

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:

CALUMET SPECIALTY PRODUCTS
PARTNERS, L. P., et al.
AI NOS. 312, 1224, 1214

PROCEEDINGS UNDER THE LOUISIANA
ENVIRONMENTAL QUALITY ACT
LA. R.S. 30:2001, ET SEQ.

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* Settlement Tracking No.
* SA-MM-10-0090
*
* Enforcement Tracking Nos.
* AE-PP-00-0406
* AE-CN-01-0207
* AE-CN-04-0345
* AE-CN-04-0288
* HE-CN-10-00818
* WE-CN-09-0202
* And Other Matters

SETTLEMENT

I. AUTHORITY	3
II. APPLICABILITY AND BINDING EFFECT	3
III. OBJECTIVES	5
IV. DEFINITIONS	5
V. AFFIRMATIVE RELIEF/ENVIRONMENTAL PROJECTS	11
A. NO _x Emissions Reductions from Heaters and Boilers.....	11
B. SO ₂ Emissions Reductions from and NSPS Applicability of Heaters and Boilers....	14
C. NSPS Applicability of and Compliance for Sulfur Recovery Plants	16
D. NSPS Applicability and Compliance for Flaring Devices.....	20
E. Control of Acid Gas Flaring Incidents and Tail Gas Incidents	21
F. Control of Hydrocarbon Flaring Incidents.	33
G. Electrical Power Project to Reduce Flaring at Calumet Shreveport Refinery.....	34
H. Calumet Shreveport Refinery Flare #2 Refurbishment Project.....	35
I. Benzene Waste NESHAP Program Enhancements.....	36
J. Leak Detection and Repair (“LDAR”) Program Enhancements.....	55
K. Incorporation of Settlement Requirements into Federally-Enforceable Permits	65
L. NSPS QQQ Audits.....	66
VI. BENEFICIAL ENVIRONMENTAL PROJECTS	67
VII. EMISSION CREDIT GENERATION	69
VIII. MODIFICATIONS TO IMPLEMENTATION SCHEDULES	71
IX. REPORTING AND RECORDKEEPING	74
X. CIVIL PENALTY	75
XI. STIPULATED PENALTIES	75
XII. INTEREST	91
XIII. RIGHT OF ENTRY	92
XIV. FORCE MAJEURE	92
XV. DISPUTE RESOLUTION	95
XVI. EFFECT OF SETTLEMENT	96
XVII. GENERAL PROVISIONS	106
XVIII. TERMINATION	110
XIX. SIGNATORIES	111

TABLE OF APPENDICES

Appendix A	List of Flaring Devices and NSPS Subpart J Compliance Schedule for Flares
Appendix B	Controlled Heaters and Boilers
Appendix C	Additional LDEQ Issues
Appendix D	Compliance Schedule to Address Ammonia Exceedances from the Wastewater Treatment Plant and Improvements to the Wastewater Treatment Plant
Appendix E	Schedule for Wastewater Treatment Process Assessment

SETTLEMENT

WHEREAS, the Secretary of the State of Louisiana Department of Environmental Quality (“LDEQ”), or her designee, pursuant to the Louisiana Environmental Quality Act, La. R.S. 30:2001, et seq. (the “Act”) and the regulations promulgated thereto, is authorized to issue any Order necessary to effectuate the purposes of the Act;

WHEREAS, Calumet Specialty Products Partners, L.P. (“Calumet”) is a Limited Partnership, authorized to do business in the State of Louisiana, and is a person as that term is defined in La. R.S. 30:2004;

WHEREAS, Calumet, together with its affiliated Limited Partnership and Limited Liability Company, owns and/or operates petroleum refineries at the following locations: Calumet Lubricants Co., Limited Partnership, Cotton Valley Refinery, Agency Interest No. 312, 1756 Old Highway 7, Cotton Valley, Webster Parish, Louisiana, Calumet Lubricants Co., Limited Partnership, Princeton Refinery, Agency Interest No. 1224, 10234 La. Highway 157, Princeton, Bossier Parish, Louisiana, and Calumet Shreveport Lubricants & Waxes, LLC, Shreveport Refinery, Agency Interest No. 1214, 3333 Midway Avenue, Shreveport, Caddo Parish, Louisiana (collectively referred to as the “Refineries”);

WHEREAS, Calumet, in its operation of the Cotton Valley Refinery, the Princeton Refinery and the Shreveport Refinery, is subject to the Act and the regulations promulgated pursuant thereto;

WHEREAS, as part of its refinery initiative, LDEQ is seeking to resolve and end disputes concerning past activities and practices and to encourage upgrades in facilities and procedures;

WHEREAS, the LDEQ issued to Calumet a Notice of Potential Penalty for the Cotton Valley Refinery, dated May 16, 2001, Enforcement Tracking No. AE-PP-00-0406, Agency Interest No. 312;

WHEREAS, the LDEQ issued to Calumet a Consolidated Compliance Order & Notice of Potential Penalty for the Cotton Valley Refinery, dated December 31, 2002, Enforcement Tracking No. AE-CN-01-0207, Agency Interest No. 312;

WHEREAS, the LDEQ issued to Calumet a Consolidated Compliance Order & Notice of Potential Penalty for the Cotton Valley Refinery, dated December 23, 2004, Enforcement Tracking No. AE-CN-04-0345, Agency Interest No. 312;

WHEREAS, the LDEQ issued to Calumet a Consolidated Compliance Order & Notice of Potential Penalty for the Princeton Refinery, dated August 15, 2005, Enforcement Tracking No. AE-CN-04-0288, Agency Interest No. 1224;

WHEREAS, the LDEQ issued to Calumet a Consolidated Compliance Order & Notice of Potential Penalty for the Shreveport Refinery, dated May 5, 2010, Enforcement Tracking No. WE-CN-09-0202, Agency Interest No. 1214;

WHEREAS, the LDEQ issued to Calumet a Consolidated Compliance Order & Notice of Potential Penalty for the Shreveport Refinery, dated December 8, 2010, Enforcement Tracking No. HE-CN-10-00818, Agency Interest No. 1214;

WHEREAS, Calumet has identified and self-reported certain potential violations of environmental regulations and agreed that settlement of these issues in this Settlement is the most appropriate means of resolving these matters;

WHEREAS, Calumet denies and continues to deny that its operations have caused any adverse health effects and believes that it has operated its facilities in such a manner that adverse health effects have not occurred;

WHEREAS, Calumet denies and continues to deny that it has violated any law or regulation with respect to its operation of the Refineries;

WHEREAS, LDEQ desires to end its disputes with Calumet, and Calumet has volunteered to enter into negotiations with LDEQ regarding the above referenced issues;

WHEREAS, Calumet has agreed, among other things, to undertake the installation of air pollution control equipment and enhancements to air pollution management practices at the three Refineries to reduce air emissions;

NOW, THEREFORE, without any admission of fact or law, LDEQ and Calumet hereby agree as follows:

I. AUTHORITY

1. The Secretary of LDEQ has the authority to enter into this Settlement pursuant to La. R.S. 30:2001, et seq., including in pertinent part, La. R.S. 30:2011.D(6), La. R.S. 30:2025 and La. R.S. 30:2050.3.

II. APPLICABILITY AND BINDING EFFECT

2. The provisions of the Settlement shall apply to the Cotton Valley Refinery, the Princeton Refinery, and the Shreveport Refinery. The provisions of the Settlement shall be binding upon LDEQ and Calumet and its successors and assigns.

3. Calumet agrees not to contest the validity of the Settlement in any subsequent proceeding by LDEQ to implement or enforce its terms.

4. Effective from the Effective Date of this Settlement until its termination, Calumet agrees that its Cotton Valley, Princeton and Shreveport Refineries are covered by the Settlement. Effective from the Effective Date of the Settlement, Calumet shall give written notice of the Settlement to any successors in interest prior to the transfer of ownership or operation of any portion of any Refinery covered by this Settlement and shall provide a copy of the Settlement to any successor in interest. Calumet shall notify LDEQ in accordance with the notice provisions set forth in Paragraph 122 ("Notice"), of any successor in interest at least thirty (30) days prior to any such transfer.

5. Calumet shall condition any transfer, in whole or in part, of ownership of, operation of, or other interest (exclusive of any non-controlling non-operational shareholder interest or any security interest) in, any Covered Refinery upon the execution by the transferee of a modification to this Settlement, which makes the terms and conditions of this Settlement that apply to such Covered Refinery applicable to the transferee. In the event of any such transfer of ownership or other interest in any Covered Refinery, Calumet shall be released from the obligations and liabilities of this Settlement provided that, at the time of such transfer, the transferee has the financial and technical ability to assume and has contractually agreed with Calumet to assume these obligations and liabilities.

6. Calumet shall provide a copy of the applicable provisions of this Settlement to each consulting or contracting firm that is retained to perform work required under the LDAR and BWN provisions of this Settlement, upon execution of any contract relating to such work. No later than thirty (30) days after the Effective Date of this Settlement, Calumet also shall provide a copy of the applicable provisions of this Settlement to each consulting or contracting firm that Calumet already has retained to perform the work required under the LDAR and BWN

provisions of this Settlement. Copies of this Settlement do not need to be supplied to firms who are retained to supply materials, equipment or analyze samples to satisfy requirements under this Settlement.

III. OBJECTIVES

7. It is the purpose of LDEQ and Calumet in this Settlement to further the objectives of the Louisiana Environmental Quality Act and the refinery initiative.

IV. DEFINITIONS

8. Unless otherwise defined herein, terms used in this Settlement shall have the meaning given to those terms in the Louisiana Environmental Quality Act, La. R. S. 30:2001, et seq., and the implementing regulations promulgated thereunder. The following terms used in this Settlement shall be defined for purposes of this Settlement 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" or "AG Flaring" shall mean the combustion of Acid Gas and/or Sour Water Stripper Gas in an AG Flaring Device.
- c. "Acid Gas Flaring Device" or "AG Flaring Device" shall mean any device at the Refineries 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 AG Flaring Devices currently in service at the Covered Refineries are identified in Appendix A to this Settlement.
- d. "Acid Gas Flaring Incident" or "AG Flaring Incident" shall mean the continuous or intermittent combustion of Acid Gas and/or Sour Water Stripper

Gas in an AG Flaring Device 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 during which emissions are equal to, or in excess of five-hundred (500) pounds of sulfur dioxide, shall constitute one AG Flaring Incident. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the AG Flaring Incident.

- e. "AMP" shall mean alternative monitoring plan.
- f. "Calendar Quarter" shall mean the three month period ending on March 31st, June 30th, September 30th, and December 31st.
- g. "Calumet" shall mean Calumet Specialty Products Partners, L.P., together with its affiliated Calumet Lubricants Co., Limited Partnership and Calumet Shreveport Lubricants & Waxes, LLC, its successors and assign, and its officers, directors, and employees in their capacities as such.
- h. "CEMS" shall mean continuous emissions monitoring system.
- i. "Controlled Heaters and Boilers" shall mean the heaters and boilers that are listed in Appendix B.
- j. "Cotton Valley Refinery" shall mean the refinery owned and or operated by Calumet in Cotton Valley, Louisiana.

- k. "Covered Refineries" shall mean the refineries that are subject to the requirements of this Settlement: the Cotton Valley Refinery, the Princeton Refinery, and the Shreveport Refinery.
- l. "Current Generation Ultra-Low NO_x Burners" shall mean those burners that are designed to achieve a NO_x emission rate of 0.020 to 0.040 lb/mmBTU HHV when firing natural gas at 3% oxygen at full design load without air preheat, even if upon installation actual emissions exceed 0.040 lb/mmBTU HHV.
- m. "Day" or "Days" as used herein shall mean a calendar day or days.
- n. "Effective Date of this Settlement" shall mean the date the Settlement has been executed by all parties.
- o. "Flaring Device" shall mean either an AG and/or an HC Flaring Device.
- p. "Fuel Oil" shall mean any liquid fossil fuel with sulfur content of greater than 0.05% by weight.
- q. "Hydrocarbon Flaring" or "HC Flaring" shall mean the combustion of refinery-generated gases, except for Acid Gas and/or Sour Water Stripper Gas and/or Tail Gas, in a Hydrocarbon Flaring Device.
- r. "Hydrocarbon Flaring Device" or "HC Flaring Device" shall mean, a flare device 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 HC Flaring Devices currently in service at the Covered Refineries are identified in Appendix A to this Settlement. To the extent that, during the duration of this Settlement, any Covered Refinery

utilizes HC 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 HC Flaring Devices shall be covered under this Settlement.

