it shall notify Holly and explain the basis for its objection (s) in writing within forty-five (45) days following receipt of the report(s) required by Paragraph 59, and Holly shall respond promptly to EPA's objection(s).

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

61. Stipulated Penalties for Acid Gas Flaring Incidents. The provisions of Paragraphs 62 through 65 are to be used by EPA in assessing stipulated penalties for Acid Gas Flaring Incidents occurring on and after Date of Entry and by the United States in demanding stipulated penalties under this Section V.J. The provisions of Paragraphs 62-65 do not apply to Hydrocarbon Flaring Incidents.

62. The stipulated penalty provisions of Paragraph 170 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. Error resulting from careless operation by the personnel charged with the responsibility for the Sulfur Recovery Plant, TGU, or Upstream Process Units;
- b. Failure to follow written procedures; or
- c. A failure of equipment that is due to a failure by Holly to operate and maintain that equipment in a manner consistent with good engineering practice.

63. If the Acid Gas Flaring Incident is not a result of one of the Root Causes identified in Paragraph 62, then the stipulated penalty provisions of Paragraph 170 shall apply if the Acid Gas Flaring Incident:

a. Results in emissions of sulfur dioxide at a rate greater than twenty (20.0) pounds per hour continuously for three (3) consecutive hours or more and Holly 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 SO<sub>2</sub> 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).

64. With respect to any Acid Gas Flaring Incident not identified in Paragraphs 62 or 63, 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:

(1) 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;

(2) 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 Holly shall implement corrective action(s) pursuant to Paragraph 60, and the stipulated penalty provisions of Part XI 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 Holly shall be liable for stipulated penalties under Part XI unless:

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

(2) the Root Cause previously was designated as an agreed-upon

Malfunction under Paragraph 64.a.1; or

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

(4) the Acid Gas Flaring Incident had as its Root Cause the recurrence of a Root Cause for which Holly was still performing a root cause investigation and had not yet reported the incident pursuant to Paragraph 59.

65. Defenses. Holly 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 62, the Acid Gas Flaring Incident does not meet the identified criteria.
- c. As to Paragraph 63, the Incident does not meet the identified criteria and/or was due to a Malfunction; and,
- d. As to Paragraph 64, the Incident does not meet the identified criteria and/or was due to a Malfunction and/or Holly was in the process of timely developing or implementing a corrective action plan.

66. In the event a dispute under Paragraphs 62 through 65 is brought to the Court pursuant to the Dispute Resolution provisions of this Consent Decree, Holly may also assert a Startup, Shutdown and/or upset defense, but the United States shall be entitled to assert that such defenses are not available. If Holly prevails in persuading the Court that the defenses of Startup, Shutdown and/or upset are available for Acid Gas Flaring Incidents under 40 C.F.R. 60.104(a)(1), Holly 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 or Startup, Shutdown and/or upset are not available, Holly shall be liable for such



stipulated penalties.

67. Other than for a Malfunction or force majeure, if no Acid Gas Flaring Incident occurs at the Refinery for a rolling thirty-six (36) month period, then the stipulated penalty provisions of Section V.J. shall no longer apply to the Refinery. EPA may elect to reinstate the stipulated penalty provision if the Refinery has an Acid Gas Flaring Incident which would otherwise be subject to stipulated penalties. EPA's decision shall not be subject to dispute resolution. Once reinstated, the stipulated penalty provision shall continue for the remaining life of this Consent Decree for the Refinery.

Emission Calculations.

a. Calculation of the Quantity of Sulfur Dioxide Emissions Resulting from Acid Gas Flaring. For purposes of this Consent Decree, the quantity of SO<sub>2</sub> emissions resulting from an Acid Gas Flaring Incident shall be calculated by 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 SO<sub>2</sub> emitted shall be rounded to one decimal point. (Thus, for example, for a calculation that results in a number equal to 10.050 tons, the quantity of SO<sub>2</sub> emitted shall be rounded to 10.1 tons.) For purposes of determining the occurrence of, or the total quantity of SO<sub>2</sub> emissions resulting from, an Acid Gas Flaring Incident that is comprised of intermittent Acid Gas Flaring, the quantity of SO<sub>2</sub> emitted shall be equal to the sum of the quantities of SO<sub>2</sub> flared during each twenty-four (24) hour period starting when the Acid Gas was first flared.

b. Calculation of the Rate of SO<sub>2</sub> Emissions During Acid Gas Flaring. For purposes of this Consent Decree, the rate of SO<sub>2</sub> emissions resulting from an Acid Gas Flaring Incident shall be expressed in terms of pounds per hour and shall be calculated by the following formula:

$$\text{ER} = [\text{FR}][\text{ConcH}_2\text{S}][0.169].$$

The emission rate shall be rounded to one decimal point. (Thus, for example, for a calculation that results in an emission rate of 19.95 pounds of SO<sub>2</sub> per hour, the emission rate shall be rounded to 20.0 pounds of SO<sub>2</sub> per hour; for a calculation that results in an emission rate of 20.05 pounds of SO<sub>2</sub> per hour, the emission rate shall be rounded to 20.1.)

c. Meaning of Variables and Derivation of Multipliers Used in the Equations in this Paragraph 67:

ER =	Emission Rate in pounds of SO <sub>2</sub> per hour
FR =	Average Flow Rate to Flaring Device(s) during Flaring Incident in standard cubic feet per hour
TD =	Total Duration of Flaring Incident in hours
ConcH <sub>2</sub> 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 H <sub>2</sub> S/scf gas)
$8.44 \times 10^{-5}$ =	$[\text{lb mole H}_2\text{S}/379 \text{ scf H}_2\text{S}][64 \text{ lbs SO}_2/\text{lb mole H}_2\text{S}][\text{Ton}/2000 \text{ lbs}]$
0.169 =	$[\text{lb mole H}_2\text{S}/379 \text{ scf H}_2\text{S}][1.0 \text{ lb mole SO}_2/1 \text{ lb mole H}_2\text{S}][64 \text{ lb SO}_2/1.0 \text{ lb mole SO}_2]$

The flow of gas to the Acid Gas Flaring Device(s) (“FR”) shall be as measured by the relevant flow meter or reliable flow estimation parameters. Hydrogen sulfide concentration (“ConcH<sub>2</sub>S”) 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 Co-Plaintiff. In the event that any of these data points is unavailable or inaccurate, the missing data point(s) shall be estimated according to best engineering judgment. The report required under Paragraph 59 shall include the data used in the calculation and an explanation of the basis for

any estimates of missing data points.

**K. Control of Hydrocarbon Flaring Incidents**

68. Holly has conducted a look-back analysis of Hydrocarbon Flaring Incidents that occurred at the Refinery from July 1, 2000 through June 30, 2005, and has submitted a report on such incidents to EPA. For Hydrocarbon Flaring Incidents occurring after the Date of Entry, Holly shall follow the same investigative, reporting (except that reports will be submitted semi-annually as described below), and corrective action procedures as those set forth in Paragraphs 59 and 60 (Acid Gas Flaring Incidents); provided however, that in lieu of analyzing possible corrective actions under Paragraph 59.e and taking interim and/or long-term corrective action under Paragraph 60 for a Hydrocarbon Flaring Incident attributable to the Startup or Shutdown of a unit that Holly has previously analyzed under this Paragraph, Holly may identify such prior analysis when submitting the report required under this Paragraph. Holly shall submit Hydrocarbon Flaring Incident(s) reports as part of the Semi-annual Progress Reports required pursuant to Part IX. Stipulated penalties under Paragraphs 62 - 64 shall not apply to Hydrocarbon Flaring Incident(s). The formulas at Paragraph 67 (Acid Gas Flaring Incidents) shall be used to calculate the quantity and rate of sulfur dioxide emissions during Hydrocarbon Flaring Incidents.

**L. CERCLA/EPCRA**

69. To the extent that, during the course of Holly's development of its plan to comply with Subpart J for the Flaring Devices in Appendix D, Holly discovers information possibly demonstrating a failure by Holly to comply with the reporting requirements for continuous releases of SO<sub>2</sub> pursuant to Section 103(c) of CERCLA and/or Section 304 of EPCRA, including the regulations promulgated thereunder, a voluntary disclosure by Holly of any such violations will not be deemed "untimely" under EPA's Audit Policy or Co-Plaintiff's

audit policy, solely on the ground that it is submitted more than twenty-one (21) days after it is discovered, provided all such disclosures are made by no later than June 30, 2009 .

**M. Benzene Waste Operations NESHAP Program Enhancements**

70. In addition to continuing to comply with all applicable requirements of 40 C.F.R. Part 61, Subpart FF (“Benzene Waste Operations NESHAP” or “Subpart FF”) Holly agrees to undertake, at the Refinery, the measures set forth in this Section V.M. to ensure continuing compliance with Subpart FF and to minimize or eliminate fugitive benzene waste emissions.

71. Current Compliance Status. Holly has reported a Total Annual Benzene (“TAB”) of less than 10 Mg/yr at its Woods Cross Refinery.

72. Refinery Compliance Status Changes. If at any time from the Date of Lodging of the Consent Decree through its termination, the Woods Cross Refinery is determined to have a TAB equal to or greater than 10 Mg/yr, Holly shall utilize the 6 BQ compliance option (See 40 C.F.R. § 61.342(e)). Holly shall consult with EPA and the Co-Plaintiff before making any change in compliance strategy. All changes must be undertaken in accordance with the regulatory provisions of the Benzene Waste Operations NESHAP.

73. One-Time Review and Verification of The Refinery’s TAB: Phase One of the Review and Verification Process. By no later two hundred seventy (270) days after Date of Entry, Holly will complete a review and verification of the Refinery’s TAB and compliance. For purposes of compliance with this Paragraph, Holly may use the results of TAB audits performed at the Refinery prior to entry of this Consent Decree, provided such audits were conducted after January 1, 2005. For the Refinery, Holly’s Phase One review and verification process shall include, but not be limited to:

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

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, including sampling for benzene concentration at no less than ten (10) waste streams, consistent with the requirements of 40 C.F.R. §61.355(c)(1) and (3); provided however, that previous analytical data or documented knowledge of waste streams may be used in accordance with 40 C.F.R. § 61.355(c)(2), for streams not sampled; and

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

74. By no later than sixty (60) days after the completion of the Phase One review and verification process, Holly shall submit to EPA and the Co-Plaintiff a Benzene Waste Operations NESHAP Compliance Review and Verification Report ("BWON Compliance Review and Verification Report") for the Refinery that sets forth the results of Phase One, including but not limited to the items identified in (a) through (d) of Paragraph 73.

75. One-Time Review and Verification of the 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 Co-Plaintiff, EPA may select up to twenty (20) additional waste streams at the Refinery for sampling for benzene concentration. Holly shall conduct the required sampling and submit the results to EPA within sixty (60) days of receipt of EPA's request. Holly 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 Holly to sample a waste stream as part of the Phase Two review that Holly sampled and included as part of its Phase One review, Holly may average the results of such sampling. Holly 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 will supersede and replace the originally-submitted BWON Compliance Review and Verification Report. If EPA notifies Holly that Phase Two sampling is not required, the originally-submitted BWON Compliance Review and Verification Report will constitute the final report.

76. Amended TAB Reports. If the results of the BWON Compliance Review and Verification Report indicate that the Refinery's most recently-filed TAB report does not satisfy the requirements of Subpart FF, Holly shall submit, by no later than one-hundred and twenty (120) days after completion of the BWON Compliance Review and Verification Report, an amended TAB report to the applicable state agency. Holly's BWON Compliance Review and Verification Report will be deemed an amended TAB report for purposes of Subpart FF reporting to EPA.

77. Implementation of Actions Necessary to Correct Non-Compliance. If the results of the BWON Compliance Review and Verification Report indicate that the Refinery has a TAB of over 10 Mg/yr, Holly shall submit to EPA, by no later than one-hundred and eighty (180) days after completion of the BWON Compliance Review and Verification Report, a plan that identifies with specificity: (a) the actions it will take to ensure that the Refinery's TAB remains below 10 Mg/yr for each calendar year thereafter; or (b) a compliance strategy and schedule that Holly will implement to ensure that the Refinery complies with the 6BQ compliance option as soon as practicable but by no later than 2 (two) years following completion of the BWON Compliance Review and Verification Report, if it cannot ensure a consistent TAB below 10 Mg/yr.

78. Implementation of Actions Necessary to Correct Non-Compliance: Review and Approval of Plans. Any plans submitted pursuant to Paragraph 77 shall be subject to the approval of, disapproval of, or modification by EPA, after an opportunity for consultation with the Co-Plaintiff. Within sixty (60) days after receiving any notification of disapproval or request for modification from EPA, Holly shall submit to EPA and the Co-Plaintiff a revised plan that responds to all identified deficiencies. Unless EPA responds to Holly's revised plan within sixty (60) days, Holly shall implement its proposed plan.

79. 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 77-78 to come into compliance with the applicable compliance option, Holly shall submit its certification and a report to EPA and the Co-Plaintiff that the Refinery complies with the Benzene Waste Operations NESHAP.

80. Annual Review. By no later than sixty (60) days after Date of Entry, Holly shall develop a program to annually review process and project information for the Refinery, including but not limited to construction projects, to ensure that all new benzene waste streams are included in the Refinery's waste stream inventory.

81. Laboratory Audits. Holly shall conduct audits of all laboratories that perform analyses of Holly's benzene waste NESHAP samples to ensure that proper analytical and quality assurance/quality control procedures are followed.

82. By no later than two hundred seventy (270) days after Date of Entry, Holly shall complete audits of all of the laboratories it uses to perform analyses of benzene waste NESHAP samples. Holly will audit any new laboratory to be used for analyses of benzene waste NESHAP samples prior to such use.

83. If Holly has completed an audit of any laboratory on or after January 1, 2006, Holly will not be required to perform additional audits of those laboratories pursuant to Paragraph 82.

84. During the life of this Consent Decree, Holly shall conduct subsequent laboratory audits, such that each laboratory is audited every two (2) calendar years.

85. Holly may retain third parties to conduct these audits or use audits conducted by others as its own, but the responsibility and obligation to ensure that the Refinery complies with this Consent Decree and Subpart FF are solely Holly's.