- s. “Hydrocarbon Flaring Incident” or “HC Flaring Incident” shall mean the continuous or intermittent flaring of refinery-generated gases, except for Acid Gas or Sour Water Stripper Gas or Tail Gas, at a Hydrocarbon Flaring Device that results in the emission of sulfur dioxide equal to, or greater than five hundred (500) pounds in a 24-hour period; provided, however, that if five-hundred (500) pounds or more of sulfur dioxide have been emitted in a twenty-four (24) hour period and Flaring continues into subsequent, contiguous, non-overlapping twenty-four (24) hour period(s), each period during which emissions are equal to, or in excess of five-hundred (500) pounds of sulfur dioxide, shall constitute only one HC Flaring Incident. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the HC Flaring Incident.
- t. “LDEQ” shall mean the Louisiana Department of Environmental Quality and any successor, departments or agencies of the State of Louisiana.
- u. “Next Generation Ultra-Low NO_x Burners” or “Next Generation ULNBs” shall mean those burners new to the market that are designed to achieve a NO_x emission rate of less than or equal to 0.020 lb/mmBTU HHV when firing natural gas at 3% stack oxygen at full design load without air preheat, even if upon installation actual emissions exceed 0.020 lb/mmBTU HHV.

- v. "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."
- w. "NO_x" shall mean nitrogen oxides.
- x. "NO_x Control Technology" shall mean Current Generation ULNBs, Next Generation ULNBs or alternative NO_x control technology.
- y. "Paragraph" shall mean a portion of this Settlement identified by an arabic numeral.
- z. "Parties" shall mean LDEQ and Calumet.
- aa. "Princeton Refinery" shall mean the refinery owned and operated by Calumet in Princeton, Louisiana.
- bb. "Root Cause" shall mean the primary cause(s) of an AG Flaring Incident(s), Hydrocarbon Flaring Incident, or a Tail Gas Incident(s) as determined through a process of investigation.
- cc. "Scheduled Maintenance" shall mean any shutdown of any emission unit or control equipment that Calumet schedules at least fourteen (14) days in advance of the shutdown for the purpose of undertaking maintenance of such unit or control equipment.
- dd. "Settlement" shall mean this Settlement, including any and all appendices attached to the Settlement.

- ee. "Shreveport Refinery" shall mean the refinery owned and operated by Calumet in Shreveport, Louisiana.
- ff. "Shutdown" shall mean the cessation of operation of equipment for any purpose.
- gg. "Sour Water Stripper Gas" or "SWS Gas" shall mean the gas produced by the process of stripping refinery sour water.
- hh. "Startup" shall mean the setting in operation of equipment for any purpose.
- ii. "SO₂" shall mean sulfur dioxide.
- jj. "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.
- kk. "Tail Gas Treatment Unit" or "TGTU" shall mean a control system utilizing a technology for reducing emissions of sulfur compounds from a Sulfur Recovery Plant.
- ll. "Tail Gas Incident" shall mean, for the purpose of this Settlement, combustion of Tail Gas that either is:
 - i. Combusted in a flare and results in 500 pounds or more of SO₂ emissions in any 24 hour period ; or
 - ii. Combusted in a thermal incinerator and results in excess emissions of 500 pounds or more of SO₂ emissions in any 24-hour period. Only those time periods which are in excess of a SO₂ concentration of 250 ppm (rolling twelve-hour average) shall be used to determine the amount of excess SO₂ emissions from the incinerator.

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

V. AFFIRMATIVE RELIEF/ENVIRONMENTAL PROJECTS

A. NO_x Emissions Reductions from Heaters and Boilers

9. Summary. Calumet will implement a five-year program to reduce NO_x emissions from Covered Refineries' heaters and boilers listed in Appendix B ("Controlled Heaters and Boilers") and will demonstrate continuous compliance with lower emission limits through the use of source testing, CEMS, and/or parametric monitoring.
10. Installation of NO_x Control Technology. Calumet shall select one or any combination of the following "Qualifying Controls" to achieve the required NO_x emissions reductions from the heaters and boilers listed in Appendix B:
 - a. Retrofit of existing units with Current Generation or Next Generation Ultra-Low NO_x Burner;
 - b. Replacement of existing boiler(s) with units equipped with Current Generation or Next Generation Ultra-Low NO_x Burners;
 - c. other technologies which Calumet demonstrates to LDEQ's satisfaction will reduce NO_x emissions to 0.040 lbs. per mmBTU or lower; or
 - d. permanent shutdown of a heater or boiler with revocation of its operating permit.

On or before December 31, 2015, Calumet shall use Qualifying Controls to reduce NO_x emissions from the heaters and boilers listed in Appendix B by at least 107 tons per year.

11. Testing and Monitoring NO_x Emissions from Controlled Heaters and Boilers.

Calumet shall monitor the Controlled Heaters and Boilers listed in Appendix B to meet the requirements of Paragraph 10 as follows:

- a. Upon installation of Qualifying Controls for Shreveport Boilers Nos. 5 and 6, each of which have a heat input capacity greater than 150 mmBTU/hr (HHV), Calumet shall install or continue to operate CEMS for each boiler to measure NO_x and O₂ by no later than the date of the installation of the applicable Qualifying Controls on the boilers. Calumet shall install, certify, calibrate, maintain, and operate the CEMS required by this Paragraph 11 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 50 Appendices B and F. These CEMS will be used to demonstrate compliance with emission limits. Calumet shall make CEMS and process data available to LDEQ upon demand as soon as practicable;
- b. For heaters and boilers with a heat input capacity of equal to or less than 150 mmBTU/hr (HHV) but greater than 100 mmBTU/hr (HHV), Calumet shall (a) install or continue to operate CEMS to measure NO_x and O₂ by no later than the date of the installation of the applicable Qualifying Controls on the heater or boiler; or (b) submit for LDEQ approval, by no later than 60 days after the date of installation of the applicable Qualifying Controls on the

heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox temperature, air preheat temperature, heat input rate, and combustion O₂; Calumet shall evaluate the necessity of using a firebox or bridgewall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Calumet and LDEQ mutually-agree to their effectiveness; and

- c. Unless otherwise specified, for Controlled Heaters and Boilers with a heat input capacity of equal to or less than 100 mm BTU/hr (HHV) Calumet shall by no later than 15 days after the date of installation of the applicable NO_x Control Technology contact LDEQ's Air Permits Division, Manufacturing Section, to schedule a pre-test conference. Calumet shall, by no later than 60 days after the date of installation of the applicable Qualifying Controls, 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 will be used as indicators of compliance.

12. Establishing NO_x Permit Limits for Heaters and Boilers. Within 120 days after the start-up of the operation of any Qualifying Controls required by Paragraph 10, Calumet shall submit a permit application to LDEQ in which Calumet proposes NO_x emission limits in lb/mmBtu on a 3-hour average basis. The proposed permit limits shall be based on actual performance as demonstrated by CEMS and/or performance tests, and shall be low enough to ensure proper operation of the Qualifying Controls

and high enough to provide a reasonable certainty of compliance.

13. Recordkeeping and Reporting. Calumet shall include as part of its semi-annual progress reports, a summary report of the progress of installation of Qualifying Controls required by Paragraph 10 and other requirements of Section V.A. The report shall contain:
 - a. A list of all Controlled Heaters and Boilers on which Qualifying Controls was installed;
 - b. The type of Qualifying Controls that was installed on each heater and boiler with a detailed description of the manufacturer name and model and the designed emission factors;
 - c. The results of all performance tests conducted on each heater and boiler to date;
 - d. A list of all heaters and boilers scheduled to have Qualifying Controls installed during the next calendar year, the projected date of installation, and the type of Qualifying Controls that will be installed on those units; and
 - e. An identification of proposed and established permit limits applicable to each heater or boiler for which Qualifying Controls has been installed pursuant to this Section A.

B. SO₂ Emissions Reductions from and NSPS Applicability of Heaters and Boilers

14. General. Calumet shall undertake measures to reduce SO₂ emissions from refinery heaters and boilers by restricting H₂S in refinery fuel gas and by agreeing not to continue and/or commence the burning of fuel oil except under the provisions set forth herein.

15. NSPS Applicability of Heaters and Boilers.

- a. Upon the Effective Date of this Settlement, the existing heaters and boilers at the Covered Refineries shall be affected facilities, as that term is used in 40 C.F.R. Part 60, Subparts A and J, and shall be subject to and comply with the requirements of NSPS Subparts A and J. Unless exempted by regulation, by no later than the Effective Date of this Settlement, Calumet shall install, certify, calibrate, maintain and operate a fuel gas CEMS at the Covered Refineries 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 will be used to demonstrate compliance with emission limits.
- b. Compliance with this Settlement constitutes compliance with certain NSPS Subpart A requirements. For each fuel gas combustion device that becomes an “affected facility,” as that term is used in 40 C.F.R. Part 60, Subparts A and J, pursuant to this Paragraph 15, compliance with the relevant monitoring requirements of this Settlement for such fuel gas combustion devices will satisfy the notice requirements of 40 C.F.R. 60.7(a) and the initial performance test requirements of 40 C.F.R. 60.8(a).
- c. If, prior to the termination of this Settlement, any heater, boiler or other fuel gas combustion device becomes subject to NSPS Subpart Ja for a particular pollutant due to a “modification” (as that term is defined in the final Subpart Ja rule), the modified affected facility shall be subject to and comply with

NSPS Subpart Ja in lieu of NSPS, Subpart J for that regulated pollutant to which a standard applies as a result of the modification.

- d. If, prior to the termination of this Settlement, any heater, boiler or other fuel gas combustion device becomes subject to NSPS Subpart Ja due to a “reconstruction” (as that term is defined in the final Subpart Ja rule), the reconstructed facility shall be subject to and comply with NSPS Subpart Ja for all pollutants in lieu of Subpart J.

16. Elimination of Fuel Oil Burning. From the Effective Date of this Settlement through termination, Calumet shall continue not to burn Fuel Oil in any existing heater or boiler at any Covered Refinery, except during natural gas curtailment.

C. NSPS Applicability of and Compliance for Sulfur Recovery Plants

17. NSPS Applicability of the Shreveport Sulfur Recovery Plant. Calumet owns and operates one Sulfur Recovery Plant located at the Shreveport Refinery and one Sulfur Recovery Plant located at the Princeton Refinery. The sulfur recovery plant (“SRP”) at the Shreveport Refinery is currently subject to and required to comply with , 40 C.F.R. Part 60, Subparts A and J; however, the SRP at the Princeton Refinery consists of one unit with a processing capacity less than 20 long tons per day and therefore meets the exemption in 40 C.F.R. Part 60 Subpart J. The Sulfur Recovery Plant at the Shreveport Refinery (“Shreveport SRP”) consists of two Claus trains with a combined processing capacity of 44 LTD. The control device for the SRP is one of two incinerators followed by the Dynawave unit scrubbing system and CEMS. The Dynawave unit scrubbing system is the tail gas treatment unit (TGTU) for the Shreveport SRP. The single TGTU serves as the control device for the two

Claus trains. Data from the CEMS indicate that SO₂ emissions from the SRP/Dynawave scrubbing system are less than the NSPS Subpart J limitation of 250 ppm at 0% O₂.

18. Sulfur Pit Emissions. Upon the Effective Date of this Settlement, Calumet shall route all sulfur pit emissions from the Shreveport SRP so that sulfur pit emissions to the atmosphere either are eliminated or are included and monitored as part of the Refinery's SRP tail gas emissions that meet the NSPS Subpart J limit for SO₂: a 12-hour rolling average of 250 ppmvd SO₂ corrected to 0% oxygen, as required by 40 C.F.R. § 60.104(a)(2).
19. Sulfur Recovery Plant Emissions Compliance.
 - a. By no later than the Effective Date of this Settlement, Calumet shall, for all periods of operation of the Shreveport SRP, comply with 40 C.F.R. § 60.104(a)(2), except during periods of startup, shutdown or Malfunction of the Shreveport SRP, or during a Malfunction of the Shreveport TGTU. For the purpose of determining compliance with the SRP emission limits of 40 C.F.R. § 60.104(a)(2), the "start-up/shutdown" provisions set forth in NSPS Subpart A shall apply to the Shreveport SRP and not to the independent start-up or shutdown of the Shreveport TGTU. However, the Malfunction exemption set forth in NSPS Subpart A (and as defined in this Settlement at Paragraph 8) shall apply to both the Shreveport SRP and the Shreveport TGTU.
 - b. As of the Effective Date of this Settlement, Calumet shall monitor all emission points (stacks) to the atmosphere for tail gas emissions from the

Shreveport SRP, and shall report excess emissions, as required by 40 C.F.R. §§ 60.7(c), 60.13, and 60.105(a)(5). During the life of this Settlement, Calumet shall continue to conduct emissions monitoring from the Shreveport SRP with CEMS at all of the emission points, unless an SO₂ alternative monitoring procedure has been approved by EPA, per 40 C.F.R. § 60.13(i), for any of the emission points. The requirement for continuous monitoring of the Shreveport SRP emission points is not applicable to the Acid Gas Flaring Devices used to flare the Acid Gas or Sour Water Stripper Gas for the Shreveport SRP.

- c. At all times, including periods of startup, shutdown, and Malfunction, Calumet shall, to the extent practicable, operate and maintain the Shreveport SRP and the Shreveport TGTU, and any supplemental control devices, in accordance with Calumet's obligation to minimize Sulfur Recovery Plant emissions through implementation of good air pollution control practices as required in 40 C.F.R. § 60.11(d).

20. Good Operation and Maintenance.

- a. By no later than 270 days after the Effective Date of this Settlement, Calumet shall, for the Shreveport and Princeton SRPs, submit to LDEQ, a summary of plans, implemented or to be implemented, for enhanced maintenance and operation of the Shreveport and Princeton SRPs, any supplemental control devices, and the appropriate Upstream Process Units. Each of these plans shall be termed a Preventive Maintenance and Operation Plan ("PMO Plan"). The PMO Plans shall be a compilation of Calumet's approaches for exercising

good air pollution control practices for minimizing SO₂ emissions at the Shreveport and Princeton Refineries. The PMO Plans shall provide for continuous operation of the Shreveport and Princeton SRPs between scheduled maintenance turnarounds with minimization of emissions from the Shreveport and Princeton SRPs. The PMO Plans shall include, but not be limited to, sulfur shedding procedures, new startup and shutdown procedures, emergency procedures and schedules to coordinate maintenance turnarounds of the Shreveport and Princeton SRPs Claus trains, Shreveport and Princeton TGTUs, and any supplemental control devices to coincide with scheduled turnarounds of major Upstream Process Units. The PMO Plans shall have as a goal the elimination of Acid Gas Flaring. Calumet shall comply with the PMO Plans at all times, including periods of start up, shut down, and Malfunction of the Shreveport and Princeton SRPs. Modifications related to minimizing Acid Gas Flaring and/or SO₂ emissions made by Calumet to the PMO Plans shall be summarized in an annual submission to LDEQ.

- b. LDEQ does not, by its review of the PMO Plans and/or by its failure to comment on the PMO Plans, warrant or aver in any manner that any of the actions that Calumet may take pursuant to the PMO Plans will result in compliance with the provisions of the Louisiana Environmental Quality Act or its implementing regulations. Notwithstanding LDEQ's review of the PMO Plans, Calumet shall remain solely responsible for compliance with the Louisiana Environmental Quality Act and its implementing regulations.

D. NSPS Applicability and Compliance for Flaring Devices

21. Identification of and NSPS Applicability for Flaring Devices. Calumet owns and operates the Flaring Devices identified in Appendix A to this Settlement. Consistent with the terms of this Section V.D and the schedule in Appendix A, the Flaring Devices in Appendix A shall be affected facilities, as that term is used in NSPS, 40 C.F.R. Part 60, and shall be subject to and comply with the requirements of 40 C.F.R. Part 60, Subparts A and J for fuel gas combustion devices.
22. 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 fuel gases that are combusted in any of the Flaring Devices identified in Appendix A, Calumet shall either take the Flaring Device that is associated with such a gas stream out of service or shall comply with the emission limit at 40 C.F.R. § 60.104(a)(1) by the dates specified in Appendix A.
 - b. Non-Routinely Generated Gases. The combustion of gases generated by the startup, shutdown, or Malfunction of a refinery process unit or released to a Flaring Device as a result of relief valve leakage caused by excessive pressure build-up or other emergency Malfunction shall be exempt from the requirement to comply with 40 C.F.R. § 60.104(a)(1).
23. Good Air Pollution Control Practices. For all Flaring Devices identified in Appendix A, Calumet shall comply with the NSPS obligation to implement good air pollution control practices as required by 40 C.F.R. § 60.11(d) to minimize HC and AG Flaring Incidents.

24. Monitoring the Flaring Devices and Reporting. By no later than the dates identified in Appendix A of the Settlement, all Flaring Devices identified in Appendix A that Calumet keeps in service to combust continuous or intermittent, routinely-generated refinery fuel gases, shall either (a) be equipped with a CEMS as required by 40 C.F.R. § 60.105(a)(4); (b) have submitted to or comply with an alternative monitoring plan approved by EPA under 40 C.F.R. § 60.13(i); or (c) demonstrate that the fuel gas streams combusted in the fuel gas combustion device are inherently low in sulfur content in accordance with 40 C.F.R. § 60.105.(a)(4)(iv) or 40 C.F.R. § 60.105(b). Use of a properly-sized and operated flare gas recovery system on a flare may obviate the need to continuously monitor the emissions as otherwise required by 40 C.F.R. 60.105(a)(4) and 40 C.F.R. 60.7. Calumet shall comply with the applicable reporting requirements of 40 C.F.R. Part 60 Subpart J for all such flaring devices.

E. Control of Acid Gas Flaring Incidents and Tail Gas Incidents

25. By no later than one year after the Effective Date of this Settlement, Calumet shall identify the causes of AG Flaring Incidents that occurred between January 1, 2006 and December 31, 2010 at the Shreveport and Princeton Refineries. Calumet shall identify and implement corrective actions to minimize the number and duration of AG Flaring Incidents. Calumet also agrees to implement a program to investigate the root cause of future AG Flaring Incidents, to take reasonable steps to correct the conditions that have caused or contributed to such AG Flaring Incidents, and to minimize AG Flaring Incidents at the Shreveport and Princeton Refineries. Calumet shall follow the procedures in this Section E to evaluate whether future AG Flaring

Incidents are due to Malfunctions or are subject to stipulated penalties. Calumet also agrees to undertake the investigative and evaluative procedures in this Section for assessing if Tail Gas Incidents, as described in Paragraph 30, are due to Malfunctions or are subject to stipulated penalties. The procedures, as set forth below, require a causal analysis and corrective action for all types of AG Flaring and Tail Gas Incidents and require stipulated penalties for AG Flaring and Tail Gas Incidents if the causes were not due to Malfunctions.

26. Investigation and Reporting. No later than forty-five (45) days following the end of an Acid Gas Flaring Incident, Calumet shall submit to LDEQ a 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, Calumet 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 Calumet 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 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 contributing causes in the future. The analysis shall discuss the alternatives, if any, that are available, the probable effectiveness and cost of the alternatives, and whether or not an outside consultant should be retained to assist in the analysis. Possible design, operation and maintenance changes shall be evaluated. If Calumet concludes that corrective action(s) is (are) required under Paragraph 27, 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 Calumet concludes that corrective action is not required under Paragraph 27, 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 28.a and b of this Settlement and describes whether or not the Acid Gas Flaring Incident falls under any of those grounds; (b) if an Acid Gas Flaring Incident falls under Paragraph 28.c of this Settlement, describes which Paragraph (28.c.i or ii) applies and why; and (c) if an Acid Gas Flaring Incident falls under either Paragraph 28.b or Paragraph 28..c.ii, states whether or not Calumet asserts a defense to the Flaring Incident, and if so, a description of the defense; and
- g. To the extent that investigations of the causes and/or possible corrective actions still are underway on the due date of the report, a statement of the anticipated date by which a follow-up report fully conforming to the requirements of Paragraphs 26.d and e shall be submitted; provided, however, that if Calumet has not submitted a report or a series of reports containing the

information required to be submitted under this Paragraph within the 45 day time period set forth in Paragraph 26 (or such additional time as LDEQ may allow) after the due date for the initial report for the Acid Gas Flaring Incident, the stipulated penalty provisions of Paragraph 79 shall apply, but Calumet shall retain the right to dispute, under the dispute resolution provision of this Settlement, any demand for stipulated penalties that was issued as a result of Calumet'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 Calumet 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 Calumet has requested an extension of time under Paragraph 27.

- 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, Calumet shall describe any additional corrective actions in its semiannual progress reports under Section IX.

27. Corrective Action.

- a. In response to any AG Flaring Incident after the Effective Date, Calumet 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 contributing causes of that AG Flaring Incident.
- b. If LDEQ does not notify Calumet in writing within thirty (30) days of receipt

of the report(s) required by Paragraph 26 that it objects to one or more aspects of the proposed corrective action(s), if any, and schedule(s) of implementation, if any, then that (those) action(s) and schedule(s) shall be deemed acceptable for purposes of compliance with Paragraph 27.a of this Settlement. LDEQ does not, however, by its signing of this Settlement or by its failure to object to any corrective action that Calumet 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 Louisiana Environmental Quality Act or its implementing regulations. Notwithstanding LDEQ's review of any plans, reports, corrective measures or procedures under this Paragraph 27.b, Calumet shall remain solely responsible for non-compliance with the Louisiana Environmental Quality Act and its implementing regulations. Nothing in this Section 27 shall be construed as a waiver of LDEQ's rights under the Louisiana Environmental Quality Act and its regulations for future violations of the Act or its regulations.

- c. If LDEQ does object, 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 Calumet of that fact within thirty (30) days following receipt of the report(s) required by Paragraph 26 above. If LDEQ and Calumet cannot agree on the appropriate corrective action(s), if any, to be taken in response to a particular Acid Gas Flaring Incident, either Party may invoke the Dispute Resolution provisions of Section XV of this Settlement.

d. Nothing in Paragraph 27 shall be construed to limit the right of Calumet 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.

28. Stipulated Penalties.

a. The stipulated penalty provisions of Paragraph 84 shall apply to any Acid Gas Flaring Incident for which the Root Cause is determined to be one or more of the following acts, omissions, or events:

- i. Error resulting from careless operation by the personnel charged with the responsibility for the Sulfur Recovery Plant, TGTU, or Upstream Process Units;
- ii. Failure to follow written procedures; or
- iii. A failure of equipment that is due to a failure by Calumet to operate and maintain that equipment in a manner consistent with good engineering practice.

Except for a force majeure event, Calumet shall have no defenses to a demand for stipulated penalties for an Acid Gas Flaring Incident falling under this Paragraph 28.a. Nevertheless, Calumet shall not be precluded from asserting that the Root Cause is something other than those listed hereinabove.

b. The stipulated penalty provisions of Paragraph 84 shall apply to any Acid Gas Flaring Incident that either:

- i. Results in emissions of sulfur dioxide at a rate greater than twenty (20.0) pounds per hour continuously for three (3) consecutive hours or more; or

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

In response to a demand by LDEQ for stipulated penalties, LDEQ and Calumet agree that Calumet shall be entitled to assert a Malfunction and/or force majeure defense with respect to any Acid Gas Flaring Incident falling under this Paragraph 28.b. In the event that the dispute resolution provisions of this Settlement are invoked with respect to a particular matter arising under this Paragraph, nothing in this Paragraph is intended or shall be construed to stop Calumet from asserting that, in addition to the Malfunction and/or force majeure defense, the defenses of startup, shutdown, and upset are available for AG Flaring Incidents under 40 C.F.R. § 60.104(a)(1), nor to stop LDEQ from asserting its view that such defenses are not available. If Calumet prevails in persuading the dispute resolution decision maker that the defenses of startup, shutdown, and upset are available for the AG Flaring Incidents under 40 C.F.R. § 60.104(a)(1), Calumet shall not be liable for stipulated penalties for emissions resulting from startup, shutdown, or upset. If LDEQ prevails in persuading the dispute resolution decision maker that the defenses of startup, shutdown, or upset are not available, Calumet shall be liable for such stipulated penalties. In the event that a Flaring Incident falls under both Paragraphs 28.a and b, then Paragraph 28.a shall apply.

- c. With respect to any Acid Gas Flaring Incident other than those identified in Paragraphs 28.a and b, the following provisions shall apply:

i. 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 at that refinery that occurred since the effective date of this Settlement, then:

(1) If the Root Cause of the Acid Gas Flaring Incident was sudden and 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 Calumet shall implement corrective action(s) pursuant to Paragraph 27.a.

ii. 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 Effective Date of this Settlement, then Calumet shall be liable for stipulated penalties under Paragraph 81 of this Settlement unless:

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

(2) the Root Cause previously was designated as an agreed-upon malfunction under Paragraph 28.c.ii.(1); provided however, that in the event that a dispute arising under this Paragraph is brought to the dispute resolution decision maker pursuant to

the dispute resolution provisions of this Settlement, nothing in this Paragraph is intended or shall be construed to stop Calumet from asserting its view that, in addition to a Malfunction and/or force majeure defense, the defenses of startup, shutdown, and upset are available for Acid Gas Flaring Incidents under 40 C.F.R. § 60.104(a)(1), nor to stop LDEQ from asserting its view that such defenses are not available. If Calumet prevails in persuading the dispute resolution decision maker that the defenses of startup, shutdown, or upset are available, Calumet shall be not liable for such stipulated penalties; or

- (3) the AG Flaring Incident had as its Root Cause the recurrence of a Root Cause for which Calumet had previously developed, or was in the process of developing, a corrective action plan for and for which Calumet had not yet completed implementation.
- (4) Other than for a Malfunction or force majeure, if no Acid Gas Flaring Incident and no violation of the emission limit under Section C occurs at a Refinery for a rolling 36 month period, then the stipulated penalty provisions of Paragraph 81 shall no longer apply to that Refinery. LDEQ may elect to reinstate the stipulated penalty provision if Calumet has an Acid Gas Flaring Incident which would otherwise be subject to stipulated penalties. LDEQ's decision shall not be subject to dispute resolution. Once reinstated, the stipulated penalty provision

shall continue for the remaining life of this Settlement for that Refinery.