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



87. Training. By no later than sixty (60) days after the Date of Entry, Holly will develop and begin implementation of annual (i.e., once each calendar year) training for all employees asked to draw benzene waste samples at the Refinery.

88. Additional Training:

a. Holly shall comply with the provisions of Paragraph 88.b if and when the Refinery becomes subject to the 6 BQ compliance option.

b. Holly shall propose a schedule for training at the same time that Holly proposes a plan, pursuant to Paragraph 77, that identifies the compliance strategy and schedule that Holly will implement to come into compliance with the 6 BQ compliance option. Holly shall complete the development of standard operating procedures for all control equipment used to comply with the Benzene Waste Operations NESHAP. Additionally within ninety (90) days after the Refinery becomes subject to the 6 BQ compliance option, Holly shall complete an initial training program regarding these procedures for all operators assigned to this equipment. Comparable training will also be provided 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.

89. Training: Contractors. As part of Holly’s training program, Holly must ensure that the employees of any contractors hired to perform the requirements of Paragraph 87 and 88 are properly trained to implement all applicable provisions of this Section V.M.

90. Waste/Slop/Off-Spec Oil Management: Schematics. By no later than sixty (60) days after the Date of Entry, Holly shall submit to EPA and the Co-Plaintiff schematics for the Refinery that: (a) depict the waste management units (including sewers) that handle, store, and transfer waste, slop, or off-spec oil streams; (b) identify the control status of each waste management unit; and (c) show how such oil is transferred within the Refinery. Holly shall include with the schematics a quantification of all uncontrolled waste, slop, or off-spec oil movements at the Refinery. If requested by EPA, Holly shall submit to EPA within ninety (90) days of the request, revised schematics regarding the characterization of these waste, slop, off-spec oil streams and the appropriate control standards.

91. Waste/Slop/Off-Spec Oil Management: Non-Aqueous Benzene Waste Streams. All waste management units handling non-exempt, non-aqueous benzene wastes, as defined in Subpart FF, will meet the applicable control standards of Subpart FF, if the TAB equals or exceeds 10 Mg/yr.

92. Waste/Slop/Off-Spec Oil Management: Aqueous Benzene Waste Streams. For purposes of calculating the Refinery's TAB pursuant to the requirements of 40 C.F.R. §61.342(a), Holly shall include all waste/slop/off-spec oil streams that become "aqueous" until such streams are recycled to a process or put into a process feed tank (unless the tank is used primarily for the storage of wastes). Appropriate adjustments will be made to such calculations to avoid the double-counting of benzene.

93. Benzene Waste Operations Sampling Plans: General. By no later than sixty (60) days after the BWON Compliance Review and Verification Report becomes final, Holly shall submit to EPA and the Co-Plaintiff benzene waste operations sampling plans designed to describe the sampling of benzene waste streams that Holly will undertake to estimate quarterly and annual TABs for the Woods Cross Refinery.

94. Benzene Waste Operations Sampling Plans: Content Requirements.

a. Refinery (TAB under 10 Mg/yr). The sampling plan shall identify:

(1) all waste streams that contributed 0.05 Mg/yr or more at the point of generation to the previous year's TAB calculations; and

(2) the proposed sampling locations and methods for flow calculations to be used in calculating projected quarterly and annual TAB calculations under the terms of Paragraph 97; or

(3) the items identified under Paragraph 94.b(2) if it is determined that the TAB equals or exceeds 10 Mg/yr and it is then subject to the 6 BQ Compliance Option under Paragraph 72.

The sampling plan shall require Holly to take, and have analyzed, in each calendar quarter, at least three representative samples from all waste streams identified in Subparagraph (a)(2) and to take, and have analyzed annually all locations identified in Subparagraph (a)(1).

b. If and when the TAB reaches 10 Mg/yr, (6 BQ Compliance Option), the sampling plan shall identify:

(1) all uncontrolled waste streams that count toward the 6 BQ calculation and contain greater than 0.05 Mg/yr of benzene at the point of generation; and

(2) the proposed 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 97.

The sampling plan shall require Holly to take, and have analyzed, in each calendar quarter, at least three representative samples from all waste streams identified in Subparagraph (b)(1) and all locations identified in Subparagraph (b)(2).

c. Compliance Plan under Paragraph 77. If the Refinery must implement a compliance plan under Paragraph 77, Holly may submit a proposed sampling plan that does not include sampling points in locations within the Refinery that are subject to changes proposed in the compliance plan. To the extent that Holly believes that such sampling will not be effective until Holly completes 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, Holly may request EPA approval for postponing its submitting a sampling plan and commencing sampling until the compliance plan is completed. EPA will not unreasonably withhold its approval. Unless EPA provides its approval, Holly shall submit a plan by the due date in Paragraph 78.

95. Benzene Waste Operations Sampling Plans: Timing for Implementation. Holly shall implement the sampling required under each sampling plan during the first full calendar quarter after Holly submits the plan for the Refinery. Holly shall continue to implement the sampling plan (i) unless and until EPA disapproves the plan; or (ii) unless and until Holly modifies the plan, with EPA's approval, under Paragraph 96.

96. Benzene Waste Operations Sampling Plans: Modifications.

a. Changes in Processes, Operations, or Other Factors. If changes in processes, operations, or other factors lead Holly to conclude that a sampling plan for the Refinery may no longer provide an accurate basis for estimating the refinery's quarterly or annual TABs or benzene quantities under Paragraph 97, then by no later than ninety (90) days after Holly determines that the plan no longer provides an accurate measure, Holly shall submit to EPA and the Co-Plaintiff a revised plan for EPA approval. In the first full calendar quarter after submitting the revised plan, Holly shall implement the revised plan. Holly shall continue to implement the revised plan unless and until EPA disapproves the revised plan after an opportunity for consultation with the Co-Plaintiff.

b. Requests for Modifications. After two (2) years of implementing a sampling plan, Holly may submit a request to EPA for approval, with a copy to the Co-Plaintiff, to revise the Refinery's sampling plan, including sampling frequency. EPA will not unreasonably withhold its approval. Holly shall not implement any proposed revisions under this Subparagraph until EPA provides its approval after an opportunity for consultation with the Co-Plaintiff.

97. 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, Holly shall calculate a quarterly and projected annual TAB for the Woods Cross Refinery. In making this calculation, Holly shall use the average of the three samples collected at each sampling location. If these calculations do not identify any potential violations of the benzene waste operations NESHAP, Holly shall submit these calculations in the reports due under Part IX of this Decree.

98. Corrective Measures: Basis. Except as set forth in Paragraph 99, Holly shall implement corrective measures at the Refinery if 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.

99. Exception to Implementing Corrective Measures. If Holly 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 98 and states that it does not expect such reason or reasons to recur, then Holly may exclude the benzene quantity attributable to the identified reason(s) from the projected calendar year quantity. If that exclusion results in no potential violation of the Benzene Waste Operation NESHAP, Holly will not be required to implement corrective measures under Paragraph 98, and Holly may exclude the uncontrolled benzene attributable to the identified reason(s) in determining the applicability of Paragraph 101. At any time that Holly proceeds under this Paragraph, Holly shall describe how it satisfied the conditions in this Paragraph in the reports due under Part IX of this Decree.

100. Compliance Assurance Plan. If Holly meets one or more conditions in Paragraph 98 (except as provided under Paragraph 99), 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, Holly shall submit a compliance assurance plan to EPA for approval, with a copy to the Co-Plaintiff. In that compliance assurance plan, Holly will identify the cause(s) of the potentially-elevated benzene quantities, all corrective actions that Holly has taken or plans to take to ensure that the cause(s) will not recur, and the schedule of actions that Holly will take to ensure that the Refinery complies with the Benzene Waste Operations NESHAP for the calendar compliance year. Holly shall implement the plan unless and until EPA disapproves after an opportunity for consultation with the Co-Plaintiff.

101. Third-Party Assistance. If at least one of the conditions in Paragraph 98 exists at the Refinery in two consecutive quarters, then Holly shall retain a third-party contractor during the following quarter to undertake a TAB study and compliance review at the Refinery. By no later than thirty (30) days after Holly receives the results of the third-party TAB study and compliance review, Holly 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 Co-Plaintiff. Holly will implement its proposed plan unless and until EPA disapproves after an opportunity for consultation with the Co-Plaintiff.

102. Miscellaneous Measures. The provisions of this Paragraph shall apply to the Refinery by no later than the date it submits a compliance strategy under Paragraph 77 option

(b):

- a. Conduct monthly visual inspections of all Subpart FF water traps within the Refinery's individual drain systems;
- b. Identify and mark all area drains that are segregated stormwater drains;

c. 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, Holly may submit a request to the EPA Region to modify the frequency of the inspections. EPA shall not unreasonably withhold its approval. Nothing in this Paragraph 102.c. will require Holly to monitor conservation vents on fixed roof tanks. Alternatively, for conservation vents with indicators that identify whether flow has occurred, Holly may elect to visually inspect such indicators on a monthly basis and, if flow is then detected, Holly will 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, Holly shall install a carbon canister on that vent until appropriate corrective action(s) can be implemented to prevent such flow;

d. 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; and

e. Manage all groundwater remediation wastes that are covered by Subpart FF at the Refinery in appropriate waste management units under and as required by the Benzene Waste Operations NESHAP.

103. Recordkeeping and Reporting Requirements for this Section V.M: Outside of the Reports Required under 40 C.F.R. § 61.357 or under the Progress Report Procedures of Part IX (Recordkeeping and Reporting). At the times specified in the applicable provisions of this Section V.M, Holly shall submit, as and to the extent required, the following reports to EPA and the Co-Plaintiff:

a. BWON Compliance Review and Verification Report (Paragraph 74), as amended, if necessary (Paragraph 75);

b. Amended TAB Report, if necessary (Paragraph 76);



c. Plan for the Woods Cross Refinery to come into compliance with the 6 BQ compliance option upon discovering that its TAB equals or exceeds 10 Mg/yr through the BWON Compliance Review and Verification Report (Paragraph 77), or through sampling (paragraph 94);

d. Compliance certification, if necessary (Paragraph 79);

e. Schematics of waste/slop/off-spec oil movements (Paragraph 90), as revised, if necessary;

f. Sampling Plans (Paragraph 94), and revised Sampling Plans, if necessary (Paragraph 96);

g. Plan to ensure that uncontrolled benzene does not equal or exceed, as applicable, 6 Mg/yr (Paragraph 100).

104. Recordkeeping and Reporting Requirements for this Section: As Part of Either the Reports Required under 40 C.F.R. §61.357 or the Progress Report Procedures of Part IX (Recordkeeping and Reporting). Holly shall submit the following information as part of the information submitted in either the quarterly report required pursuant to 40 C.F.R. §61.357(d)(6) and (7) (“Section 61.357 Reports”) or in the reports due pursuant to Part IX of this Decree:

a. Sampling Results under Paragraphs 95 and 96. 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 and the quarterly and projected calendar year uncontrolled benzene quantity;

b. Training. Initial and/or subsequent training conducted in accordance with Paragraphs 87-89;

c. Laboratory Audits. Initial and subsequent audits conducted pursuant to Paragraphs 81-85, 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.

105. At any time after two years of reporting pursuant to the requirements of Paragraph 104, Holly may submit a request to EPA to modify the reporting frequency for any or all of the reporting categories of Paragraph 104. This request may include a request to report the previous year's projected calendar year TAB and uncontrolled benzene quantity in the Part IX report due on January 31 of each year, rather than semi-annually on January 31 and July 31 of each year. Holly shall not change the due dates for its reports under Paragraph 103 unless and until EPA approves Holly's request after an opportunity for consultation with the Co-Plaintiff. EPA will not unreasonably withhold its approval.

106. Certifications Required in this Section V.M. Certifications required under this Section V.M shall be made in accordance with the provisions of Part IX.

**N. Leak Detection and Repair ("LDAR") Program Enhancements**

107. 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, Holly shall implement at the Refinery the enhancements at Paragraph 107 through Paragraph 136 to the Refinery's LDAR program under Title 40 of the Code of Federal Regulations, Part 60, Subpart GGG; Part 61, Subparts J and V; and Part 63, Subparts F, H, and CC. 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 of the Code of Federal Regulations, Part 60, Subparts VV and GGG; Part 61, Subparts J and V; and Part 63, Subparts F, H and CC.

108. RESERVED

109. Written Refinery-Wide LDAR Program. By no later one hundred twenty (120) days from the Date of Entry, Holly shall develop and maintain, for the Refinery, a written, Refinery-wide program for compliance with all applicable federal and state LDAR regulations. Holly 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. 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 will be a target for achievement;

b. An identification of all equipment in light liquid and/or in gas/vapor service in the Refinery that has the potential to leak VOCs, HAPs, VHAPs, and benzene;

c. Procedures for identifying leaking equipment within process units in the Refinery;

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 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 will 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 will be the "LDAR Coordinator." Consistent with Holly management authorities, this person shall have the responsibility to implement improvements to the LDAR program.

110. Holly shall submit a copy of the facility's initial written LDAR Program to EPA and to the Co-Plaintiff. EPA shall review and may comment on the written program after an opportunity for consultation with the Co-Plaintiff. Holly shall address EPA's comments (if any). A description of program changes shall be maintained on-site during the term of the Consent Decree but need not be submitted to the agencies.

111. Training. Holly shall commence implementation of the following training programs at the Refinery:

a. As of the date of Entry of this Consent Decree, for any employee newly-assigned to LDAR responsibilities, Holly shall require that each such employee satisfactorily complete LDAR training prior to beginning any LDAR work;

b. By no later than one year after the date of Entry of this Consent Decree, for all Holly employees assigned specific LDAR responsibilities as a primary job function, such as monitoring technicians, database users, QA/QC personnel and the LDAR Coordinator, Holly shall have provided and shall continue to provide and require completion of annual LDAR refresher training;

c. By no later than one year after the date of Entry of this Consent Decree, for all other Holly employee operations and maintenance personnel, Holly shall have provided and shall continue to provide and require completion of a 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; and

d. If contract employees are performing LDAR work, Holly shall maintain all training records, as required under this Paragraph, for the contract employees.