29. Miscellaneous.

- a. Calculation of the Quantity of Sulfur Dioxide Emissions resulting from AG Flaring. For purposes of this Settlement, the quantity of SO₂ emissions resulting from AG Flaring 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 SO₂ emitted shall be rounded to one decimal point. (Thus, for example, for a calculation that results in a number equal to 10.050 tons, the quantity of SO₂ emitted shall be rounded to 10.1 tons.) For purposes of determining the occurrence of, or the total quantity of SO₂ emissions resulting from, an AG Flaring Incident that is comprised of intermittent AG Flaring, the quantity of SO₂ emitted shall be equal to the sum of the quantities of SO₂ flared during each such period of intermittent AG Flaring.

- b. Calculation of the Rate of SO₂ Emissions During AG Flaring. For purposes of this Settlement, the rate of SO₂ emissions resulting from AG Flaring 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 SO₂ per hour, the emission rate shall be rounded to 20.0 pounds of SO₂ per hour; for a

calculation that results in an emission rate of 20.05 pounds of SO₂ per hour, the emission rate shall be rounded to 20.1.)

c. Meaning of Variables and Derivation of Multipliers used in the Equations in Paragraph 29.a and b.

ER = Emission Rate in pounds of SO₂ per hour

FR = Average Flow Rate to Flaring Device(s) during Flaring, in standard cubic feet per hour

TD = Total Duration of Flaring in hours

ConcH₂S = Average Concentration of Hydrogen Sulfide in gas during Flaring (or immediately prior to Flaring if all gas is being flared) expressed as a volume fraction (scf H₂S/scf gas)

8.44×10^{-5} = [lb mole H₂S/379 scf H₂S][64 lbs SO₂/lb mole H₂S][Ton/2000 lbs]

0.169 = [lb mole H₂S/379 scf H₂S][1.0 lb mole SO₂/1 lb mole H₂S][64 lb SO₂/1.0 lb mole SO₂]

The flow of gas to the AG Flaring Device(s) (“FR”) shall be as measured by the relevant flow meter or reliable flow estimation parameters. Hydrogen sulfide concentration (“ConcH₂S”) shall be determined from the Sulfur Recovery Plant feed gas analyzer, from knowledge of the sulfur content of the process gas being flared, by direct measurement by tutwiler or draeger tube analysis or by any other method approved by LDEQ. In the event that any of these data points is unavailable or inaccurate, the missing data point(s) shall be estimated according to best engineering judgment. The report required under Paragraph 26 shall include the data used in the calculation and an explanation of the basis for any estimates of missing data points.

30. Tail Gas Incidents

- a. Investigation, Reporting, Corrective Action and Stipulated Penalties. The Cotton Valley Refinery and the Princeton Refinery do not have Tail Gas Treatment Units; therefore, the Cotton Valley and Princeton Refineries have not had any Tail Gas Incidents. The provisions of this Paragraph 30 are not applicable to the Cotton Valley and Princeton Refineries unless and until either of them adds a Tail Gas Treatment Unit. For Tail Gas Incidents, Calumet, for the Shreveport Refinery, shall follow the same investigative, reporting, corrective action and assessment of stipulated penalty procedures as those outlined in Paragraphs 26 - 28 for Acid Gas Flaring Incidents. Those procedures shall be applied to TGTU shutdowns, bypasses of a TGTU, unscheduled shutdowns of a Sulfur Recovery Plant, or other miscellaneous unscheduled Sulfur Recovery Plant events which result in a Tail Gas Incident.
- b. Calculation of the Quantity of SO₂ Emissions resulting from a Tail Gas Incident: For the purposes of this Settlement, the quantity of SO₂ emissions resulting from a Tail Gas Incident shall be calculated by one of the following methods, based on the type of event:
 - i. If the Tail Gas Incident is combusted in a flare the SO₂ emissions are calculated using the methods outlined in Paragraph 29; or
 - ii. If the Tail Gas Incident is an event exceeding the 250 ppmvd (NSPS J limit), from a monitored Sulfur Recovery Plant, then the following formula applies:

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

Where:

ER_{TGI} = Emissions from Tail Gas at the Sulfur Recovery Plant TGTU, SO₂ lb over a 24 hour period

TD_{TGI} = Total Duration (number of hours) when the TGTU CEMS exceeded 250 ppmvd SO₂ corrected to 0% O₂ on a rolling twelve hour average, in each 24 hour period of the Incident

i = Each hourly average

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

Conc. SO₂ = Each actual 12 hour rolling average SO₂ concentration (CEMS data) that is greater than 250 ppm in the incinerator exhaust gas, ppmvd corrected to 0% O₂, for each hour of the Incident

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

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

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

In the event the concentration SO₂ data point is inaccurate or not available or a flow meter for $FR_{Inc.}$, does not exist or is inoperable, then estimates will be used based on best engineering judgment.

F. Control of Hydrocarbon Flaring Incidents.

31. By no later than one year after the Effective Date, Calumet shall identify the causes of HC Flaring Incidents that occurred between January 1, 2006 and December 31, 2010 at each of the Covered Refineries. Calumet shall identify and implement corrective actions to minimize the number and duration of HC Flaring Incidents. For future

Hydrocarbon Flaring Incidents, Calumet shall follow the same investigative, reporting, and corrective action procedures as those outlined in Paragraphs 26 and 27 for Acid Gas Flaring Incidents; provided however, that in lieu of analyzing possible corrective actions under Paragraph 26.e and taking interim and/or long-term corrective action under Paragraph 27.a for a Hydrocarbon Flaring Incident attributable to the start up or shut down of a unit that Calumet has previously analyzed under this Section F, Calumet may identify such prior analysis when submitting the report required under this Section F. Stipulated penalties under either Paragraphs 28 and 81 shall not apply to Hydrocarbon Flaring Incident(s). The formulas at Paragraph 29, used for calculating the quantity and rate of sulfur dioxide emissions during AG Flaring Incidents, shall be used to calculate the quantity and rate of sulfur dioxide emissions during HC Flaring Incidents.

G. Electrical Power Project to Reduce Flaring at Calumet Shreveport Refinery.

32. Calumet has identified electrical power interruptions as a major root cause of flaring incidents. Even though flares are an essential safety device at a refinery, flaring incidents are associated with odor, noise, and health and safety concerns from neighbors. Reduction of flaring incidents due to power interruptions will reduce total emissions from the refinery. Improvements in the electrical infrastructure servicing the Shreveport refinery should achieve the desired reduction in flaring incidents. Following is a description of major project milestones and a schedule for completion of each milestone. The nature of this endeavor is such that each initiative is ongoing and may progress in parallel to the others.

- a. Perform Infrared (IR) Inspections of the Refinery's Primary Power Line Feeder Systems/Equipment by no later than the Effective Date of this Settlement

- b. Replace/Upgrade the selected components of the Refinery's Power Line Equipment, such as selected Primary Switches, Switchgear, Lightning Arresters & Switch Arc Interrupters, and Power Poles, as necessary, by no later than May1, 2011.
- c. Install Power Line Disturbance Monitors on (2)-69 KV-AEP/SWEPCO Transmission Lines feeding the Refinery by no later than June 30, 2011
- d. Increase Redundancy and Back-Up Power Systems for various portions of the Refinery Electrical Power Supply/System by no later than December 31, 2011

H. Calumet Shreveport Refinery Flare #2 Refurbishment Project.

32(a). Calumet shall refurbish Flare #2 at the Shreveport Refinery.

The refurbishment of Flare #2 would provide redundancy to the current primary flaring device, specifically Flare #3. The return to service of Flare #2 would help to minimize emissions in emergency situations. It would also allow for enhanced inspection and maintenance activities to be conducted on Flare #3. The following is a description of major project milestones and a schedule for completion of each milestone.

- a. Inspection of flare header and flare components by no later than the Effective Date of this Settlement.
- b. Review of flare and flare header design basis by no later than the Effective Date of this Settlement.
- c. Repair of existing flare and flare header by no later than the Effective Date of this Settlement.
- d. Perform Pre-Start Up Safety Review (PSSR) by no later than the Effective Date of this Settlement.
- e. Place Flare #2 in service (hot idle or standby) no later than the Effective Date of this Settlement.
- f. Submit final Project Report to LDEQ within 60 days of the Effective Date of this Settlement.

I. Benzene Waste NESHAP Program Enhancements.

33. In addition to continuing to comply with all applicable requirements of 40 C.F.R. Part 61, Subpart FF (“Benzene Waste NESHAP” or “Subpart FF”), Calumet agrees to undertake, at each of the Covered Refineries, the measures set forth in Paragraphs 33 through 45 to ensure continuing compliance with Subpart FF and to minimize or eliminate fugitive benzene waste emissions.

34. Current Compliance Status and Refinery Compliance Status Changes. As of the Effective Date of this Settlement, Calumet believes that each of the Covered Refineries has a Total Annual Benzene (“TAB”) of less than 10 Mg/yr. Calumet will review and verify the TABs at each of the Covered Refineries consistent with the requirements of Paragraph 35. If at any time from the Effective Date of this Settlement through its termination, any of the Covered Refineries is determined to have a TAB equal to or greater than 10 Mg/yr, Calumet shall comply with the compliance option set forth at 40 C.F.R. § 61.342(e) (hereinafter referred to as the “6 BQ compliance option”).

35. One-Time Review and Verification of Each Covered Refinery’s TAB.

- a. Phase One of the Review and Verification Process. By no later than December 31, 2011, Calumet shall complete a review and verification of the TAB of each Covered Refinery. For each Covered Refinery, the review and verification process shall include, but not be limited to: (i) an identification of each waste stream that is required to be included in the Covered Refinery’s TAB (e.g., slop oil, tank water draws, spent caustic, desalter rag layer dumps, desalter vessel process sampling points, other sample wastes, maintenance wastes, and

turnaround wastes); (ii) a review and identification of the calculations and/or measurements used to determine the flows of each waste stream for the purpose of ensuring the accuracy of the annual waste quantity for each waste stream; (iii) an identification of the benzene concentration in each waste stream, including sampling for benzene concentration at no less than 10 waste streams per Covered Refinery consistent with the requirements of 40 C.F.R. § 61.355(c)(1) and (3); provided however, that previous analytical data or documented knowledge of waste streams may be used, 40 C.F.R. § 61.355(c)(2), for streams not sampled; and (iv) an identification of whether or not the stream is controlled consistent with the requirements of Subpart FF. By no later than July 31, 2012, Calumet shall submit, as part of its semi-annual progress report, a Benzene Waste NESHAP Compliance Review and Verification report (“BWN Compliance Review and Verification Report”) that sets forth the results of Phase One, including but not limited to the items identified in (i) through (iv) of this Paragraph 35.a.

- b. Phase Two of the Review and Verification Process. Based on LDEQ’s review of the BWN Compliance Review and Verification Report(s), LDEQ may select up to 20 additional waste streams at each Covered Refinery for sampling for benzene concentration. Calumet will conduct the required sampling and submit the results to LDEQ within ninety (90) days of receipt of LDEQ’s request. Calumet will use the results of this additional sampling to recalculate the TAB and to amend the BWN Compliance Review and Verification Report, as needed. To the extent that LDEQ requires Calumet to re-sample a Phase

One waste stream as part of this Phase Two review, Calumet may average the results of the two sampling events. Calumet shall submit an amended BWN Compliance Review and Verification Report within ninety (90) days following the date of the completion of the required Phase Two sampling, if Phase Two sampling is required by LDEQ.

36. Implementation of Actions Necessary to Correct Non-Compliance.

- a. Amended TAB Reports. If the results of the BWN Compliance Review and Verification Report(s) indicate(s) that a Covered Refinery has failed to file the reports required by 40 C.F.R. § 61.357(c), or that a Covered Refinery's most recently-filed report is inaccurate and/or does not satisfy the requirements of Subpart FF, Calumet shall submit, by no later than ninety (90) days after completion of each BWN Compliance Review and Verification Report(s), an amended TAB report to LDEQ. Calumet's BWN Compliance Review and Verification Report(s) shall be deemed an amended TAB report for purposes of Subpart FF reporting to LDEQ.
- b. If the results of the BWN Compliance Review and Verification Report indicate that any Covered Refinery has a TAB equal to or greater than 10 Mg/yr, Calumet shall submit to LDEQ by no later than 180 days after completion of the BWN Compliance Review and Verification Report, a plan that identifies with specificity the compliance strategy and schedule that Calumet will implement to ensure that the Covered Refinery complies with the 6 BQ compliance option as soon as practicable.

- c. Review and Approval of Plans Submitted Pursuant to Paragraph 36.b. Any plan submitted pursuant to Paragraph 36.b shall be subject to the approval of, disapproval of, or modification by LDEQ. Within sixty (60) days after receiving any notification of disapproval or request for modification from LDEQ, Calumet shall submit to the LDEQ a revised plan that responds to all identified deficiencies. Upon receipt of approval or approval with conditions, Calumet shall implement the plan. Disputes arising under this Paragraph 36.c shall be resolved in accordance with the dispute resolution provisions of this Settlement.
- d. Certification of Compliance with the 6 BQ Compliance Option. By no later than thirty (30) days after completion of the implementation of all actions, if any, required pursuant to Paragraph 36.b or pursuant to Paragraph 40.d to come into compliance with the 6 BQ Compliance Option, Calumet shall submit a report to LDEQ that, as to each Refinery, the Refinery complies with the Benzene Waste NESHAP.
- e. TAB is under 1 Mg/Yr. If the results of the BWN Compliance Review and Verification Report(s) indicate(s) that a Covered Refinery has a TAB of under 1 Mg/yr, the Covered Refinery shall comply with the Benzene Waste NESHAP regulations applicable to such refineries.

37. Annual Program. By no later than 180 days after the Effective Date of this Settlement, Calumet shall establish an annual program of reviewing process information for each Covered Refinery, including but not limited to construction

projects, to ensure that all new benzene waste streams are included in each Covered Refinery's waste stream inventory.

38. Benzene Spills. For each spill at each Covered Refinery after the Effective Date of this Settlement, Calumet shall review such spills to determine if benzene waste was generated. Calumet shall include benzene generated by such spills in the TAB for each Covered Refinery.

39. Training.

a. Calumet currently has one employee who draws benzene waste samples for Benzene Waste NESHAP purposes at the Covered Refineries. By no later than June 30, 2011, Calumet shall develop and begin implementation of annual (i.e., once each calendar year) "refresher" training for that employee. Calumet shall also provide annual training to all other employees who draw benzene waste samples for Benzene Waste NESHAP purposes.

b. If and when any Covered Refinery's TAB reaches 10 Mg/yr or more, Calumet shall complete the development of standard operating procedures for all control equipment used to comply with the Benzene Waste NESHAP. Calumet shall complete an initial training program regarding these procedures for all operators assigned to this equipment. Comparable training shall be provided to any persons who subsequently become operators, prior to their assumption of this duty. "Refresher" training shall be performed on a periodic basis.

Calumet shall propose a schedule for the initial and refresher training at the same time that Calumet proposes a plan, pursuant to either Paragraph 36.b, or Paragraph 41.d, that identifies the compliance strategy and schedule that

Calumet will implement to come into compliance with the 6 BQ compliance option.

- c. As part of Calumet's training program, it must ensure that the employees of any contractors hired to perform the requirements of this Paragraph are properly trained to implement all provisions of this Paragraph at the Covered Refineries.

40. Waste/Slop/Off-Spec Oil Management.

- a. By no later than July 31, 2012, Calumet shall submit as part of its semi-annual progress report for each of the Covered Refineries, schematics that: (a) depict the waste management units (including sewers) that handle, store, and transfer waste/slop/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. Representatives from Calumet and LDEQ thereafter shall confer about the appropriate characterization of each Refinery's waste/slop/off-spec oil streams for the waste management units handling such oil streams, for purposes of each Covered Refinery's TAB calculation. At a mutually-agreed upon time, Calumet shall submit, if necessary, revised schematics that reflect the agreements between LDEQ and Calumet regarding the characterization of these oil streams and the appropriate control standards.
- b. Organic Benzene Waste Streams. For any Covered Refinery, if and when that Covered Refinery's TAB reaches 10 Mg/yr and a compliance strategy is approved, all waste management units handling organic benzene wastes, as defined in Subpart FF, shall meet the applicable control standards of

Subpart FF. If, as a result of the discussions between the LDEQ and Calumet pursuant to Paragraph 40.a, LDEQ and Calumet agree that controls not already in place are necessary on any waste management unit handling organic benzene wastes, the Parties shall agree, in writing, to a schedule, not to exceed two years, for the completion of the installation of the necessary controls.

- c. Aqueous Benzene Waste Streams. For purposes of calculating each Covered Refinery's TAB pursuant to the requirements of 40 C.F.R. 61.342(a), Calumet 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). If and when a Covered Refinery's TAB reaches 10 Mg/yr, then, for purposes of complying with the 6BQ compliance option, all waste management units handling aqueous benzene waste streams shall either meet the applicable control standards of Subpart FF or shall have their uncontrolled benzene quantity count toward the applicable 6 megagram limit.
- d. Plan to Quantify Uncontrolled Waste/Slop/Off-Spec Oil Streams. By no later than ninety (90) days after LDEQ has approved the schematics, as revised if necessary, required under Paragraph 40.a, Calumet shall submit, for each of their Covered Refineries, a plan(s) to quantify waste/slop/off-spec oil movements for all benzene waste streams which are not controlled. LDEQ will review the plan and may recommend revisions consistent with Subpart FF. Upon plan approval, Calumet shall maintain records quantifying such movements. The plan(s) may be included in the next semi-annual progress

report if that semi-annual progress report is submitted within ninety (90) days after LDEQ approves the schematics.

- e. Disputes under this Paragraph 40 shall be resolved in accordance with the dispute resolution provisions of this Settlement.

41. End of Line Sampling (TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr). The provisions of this Paragraph 41 shall apply from the date that the final BWN Compliance Review and Verification Report submitted for any Covered Refinery pursuant to Paragraph 35 shows that a Covered Refinery's TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr, through the earlier of: (1) the time that the Covered Refinery reaches a TAB of 10 Mg/yr or more (in which case, the provisions of Paragraph 42 shall begin to apply); or (2) termination of this Settlement.

- a. Calumet shall, once per calendar year, conduct sampling, consistent with the requirements of 40 C.F.R. 61.355(c)(1) and (3), of all waste streams containing benzene that contributed 0.05 Mg/yr or more to the TAB set forth in the final BWN Compliance Review and Verification Report or in the previous year's TAB, whichever is later;
- b. By no later than ninety (90) days after the date of submitting the final BWN Compliance Review and Verification Report, at LDEQ's option, representatives from LDEQ shall meet at the Covered Refinery with representatives from Calumet for the purpose of identifying an appropriate procedure for conducting EOL sampling and measuring EOL benzene quantities at that Covered Refinery. LDEQ and Calumet shall confer about

potential EOL sample locations and shall review process and flow information and oil movement transfers. By no later than thirty (30) days after LDEQ has met or declined to meet with Calumet at the Covered Refinery, Calumet shall submit a plan to LDEQ for approval that contains proposed sampling locations and methods for flow calculations to be used in the EOL determination of benzene quantity. Any disputes regarding plan approval under this Paragraph 41 shall be resolved in accordance with the dispute resolution provisions of this Settlement. If, during the life of this Settlement, changes in processes, operations, or other factors lead Calumet to conclude that either the approved sampling locations and/or the approved methods for determining flow calculations no longer provide an accurate measure of the Covered Refinery's EOL benzene quantity, Calumet shall submit a revised plan to LDEQ for approval.

- c. On a semi-annual basis, Calumet shall conduct an EOL determination of benzene quantity, commencing in the first full calendar semi-annual period after Calumet receives written approval from LDEQ of the sampling plan for the Covered Refinery. Calumet shall take, and have analyzed, at least three representative samples from each approved sampling location. Calumet shall use the average of these three samples as the benzene concentration for the stream at the approved location. Based on the EOL semi-annual sampling results and the approved flow calculations, Calumet shall calculate the semi-annual EOL benzene quantity.

- d. If the semi-annual EOL benzene quantity exceeds 5.0 Mg, Calumet shall submit to LDEQ a plan that identifies with specificity the actions that Calumet shall take, and the schedule for such actions, to ensure that the TAB for the Covered Refinery does not reach 10 Mg in the calendaryear.
- e. On a semi-annual basis, Calumet shall also calculate a projected calendar year TAB, utilizing all EOL results for that calendar year and any other information (such as process turnarounds) to undertake the projection. If the projected calendar year calculation of the TAB at a Covered Refinery equals or exceeds 10 Mg, Calumet shall submit to LDEQ a plan that identifies with specificity the actions that Calumet shall take, and the schedule for such actions, to ensure that the TAB for the Covered Refinery does not reach 10 Mg in the calender year. Calumet shall submit this plan within thirty (30) days after the end of the semi-annual period which resulted in a projection of equal to or greater than 10 Mg.
- f. If it appears that appropriate actions cannot be taken to ensure that the Covered Refinery maintains a TAB of under 10 Mg/yr, then Calumet shall retain a third party contractor to undertake a comprehensive TAB study and compliance review ("Third-Party TAB Study and Compliance Review"). At a mutually agreed upon date, Calumet shall submit a proposal to LDEQ that identifies the contractor, the contractor's scope of work, and the contractor's schedule for the Third-Party TAB Study and Compliance Review. Unless, within thirty (30) days after LDEQ receives this proposal, LDEQ disapproves or seeks modifications, Calumet shall authorize the contractor to commence work. By

no later than thirty (30) days after Calumet receives the results of the Third-Party TAB Study and Compliance Review, Calumet shall submit the results to LDEQ. LDEQ and Calumet subsequently shall discuss informally the results of the Third-Party TAB Study and Compliance Review. By no later than 120 days after Calumet receives the results of the Third-Party TAB Study and Compliance Review, or such other time as Calumet and LDEQ may agree, Calumet shall submit to LDEQ for approval a plan that identifies with specificity the compliance strategy and schedule that Calumet will implement to ensure that the Covered Refinery complies with the 6BQ compliance option as soon as practicable. The review and approval of this Plan shall be done in accordance with Paragraph 36.c of this Settlement. Certification of Compliance shall be done in accordance with Paragraph 36.d.

42. End of Line Sampling (If a Covered Refinery is Found to Have a TAB of 10 Mg/yr or More). The provisions of this Paragraph 42 shall apply after a Covered Refinery's TAB reaches or exceeds 10 Mg/yr and after the Covered Refinery has completed implementation of an approved compliance plan submitted pursuant to Paragraph 36.b or Paragraph 41.d. The provisions shall continue to apply through termination ("Applicability Dates for Paragraph 42").
- a. By no later than sixty (60) days after the certification required by Paragraph 36.d, Calumet shall submit to LDEQ for approval a plan(s) for an "end of the line" ("EOL") determination of the benzene quantity in uncontrolled waste streams. The proposed plan of Calumet shall include, but not be limited to, sampling locations, methods for flow calculations, and the assumed

volatilization rate(s) to be used in calculating the uncontrolled benzene quantity. Any disputes regarding plan approval under this Paragraph 42 shall be resolved in accordance with the dispute resolution provisions of this Settlement.

- b. If, during the Applicability Dates for Paragraph 41, changes in processes, operations, or other factors lead Calumet to conclude that the approved sampling locations, approved methods for determining flow calculations, and/or assumed volatilization rates no longer provide an accurate measure of a Covered Refinery's EOL benzene quantity, Calumet shall submit a revised plan to LDEQ for approval.
- c. On a monthly basis, Calumet shall conduct EOL sampling, commencing during the first month of the first full calendar quarter after Calumet receives written approval from LDEQ of the sampling plan for the particular Covered Refinery. Calumet shall take, and have analyzed, three representative samples from each approved sampling location. Calumet shall use the average of these three samples as the benzene concentration for the stream at the approved location. Based on the EOL monthly sampling results, the approved flow calculations, and the volatilization assumptions, Calumet shall calculate the sum of the EOL benzene quantity for the three months contained within the respective quarter. Nothing in this Paragraph 42 shall preclude Calumet from taking representative samples more frequently within any calendar month, provided that Calumet identifies the basis for the additional samples. Such samples shall be included in calculating the average monthly EOL benzene quantity.

- d. If the sum of the EOL benzene quantity for the three month period contained within a quarter equals or exceeds 1.2 Mg, Calumet shall take and have analyzed three representative samples, drawn on separate days during the subsequent calendar quarter, of each uncontrolled stream containing benzene over 0.05 Mg/yr, as identified in the later of (i) the final BWN Compliance Review and Verification Report; or (ii) the most recently submitted TAB report (hereinafter "Sampling of >0.05 Streams"). Calumet shall undertake Sampling of >0.05 Streams for the purpose of trying to identify the cause or source of the potentially elevated benzene quantities.
- e. Calumet shall continue to undertake Sampling of >0.05 Streams in the second quarter after the EOL benzene quantity exceeded 1.2 Mg unless either: (i) the EOL benzene quantity in the first quarter of the Sampling of > 0.05 Streams demonstrates that the Covered Refinery's EOL benzene quantity, prorated on a yearly basis, will be below 4.8 Mg/yr; or (ii) Calumet discovers and corrects the cause of the potentially elevated benzene quantities and LDEQ concurs in the diagnosis and corrective measures of Calumet.
- f. If the sum of the EOL benzene quantity for two consecutive quarters indicates that the EOL benzene quantity, prorated on a yearly basis, will exceed 4.8 Mg/yr, and Calumet has not discovered and corrected the cause of the potentially elevated benzene through the process of Sampling of >0.05 Streams, Calumet shall take and have analyzed three representative samples, drawn on separate days during the third calendar quarter, of each uncontrolled stream containing benzene over 0.03 Mg/yr, as identified in the later of (i) the

final BWN Compliance Review and Verification Report; or (ii) most recently submitted TAB report (hereinafter "Sampling of > 0.03 Streams"). Calumet shall undertake Sampling of >0.03 Streams for the purpose of continuing to try to identify the cause or source of the potentially elevated benzene quantities.