112. LDAR Audits. Holly shall implement the Refinery-wide audits set forth in Paragraphs 112-116 to ensure the Refinery's compliance with all applicable LDAR

requirements. The LDAR audits shall include but not be limited to, comparative monitoring of valves and pumps, 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, data management procedures, and observation of the LDAR technicians' calibration and monitoring techniques. For comparative monitoring purposes, Holly shall monitor at least 5% randomly, or 25% semirandomly, of the valves and pumps in each process unit audited. During each LDAR Audit, Holly shall calculate the following values:

- a. leak percentages based on the number and type of equipment monitored for each process unit where comparative monitoring was performed.
- b. the average leak percentage from facility monitoring, for each equipment type in each unit where comparative monitoring was performed, for the four complete quarters immediately preceding the audit.
- c. the ratio of item a. to item b, above, for each equipment type and process unit.

113. Initial Compliance Audit. By no later than or twelve (12) months after the Date of Entry, Holly shall have engaged a third-party contractor to undertake a refinery-wide audit of its compliance with the LDAR regulations at the Refinery, to include, at a minimum, each of the audit requirements set forth in Paragraphs 112-116, and shall have submitted to EPA and the applicable state a report describing the audit and audit scope, any areas of non-compliance identified as a result of its refinery-wide audit, and proposing a compliance schedule for correcting the non-compliance. If the proposed compliance schedule extends beyond eighteen (18) months after Date of Entry, Holly must seek approval of the compliance schedule from EPA. Within eighteen (18) months after Date of Entry, Holly shall certify to

EPA that the Refinery: is in compliance; has completed related corrective action (if necessary); and/or is on a compliance schedule. Holly shall implement the compliance schedule as proposed until the schedule is approved or disapproved by EPA.

114. Third-Party Audits. Holly shall retain an independent contractor(s) with expertise in LDAR program requirements to perform a third-party audit of the Refinery's LDAR program at least once every four (4) years.

115. Internal Audits. Holly shall conduct internal audits of the Woods Cross LDAR program with such audits being conducted by personnel familiar with the LDAR program requirements from another Holly refinery. Holly shall complete the first internal LDAR audit at the Refinery by no later than two years after the third-party audit for the Refinery was conducted according to Paragraph 114 [Third Party Audits]. Internal audits of the Refinery shall be conducted at least once every four years thereafter. Holly may elect to retain third-parties to undertake these internal audits, provided that an audit of the Refinery occurs every two (2) years.

116. Audit Every Two Years. To ensure that an audit of the Refinery occurs every two (2) years, third-party and internal audits shall be separated by approximately two (2) years, with the audit performed in the same calendar quarter.

117. Implementation of Actions Necessary to Correct Non-Compliance. If the results of any of the audits conducted pursuant to Paragraphs 113-116 identify any areas of non-compliance, Holly shall implement all steps necessary: to correct the area(s) of non-compliance as soon as practicable; and to prevent a recurrence of the cause of the non-compliance, to the extent practicable. For purposes of this Paragraph, a ratio of the process unit leak percentage—established through a comparative monitoring audit conducted under Paragraphs 113 through 116—and the average leak percentage reported for the process unit for

the four quarters immediately preceding the audit, in excess of 3.0, shall be deemed an area of non-compliance and cause for corrective action. If the calculated ratio yields an infinite result, Holly shall assume one leaking component was found in the process unit through its routine monitoring during the four (4) quarter period. Until two (2) years after termination of this Consent Decree, Holly shall retain the audit reports generated pursuant to Paragraphs 113-116 and shall maintain a written record of the corrective actions that Holly takes at the Refinery in response to any deficiencies identified in any audits.

118. RESERVED

119. Internal Leak Definition for Valves and Pumps. Holly shall utilize the internal leak definitions set forth in Paragraphs 120-121 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.

120. Leak Definition for Valves. By no later than the earlier of January 1, 2009 or one (1) year after the Date of Entry, Holly shall utilize an internal leak definition of 500 ppm VOCs for all of the Refinery's valves, excluding pressure relief devices.

121. Leak Definition for Pumps. By no later than the earlier of July 1, 2010 or thirty (30) months after the Date of Entry, Holly shall utilize an internal leak definition of 2,000 ppm VOCs for all of the Refinery's pumps.

122. Reporting of Valves and Pumps Based on the Internal Leak Definitions. For regulatory reporting purposes, Holly 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 Paragraphs 120-121. Holly shall identify in the report which definition is being used.

123. Recording, Tracking, Repairing and Re-Monitoring Leaks Based on the Internal

Leak Definitions. Holly shall record monitoring for all equipment as of the Date of Entry, and shall repair and remonitor all leaks in excess of the internal leak definitions in Paragraphs 120-121 when those definitions become effective. Holly shall have five (5) days to make an initial repair attempt and remonitor the component under Paragraph 124 and thirty (30) days either to make repairs and remonitor 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 132. All records of repairs, repair attempts, and remonitoring shall be maintained for the life of the Consent Decree.

124. Initial Attempt at Repair of Valves. Beginning no later than the later of the Date of Entry, Holly shall promptly make an “initial attempt” at repair on any valve that has a reading greater than 200 ppm of VOCs, excluding control valves and other valves that LDAR personnel are not authorized to repair. Holly, or its designated contractor, shall re-monitor the leaking valve within five (5) days of identification. If the re-monitored leak reading is below the applicable leak definition, no further action will be necessary. If the re-monitored leak reading is greater than the applicable leak definition, Holly shall repair the leaking valve according to the requirements under Paragraph 123. All records of repairs, repair attempts, and remonitoring shall be maintained for the life of the Consent Decree. If Holly can demonstrate with sufficient monitoring and repair data that this "initial attempt" at repair requirement at 200 ppm does not reduce emissions, Holly may, after 2 years of implementing the “initial attempt” requirement, request that the United States reconsider or amend this requirement. The United States shall not unreasonably withhold its consent.

125. 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 121, Holly shall begin monitoring



pumps in light service, other than dual-mechanical seal pumps or pumps vented to a control device, at the lower leak definition on a monthly basis.

126. 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 120, Holly shall monitor valves, other than difficult-to-monitor or unsafe-to-monitor valves, on a quarterly basis.

127. Electronic Storing and Reporting of LDAR Data. Holly shall maintain an electronic database for recordkeeping and reporting of LDAR data from the Refinery.

128. Electronic Data Collection During LDAR Monitoring and Transfer. Beginning no later than one (1) year after the Date of Entry, Holly shall use dataloggers and/or electronic data collection devices during LDAR monitoring. Holly, or its designated contractor, shall use its/their best efforts to transfer, on a daily basis, electronic data from electronic datalogging devices to the electronic database required by Paragraph 127. 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. Holly may use paper logs where necessary or more feasible (e.g., small rounds, remonitoring, or when dataloggers 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. Holly shall transfer any manually recorded monitoring data to the electronic database required by Paragraph 127 within seven (7) days of monitoring. Holly shall maintain the LDAR information required by this paragraph for the life of the Consent Decree.

129. QA/QC of LDAR Data. Beginning no later than 90 days after the Date of Entry, Holly shall develop and implement a procedure to ensure a quality assurance/quality

control (“QA/QC”) review of all data generated by LDAR monitoring technicians. Holly shall ensure that monitoring collected by monitoring technicians is reviewed for QA/QC by the technician daily. At least once per calendar quarter, Holly 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 (when timestamp information becomes available as per Paragraph 128), and abnormal data patterns. Results from LDAR monitoring shall be reported to unit supervisors daily.

130. Calibration. Holly shall conduct all calibrations of LDAR monitoring equipment in accordance with 40 C.F.R. Part 60, App. A, EPA Reference Test Method 21, and shall maintain records of the calibrations for the life of the Consent Decree.

131. Calibration Drift Assessment. Beginning no later than the Date of Entry, Holly shall conduct calibration drift assessments of LDAR monitoring equipment at the end of each monitoring shift, at a minimum. Holly 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, Holly shall remonitor all valves that were monitored since the last calibration that had a reading greater than 100 ppm and shall remonitor all pumps that were monitored since the last calibration that had a reading greater than 500 ppm.

132. Delay of Repair. Beginning no later than the Date of Entry, Holly shall implement the following requirements:

a. For all equipment:

- (1) Require sign-off by the unit supervisor or person of comparable authority 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
- (2) Include equipment that is placed on the “delay of repair” list in Holly’s

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, Holly shall use “drill and tap” or similarly effective repair methods to repair such leaking valves, unless Holly can demonstrate that there is a safety, mechanical, or major environmental concern posed by repairing the leak in this manner. Holly shall make an initial repair attempt within fifteen (15) days of identification of the leak, and a second repair attempt (if necessary) within thirty (30) days of identification of the leak.

133. 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 Holly, Holly shall advise EPA prior to implementing such a method or, if prior notice is not practicable, as soon as practicable after implementation.

134. Chronic Leaker Program. Holly shall replace, repack, 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 which leaks above 10,000 ppm twice in any consecutive four quarters. If a component has not leaked for a period of twelve (12) consecutive quarters or more prior to a turnaround, it is exempt from the requirements in this Paragraph.

135. Reporting. Consistent with the requirements of Part IX (Recordkeeping and Reporting), Holly shall include the information set forth below in the designated semi-annual progress report(s):

a. First Semi-annual Progress Report Due under the Consent Decree. At the later of: (i) the first semi-annual progress report due under the Consent Decree; or (ii) the first semi-annual progress report in which the requirement becomes due, Holly

shall include the following:

- (1) Copies of the written Refinery-wide LDAR Program required by Paragraph 109;
- (2) A certification of the implementation of the training program required by Paragraph 111;
- (3) A certification of the implementation of the lower leak definitions and monitoring frequencies in Paragraphs 119, 120, 121, 125 and 126;
- (4) A certification of the implementation of the “initial attempt at repair” program of Paragraph 124;
- (5) A certification of the implementation of QA/QC procedures for review of data generated by LDAR technicians as required by Paragraph 129;
- (6) An identification of the individual at the Refinery responsible for LDAR performance as required by Paragraph 109(g);
- (7) A certification of the development of a tracking program for new valves and pumps added during maintenance and construction as required by Paragraph 109(e);
- (8) A certification of the implementation of the calibration drift assessment procedures of Paragraph 131;
- (9) A certification of the implementation of the “delay of repair” procedures of Paragraph 132; and
- (10) A certification of the implementation of the “chronic leaker” program of Paragraph 134.

b. Semi-annual Progress Report for the first calendar semi-annual period of each year. In the semi-annual progress report that Holly submits pursuant to Part IX for the first calendar semi-annual period of each year, Holly shall describe the audit report for each audit that was conducted pursuant to the requirements of Paragraphs 112-116 in the previous calendar year including an identification of the auditors, a summary of the audit results, and a summary of the actions that Holly took or intends to take to correct all deficiencies identified in the audits including dates of completion

or estimated completion.

136. Reports due under 40 C.F.R. § 63.654. In each report due under 40 C.F.R. §63.654, Holly shall include:

- a. Training. Information identifying the measures that Holly took to comply with the provisions of Paragraph 111; and
  - b. The following information on LDAR monitoring and repairs:
    - (1) the number of valves and pumps present in each process unit during the reporting period;
    - (2) the number of valves and pumps monitored in each process unit;
    - (3) an explanation for missed monitoring if the number of valves and pumps present exceeds the number of valves and pumps monitored during the reporting period;
    - (4) the number of valves and pumps found leaking;
    - (5) the number of “difficult to monitor” pieces of equipment monitored;
    - (6) a list of all equipment currently on the “delay of repair” list and the date each component was placed on the list;
    - (7) the number of repair attempts not completed promptly according to Paragraph 124 or completed within five (5) days pursuant to Paragraph 123;
    - (8) the number of repairs not completed within fifteen (15) and/or thirty (30) days according to Paragraph 123 and/or Paragraph 132;
    - (9) the number of chronic leakers that do not get repaired according to the requirements of Paragraph 134.

**O. Incorporation of Consent Decree Requirements into Federally Enforceable Permits**

137. Obtaining Permit Limits For Consent Decree Emission Limits. Holly shall submit complete applications to UDEQ to incorporate emission limits and standards under this Consent Decree into federally enforceable minor or major new source review permits or other

permits that will ensure that the underlying emission limit or standard survives the termination of this Consent Decree as follows:

a. for emission limits and standards that are effective as of the date of entry of the Consent Decree, as soon as practicable, but in no event later than ninety (90) days after the date of entry and;

b. for emission limits and standards that become effective after the date of entry, as soon as practicable, but in no event later than ninety (90) days after the effective date or establishment of the emission limits and standards,

138. Mechanism for Title V Incorporation. The Parties agree that the incorporation of any emission limits or other standards into the Title V permits for the Refinery as required by Paragraph 137 will be in accordance with the applicable state Title V rules. The Parties agree that incorporation of the requirements of this Decree may be by “amendment” under 40 C.F.R. § 70.7(d) and analogous state Title V rules, where allowed by state law.

139. Construction Permits. Holly agrees to use best efforts to obtain all required, federally enforceable permits and state/local agency 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 this Part V and in Part VII. To the extent that Holly must submit permit applications for this construction or installation to UDEQ, Holly shall cooperate with UDEQ by promptly submitting to UDEQ all information that UDEQ seeks following its receipt of the permit application. This Paragraph is not intended to prevent Holly from applying to UDEQ for or otherwise using an available pollution control project exemption.

140. This Consent Decree is not intended to require the continued use of a particular control technology past the compliance dates established in this Consent Decree. The parties

agree that once the concentration based permit limits are established using the methodology provided for in the Consent Decree, Holly may elect to comply with that concentration based permit limit through other control technology methods. Nothing here relieves Holly from obtaining any appropriate state permits or authorizations to switch to such other control technology or methods.

## **VI. EMISSION CREDIT GENERATION**

141. The intent of this Part generally is to prohibit Holly from using the emissions reductions (“CD Emissions Reductions”) that will result from the installation and operation of the controls required by this Consent Decree for the purpose of netting reductions or emission offset credits, but also to describe the circumstances which are not prohibited.