- g. Sampling of >0.05 and/or >0.03 Streams shall not be required if Calumet advises LDEQ, and LDEQ concurs, that the potentially elevated benzene quantities can be attributed to an identifiable event, such as a spill to the sewer or a turnaround. After such an identifiable event, however, Calumet shall calculate its projected uncontrolled benzene quantity for the calendar year in which the event occurs. If that projection is greater than 6 mg/yr, then Calumet shall submit to LDEQ for approval a plan that either (a) identifies with specificity the compliance strategy and schedule that Calumet will implement to ensure that the subject Covered Refinery does not exceed 6 Megagrams of uncontrolled benzene for the calendar year; or (b) if as a result of the quantity of benzene released during the event Calumet is unable to propose a plan to ensure that the subject Covered Refinery's uncontrolled benzene for the calendar year will be 6 Megagrams or less, then Calumet shall identify the actions to be taken to minimize the uncontrolled benzene for the remainder of the year. Calumet shall submit this plan within thirty (30) days after the end of the quarter which resulted in a projection of greater than 6 Mg/yr of uncontrolled benzene. Sampling of >0.05 and/or >0.03 Streams shall not excuse Calumet from continuing to take monthly EOL samples.

h. If in three consecutive quarters (a) the sum of the benzene quantity indicates that the EOL benzene quantity, prorated on a yearly basis, will exceed 4.8 Mg; or (b) the sampling of >0.05 and/or >0.03 streams indicates that projected uncontrolled benzene for the calendar year will exceed 6 Megagrams, and Calumet has not discovered and corrected, with LDEQ's concurrence, the cause of the potentially elevated benzene through the process of Sampling of >0.05 and >0.03 Streams, then, in the fourth quarter, Calumet shall retain a third party contractor to undertake a comprehensive TAB study and compliance review ("Third-Party TAB Study and Compliance Review"). By no later than the last day of the fourth quarter, Calumet shall submit a proposal to LDEQ that identifies the contractor, the contractor's scope of work, and the contractor's schedule for the Third-Party TAB Study and Compliance Review. Unless, within thirty (30) days after LDEQ receives this proposal, LDEQ disapproves or seeks modifications, Calumet shall authorize the contractor to commence work. By no later than thirty (30) days after Calumet receives the results of the Third-Party TAB Study and Compliance Review, Calumet shall submit the results to LDEQ. LDEQ and Calumet subsequently shall discuss informally the results of the Third-Party TAB Study and Compliance Review. By no later than one-hundred twenty (120) days after Calumet receives the results of the Third-Party TAB Study and Compliance Review, or such other time as Calumet and LDEQ may agree, Calumet shall submit to LDEQ for approval a plan that addresses any deficiencies identified in the Third-Party TAB Study and Compliance Review and any deficiencies that LDEQ brought

to the attention of Calumet as a result of the Third-Party TAB Study and Compliance Review. The review and approval of this Plan shall be done in accordance with Paragraph 36.c of this Settlement. Certification of Compliance shall be done in accordance with Paragraph 36.d.

43. Miscellaneous Measures.

- a. Calumet shall comply with the Benzene Waste NESHAP provisions applicable to groundwater remediation conveyance systems at each of its Refineries having such systems.
- b. The provisions of this Paragraph 43.b shall apply after a Covered Refinery's TAB reaches or exceeds 10 Mg/yr and after the Covered Refinery has completed implementation of an approved compliance plan submitted pursuant to Paragraph 36.b. The provisions shall continue to apply until termination of this Settlement. Calumet shall:
 - i. Conduct monthly visual inspections of all water traps within the Covered Refinery's individual drain systems; and
 - ii. On a weekly basis, visually inspect all conservation vents or indicators 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, Calumet may submit a request to LDEQ to modify the frequency of the inspections. LDEQ shall not unreasonably withhold its consent. Nothing in this Paragraph 43.b.ii shall require Calumet to monitor conservation vents on fixed roof tanks.

c. From the date that the final BWN Compliance Review and Verification Report submitted for any Covered Refinery pursuant to Paragraph 35.a shows that a Covered Refinery's TAB is equal to or greater than 1 Mg/yr, and through termination of this Settlement, Calumet shall identify and mark all area drains that are segregated stormwater drains.

44. Projects/Investigations. Unless and until the TAB of any of the Covered Refineries reaches or exceeds 10 Mg/yr, Calumet will not be required to undertake any projects or any investigations relating to the Benzene Waste NESHAP other than those required in Paragraphs 35 - 43. Within 60 days of receipt of information indicating that the TAB of a Covered Refinery has reached or exceeded 10 Mg/yr, LDEQ and Calumet shall meet and confer to discuss and establish an appropriate project or investigation relating to the Benzene Waste NESHAP.

45. Recordkeeping and Reporting Requirements for this Section I

a. At the times specified in the applicable provisions of this Paragraph, Calumet shall submit, as to the extent required, the following reports to LDEQ:

- i. BWN Compliance Review and Verification Report (Paragraph 35.a);
- ii. Amended TAB Report, if necessary (Paragraph 35.b);
- iii. Plan for a Covered Refinery to come into compliance with the 6 BQ compliance option upon discovering that its TAB equals or exceeds 10 Mg/yr through the BWN Compliance Review and Verification Report (Paragraph 36.b);
- iv. Compliance certification, if necessary (Paragraph 36.d);
- v. Schematics of waste/slop/off-spec oil movements (Paragraph 40.a), as revised, if necessary (Paragraph 40.a);

- vi. Schedule to complete implementation of controls on waste management units handling organic benzene waste, if necessary (Paragraph 40.b);
 - vii. Plan to quantify uncontrolled waste/slop/off-spec oil movements (Paragraph 40.d)
 - viii. EOL Sampling Plans (Paragraph 42.a), and revised EOL Sampling Plans, if necessary (Paragraph 42.b);
 - ix. Plan, if necessary, to ensure that uncontrolled benzene does not equal or exceed, as applicable, 6 or 10 Mg/yr -- or is minimized -- based on projected calendar year uncontrolled benzene quantities as determined through EOL sampling (Paragraph 42.g);
 - x. Proposal for a Third-Party TAB Study and Compliance Review, if necessary (Paragraph 42.h);
 - xi. Third-Party TAB Study and Compliance Review, if necessary (Paragraph 42.h);
 - xii. Plan to implement the results of the Third-Party TAB Study and Compliance Review, if necessary (Paragraph 42.h);
- b. TAB is equal to or greater than 1 Mg/yr. From the date that the final BWN Compliance Review and Verification Report submitted for any Covered Refinery pursuant to Paragraph 35 shows that a Covered Refinery's TAB is equal to or greater than 1 Mg/yr; or until the termination of this Settlement, Calumet shall submit the following information in the semi-annual progress reports pursuant to the requirements of Section IX of this Settlement:
- i. A description of the measures that it took to comply with the training provisions of Paragraph 39;

- ii. The annual, non-EOL sampling required at the Covered Refinery pursuant to the requirements of Paragraph 41.a (this information shall be submitted in the first semi-annual progress report for the first calendar semiannual period of each year);
 - iii. The results of the semi-annual EOL sampling undertaken pursuant to Paragraph 41.c for the calendar semi-annual period. 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 EOL benzene quantity for the respective semi-annual period. The Covered Refinery shall identify whether the semi-annual benzene quantity equals or exceeds 5.0 Mg and whether the projected calendar year benzene quantity equals or exceeds 10 Mg. If either condition is met, the Covered Refinery shall include in the semi-annual progress report the plan required pursuant to Paragraph 36.b and/or 40.d, and shall specifically seek LDEQ's concurrence in the plan.
- c. TAB is 10 Mg/yr or More. The provisions of this Paragraph 45.c. shall apply after a Covered Refinery's TAB reaches or exceeds 10 Mg/yr and after the Covered Refinery has completed implementation of an approved compliance plan submitted pursuant to Paragraph 36.b or 42.g. The provisions shall continue to apply until termination. Calumet shall submit the following information in semi-annual progress reports pursuant to the requirements of Section IX of this Settlement:

- i. The results of the six months of monthly EOL sampling undertaken pursuant to Paragraph 42.c. for the calendar semi-annual period. 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 EOL benzene quantity for each of the three months contained within the respective semi-annual period;
- ii. If the quarter is one in which Calumet is required to undertake Sampling of >0.05 Streams or Sampling of >0.03 Streams at a Covered Refinery, Calumet also shall: (1) submit the results of those sampling events; (2) describe the actions that Calumet is taking to identify and correct the source of the potentially elevated benzene quantities; and (3) to the extent that Calumet identifies actions to correct the potentially elevated benzene quantities, specifically seek LDEQ's concurrence with the proposal of Calumet.

J. Leak Detection and Repair ("LDAR") Program Enhancements.

46. 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, Calumet shall undertake at each of the Covered Refineries the enhancements in this Section J to each Covered Refinery's LDAR program under Title 40 of the Code of Federal Regulations, Part 60, Subparts VV and GGG; Part 61, Subparts J and V; Part 63, Subpart CC; and applicable LDEQ LDAR regulations. 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; Part 63, Subpart CC; and applicable LDEQ LDAR regulations. Nothing in this Section J shall be construed to require Calumet to include in the enhanced program described herein any equipment or units not otherwise subject to any applicable federal or state LDAR regulation.

47. Written Refinery-Wide LDAR Program. By no later than 120 days after the Effective Date of this Settlement, Calumet shall develop and maintain, for each of the Covered Refineries, a written, Refinery-wide program for compliance with all applicable federal and state LDAR regulations. Until termination of this Settlement, Calumet shall implement this program on a Refinery-wide basis, and Calumet shall update each Covered Refinery's program as necessary to ensure continuing compliance. Each Refinery-wide program shall include at a minimum:
- a. An overall, Refinery-wide leak rate goal that will be a target for achievement on a process-unit-by-process-unit basis;
 - b. An identification of all equipment in light liquid and/or in gas/vapor service that has the potential to leak VOCs, HAPs, VHAPs, and benzene within process units that are owned and maintained by each Refinery;
 - c. Procedures for identifying leaking equipment within process units that are owned and maintained by each Refinery;
 - d. Procedures for repairing and keeping track of leaking equipment;
 - e. Procedures for identifying and including in the LDAR program new equipment; and

- f. A process for evaluating new and replacement equipment to promote consideration and installation of equipment that will minimize leaks and/or eliminate chronic leakers.
48. Training. By no later than one year from the Effective Date of this Settlement, Calumet shall implement the following training programs at each of its Refineries:
- a. For personnel newly-assigned to LDAR responsibilities, Calumet shall require LDAR training prior to each employee beginning such work;
 - b. For all personnel assigned LDAR responsibilities, Calumet shall provide and require completion of annual LDAR training; and
 - c. For all other Refinery operations and maintenance personnel (including contract personnel), Calumet shall provide and require completion of an initial training program that includes instruction on aspects of LDAR that are relevant to the person's duties. Until termination of this Settlement, "refresher" training in LDAR shall be performed on a three year cycle.
49. LDAR Audits. Commencing upon the Effective Date of this Settlement, Calumet shall implement at each of the Covered Refineries, the Refinery-wide audits set forth in Paragraph 50, to ensure each Refinery's compliance with all applicable LDAR regulations. The LDAR audits shall include but not be limited to, comparative monitoring, records review, tagging, data management, and observation of the LDAR technicians' calibration and monitoring techniques.
50. Third-Party Audits. Calumet shall retain a contractor(s) to perform a third-party audit of each Refinery's LDAR program at least once every three years. The first third-party audit for two of the three Covered Refineries shall be completed no later

than one year from the Effective Date of this Settlement. The first third-party audit of the remaining Covered Refinery shall be completed within two years from the Effective Date of this Settlement.

51. Implementation of Actions Necessary to Correct Non-Compliance.

If the results of any of the audits conducted pursuant to Paragraph 50 at any of the Covered Refineries identify any areas of non-compliance, Calumet shall implement, as soon as practicable, all steps necessary to correct the area(s) of non-compliance, and to prevent, to the extent practicable, a recurrence of the cause of the non-compliance. Until termination of this Settlement, Calumet shall retain the audit reports generated pursuant to Paragraph 50 and shall maintain a written record of the corrective actions that Calumet takes at each of the Covered Refineries in response to any deficiencies identified in any audits. By no later than the due date for the semi-annual progress report submitted pursuant to the provisions of Section IX of this Settlement (Recordkeeping and Reporting) for the first calendar semi-annual period of each year, Calumet shall submit the audit reports and corrective action records for audits performed and actions taken during the previous year.

52. Internal Leak Definition for Valves and Pumps.

Calumet shall utilize the following internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions.