142. Prohibition. Holly shall not generate or use any NO<sub>x</sub>, SO<sub>2</sub>, PM, VOC, or CO emissions reductions that result from any projects conducted or controls utilized to comply with this Consent Decree as netting reductions or emission offset credits in any PSD, major non-attainment and/or minor New Source Review (“NSR”) permit or permit proceeding.

143. Outside the Scope of the Prohibition. Nothing in this Part VI is intended to prohibit Holly 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 this Consent Decree for these refinery units and the more stringent emissions limitations that Holly may elect to accept for these refinery units in a permitting process; or
- 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; or
- 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; or
  - d. utilize CD Emission Reductions for the 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 Refinery). Notwithstanding the preceding sentence, Holly shall not trade or sell any CD Emissions Reductions.

## **VII. SUPPLEMENTAL ENVIRONMENTAL PROJECT**

- 144. Reserved
- 145. Emergency Response Vehicle Project.
  - a. Holly shall work with the South Davis Metro Fire Agency ("the Agency"), which provides emergency services to five cities in south Davis County, Utah, to purchase an emergency mobile command post (MCP) vehicle. Holly shall use best efforts to coordinate with the Agency regarding the identification and acquisition of the MCP. To accomplish this project, Holly shall expend the sum of \$130,000 for the purchase of the MCP, which shall be acquired by the Agency by no later than one year from the date of entry of this Consent Decree.
  - b. Holly is responsible for the satisfactory completion of this project. Upon completion of this project, Holly shall include in the report required by



Paragraph 147 a cost report certified as accurate under penalty of perjury by a responsible corporate official:

- (1) that the sum of \$130,000 was donated to the Agency by Holly to be used toward purchase of a MCP and,
- (2) and that the MCP was purchased by the Agency.

- c. If Holly does not expend the amount required by this Paragraph 145, Holly will pay a stipulated penalty equal to the difference between the amount expended (as demonstrated in the certified cost report(s) submitted pursuant to Paragraph 147) and the required amount under Paragraph 145.a. The stipulated penalty will be paid as provided in Paragraph 212 (Payment of Stipulated Penalties).

146. By signing this Consent Decree, Holly certifies that it is not required, and has no liability under any federal, state, regional or local law or regulation or pursuant to any agreements or orders of any court, to perform or develop the project identified in Paragraph 145. Holly further certifies that it has not applied for or received, and shall not in the future apply for or receive: (1) credit as a Supplemental Environmental Project or other penalty offset in any other enforcement action for the project set forth in Paragraph 145; (2) credit for any emissions reductions resulting from the project set forth in Paragraph 145 in any federal, state, regional or local emissions trading or early reduction program; or (3) a deduction from any federal, state, regional or local tax for Holly's expenditure of \$130,000 for the project set forth in Paragraph 145.

147. Holly shall include in each report required by Paragraph 15049 a progress report for the SEP being performed pursuant to this Part VII. In addition, the report required by

Paragraph 149 of this Consent Decree for the period in which the project identified in Paragraph 145 is completed shall contain the following information with respect to the project:

- c. A detailed description of the project as implemented;
- d. A brief description of any significant operating problems encountered, including any that had an impact on the environment, and the solutions for each problem;
- e. Certification that the project has been fully implemented pursuant to the provisions of this Consent Decree; and
- f. 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).

148. Holly agrees that in any public statements regarding this SEP, Holly must clearly indicate that the project is being undertaken as part of the settlement of an enforcement action for alleged violations of the Clean Air Act and corollary state statutes.

#### **VIII. RESERVED**

#### **IX. REPORTING AND RECORDKEEPING**

149. Semi-annually on January 31 and July 31 until termination of this Consent Decree, Holly shall submit to EPA and the Co-Plaintiff a progress report for the Refinery. The first report will cover the period from the Date of Entry through the end of the first full calendar semi-annual period after the Date of Entry. The reports will contain the following information:

- c. General. Each report will contain, for the Refinery:
  - (1) a progress report on the implementation of the requirements of Part V (Affirmative Relief/Environmental Projects);

(2) a summary of the emissions data that is specifically required by the reporting requirements of Part V of this Consent Decree for the period covered by the report;

(3) a description of any problems anticipated with respect to meeting the requirements of Part V of this Consent Decree;

(4) a description of the status of all SEPs (if any) being conducted at the Refinery under Part VII; and

(5) any such additional matters as Holly believes should be brought to the attention of EPA and the Co-Plaintiff.

b. Emissions Data. In each semi-annual report required to be submitted on July 31 of each year, Holly shall provide a summary of annual emissions data at the Refinery for the prior calendar year. The summary shall include:

- (1) Estimation of NO<sub>x</sub> emissions in tons per year for each heater and boiler greater than 40 mmBtu/hr maximum fired duty;
- (2) Estimate of NO<sub>x</sub>, emissions in tons per year as a sum for all heaters and boilers less than 40 mm/Btu/hr maximum fired duty;
- (3) Estimate of SO<sub>2</sub>, CO and PM emissions in tons per year as a sum for all heaters and boilers;
- (4) Estimate of SO<sub>2</sub> emissions from all Sulfur Recovery Plants in tons per year;
- (5) SO<sub>2</sub> emissions from all acid gas flaring incidents by flare in tons per year; and
- (6) NO<sub>x</sub>, SO<sub>2</sub>, PM and CO emissions in tons per year as a sum at each refinery for all other emissions units for which emissions information is required to be included in the facilities' annual emissions summaries and are not identified above;
- (7) for each of the estimates in Subparagraphs 149.b.(1) through 149.b.(4) 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 Holly, 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. Any

time during the life of this Decree, Holly may submit a request to EPA to terminate the requirements of this Paragraph 149.b and if EPA approves, then Holly will no longer be required to provide this additional information.

c. Exceedances of Emission Limits. In each semi-annual report, Holly shall identify each exceedance of an emission limit required or established by this Consent Decree that occurred during the previous semi-annual period and, for any emission unit subject to a limit required or established by this Consent Decree that is monitored by a CEMS or PEMS, any periods of CEMS or PEMS downtime that occurred during the prior semi-annual period. For each exceedance and/or each period of CEMS or PEMS downtime, Holly shall include the following information:

- (1) For emissions units monitored with CEMS or PEMS:
  - (a) the total period where the emissions limit was exceeded, if applicable, expressed as a percentage of operating time for each calendar quarter;
  - (b) 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;
  - (c) total downtime of the CEMS or PEMS, if applicable, expressed as a percentage of operating time for the calendar quarter;
  - (d) where the CEMS or PEMS 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.
  - (e) if a report filed pursuant to another applicable legal requirement contains all of the information required by this Paragraph 149.c.(1) in similar or same format, the requirements of this

Paragraph 149.c.(1) may be satisfied by attaching a copy of such report.

- (2) For emissions units monitored through stack testing:
  - (a) a summary of the results of stack test;
  - (b) a copy of the full stack test report in which the exceedance occurred; and
  - (c) to the extent that Holly has already submitted the stack test results, Holly need not resubmit them, but may instead reference the submission in the report (e.g., date, addressee, reason for submission).

d. Certification. Each report shall be certified by either the person responsible for environmental management at the Refinery or by a person responsible for overseeing implementation of this Decree across Holly as follows:

I certify under penalty of law that this information was prepared under my direction or supervision by personnel qualified to properly gather and evaluate the information submitted. Based on my directions and after reasonable inquiry of the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

## **X. CIVIL PENALTY**

150. In satisfaction of the civil claims asserted by the United States and the Co-Plaintiff in the complaint filed in this matter, within thirty (30) days of the Date of Entry of the Consent Decree, Holly shall pay a civil penalty of One Hundred and Twenty Thousand Dollars (\$120,000) as follows: (1) One Hundred Thousand Dollars (\$100,000) to the United States; and (2) Twenty Thousand Dollars (\$20,000) to the State of Utah.

151. Payment of monies to the United States shall be made by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing DOJ Case Number 90-5-2-1-2194/1, and the civil action case name and case number of this action in the District of Utah. The costs of such EFT shall be the

responsibility of Holly. Payment shall be made in accordance with instructions provided to Holly by the Financial Litigation Unit of the U.S. Attorney's Office for the District of Utah. Any funds received after 11:00 a.m. (EST) will be credited on the next business day. Holly shall provide notice of payment, referencing DOJ Case Number 90-5-2-1-2194/1, and the civil action case name and case number, to the Department of Justice and to EPA, as provided in Paragraph 261 (Notice).

152. Payment of the civil penalty owed to the State of Utah under Paragraph 150 shall be made by certified or corporate check made payable to the "Utah Division of Air Quality" and mailed to:

Executive Secretary, Utah Air Quality Board  
Division of Air Quality  
150 North 1950 West  
P.O. Box 144820  
Salt Lake City, UT 84114-4820

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

154. Upon the Date of Entry of the Consent Decree, the Consent Decree shall constitute an enforceable judgment for purposes of post-judgment collection in accordance with Federal Rule of Civil Procedure 69, the Federal Debt Collection Procedure Act, 28 U.S.C. §§ 3001-3308, and other applicable federal authority. The United States and the Co-Plaintiff will be deemed judgment creditors for purposes of collecting any unpaid amounts of the civil and stipulated penalties and interest.

#### **XI. STIPULATED PENALTIES**

155. Holly shall pay stipulated penalties to the United States and to the Co-Plaintiff for each failure by Holly to comply with the terms of this Consent Decree as provided herein.

Stipulated penalties shall be calculated in the amounts specified in Paragraphs 156-210.

Stipulated penalties pertaining to emission limits under Paragraphs 12, 16, 17, 25, 28, 29, 32, 33 and 36 will not start to accrue until there is non-compliance with the concentration-based, rolling average emission limits identified in those Paragraphs for five percent (5%) or more of the applicable unit's operating time during any calendar quarter. 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 will rest exclusively within the discretion of the United States or the Co-Plaintiff. Where a single event triggers more than one stipulated penalty provision in this Consent Decree, only the provision containing the higher stipulated penalty will apply.

**A. Non-Compliance with Requirements for NO<sub>x</sub> Emissions Reductions from the FCCU**

156. For failure to meet any emissions limit for NO<sub>x</sub> set forth in Paragraph 16, 17, 21 and 22, per day, per unit: \$500 for each calendar day in a calendar quarter on which the short-term rolling average exceeds the applicable limit; and \$1,500 for each calendar day in a calendar quarter on which the specified three-hundred and sixty-five (365) day rolling average exceeds the applicable limit.

157. For failure to install, certify, calibrate, maintain, and/or operate a NO<sub>x</sub>, O<sub>2</sub>, SO<sub>2</sub> and CO CEMS, COMS (AMP) and/or appropriate monitoring required under Paragraphs 23, 31, 35, and 39, per unit per monitored parameter per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 <sup>st</sup> through 30 <sup>th</sup> day after deadline	\$300
31 <sup>st</sup> through 60 <sup>th</sup> day after deadline	\$600
Beyond 60 <sup>th</sup> day after deadline	\$1,200 or an amount equal to 1.2 times the economic benefit of delayed compliance,

whichever is greater

**B. Non-Compliance with Requirements for SO<sub>2</sub> Emissions Reductions from the FCCU**

158. For each failure to meet SO<sub>2</sub> emission limits (final or interim) set forth in Paragraphs 25, 28 and 29, per unit, per day: \$500 for each calendar day in a calendar quarter on which the specified seven (7) day rolling average exceeds the applicable limit; \$1,500 for each calendar day in a calendar quarter on which the specified three-hundred and sixty-five (365) day rolling average exceeds the applicable limit.

159. RESERVED

**C. Non-Compliance with Requirements for PM Emissions Reductions from the FCCU**

160. For each failure to meet applicable PM emission limits for the FCCU as set forth in Paragraphs 32 and 33 per day, per unit: \$1,800 for each calendar day in a calendar quarter on which the Refinery exceeds the emission limit.

**D. Non-Compliance with Requirements for CO Emissions Reductions from the FCCU**

161. For each failure to meet the applicable CO emission limits for the FCCUs as set forth in Paragraphs 36-37: \$500 for each calendar day in a calendar quarter on which the specified one (1) hour rolling average exceeds the applicable limit; and \$1,500 for each calendar day in a calendar quarter on which the specified three-hundred and sixty five (365) day rolling average exceeds the applicable limit.

**E. Non-Compliance with NSPS Requirements for the FCCU Catalyst Regenerator**

162. For failure to comply with NSPS Subparts A and J limits at the FCCU regenerator as required by Paragraph 41, per pollutant per day:



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

Stipulated penalties shall not be assessed under this Paragraph 162 where stipulated penalties are also assessed under Paragraphs 158, 160 or 161.

**F. Non-Compliance with Requirements for NO<sub>x</sub> Emissions Reductions from Heaters and Boilers**

163. For failure to comply with the requirements of Paragraph 46 , per day:

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

**G. Non-Compliance with Requirements for SO<sub>2</sub> Emissions Reductions from Heaters and Boilers**

164. For burning any fuel gas that contains H<sub>2</sub>S in excess of the applicable requirements of NSPS Subparts A and J in one or more heaters or boilers at the Refinery after the date set forth in this Decree on which the respective heater or boiler becomes an “affected facility” subject to NSPS Subparts A & J, per event, per day in a calendar quarter:

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

165. For burning Fuel Oil in a manner inconsistent with the requirements of Paragraph 50, per unit, per day:

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

**H. Non-Compliance with NSPS Requirements for the Sulfur Recovery Plant**

166. For failure to complete the SRP Optimization Study required by Paragraphs 52 and 53, per day:

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

167. For failure to eliminate, control, and/or include and monitor all sulfur pit emissions in accordance with the requirements of Paragraph 54, per unit, per day:

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

**I. Non-Compliance with NSPS Requirements for Flaring Devices**

168. For failure to comply with the NSPS Subpart J emission limits at the Flaring Devices, when and as required by Paragraph 57, per day in a calendar quarter:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 <sup>st</sup> through 30 <sup>th</sup> day	\$500
31 <sup>st</sup> through 60 <sup>th</sup> day	\$1,500
Over 60 days	\$2,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater

169. For failure to comply with the compliance method selected by Holly for a Flaring Device listed on Appendix A after June 30, 2008:

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

**J. Non-Compliance with Requirements for Control of Acid Gas Flaring Incidents**

170. For Acid Gas Flaring Incidents for which Section V.J makes Holly liable for stipulated penalties:

Tons Emitted in Acid Gas Flaring 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 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 from Commencement of Flaring within the Acid Gas Flaring Incident to Termination of Flaring within the Acid Gas Flaring Incident is greater than 24 hours
5 Tons or Less	\$500 per ton	\$750 per ton	\$1000 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 purposes of calculating stipulated penalties pursuant to this Paragraph 170, only one cell within the matrix will 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 will be deemed to commence at the time that the flaring that triggers the initiation of a Flaring Incident commences, and will be deemed to terminate at the time of the termination of the last episode of flaring within the Flaring Incident. Thus, for example, for flaring within a Flaring Incident that (i) starts at 1:00 p.m. on Day 1 and ends at 1:30 p.m. on Day 1; (ii) recommences at 4:00 p.m. on Day 1 and ends at 4:30 p.m. on Day 1; (iii) recommences at 1:00 a.m. on Day 2 and ends at 1:30 a.m. on Day 2; and (iv) no further flaring occurs within the Flaring Incident, the flaring within the Flaring Incident will be deemed to last 12.5 hours -- not 1.5 hours -- and the column for flaring of “greater than three (3) hours but less than or equal to twenty-four (24) hours” will apply.