- a. Leak Definition for Valves. By no later than two years after the Effective Date of this Settlement, Calumet shall utilize an internal leak definition of 500 ppm VOCs for all of their Refineries' valves, excluding pressure relief devices.

b. Leak Definition for Pumps. By no later than two years after the Effective Date of this Settlement, Calumet shall utilize an internal leak definition of 2000 ppm for all of its Refineries' pumps.

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

a. Reporting. For regulatory reporting purposes, Calumet may continue to report leak rates in valves and pumps against the applicable regulatory leak definition, or may use the lower, internal leak definitions specified in Paragraph 52.

b. Recording, Tracking, Repairing and Remonitoring Leaks. Calumet shall record, track, repair and remonitor all leaks in excess of the internal leak definitions of Paragraph 52 at such time as those definitions become applicable, in accordance with the applicable LDAR program for each Covered Refinery.

54. LDAR Monitoring Frequency.

a. Pumps. At each of the Covered Refineries, when the lower leak definition for pumps becomes applicable pursuant to Paragraph 52, Calumet shall monitor pumps at the lower leak definition on a monthly basis.

b. Valves. At each of the Covered Refineries, when the lower leak definition for valves becomes applicable under Paragraph 52 and unless more frequent monitoring is required by applicable federal, state and/or local requirements, Calumet shall monitor valves (other than difficult to monitor or unsafe to monitor valves) at the lower leak definition on a quarterly basis, with no ability to skip periods on a process-unit-by-process-unit basis.

55. Electronic Monitoring, Storing, and Reporting of LDAR Data.

- a. Electronic Storing and Reporting of LDAR Data. At each of the Covered Refineries, Calumet has and will continue to maintain an electronic database for storing and reporting LDAR data. By no later than six months after the Effective Date of this Settlement, the electronic database shall include data identifying the date and time of the monitored event, and the operator and instrument used in the monitored event.
- b. Electronic Data Collection During LDAR Monitoring and Transfer Thereafter. By no later than July 31, 2011, Calumet shall submit to the LDEQ operational specifications for the data logger, software, and monitoring equipment. By no later than July 31, 2011, Calumet shall use dataloggers and/or electronic data collection devices during all LDAR monitoring. Calumet, 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 of Paragraph 55.a. For all monitoring events in which an electronic data collection device is used, the collected monitoring data shall include a time and date stamp. Calumet 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, and the identification of the monitoring equipment. Calumet shall use its best efforts to transfer any manually recorded monitoring data to the electronic database of Paragraph 55.a within seven days of monitoring.

56. QA/QC of LDAR Data. By no later than ninety (90) days after the Effective Date of this Settlement, Calumet, or a third party contractor retained by Calumet, shall develop and implement a procedure to ensure a quality assurance/quality control (“QA/QC”) review of all data generated by LDAR monitoring technicians. Calumet shall ensure that monitoring data provided to Calumet by its contractors is reviewed for QA/QC before the contractor submits the data to Calumet. At least once per calendar quarter, Calumet shall perform QA/QC of the contractor’s monitoring data which shall include, but not be limited to: number of components monitored per technician, time between monitoring events, and abnormal data patterns.
57. LDAR Personnel. By no later than the Effective Date of this Settlement, Calumet shall establish a program that will hold LDAR personnel accountable for LDAR performance. Calumet shall maintain a position within each Covered Refinery responsible for LDAR management with the authority to implement improvements.
58. Adding New Valves and Pumps. By no later than one hundred and twenty (120) days from the Effective Date of this Settlement, Calumet shall establish a tracking program for maintenance records (e.g., a Management of Change program) to ensure that valves and pumps added to each Refinery during maintenance and construction are integrated into the LDAR program.
59. Calibration/Calibration Drift Assessment.
- a. Calibration. Calumet shall conduct all calibrations of LDAR monitoring equipment using methane as the calibration gas, in accordance with 40 C.F.R. Part 60, EPA Reference Test Method 21.

b. Calibration Drift Assessment. Beginning no later than the Effective Date of this Settlement, Calumet shall conduct calibration drift assessments of LDAR monitoring equipment at the end of each monitoring shift, at a minimum. Calumet 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, Calumet 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.

60. Delay of Repair. Beginning no later than the Effective Date of this Settlement, for any equipment for which Calumet is allowed, under the applicable regulations, to place on the "delay of repair" list for repair:

a. For all equipment, Calumet shall:

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

b. For pumps: At such time as the lower leak rate definition applies pursuant to Paragraph 52.b., for pumps leaking at a rate of 2000 ppm or greater, Calumet shall undertake its best efforts to isolate and repair such pumps with a first

attempt within fifteen (15) days.

61. Recordkeeping and Reporting Requirements for this Paragraph.

- a. Written Refinery-Wide LDAR Program No later than July 31, 2011, Calumet shall submit a copy to LDEQ of each Refinery's LDAR Program developed pursuant to Paragraph 47.
- b. Submission of Operational Specifications for Electronic Data Collection during LDAR Monitoring and Certification of Use of Electronic Data Collection during LDAR Monitoring. By no later than July 31, 2011, Calumet shall submit to LDEQ operational specifications designed to minimize the use of any form of data collection and data transfer during and after LDAR monitoring other than electronic data collection and transfer.
- c. As Part of Either the Reports Required under each Covered Refinery's applicable LDAR program or the Semi-annual Progress Report Procedures of Section IX (Recordkeeping and Reporting). Consistent with the requirements of Section IX (Recordkeeping and Reporting), Calumet shall include the following information, at the following times, in its semi-annual progress reports:
 - i. First Semi-annual Progress Report Due under this Settlement. At the later of: the first semi-annual progress report due under this Settlement; or the first semi-annual progress report for which the requirement becomes due, Calumet shall include the following:
 - (1) A certification of the implementation of QA/QC procedures for review of data generated by LDAR technicians as required by Paragraph 56;

- (2) An identification of the individual at each Refinery responsible for LDAR performance as required by Paragraph 57;
- (3) A certification of the development of a tracking program for new valves and pumps added during maintenance and construction as required by Paragraph 58;
- (4) A certification of the implementation of the calibration drift assessment procedures of Paragraph 59;
- (5) A certification of the implementation of the “delay of repair” procedures of Paragraph 60; and
- (6) Information identifying the training measures that Calumet took to comply with the provisions of Paragraph 48.

ii. Semi-annual Progress Report for the First Semi-Annual Reporting

Period. Until termination of this Settlement, in the semi-annual progress report that Calumet submits pursuant to Section IX for the first semi-annual reporting period of each year, Calumet shall include an identification of each audit that was conducted pursuant to the requirements of Paragraph 50 in the previous calendar year including, for each Covered Refinery, an identification of the auditors, a summary of the audit results, and a summary of the actions that Calumet took or intends to take to correct all deficiencies identified in the audits.

iii. In Each Report due under each Covered Refinery’s Applicable LDAR

Program. In each report due under each Covered Refinery’s applicable LDAR program, Calumet shall include:

- (1) Monitoring. The following information on LDAR monitoring:
 - (a) a list of the process units monitored during the quarter;
 - (b) the number of valves and pumps monitored in each process

unit; (c) the number of valves and pumps found leaking; (d) the number of “difficult to monitor” pieces of equipment monitored; (e) the projected month of the next monitoring event for that unit; and (f) a list of all equipment currently on the “delay of repair” list and the date each component was placed on the list.

K. Incorporation of Settlement Requirements into Federally-Enforceable Permits

62. Within 180 Days After the Effective Date of this Settlement. As soon as practicable following the Effective Date of this Settlement, but in no event later than 180 days following the Effective Date of this Settlement, Calumet shall submit applications to LDEQ to incorporate the surviving emission limits, standards, and/or schedules required by this Settlement that are effective as of the Effective Date of this Settlement into the Title V permits of the Covered Refineries. Following submission of the permit applications, Calumet shall cooperate with LDEQ by promptly submitting to LDEQ all information that LDEQ seeks following its receipt of the permit applications.
63. At Variable Times. As soon as practicable, but in no event later than 180 days after the effective date or establishment of any surviving emission limits, standards and schedules under Section V of this Settlement, Calumet shall submit applications to LDEQ to incorporate those emission limitations, standards, and/or schedules into the Title V permits of the Covered Refineries. Following submission of the permit applications, Calumet shall cooperate with LDEQ by promptly submitting to LDEQ all information that LDEQ seeks following its receipt of the permit applications.

64. Surviving Emission Limits and Standards. The following emission limits and standards will survive termination of this Settlement through incorporation into the Covered Refineries Title V operating permit: paragraphs 11, 12, 15, 17, 18, 19, 20, 21, and 22.
65. Mechanism for Title V Incorporation. The Parties agree that the incorporation of the requirements of this Settlement into Title V permits shall be in accordance with LDEQ Title V rules.
66. Obtaining Construction Permits. Calumet agrees to use best efforts to obtain all required, federally enforceable permits for the construction of the pollution control technology and/or the installation of equipment necessary to implement the affirmative relief and environmental projects set forth in this Section V and in Section VI. To the extent that Calumet must submit permit applications for this construction or installation to LDEQ, Calumet shall cooperate with LDEQ by promptly submitting to LDEQ all information that LDEQ seeks following its receipt of the permit applications. This Section K is not intended to prevent Calumet from applying to LDEQ for a pollution control project exemption.

L. NSPS QQQ AUDITS

67. Calumet shall conduct an audit of each Covered Refinery in accordance with the following schedule to ensure that the Covered Refineries comply with the requirements of NSPS, Subpart QQQ, 40 C.F.R. §§ 60.690, et seq.:

Covered Refinery

Audit Completed

Princeton

Within 6 months of Effective Date

Cotton Valley

Within 12 months of Effective Date

Shreveport

Within 18 months of Effective Date

68. Within 90 days of completing each audit, Calumet shall compile a summary of the results, compliance plan, and schedule to remedy any non-compliance discovered as a result of the audit(s). Calumet shall include the summary audit results, compliance plan, and schedule in the semi-annual progress report which covers the period in which the requirement was completed. The plan shall include a proposed schedule of implementation for the installation of any necessary control equipment. The plan shall also include proposed schedules for compliance with the monitoring, testing, recordkeeping, and reporting requirements of 40 C.F.R. §§ 60.695 - 60.698. The plan shall be subject to the approval of, disapproval of, or modification by LDEQ. Within sixty (60) days after receiving any notification of disapproval or request for modification from LDEQ, Calumet shall submit to LDEQ a revised plan that responds to all identified deficiencies. Upon receipt of approval or approval with conditions, Calumet shall implement any corrective measures in accordance with the specified schedule. Disputes arising under this Paragraph 68 shall be resolved in accordance with the dispute resolution provisions of this Settlement.

VI. BENEFICIAL ENVIRONMENTAL PROJECTS

69. Calumet shall conduct a Title V permit audit of each Covered Refinery in accordance with the following schedule to ensure that the Covered Refineries comply with the requirements of their respective Title V permits not otherwise

covered by audit requirements in this Settlement:

<u>Covered Refinery</u>	<u>Audit Completed</u>
Shreveport	Within 12 months of Effective Date
Cotton Valley	Within 18 months of Effective Date
Princeton	Within 24 months of Effective Date

Calumet may elect to delay the Shreveport audit to within 24 months of the Effective Date of this Settlement, provided the Princeton audit is completed within 12 months of the Effective Date of this Settlement, if the Shreveport Title V draft permit renewal is issued within 12 months of the Effective Date of this Settlement.

Within 90 days of completing each audit, Calumet shall compile a summary of the results, compliance plan, and schedule to remedy any non-compliance discovered as a result of the audit(s). Calumet shall include the summary audit results, compliance plan, and schedule in the semi-annual progress report which covers the period in which the requirement was completed. The plan shall include a proposed schedule of implementation for the installation of any necessary control equipment. The plan shall be subject to the approval of, disapproval of, or modification by LDEQ.

Within sixty (60) days after receiving any notification of disapproval or request for modification from LDEQ, Calumet shall submit to LDEQ a revised plan that responds to all identified deficiencies. Upon receipt of approval or approval with conditions, Calumet shall implement any corrective measures in accordance with the specified schedule. Disputes arising under this Paragraph 69 shall be resolved in accordance with the dispute resolution provisions of this Settlement.