**K. Non-Compliance with Requirements for Acid Gas or Hydrocarbon Flaring Incidents**

171. For failure to timely submit any report required by Section V.J and or V.K or for submitting any report that does not substantially conform to its requirements:

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

172. For failure to complete any corrective action with respect to Acid Gas Flaring, or Hydrocarbon Flaring Incident under Paragraph 60 in accordance with the schedule for such corrective action proposed or agreed to by Holly or imposed on Holly pursuant to the dispute resolution provisions of this Decree (with any such extensions thereto as to which EPA and Holly may agree in writing):

<u>Period of Delay</u>	<u>Penalty per day</u>
1 <sup>st</sup> through 30 <sup>th</sup> day after deadline	\$750
31 <sup>st</sup> through 60 <sup>th</sup> day after deadline	\$1,500
Beyond 60 <sup>th</sup> day after deadline	\$3,000 or 1.2 times the economic benefit resulting from Holly's failure to complete corrective action

**L. Non-Compliance with Requirements for Benzene Waste Operations  
NESHAP Program Enhancements**

173. For failure to comply with the requirements of Paragraphs 71 and 72, per day:

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

174. For failure to complete the BWON Compliance Review and Verification Reports as required by Paragraphs 73 and 74 and, if necessary 75 and 76:

\$7,500 per month.

175. For failure to submit a plan that provides for actions necessary to correct non-compliance as required by Paragraph 77 or for failure to implement the actions necessary to correct non-compliance and to certify compliance as required by Paragraphs 78 and 79.

<u>Period of Delay</u>	<u>Penalty per day</u>
1 <sup>st</sup> through 30 <sup>th</sup> day after deadline	\$750
31 <sup>st</sup> through 60 <sup>th</sup> day after deadline	\$2,000
Beyond 60 <sup>th</sup> day	\$3,000 or an amount equal to 1.2 times the economic benefit of delayed compliance, whichever is greater

176. For failure to modify management of change procedures or establish an annual review program to identify new benzene waste streams as required by Paragraph 80: \$2,500 per month.

177. For failure to perform laboratory audits as required by Paragraphs 81-85: \$2,500 per month, per audit.

178. For failure to implement the training requirements as set forth in Paragraphs 87-89: \$10,000 per quarter.

179. For failure to meet the applicable control standards of Subpart FF for waste management units handling non-exempt, non-aqueous wastes as required by Paragraph 91: \$10,000 per month per waste management unit.

180. For failure to submit any plans or other deliverables required by Paragraphs 93-100 or for failure to comply with the requirements of Paragraph 101, when applicable, for retaining third-party assistance: \$10,000 per month.

181. For failure to conduct sampling in accordance with the sampling plans required by Paragraph 94-96: \$5,000 per week, per stream, or \$15,000 per quarter, per stream, whichever is greater, but not to exceed \$75,000 per quarter.

182. For failure to conduct monthly visual inspections of all Subpart FF water traps within the Refinery's drain system as required by Paragraph 102.a.: \$500 per drain not inspected.

183. For failure to identify/mark segregated stormwater drains as required in Paragraph 102.b.: \$1,000 per week, per drain.

184. For failure to monitor Subpart FF conservation vents as required by Paragraph 102.c.: \$500 per vent not monitored.

185. For failure to conduct monitoring of the controlled oil-water separators in benzene service as required by Paragraph 102.d.: \$1,000 per month, per unit.

186. For failure to submit the written deliverables required by Paragraphs 103-104: \$1,000 per week, per deliverable.

187. If it is determined through federal or state investigation that Holly has failed to include all benzene waste streams in its TAB calculation submitted pursuant to Paragraphs 73-76, Holly 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**

188. For failure to develop the LDAR Program as required by Paragraph 109:  
\$3,500 per week.

189. For failure to implement the training programs specified in Paragraph 111(a)-  
(c): \$10,000 per month, per program.

190. For failure to conduct any of the audits required by Paragraph 112-116: \$5,000  
per month, per audit.

191. For failure to implement any actions necessary to correct non-compliance as  
required by Paragraph 117:

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

192. For failure to perform monitoring utilizing the lower internal leak definitions as  
specified in Paragraphs 119-121: \$100 per component, but not greater than \$10,000 per  
month, per process unit.

193. For failure to record, track, repair and re-monitor leaks, as required by  
Paragraph 123, in excess of the lower leak definitions specified in Paragraph 119-121: \$500  
per component, but not greater than \$10,000 per month, per process unit.

194. For failure to implement the “initial attempt” repair program in Paragraph 124:  
\$100 per valve, but not greater than \$10,000 per month, per process unit.

195. For failure to implement and comply with the LDAR monitoring program as  
required by Paragraph 125 and 126: \$100 per component, but not greater than \$10,000 per  
month, per process unit.



196. For failure to use dataloggers or maintain electronic data as required by Paragraphs 127 and 128: \$5,000 per month.

197. For failure to implement the QA/QC procedures described in Paragraph 129: \$10,000 per month, per process unit.

198. For failure to designate and/or maintain an individual as accountable for LDAR performance as required in Paragraph 109 or for failure to implement the maintenance tracking program in Paragraph 109: \$3,750 per week.

199. For failure to conduct the calibration drift assessments or remonitor valves and pumps based on calibration drift assessments in Paragraphs 130 and 131: \$100 per missed event.

200. For failure to comply with the requirements for repair set forth at Paragraphs 132 and 133: \$5,000 per valve or pump, per incident of non-compliance.

201. For failure to comply with the requirement for chronic leakers set forth in Paragraph 134: \$5,000 per valve.

202. For failure to submit any written deliverables required by Paragraphs 135 and 136: \$1,000 per week, per report.

203. If it is determined through a federal, state, regional, or local investigation, after the Initial Compliance Audit required by Paragraph 113, that Holly has failed to include any valves or pumps in its LDAR program, Holly shall pay \$2000 per component that it failed to include. If Holly discovers that it failed to include all of the components after the Initial Compliance Audit: \$100 per component.

204. Failure to correctly implement EPA Test Method 21, as indicated by the leak percentage ratios determined through comparative monitoring and calculated as described in Paragraph 117:

Stipulated Penalty per four (4) quarter period, per process unit

a. in excess of 3.0 for valves, \$7.50 times the total number of valves in the process unit; in excess of 3.0 for pumps, \$100 times the total number of pumps in the process unit

b. in excess of 4.0 for valves, \$15 times the total number of valves in the process unit; in excess of 4.0 for pumps, \$200 times the total number of pumps in the process unit

c. in excess of 5.0 for valves, \$22.50 times the total number of valves in the process unit; in excess of 5.0 for pumps, \$300 times the total number of pumps in the process unit

d. in excess of 6.0 for valves, \$30 times the total number of valves in the process unit; in excess of 6.0 for pumps, \$400 times the total number of pumps in the process unit

**N. RESERVED**

**O. General Reporting Requirements**

205. For each failure to submit a written deliverables (unless a more specific stipulated penalty applies), per day per deliverable:

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

**P. Non-Compliance with Requirements Related to Incorporating Consent Decree Requirements into Federally Enforceable Permits**

206. For each failure to submit an application as required by Paragraph 137:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 <sup>st</sup> through 30 <sup>th</sup> day after deadline	\$500
31 <sup>st</sup> through 60 <sup>th</sup> day after deadline	\$750
Beyond 60 <sup>th</sup> day	\$2,000

**Q. Non-Compliance with Requirements Related to Supplemental/Beneficial Environmental Projects**

207. RESERVED

208. For failure to timely complete implementation of the SEPs/BEPs required by

Paragraph 145:

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

**R. Non-Compliance with Requirements for Reporting and Recordkeeping**

209. For failure to submit reports as required by Part IX, per report, per day:

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

**S. Non-Compliance with Requirements for Payment of Civil Penalties**

210. For Holly's failure to pay the civil penalties as specified in Part X of this Consent Decree, Holly shall be liable for \$1,250 per day plus interest on the amount overdue at the rate specified in 28 U.S.C. § 1961(a).

**T. General Provisions Related to Stipulated Penalties**

211. Demand for Stipulated Penalties. Holly shall pay stipulated penalties upon written demand by the United States or the Co-Plaintiff by no later than sixty (60) days after Holly receives such demand. Demand from one agency shall be deemed a demand from either agency, but the agencies will consult with each other prior to making a demand. 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 Co-Plaintiff 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 Co-Plaintiff may, in their unreviewable discretion, waive payment of any portion of stipulated penalties that may accrue under this Consent Decree.

212. Payment of Stipulated Penalties. Stipulated penalties owed by Holly shall be paid 50% to the United States and 50% to the Co-Plaintiff. Stipulated penalties owing to the United States of under \$10,000 shall be paid by check and made payable to "U.S. Department of Justice," referencing DOJ Case Number 90-5-2-1-2194/1 and the civil action case name, and delivered to the U.S. Attorney's Office in the District of Utah, Stipulated penalties owing to the United States of \$10,000 or more and stipulated penalties owing to Co-Plaintiff Utah shall be paid in the manner set forth in Part X (Civil Penalty) of this Consent Decree.

213. Stipulated Penalties Dispute. Stipulated penalties shall begin to accrue on the day after performance is due or the day a violation occurs, whichever is applicable, and shall

continue to accrue until performance is satisfactorily completed or until the violation ceases. However, in the event of a dispute over stipulated penalties, stipulated penalties will not accrue commencing upon the date that Holly files a petition with the Court under Paragraph 230 if Holly has placed the disputed amount demanded in a commercial escrow account with interest. If the dispute thereafter is resolved in Holly's favor, the escrowed amount plus accrued interest will be returned to Holly; otherwise, EPA and the Co-Plaintiff will 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.

214. The United States and the Co-Plaintiff reserve the right to pursue any other non-monetary remedies to which they are legally entitled, including but not limited to, injunctive relief, for Holly's violations of this Consent Decree. Where a violation of this Consent Decree is also a violation of the Clean Air Act, its regulations, or a federally-enforceable state law, regulation, or permit, the United States shall not seek civil penalties where it already has demanded and secured stipulated penalties from Holly for the same violations nor shall the United States demand stipulated penalties from Holly for a Consent Decree violation if the United States has commenced litigation under the Clean Air Act for the same violations. Where a violation of this Consent Decree is also a violation of state law, regulation or a permit, the Co-Plaintiff shall not seek civil penalties where it already has demanded and/or secured stipulated penalties from Holly for the same violations, nor shall the Co-Plaintiff demand stipulated penalties from Holly for a Consent Decree violation if the Co-Plaintiff has commenced litigation under the Clean Air Act for the same violations.

## **XII. INTEREST**

215. Holly shall be liable for interest on the unpaid balance of the civil penalty specified in Part X, and for interest on any unpaid balance of stipulated penalties to be paid in

accordance with Part XI. All such interest shall accrue at the rate established pursuant to 28 U.S.C. § 1961(a) -- i.e., a rate equal to the coupon issue yield equivalent (as determined by the Secretary of Treasury) of the average accepted auction price for the last auction of fifty-two (52) week U.S. Treasury bills settled prior to the Date of Lodging of the Consent Decree. Interest shall be computed daily and compounded annually. Interest shall be calculated from the date payment is due under the Consent Decree through the date of actual payment. For purposes of this Paragraph, 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 213 of the Consent Decree. Monies timely paid into escrow shall not be considered to be an unpaid balance under this Part.

### **XIII. RIGHT OF ENTRY**

216. Any authorized representative of EPA or the Co-Plaintiff, upon presentation of credentials, will have a right of entry upon the premises of the Refinery at any reasonable time for the purpose of monitoring compliance with the provisions of this Consent Decree, including inspecting plant equipment and systems, and inspecting all records maintained by Holly required by this Consent Decree or deemed necessary by EPA or the Co-Plaintiff to verify compliance with this Consent Decree. Except where other time periods specifically are noted, Holly shall retain such records for the duration of the Consent Decree. Nothing in this Consent Decree will limit the authority of EPA or the Co-Plaintiff to conduct tests, inspections, or other activities under any applicable statutory or regulatory provision.

### **XIV. FORCE MAJEURE**

217. If any event occurs or fails to occur which causes or may cause a delay or impediment to performance in complying with any provision of this Consent Decree, Holly shall notify EPA and the Co-Plaintiff in writing as soon as practicable, but in any event within

twenty (20) business days of the date when Holly first knew of the event or should have known of the event by the exercise of due diligence. In this notice, Holly shall specifically reference this Paragraph 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 Holly to prevent or minimize the delay and the schedule by which those measures will be implemented. Holly shall take all reasonable steps to avoid or minimize such delays. The notice required by this Part will be effective upon the mailing of the same by overnight mail or by certified mail, return receipt requested, to the EPA Regional Office as specified in Paragraph 261 (Notice).

218. Failure by Holly to substantially comply with the notice requirements of Paragraph 217 shall render this Part XIV (Force Majeure) voidable by the United States, in consultation with the Co-Plaintiff, as to the specific event for which Holly has failed to comply with such notice requirement, and, if voided, is of no effect as to the particular event involved.

219. The United States, after consultation with the Co-Plaintiff, shall notify Holly in writing regarding its claim of a delay or impediment to performance within forty-five (45) days of receipt of the force majeure notice provided under Paragraph 217.

220. If the United States, after consultation with the Co-Plaintiff, agrees that the delay or impediment to performance has been or shall be caused by circumstances beyond the control of Holly including any entity controlled by Holly and that Holly 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 the Consent Decree pursuant to Paragraph 265. Holly will not be liable for stipulated penalties for the period of any such delay.

221. If the United States, after consultation with the Co-Plaintiff, does not accept Holly's claim of a delay or impediment to performance, Holly must submit the matter to the Court for resolution to avoid payment of stipulated penalties, by filing a petition for determination with the Court by no later than forty-five (45) days after receipt of the notice in Paragraph 219. Once Holly has submitted this matter to the Court, the United States and the Co-Plaintiff shall have forty-five (45) 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 Holly including any entity controlled by Holly and that the delay could not have been prevented by Holly by the exercise of due diligence, Holly 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.

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

223. Unanticipated or increased costs or expenses associated with the performance of Holly'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 Part XIV.

224. Notwithstanding any other provision of this Consent Decree, the Parties do not intend that Holly's serving of a force majeure notice or the Parties' inability to reach agreement



shall cause this Court to draw any inferences nor establish any presumptions adverse to any Party.

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

**XV. RETENTION OF JURISDICTION/DISPUTE RESOLUTION**

226. This Court shall retain jurisdiction of this matter for the purposes of implementing and enforcing the terms and conditions of the Consent Decree and for the purpose of adjudicating all disputes of the Consent Decree between the United States and the Co-Plaintiff and Holly that may arise under the provisions of the Consent Decree, until the Consent Decree terminates in accordance with Part XVIII of this Consent Decree (Termination).

227. The dispute resolution procedure set forth in this Part XV will be available to resolve any and all disputes arising under this Consent Decree, provided that the Party making such application has made a good faith attempt to resolve the matter with the other Parties.

228. The dispute resolution procedure required herein will be invoked upon the giving of written notice by one of the Parties to this Consent Decree to another advising the other appropriate Party(ies) of a dispute pursuant to this Part XV. The notice will describe the nature of the dispute, and will state the noticing Party's position with regard to such dispute.

The Party or Parties receiving such notice will acknowledge receipt of the notice and the Parties will expeditiously schedule a meeting to discuss the dispute informally.

229. Disputes submitted to dispute resolution will, in the first instance, be the subject of informal negotiations between the Parties. Such period of informal negotiations will not extend beyond ninety (90) calendar days from the date of the first meeting between representatives of the Parties, unless the Parties agree in writing that this period should be extended. Failure by the parties to extend the informal negotiation period in writing will not terminate the informal negotiation period provided that the parties are continuing to negotiate in good faith. Informal negotiations may include the exchange of written summaries of the parties' positions.

230. In the event that the Parties are unable to reach agreement during such informal negotiation period as provided in Paragraph 229, the United States or the Co-Plaintiff, as applicable, shall provide Holly with a written summary of its position regarding the dispute pursuant to this Paragraph 230 and Holly shall have 30 days to respond in writing. The position advanced by the United States or the Co-Plaintiff, as applicable, shall be considered binding unless, within forty-five (45) calendar days of Holly's receipt of the written summary of the United States' or the Co-Plaintiff's position, Holly files with the Court a petition which describes the nature of the dispute. The United States or the Co-Plaintiff, as appropriate, 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 or the Co-Plaintiff, as appropriate, shall be upheld if supported by substantial evidence in the administrative record.

231. In the event that the United States and the Co-Plaintiff make differing determinations or take differing actions that affect Holly's rights or obligations under this Consent Decree, the final decisions of the United States shall take precedence.

232. Where the nature of the dispute is such that a more timely resolution of the issue is required, a party may seek shorter time periods than those set forth in this Part XV.

233. The Parties do not intend that the invocation of this Part XV by a Party cause the Court to draw any inferences nor establish any presumptions adverse to either Party as a result of invocation of this Part.

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

## **XVI. EFFECT OF SETTLEMENT**

235. Definitions. For purposes of Part XVI (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; “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); Title 40, Part 51, Appendix S; and 40 C.F.R. § 52.24; and any applicable, federally-enforceable state, regional, or local regulations 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 recordkeeping requirements, found at 40 C.F.R. §§ 60.100 through 60.109 (Subpart J), relating to a particular pollutant and a particular affected facility,

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

c. “Post-Lodging Compliance Dates” shall mean any dates in this Part XVI (Effect of Settlement) after the Date of Lodging. Post-Lodging Compliance Dates include dates certain (e.g., “December 31, 2006”), 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.

236. Liability Resolution Regarding the Applicable NSR/PSD Requirements. With respect to emissions of the following pollutants from the following units, entry of this Consent Decree shall resolve all civil liability of Holly to the United States and the Co-Plaintiff: (1) for any violations of the Applicable NSR/PSD Requirements, resulting from construction or modification of the following units that occurred prior to the Date of Lodging of the Consent Decree, that commenced and ceased prior to the Date of Lodging of the Consent Decree; and (2) for any violations of the Applicable NSR/PSD Requirements, resulting from pre-Lodging construction or modification of the following units, that commenced prior to the Date of Lodging and continued up to the following dates:

<u>Refinery/Unit</u>	<u>Pollutant</u>	<u>Date</u>
FCCU	NO <sub>x</sub>	June 30, 2013
	SO <sub>2</sub>	June 30, 2013
	PM	June 30, 2013
Heaters and Boilers other	NO <sub>x</sub>	Date of Lodging

than those listed in Appendix B

Heaters and Boilers in Appendix B	NO <sub>x</sub>	Later of the Date of Lodging or the installation of Qualifying Controls
All Heaters and Boilers	SO <sub>2</sub>	Date of Entry

237. Liability Resolution for CO Under the Applicable NSR/PSD Requirements. If and when Holly accepts an emission limit of 100 ppmvd of CO at 0% O<sub>2</sub> on an 365-day rolling average basis and demonstrates compliance using CEMS at the Refinery, then all civil liability of Holly to the United States and the Co-Plaintiff shall be resolved for any violations of the Applicable NSR/PSD Requirements relating to CO emissions at the Refinery resulting from construction or modification of the FCCU at the Refinery that occurred prior to the Date of Lodging of the Consent Decree and that either ceased prior to the Date of Lodging or continued up to the date on which Holly demonstrates compliance with such CO emission limit for the Refinery.

238. Reservation of Rights: Release for Violations Continuing After the Date of Lodging Can Be Rendered Void. Notwithstanding Paragraph 236, the release of liability by the United States and the Co-Plaintiff to Holly for violations of the applicable NSR/PSD requirements during the period between the Date of Lodging of the Consent Decree and the Post-Lodging Compliance Dates shall be rendered void if Holly materially fails to comply with the obligations and requirements of Paragraphs 22, 25, and 33; provided however, that the release identified above shall not be rendered void if Holly remedies such material failure and pays any stipulated penalties due as a result of such material failure.

239. Exclusions from Release Coverage: Construction and/or Modification Not Covered. Notwithstanding Paragraphs 236-237, nothing in this Consent Decree precludes the United States and/or the Co-Plaintiff from seeking from Holly injunctive relief, penalties, or other appropriate relief for violations by Holly of the Applicable NSR/PSD Requirements

resulting from construction or modification that: (1) commenced prior to the Date of Lodging of the Consent Decree for pollutants or units not covered by the Consent Decree; or (2) commences after the Date of Lodging of the Consent Decree.

a. Evaluation of Applicable PSD/NSR Requirements Must Occur. Increases in emissions from units covered by this Consent Decree, where the increases result from the Post-Lodging construction or modification of any units within the Refinery, are beyond the scope of the release in Paragraphs 236-237, and Holly must evaluate any such increases in accordance with the Applicable PSD/NSR Requirements.

240. New Source Performance Standards Subparts A and J -Resolution of Liability. Entry of this Consent Decree shall resolve all civil liability of Holly to the United States and the Co-Plaintiff for violations of the Applicable NSPS Subparts A and J Requirements, arising from emissions of the following pollutants from the following units, from the date that the claims of the United States and the Co-Plaintiff accrued through the following dates:

<u>Unit</u>	<u>Pollutant</u>	<u>Date</u>
FCCU	SO <sub>2</sub>	June 30, 2013
FCCU	CO	December 31, 2009
FCCU	PM and Opacity	June 30, 2013
All heaters and boilers	SO <sub>2</sub>	Date of Entry
All Flaring Devices	SO <sub>2</sub>	Date of Entry or the schedule in Appendix D, whichever is later

241. Reservation of Rights: Release for NSPS Violations Occurring After the Date of Lodging Can be Rendered Void. Notwithstanding the resolution of liability in Paragraph 240, the release of liability by the United States and the Co-Plaintiff to Holly for violations of any Applicable NSPS Subparts A and J Requirements that occurred between the Date of Lodging and the Post-Lodging Compliance Dates shall be rendered void if Holly materially

fails to comply with the obligations and requirements of Section V.E., V.G., V.H and/or V.I; provided however, that the release in Paragraph 240 shall not be rendered void if Holly remedies such material failure and pays any stipulated penalties due as a result of such material failure.

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

243. LDAR and Benzene Waste NESHAP Resolution of Liability. Entry of this Consent Decree shall resolve all civil liability of Holly to the United States and the Co-Plaintiff for violations of the following statutory and regulatory requirements that (1) commenced and ceased prior to the Date of Entry of the Consent Decree; and (2) commenced prior to the Date of Entry of the Consent Decree and continued past the Date of Entry, provided that the events giving rise to such violations are identified and addressed by Holly as required under Paragraphs 113 and 117 for LDAR requirements and under Paragraphs 73-79 (if applicable) for Benzene Waste NESHAP requirements:

a. LDAR. For all equipment in light liquid service and gas and/or vapor service, the LDAR requirements promulgated pursuant to Sections 111 and 112 of the Clean Air Act, and codified at 40 C.F.R. Part 60, Subparts VV and GGG; 40 C.F.R. Part 61, Subparts J and V; and 40 C.F.R. Part 63, Subparts F, H, and CC;

b. 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); and

c. Any applicable, federally-enforceable state regulations that implement, adopt, or

incorporate the specific federal regulatory requirements identified in this Paragraph.

d. Any applicable state regulations enforceable by the Co-Plaintiff that implement, adopt, or incorporate the specific federal regulatory requirements identified in this Paragraph.

244. Reservation of Rights. Notwithstanding the resolution of liability in Paragraph 243, nothing in this Consent Decree precludes the United States and/or the Co-Plaintiff from seeking from Holly injunctive and/or other equitable relief or civil penalties for violations by Holly of Benzene Waste NESHAP and/or LDAR requirements that (1) commenced prior to the Date of Entry of this Consent Decree and continued after the Date of Entry if Holly fails to identify and address such violations as required by Paragraphs 113, 117, and 73-79; or (2) commenced after the Date of Entry of the Consent Decree.

245. RESERVED

246. Liability under EPCRA/CERCLA for Pre-Lodging Acid Gas Flaring Incidents or Hydrocarbon Gas Flaring Incidents. Entry of this Consent Decree shall resolve all civil liability of Holly to the United States and the Co-Plaintiff for violations of EPCRA or Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), for incidents identified in the flaring history submitted previously.

247. Audit Policy. Nothing in this Consent Decree is intended to limit or disqualify Holly, on the grounds that information was not discovered and supplied voluntarily, from seeking to apply EPA's Audit Policy or any state audit policy to any violations or non-compliance that Holly discovers during the course of any investigation, audit, or enhanced monitoring that Holly is required to undertake pursuant to this Consent Decree.

248. Claim/Issue Preclusion. In any subsequent administrative or judicial proceeding initiated by the United States or the Co-Plaintiff for injunctive relief, penalties, or other appropriate relief relating to Holly for violations of the PSD/NSR, NSPS, NESHAP,



and/or LDAR requirements, not identified in Paragraph 60 of the Consent Decree and/or the Complaint:

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

b. Except as set forth in Paragraph 248.a., above, the United States and the Co-Plaintiff 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 Holly of any interpretation or guidance issued by EPA related to the matters addressed in this Consent Decree.

249. Imminent and Substantial Endangerment. Nothing in this Consent Decree shall be construed to limit the authority of the United States and the Co-Plaintiff to undertake any action against any person, including Holly, to abate or correct conditions which may present an imminent and substantial endangerment to the public health, welfare, or the environment.

## **XVII. GENERAL PROVISIONS**

250. Other Laws. Except as specifically provided by this Consent Decree, nothing in this Consent Decree will relieve Holly of its obligations to comply with all applicable federal, state, regional and local laws and regulations, including but not limited to more stringent standards. In addition, nothing in this Consent Decree will be construed to prohibit or prevent the United States or Co-Plaintiff 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, regional, or local laws and regulations. Subject to Part XVI (Effect of Settlement), nothing contained in this Consent Decree will be construed to prevent or limit the rights of the United States or the Co-Plaintiff to seek or obtain other remedies or sanctions available under other federal, state, regional or local statutes or regulations, by virtue of Holly's violation of the Consent Decree or of the statutes and regulations upon which the Consent Decree is based, or for Holly's violations of any applicable provision of law. This will include the right of the United States or the Co-Plaintiff to invoke the authority of the Court to order Holly's compliance with this Consent Decree in a subsequent contempt action. The requirements of this Consent Decree do not exempt Holly from complying with any and all applicable new or modified federal, state, regional 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.

251. Changes to Law. In the event that during the life of this Consent Decree there are changes in the statutes or regulations that provide the underlying basis for the Consent Decree such that Holly 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, Holly may seek to apply to the Court for whatever relief it believes may be available. However if Holly applies to the Court for relief under this Paragraph, the United States and Utah reserve the right to seek to void all or a Section of the Resolution of Liability reflected in Section XVI [Effect of Settlement]. Nothing in this Paragraph is intended to enlarge the parties rights under Rule 60 of the Federal Rules of Civil Procedure, nor is this Paragraph intended to confer on any party any independent basis, outside of Rule 60, for seeking such relief. The United States reserves the right to assert that no relief is available to

Holly under Rule 60. This Paragraph 251 does not apply to Holly's obligation to complete the supplemental environmental project referred to in Section VII of this Consent Decree.

252. Startup, Shutdown, Malfunction. Notwithstanding the provisions of this Consent Decree regarding Startup, Shutdown, and Malfunction, this Consent Decree does not exempt Holly from the requirements of state laws and regulations or from the requirements of any permits or plan approvals issued to Holly, as these laws, regulations, permits, and/or plan approvals may apply to Startups, Shutdowns, and Malfunctions at the Refinery.

253. Permit Violations. Nothing in this Consent Decree will be construed to prevent or limit the right of the United States or the Co-Plaintiff to seek injunctive or monetary relief for violations of permits; provided, however, that with respect to monetary relief, the United States and the Co-Plaintiff 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).

254. Failure of Compliance. The United States and the Co-Plaintiff do not, by their consent to the entry of Consent Decree, warrant or aver in any manner that Holly's complete compliance with the Consent Decree will result in compliance with the provisions of the CAA or the corollary state and local statutes. Notwithstanding the review or approval by EPA or the Co-Plaintiff of any plans, reports, policies or procedures formulated pursuant to the Consent Decree, Holly shall remain solely responsible for compliance with the terms of the Consent Decree, all applicable permits, and all applicable federal, state, regional, and local laws and regulations, except as provided in Part XIV (Force Majeure).

255. Alternative Monitoring Plans. Except as otherwise specifically provided in Paragraph 37, wherever this Consent Decree requires or permits Holly to submit an AMP to EPA for approval, Holly shall submit a complete AMP application. If an AMP is not

approved, then within ninety (90) days of Holly's receipt of disapproval, Holly shall submit to EPA for approval, with a copy to the Co-Plaintiff, a plan and schedule that provide for compliance with the applicable monitoring requirements as soon as practicable. Such plan may include a revised AMP application, physical or operational changes to the equipment, or additional or different monitoring.

256. Service of Process. Holly hereby agrees to accept service of process by mail with respect to all matters arising under the Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including but not limited to, service of a summons. The persons identified by Holly at Paragraph 261 (Notice) are authorized to accept service of process with respect to all matters arising under the Consent Decree.

257. Post-Lodging/Pre-Entry Obligations. Obligations of Holly under this Consent Decree to perform duties scheduled to occur after the Date of Lodging of the Consent Decree, but prior to the Date of Entry of the Consent Decree, will be legally enforceable only on and after the Date of Entry of the Consent Decree. Liability for stipulated penalties, if applicable, will accrue for violation of such obligations and payment of such stipulated penalties may be demanded by the United States or the Co-Plaintiff as provided in this Consent Decree, provided that the stipulated penalties that may have accrued between the Date of Lodging of the Consent Decree and the Date of Entry of the Consent Decree may not be collected unless and until this Consent Decree is entered by the Court.

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

259. Public Documents. All information and documents submitted by Holly to EPA and the Co-Plaintiff pursuant to this Consent Decree will be subject to public inspection in accordance with the respective statutes and regulations that are applicable to EPA and the Co-

Plaintiff, 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.

260. Public Notice and Comment. The Parties agree to the Consent Decree and agree that the Consent Decree may be entered upon compliance with the public notice procedures set forth at 28 C.F.R. § 50.7, and upon notice to this Court from the United States Department of Justice requesting entry of the Consent Decree. The United States and Co-Plaintiff reserve the right to withdraw or withhold its consent to the Consent Decree if public comments disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate.

261. Notice. Unless otherwise provided herein, notifications to or communications between the Parties will be deemed submitted on the date they are postmarked and sent by U.S. Mail, postage pre-paid, except for notices under Part XIV (Force Majeure) and Part XV (Retention Jurisdiction/Dispute Resolution), which will be sent either by overnight mail or by certified or registered mail, return receipt requested. Each report, study, notification or other communication of Holly shall be submitted as specified in this Consent Decree, with copies to EPA Headquarters, EPA Region 8, and the Co-Plaintiff. 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 will 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 Co-Plaintiff, and Holly 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. 90-5-2-1-07793

**As to EPA:**

Director, Air Enforcement Division  
Office of Civil Enforcement  
U.S. Environmental Protection Agency  
Mail Code 2242-A  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460-0001

with a hard copy to  
Director, Air Enforcement Division  
Office of Civil Enforcement  
c/o Matrix New World Engineering Inc.  
120 Eagle Rock Avenue  
Suite 207  
East Hanover, NJ 07936-3159

and an electronic copy to  
csullivan@matrixnewworld.com  
[foley.patrick@epa.gov](mailto:foley.patrick@epa.gov)  
smith.carol@epa.gov

**EPA Regions:**

Region 8:  
Air Program Director  
Office of Enforcement, Compliance & Environmental Justice  
Environmental Protection Agency, Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129

**As to Co-Plaintiff:**

Executive Secretary, Utah Air Quality Board  
Division of Air Quality  
150 North 1950 West  
P.O. Box 144820  
Salt Lake City, UT 84114-4820

**As to Holly:**

General Counsel  
Holly Corporation  
100 Crescent Court, Suite 1600  
Dallas, TX 75201

Refinery Manager  
Holly Refining & Marketing Company – Woods Cross  
393 South 800 West  
Woods Cross, UT 84087

Theodore L. Garrett, Esq.  
Covington & Burling LLP  
1201 Pennsylvania Ave., N.W.  
Washington, D.C. 20004

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

In addition, the nature and frequency of reports required by the Consent Decree may be modified by mutual consent of the Parties. The consent of the United States to such modification must be in the form of a written notification from EPA, but need not be filed with the Court to be effective.

262. Approvals. All EPA approvals shall be made in writing. All Co-Plaintiff approvals shall be sent from the offices identified in Paragraph 261.

263. Opportunity for Comment by the Co-Plaintiff. For all provisions of Part V where EPA approval is required, the Co-Plaintiff is entitled to provide comments to EPA and to consult with EPA regarding the issue in question.

264. 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.

265. 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 the Consent Decree shall not be used in any action involving the interpretation or enforcement of the Consent Decree. Non-material modifications to this Consent Decree shall be effective when signed in writing by EPA and Holly. 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 Holly. Material modifications to this Consent Decree shall be in writing, signed by EPA, the Co-Plaintiff, and Holly, and shall be effective upon approval by the Court.

266. Effect of Shutdown. The permanent Shutdown of an emissions unit or equipment and the surrender of all permits for that emissions unit or equipment shall be deemed to satisfy all requirements of this Consent Decree applicable to that emissions unit or equipment on and after the later of: (i) the date of the Shutdown of the emissions unit or equipment; or (ii) the date of the surrender of all permits applicable to the unit or piece of equipment. The permanent Shutdown of the Refinery and the surrender of all air permits for the Refinery shall be deemed to satisfy all requirements of this Consent Decree applicable to the 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.

### **XVIII. TERMINATION**

267. Certification of Completion: Applicable Sections. Prior to moving for termination under Paragraph 272, Holly may seek to certify completion of one or more of the following Sections/Parts of the Consent Decree applicable to the Refinery, provided that all of



the related requirements for the Refinery have been satisfied:

- a. Section V.A - Fluid Catalytic Cracking Unit (including operation of the unit for one (1) year after completion in compliance with the emission limits established pursuant to the Consent Decree);
- b. Sections V.B through V.E - Fluid Catalytic Cracking Unit (including operation of the unit for one (1) year after completion in compliance with the emission limits established pursuant to this Consent Decree);
- c. Sections V.F and V.G – Combustion Units (including operation of the relevant units for one (1) year after completion in compliance with the emission limit set pursuant to the Consent Decree);
- d. Sections V.H - V.K - SRPs and Flares;
- e. Sections V.M and V.N (Benzene and LDAR); and
- f. Part VII – Supplemental Environmental Projects.

268. Certification of Completion: Holly Actions. If Holly concludes that any of the Sections of the Consent Decree identified in Paragraph 267 have been completed for the Refinery, Holly may submit a written report to EPA and the Co-Plaintiff describing the activities undertaken and certifying that the applicable Section(s) have been completed in full satisfaction of the requirements of this Consent Decree, and that Holly is in substantial and material compliance with all of the other requirements of the Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of Holly:

“To the best of my knowledge, after appropriate 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.”

269. Certification of Completion: EPA Actions. Upon receipt of Holly's certification and after opportunity for comment by the Co-Plaintiff, EPA will notify Holly whether the requirements set forth in the applicable Section have been completed in accordance with this Consent Decree:

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

b. If EPA concludes that the requirements of the applicable Section or Part have been completed in accordance with this Consent Decree, EPA shall so certify in writing to Holly. This certification shall constitute the certification of completion of the applicable Section or Part for purposes of this Consent Decree. The parties recognize that ongoing obligations under such Sections remain and necessarily continue (*e.g.*, reporting, recordkeeping, training, auditing requirements), and that Holly's certification is that it is in current compliance with all such obligations.

270. Certification of Completion: No Impediment to Stipulated Penalty Demand. Nothing in Paragraphs 268 and 269 shall preclude the United States or the Co-Plaintiff from seeking stipulated penalties for a violation of any of the requirements of the Consent Decree regardless of whether a Certification of Completion has been issued under Paragraph 269(b) of the Consent Decree. Nothing in this Paragraph shall preclude Holly from asserting any defense in which it is entitled. In addition, nothing in this Paragraph shall permit Holly to fail to implement any ongoing obligations under the Consent Decree regardless of whether a Certification of Completion has been issued.

271. Termination: Conditions Precedent. This Consent Decree shall be subject to termination upon motion by the Parties or upon motion by Holly acting alone under the conditions identified in this Paragraph. Prior to seeking termination, Holly 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 the Consent Decree in accordance with Paragraphs 267-269;
- c. payment of all penalties and other monetary obligations due under the terms of the Consent Decree; unless all penalties and/or other monetary obligations owed to the United States or the Co-Plaintiff are fully paid as of the time of the Motion;
- d. completion of the Supplemental/Beneficial Environmental Projects under Part VII;
- e. application for and receipt of permits incorporating the emission limits and standards established under this Consent Decree; and
- f. operation for at least one (1) 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.

272. Termination: Procedure. At such time as Holly believes that it has satisfied the requirements for termination set forth in Paragraph 271, Holly shall certify such compliance and completion to the United States and the Co-Plaintiff in accordance with the certification language of Paragraph 268. Unless either the United States or the Co-Plaintiff objects in writing with specific reasons within one-hundred and twenty (120) days of receipt of Holly's certification under this Paragraph, the Court may upon motion by Holly order that this Consent

Decree be terminated. If either the United States or the Co-Plaintiff object to the certification by Holly, then the matter shall be submitted to the Court for resolution under Part XV (Retention of Jurisdiction/Dispute Resolution). In such case, Holly shall bear the burden of proving that this Consent Decree should be terminated.

**XIX. SIGNATORIES**

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

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
UNITED STATES DISTRICT JUDGE

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States, et al. v. Holly Refining & Marketing Company – Woods Cross, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: \_\_\_\_\_

\_\_\_\_\_  
RONALD J. TENPAS  
Assistant Attorney General  
Environment and Natural Resources Division  
United States Department of Justice

Date: \_\_\_\_\_

\_\_\_\_\_  
ROBERT D. BROOK  
Assistant Section Chief  
Environmental Enforcement Section  
United States Department of Justice  
P.O. Box 7611  
Washington, DC 20044  
(202) 514-2738

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States, et al. v. Holly Refining & Marketing Company – Woods Cross, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR PLAINTIFF THE UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY:

Date: \_\_\_\_\_

\_\_\_\_\_  
GRANTA Y. NAKAYAMA  
Assistant Administrator  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency

Date: \_\_\_\_\_

\_\_\_\_\_  
ADAM M. KUSHNER  
Director, Air Enforcement Division  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States, et al. v. Holly Refining & Marketing Company – Woods Cross, subject to the public notice and comment requirements of 28 C.F.R. § 50.7.

FOR CO-PLAINTIFF, STATE OF UTAH

Date: \_\_\_\_\_

\_\_\_\_\_  
M. CHERYL HEYING  
Executive Secretary  
Utah Air Quality Board


Date: \_\_\_\_\_

\_\_\_\_\_  
CHRISTIAN C. STEPHENS  
Assistant Attorney General  
State of Utah

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States, et al. v. Holly Refining & Marketing Company – Woods Cross.

FOR DEFENDANT HOLLY REFINING &  
MARKETING COMPANY – WOODS CROSS

Date: 3/13/08

  
\_\_\_\_\_  
[Name]  
[Title]



# **APPENDIX A**

## **LIST OF FLARING DEVICES**

**APPENDIX A**

**LIST OF FLARING DEVICES  
(HOLLY WOODS CROSS REFINERY)**

**A. ACID GAS FLARING DEVICES**

South Flare (66-1)

North Flare (66-2)

**B. HYDROCARBON FLARING DEVICES**

South Flare (66-1)

North Flare (66-2)

Propane Flare (68-1)

# **APPENDIX B**

## **LIST OF CONTROLLED HEATERS AND BOILERS**

**APPENDIX B**

**LIST OF CONTROLLED HEATERS AND BOILERS  
AND  
RETROFIT SCHEDULE  
(HOLLY WOODS CROSS REFINERY)**

Equipment ID	Heat Input (GHV) Design Capacity (MMBtu/hr)	12/31/09 Deadline for Retrofit	12/31/12 Deadline for Retrofit
Reformer Heater 6H1 <sup>a</sup>	54.7	X	
Crude Heater 8H1	≤99.0 <sup>b</sup>	X	
NHDS Feed Heater 12H1	50.2	X	
#5 Boiler 51-5	70.0	X	
CO Boiler 51-6 <sup>c</sup>	60.0		X
#8 Boiler 51-8	92.7 <sup>d</sup>		X
FCCU Feed Heater 4-1	39.99		X <sup>e</sup>
Retrofitted Capacity (MMBtu/hr)	466.59	273.9	192.69
% of Heaters/Boilers >40 MMBtu/hr	100.0%	58.7%	41.29%

<sup>a</sup> In lieu of retrofitting the existing Heater 6H1 to low-NO<sub>x</sub> technology, Holly may convert the existing gas-fired drive on the Clark Compressor 11-2 to electric drive or replace the existing gas drive with an electric drive, thus eliminating 100% of its emissions. Either this conversion/replacement or the retrofit of 6H1 will occur by the 12/31/09 date indicated.

<sup>b</sup> As part of its burner retrofit, Heater 8H1 will be de-rated to 99 MMBtu/hr or less.

<sup>c</sup> The CO Boiler will only be considered a controlled boiler if it is disengaged from the FCCU regenerator vent stream.

<sup>d</sup> Boiler 51-8 already is equipped with low-NO<sub>x</sub> burners. Retrofit will be to NGULNB.

- ° If the heat input capacity of FCC Feed Heater 4-1 is raised above 40mmBtu/hr at anytime prior to 12/31/12, then it shall be retrofitted with NGULNB by 12/31/12. Holly shall obtain all necessary permits for any increase in capacity.

## APPENDIX C

### Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas

Refinery fuel gas streams/systems eligible for the Alternative Monitoring Plan (AMP) should be inherently low in H<sub>2</sub>S content, and such H<sub>2</sub>S content should be relatively stable. The refiner requesting an AMP should provide sufficient information to allow for a determination of appropriateness of the AMP for each gas stream/system requested. Such information should include, but need not be limited to:

- A description of the gas stream/system to be considered including submission of a portion of the appropriate piping diagrams indicating the boundaries of the gas stream/system, and the affected fuel gas combustion device(s) to be considered and an identification of the proposed sampling point for the alternative monitoring;
- A statement that there are no crossover or entry points for sour gas (high H<sub>2</sub>S content) to be introduced into the gas stream/system. (This should be shown in the piping diagrams);
- An explanation of the conditions that ensures low amounts of sulfur in the gas stream (i.e., control equipment or product specifications) at all times;
- The supporting test results from sampling the requested gas stream/system using appropriate H<sub>2</sub>S monitoring (i.e., detector tube monitoring following the Gas Processor Association's: Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes, 1986 Revision), at minimum:
  - for frequently operated gas streams/systems -- two weeks of daily monitoring (14 samples);
  - for infrequently operated gas streams/systems, 7 samples shall be collected unless other additional information would support reduced sampling.

Note: All samples are grab samples.

- A description of how the two weeks (or seven samples for infrequently operated gas streams/systems) of monitoring results compares to the typical range of H<sub>2</sub>S concentration (fuel quality) expected for the gas stream/system going to the affected fuel gas combustion device (e.g., the two weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out, and, therefore, should be representative of typical operating conditions affecting H<sub>2</sub>S content in the gas stream going to the loading rack flare);

- Identification of a representative process parameter that can function as an indicator of a stable and low H<sub>2</sub>S concentration for each fuel gas stream/system, (e.g., review of gasoline sulfur content as an indicator of sulfur content in the vapors directed to a loading rack flare);
- Suggested process parameter limit for each stream/system, the rationale for the parameter limit and the schedule for the acquisition and review of the process parameter data. The refiner will collect the proposed process parameter data in conjunction with the testing of the fuel gas stream's stable and low H<sub>2</sub>S concentration.

The following shall be used for measuring H<sub>2</sub>S in fuel gas within these types of AMPs unless the refiner requests, in writing, approval of an alternative methodology:

- Conduct H<sub>2</sub>S measurement using detector tubes (“length-of-stain tube” type measurement);
- Detector tube ranges 0-10/0-100 ppm (N =10/1) shall be used for routine testing; and
- Detector tube ranges 0-500 ppm shall be used for testing if measured concentration exceeds 100 ppm H<sub>2</sub>S.

#### Data Range and Variability Calculation and Acceptance Criteria

For each step of the monitoring schedule, sample range and variability will be determined by calculating the average plus 3 standard deviations for that test data set.

- If the average plus 3 standard deviations for the test data set is less than 81 ppm H<sub>2</sub>S, the sample range and variability are acceptable and the refiner can proceed to the next step of the monitoring schedule.

Note: 81 ppm is one-half the maximum allowable fuel gas standard under NSPS Subpart J, and the Agency believes that using 81 ppm acceptance criteria provides a sufficient margin for ensuring that the emission limit is not exceeded under normal operating conditions.

- If the data shows an unacceptable range and variability at any step (the average plus 3 standard deviations is equal to or greater than 81 ppm H<sub>2</sub>S), then move to Step 7. Agency approval is required to proceed to the next step if the average plus 3 standard deviations is between 81 ppm and 162 ppm H<sub>2</sub>S. As an example, approval may be granted based on a review of the test data and any pertinent information which demonstrates that sample variability during the test period was due to unusual circumstances. Supplemental test data may be taken to demonstrate that process variability is within the plan requirements. Data may be removed from the variability calculations for cause after agency approval.

- For Steps 3 and 4, if the data shows an unacceptable range and variability (the average plus 3 standard deviations is equal to or greater than 81 ppm H<sub>2</sub>S), the source will drop back to the previous step's monitoring schedule.
- If at any time, one detector tube sample value is equal to or greater than 81 ppm H<sub>2</sub>S, then begin sampling as specified in Step 6. Note: Standard deviation cannot be calculated for a data set containing one point.

### Monitoring Schedule for Approved AMPs

For gas streams which must meet product specifications for sulfur content, one time only detection tube sampling along with a certification that the gas stream is subject to product or pipeline specifications is sufficient for the AMP. If the gas stream composition changes (i.e., new gas sources are added), or if the gas stream will no longer be required to meet product or pipeline specifications, then the gas stream must be resubmitted for approval under the AMP.

The following are examples of streams needing one time only monitoring:

- Certified commercial grade natural gas;
- Certified commercial grade LPG;
- Certified commercial grade hydrogen;
- Gasoline vapors from a loading rack that only loads gasoline meeting a product specification for sulfur content.

For other gas streams, the H<sub>2</sub>S content of each refinery fuel gas stream/system with an approved AMP shall be monitored per the following schedule:

Step 1:

The refiner will monitor the selected process parameter for each stream/system, according to the established process parameter monitoring or review schedule approved by the agency in the AMP, and at times when conducting H<sub>2</sub>S detector tube sampling.

Step 2:

The refiner will conduct random detector tube sampling twice per week for each stream/system for a period of six months (52 samples). For fuel gas streams infrequently generated and combusted in affected fuel gas combustion devices (i.e., less frequent than bi-weekly), detector tube samples shall be taken each time the fuel gas stream is generated and combusted. A total of at least 24 samples shall be collected for infrequently generated gas streams. Monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H<sub>2</sub>S testing. Move to Step 3 if the



calculated range and variability of the data meets the established acceptance criteria. Submit test data (raw measurements plus calculated average and variability) to the agency quarterly.

Step 3:

The refiner will conduct random H<sub>2</sub>S sampling once per quarter for a period of six quarters (6 samples) with a minimum of 1 month between samples. A minimum of 9 samples are required for infrequently generated and combusted fuel gas streams before proceeding to Step 4. Continue to monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H<sub>2</sub>S testing. Move to Step 4 if the calculated range and variability of the data meets the established acceptance criteria. Submit test data (raw measurements plus calculated average and variability) to the agency quarterly.

Step 4:

The refiner will conduct random H<sub>2</sub>S sampling twice per year for a period of two years (4 samples); sample randomly in the 1st and 3rd quarters with a minimum of 3 months between samples. Continue to monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H<sub>2</sub>S testing. Move to Step 5 if the calculated range and variability of the data meets the established criteria. Submit test data (raw measurements plus calculated average and variability) to the agency semiannually.

Step 5:

The refiner will continue to conduct testing on semi-annual basis. Testing is to occur randomly once every semiannual period with a minimum of 3 months between samples. Continue to monitor and record the selected process parameter in accordance with the established schedule, and at times when conducting H<sub>2</sub>S testing. If any one sample is equal to or greater than 81 ppm H<sub>2</sub>S, then proceed to the sampling specified in Step 7. Note: Standard deviation cannot be calculated for a data set containing one point.

Step 6:

If, at any time, the selected process parameter data indicates a potential change in H<sub>2</sub>S concentration, or a single detector tube sample value is equal to or greater than 81 ppm H<sub>2</sub>S, then the fuel gas stream shall be sampled with detector tubes on a daily basis for 7 days (or for infrequently generated gas streams -- 7 samples during the same period of an indicated change in H<sub>2</sub>S concentration, or as otherwise approved by the agency). If the average detector tube result plus 3 standard deviations for those seven samples is less than 81 ppm H<sub>2</sub>S, the date and value of change in the selected process parameter indicator and the sample results shall be included in the next quarterly report, and the refiner shall resume monitoring in accordance with the schedule of the current step. If the average plus 3 standard deviations for those seven samples is equal to or greater than 81 ppm H<sub>2</sub>S, sampling shall follow the requirements of Step 7.

## Step 7:

If sample detector tube data indicates a potential for the emission limit to be exceeded (the average plus 3 standard deviations is equal to or greater than 81 ppm H<sub>2</sub>S), as determined in the Data Range and Variability Calculation and Acceptance Criteria or in Step 6, the refiner shall notify the agency of those results before the end of the next business day following the last sample day. The fuel gas stream shall subsequently be tested daily for a two week period (or 14 samples during the same event or as otherwise approved by the agency for infrequently generated gas streams). After the two week period is complete, sampling will continue once per week, until the agency approves a revised sampling schedule or makes a determination to withdraw approval of the gas stream/system from the AMP. Note: At any time, a detector tube value in excess of the 162 ppm limit is evidence that the emission standard has been exceeded.

### General Provisions of Approved AMPs

Upon agency request, the refiner shall conduct a test audit for any gas stream with an approved AMP. The audit shall consist of daily detector tube samples collected over a one week period (7 samples). For fuel gas streams infrequently generated and combusted in affected fuel gas combustion devices, an audit shall consist of 3 consecutive sampling events. (e.g., Rail loading may occur once per month, an audit would consist of 3 consecutive loading events.) The United States Environmental Protection Agency, with due notice, reserves the right to withdraw approval of the AMP for any gas stream/system.

The source shall keep records of the H<sub>2</sub>S detector tube test data and the representative process parameter data and fuel source for at least two years.

If a new fuel gas stream is introduced into a fuel gas stream with an approved AMP, the refiner shall again apply for an AMP and repeat Steps 1 - 5.

### Example:

An AMP Application for a Hydrogen Plant PSA Off-Gas Stream Combusted Exclusively in the Hydrogen Plant Process Heater:

### Process Description

Hydrogen production for the refinery by the steam methane reforming process. CO<sub>2</sub> is the primary impurity in the hydrogen produced; small amounts of CO and methane are also present. Unpurified hydrogen is passed over molecular sieve absorbent beds to remove these impurities. The off gas from regeneration of the absorbent beds is called PSA off-gas. It is sent to the hydrogen plant heater to recover heat and control CO emissions.

### Piping Diagrams

Piping diagrams should be supplied to show monitoring location and to demonstrate that there is no potential for cross over or entry points for sour gas.

### Basis for PSA Off-Gas Low H<sub>2</sub>S Content

Since PSA off-gas is a byproduct of hydrogen purification, any H<sub>2</sub>S in the PSA purge gas must come from the hydrogen unit feed. Levels of H<sub>2</sub>S in the PSA gas are negligible because H<sub>2</sub>S must be controlled to prevent deactivation of the unit's catalyst. H<sub>2</sub>S is a permanent catalyst poison. The hydrogen unit has 2 scrubbers to remove H<sub>2</sub>S poisoning. The scrubbers are operated in series. The lead scrubber must exhibit at least a 70% reduction in H<sub>2</sub>S content. If not, the scrubber is taken off line and the absorbent is replaced. After the absorbent is replaced, the scrubber is placed on line as the second scrubber in series. This maximizes the amount of H<sub>2</sub>S removal and assures maximum scrubbing potential when one scrubber is off line for absorbent replacement.

### Process Parameter Monitoring and Suggested Process Parameter Limit

Operation of the scrubbers is checked on a monthly basis with detector tubes. The feed gas H<sub>2</sub>S content is measured at the inlet and outlet of the lead scrubber. If natural gas is used as hydrogen plant feed; both readings are below the 1 ppm detection limit. If refinery fuel gas is the feed gas, 30 ppm to 40 ppm H<sub>2</sub>S is normally detected at the inlet. A lead scrubber outlet reading of 10 -12 ppm H<sub>2</sub>S would trigger absorbent replacement. The suggested process parameter limit is 20 ppm H<sub>2</sub>S at the lead H<sub>2</sub>S absorber outlet. Absorber outlet H<sub>2</sub>S measurements will be taken in conjunction with the PSA gas measurements during Steps 2 and 3.

# **APPENDIX D**

## **NSPS SUBPART J COMPLIANCE SCHEDULE FOR FLARES**

**APPENDIX D**

**NSPS SUBPART J COMPLIANCE SCHEDULE FOR FLARES  
(HOLLY WOODS CROSS REFINERY)**

<b><u>Source</u></b>	<b><u>Date of Compliance</u></b>	<b><u>Method/Proof of Compliance</u></b>
South Flare (66-1)	6/30/09	For each routinely-generated refinery fuel gas stream that is directed to this flare on a continuous or intermittent basis, Holly shall comply with the monitoring requirements of NSPS Subpart J. Compliance with the monitoring requirements of Subpart J may include either (i) a CEMS; or (ii) will submit for EPA approval, a fully-approvable alternative monitoring plan (“AMP”) by no later than 90 days after the listed Date of Compliance.
North Flare (66-2)	Date of Entry	Same as above.
Propane Flare	12/31/09	Same as above