VII. EMISSION CREDIT GENERATION

70. Summary. The intent of this Section generally is to prohibit Calumet from using the emissions reductions that will result from the installation and operation of the controls required by this Settlement (“Settlement Emissions Reductions”) for the purpose of emissions netting or emissions offsets, while still allowing Calumet to use a fraction of the Settlement Emissions Reductions if: (1) the emissions units for which Calumet seeks to use the Settlement Emissions Reductions are modified or constructed for purposes of compliance with Tier II gasoline or low sulfur diesel requirements; and (2) the emissions from those modified or newly-constructed units are below the levels outlined in Paragraph 72.b at the time of the permit application.
71. General Prohibition. Calumet shall not generate or use any NO_x, SO₂, PM, VOC, or CO emissions reductions that result from any projects conducted or controls required pursuant to this Settlement as netting reductions or emissions offsets in any PSD, major non-attainment and/or minor New Source Review (“NSR”) permit or permit proceeding.
72. Exception to General Prohibition.
- a. Conditions Precedent to Utilization of the Exception to the General Prohibition against the Use or Generation of Settlement Emissions Reductions. Utilization of the exception set forth in Paragraph 72.b to the general prohibition against the generation or utilization of Settlement Emissions Reductions set forth in Paragraph 72 is subject to the following conditions:

- i. Under no circumstances shall Calumet use Settlement Emissions Reductions for netting and/or offsets prior to the time that actual Settlement Emissions Reductions have occurred;
 - ii. Settlement Emissions Reductions may be used only at the Covered Refinery that generated them;
 - iii. The Settlement Emissions Reductions provisions of this Settlement are for purposes of this Settlement only and neither Calumet, nor any other entity may use Settlement Emissions Reductions for any purpose, including in any subsequent permitting or enforcement proceeding, except as provided herein; and
 - iv. Calumet still shall be subject to all federal and state regulations applicable to the PSD, major non-attainment and/or minor NSR permitting process.
- b. Exception to General Prohibition. Notwithstanding the general prohibition set forth in Paragraph 71 Calumet may use 20 tons per year of NO_x and 10 tons per year of VOCs from the Settlement Emissions Reductions as credits or offsets in any PSD, major non-attainment and/or minor NSR permit or permit proceeding occurring after the Effective Date of this Settlement, provided that the new or modified emissions unit: is being constructed or modified for purposes of compliance with Tier II gasoline or low sulfur diesel requirements; and already has emissions limits at the time of permitting as follows:
- i. For heaters and boilers, a limit of 0.020 lbs NO_x per million BTU or less on a 3-hour rolling average basis;

- ii. For heaters and boilers, a limit of 0.10 grains of hydrogen sulfide per dry standard cubic foot of fuel gas or 20 ppmvd SO₂ corrected to 0% O₂ both on a 3-hour rolling average;
- iii. For heaters and boilers, no liquid or solid fuel firing capabilities; and
- iv. For SRPs, NSPS Subpart J emission limits.

73. Outside the Scope of the General Prohibition. Nothing in this Section VII is intended to prohibit Calumet from seeking to: (1) utilize or generate emissions credits or reductions from refinery units that are covered by this Settlement to the extent that the proposed credits or reductions represent the difference between the emissions limitations set forth in this Settlement for these refinery units and the more stringent emissions limitations that Calumet may elect to accept for these refinery units in a permitting process; or (2) utilize or generate emissions credits or reductions on refinery units that are not covered by this Settlement.

VIII. MODIFICATIONS TO IMPLEMENTATION SCHEDULES

74. Securing Permits. For any work under Sections V or VI of this Settlement that requires a federal, state and/or local permit or approval, Calumet shall be responsible for submitting in a timely fashion applications for federal, state and local permits and approvals for work and activities required so that permit or approval decisions can be made in a timely fashion. Calumet shall use its best efforts to: (1) submit permit applications (i.e., applications for permits to construct, operate, or their equivalent) that comply with all applicable requirements; and (2) secure approval of permits after filing the applications, including timely supplying additional information, if requested. If it appears that the failure of a governmental entity to act upon a timely-

submitted permit application may delay Calumet's performance of work according to an applicable implementation schedule, Calumet shall notify LDEQ of any such delays as soon as Calumet reasonably concludes that the delay could affect its ability to comply with the implementation schedule set forth in this Settlement. Calumet shall propose for approval by LDEQ a modification to the applicable schedule of implementation. LDEQ shall not unreasonably withhold its consent to requests for modifications of schedules of implementation if the requirements of this Paragraph are met. All modifications to any dates initially set forth in this Settlement or in any approved schedule of implementation shall be signed in writing by LDEQ and Calumet. Stipulated penalties shall not accrue nor be due and owing during any period between an originally-scheduled implementation date and an approved modification to such date; provided however, that LDEQ shall retain the right to seek stipulated penalties if LDEQ does not approve a modification to a date or dates. The failure of a governmental entity to act upon a timely-submitted permit or approval application shall not constitute a force majeure event triggering the requirements of Section XIV; this Paragraph shall apply.

75. Commercial Unavailability of Control Equipment. Calumet shall be solely responsible for compliance with any deadline or the performance of any work described in Sections V and VI of this Settlement that requires the acquisition and installation of control equipment. If it appears that the commercial unavailability of any control equipment may delay Calumet's performance of work according to an applicable implementation schedule, Calumet shall notify LDEQ of any such delays as soon as Calumet reasonably concludes that the delay could affect its ability to

comply with the implementation schedule set forth in this Settlement. Calumet shall propose for approval by LDEQ a modification to the applicable schedule of implementation. Prior to the notice required by this Paragraph VIII, Calumet must have contacted a reasonable number of vendors of such equipment or additive and obtained a written representation (or equivalent communication to LDEQ) from the vendor that the equipment is commercially unavailable. In the notice, Calumet shall reference this Paragraph VIII of this Settlement, identify the milestone date(s) it contends it will not be able to meet, provide LDEQ with written correspondence to the vendor identifying efforts made to secure the control equipment, and describe the specific efforts Calumet has taken and will continue to take to find such equipment. Calumet may propose a modified schedule or modification of other requirements of this Settlement to address such commercial unavailability. Section XV (“Dispute Resolution”) shall govern the resolution of any claim of commercial unavailability. LDEQ shall not unreasonably withhold its consent to requests for modifications of schedules of implementation if the requirements of this Paragraph are met. All modifications to any dates initially set forth in this Settlement or in any approved schedule of implementation shall be signed in writing by LDEQ and Calumet. Stipulated penalties shall not accrue nor be due and owing during any period between an originally-scheduled implementation date and an approved modification to such date; provided however, that LDEQ shall retain the right to seek stipulated penalties if LDEQ does not approve a modification to a date or dates. The failure by Calumet to secure control equipment shall not constitute a force majeure event triggering the requirements of Section XIV; this Paragraph shall apply.

IX. REPORTING AND RECORDKEEPING

76. Beginning with the first full calendar semi-annual period after the Effective Date of this Settlement, Calumet shall submit to LDEQ by no later than July 31 for the preceding period encompassing January through June and by no later than January 31 for the preceding period encompassing July through December until termination of this Settlement, a calendar semi-annual progress report for each Covered Refinery. This calendar semi-annual report shall contain, for each Covered Refinery, the following: progress report on the implementation of the requirements of Section V (Affirmative Relief/Environmental Projects); a summary of the emissions data as required by Section V of this Settlement; a description of any problems anticipated with respect to meeting the requirements of Section V of this Settlement; a description of all Beneficial Environmental Projects and implementation activity in accordance with Section VI of this Settlement; any such additional matters as Calumet believes should be brought to the attention of LDEQ; and any other reports required by this Settlement. Calumet may, at its option, submit one semi-annual report for each Covered Refinery or one consolidated semi-annual report for the three Covered Refineries. Each portion of the calendar semi-annual report which relates to a particular Covered Refinery shall be certified by either the person responsible for environmental management and compliance for that Covered Refinery, or by a person responsible for overseeing implementation of this Settlement across Calumet, as follows:

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

X. CIVIL PENALTY

77. In satisfaction of the civil claims asserted by LDEQ, within thirty (30) days of the Effective Date of this Settlement, Calumet shall pay a civil penalty of \$1,000,000.00 to LDEQ. Payment of the civil penalty owed to LDEQ under this Paragraph 77 shall be made by certified check made payable to the Louisiana Department of Environmental Quality and sent to Fiscal Director, Office of Management and Finance, LDEQ, P. O. Box 4303, Baton Rouge, LA 70821-4303.
78. The total amount of money expended by Calumet on civil penalty payments to LDEQ shall be considered a civil penalty for tax purposes, as required by La. R. S. 30:2050.7(E)(1).

XI. STIPULATED PENALTIES

79. Calumet shall pay stipulated penalties for each failure by Calumet to comply with the terms of this Settlement as provided herein. Stipulated penalties shall be calculated in the amounts specified in Paragraphs 80 through 95.
80. Section V.A – Requirements for NO_x Emission Reductions from Heaters and Boilers.
- a. For failure to install required Qualifying Controls by the required dates, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

- b. For failure to install and/or certify a CEMS or a parametric emission monitoring system on a Controlled Heater or Boiler by the required deadline, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

- c. For failure to submit the written deliverables required by Paragraph 13, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day after deadline	\$500

- d. For each failure to achieve NO_x emission reductions proposed by Calumet pursuant to Paragraph 10, per day, per unit:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

81. Section V.B - Requirements for SO₂ Emission Reductions from Heaters and Boilers.

- a. After the date set forth in this Settlement for NSPS applicability of any fuel gas combustion device, for burning any refinery fuel gas that contains hydrogen sulfide in excess of 0.1 grains per dry standard cubic foot on a 3-hour rolling average at any fuel gas combustion device, per Covered Refinery, per day in a calendar quarter:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 st through 5 th day after deadline	\$500
6 th through 15 th day after deadline	\$1000
Over 15 days after deadline	\$2000

- b. For failure to install and/or certify a fuel gas CEMS, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

- c. For burning Fuel Oil in a manner inconsistent with the requirements of Paragraph 16, per Covered Refinery, per day:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

82. Section V.C – Requirements for NSPS Applicability of Sulfur Recovery Plant.

- a. For failure to route all sulfur pit emissions in accordance with the requirements of Paragraph 18, per day:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

- b. For failure to comply with the NSPS Subpart J emission limits, per day in a calendar quarter:

<u>Period of Non-Compliance</u>	<u>Penalty per day</u>
1 st through 5 th day after deadline	\$500
6 th through 15 th day after deadline	\$1000
Over 15 days after deadline	\$2000

- c. For failure to develop and comply with the Preventive Maintenance and Operation Plan as specified in Paragraph 20, per day:

<u>Period of Delay or Non-Compliance</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
Beyond 31 st day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

83. Section V.D – Requirements for NSPS Applicability of Flaring Devices.

- a. For failure to comply with NSPS Subpart J at the flares listed in Appendix A after the date on which Calumet accepted NSPS applicability for the relevant flare as set forth in Paragraph 21, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$ 500 per day
31st through 60th day after deadline	\$1000 per day
Beyond 60th day after deadline	\$2000 per day

- b. For failure to either (a) install and/or certify a CEMS; (b) submit and comply with an AMP; or (c) demonstrate that the fuel gas streams combusted in the fuel gas combustion device are inherently low in sulfur content, at flares that combust continuous or intermittent, routinely-generated refinery fuel gases, per \unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

84. For AG Flaring Incidents and/or Tail Gas Incidents for which Calumet is liable under Section V.E:

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

For purposes of calculating stipulated penalties pursuant to this Paragraph 84, only one cell within the matrix shall apply. Thus, for example, for a Flaring Incident in which the Flaring starts at 1:00 p.m. and ends at 3:00 p.m., and for which 14.5 tons of sulfur dioxide are emitted, the penalty would be \$17,400 (14.5 x \$1,200); the penalty would not be \$13,900 [(5 x \$500) + (9.5 x \$1200)]. For purposes of determining which column in the table set forth in this Paragraph applies under circumstances in which Flaring occurs intermittently during a Flaring Incident, the Flaring shall be deemed to commence at the time that the Flaring that triggers the initiation of a Flaring Incident commences, and shall be deemed to terminate at the

time of the termination of the last episode of Flaring within the Flaring Incident.

Thus, for example, for Flaring within a Flaring Incident that (1) starts at 1:00 p.m. on Day 1 and ends at 1:30 p.m. on Day 1; (2) recommences at 4:00 p.m. on Day 1 and ends at 4:30 p.m. on Day 1; (3) recommences at 1:00 a.m. on Day 2 and ends at 1:30 a.m. on Day 2; and (4) no further Flaring occurs within the Flaring Incident, the Flaring within the Flaring Incident shall be deemed to last 12.5 hours -- not 1.5 hours -- and the column for Flaring of "greater than 3 hours but less than or equal to 24 hours" shall apply. The stipulated penalty provisions of this Settlement Agreement do not apply to HC Flaring Incidents.

85. For failure to timely submit any report required by Paragraph 26, or for submitting any report that does not conform to the requirements of Paragraph 26, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

86. For those corrective action(s) which Calumet: (i) agrees to undertake following receipt of an objection by LDEQ pursuant to Paragraph 27.c and 30.a; or (ii) is required to undertake following dispute resolution, then, from the date of LDEQ's receipt of Calumet's report under Paragraphs 27 or 30.a of this Settlement until the date that either: (i) a final agreement is reached between LDEQ and Calumet regarding the corrective action; or (ii) the dispute regarding the corrective action is resolved by an adjudicatory hearing, Calumet shall be liable for stipulated penalties as follows:

<u>Period of Delay</u>	<u>Penalty per day</u>
Days 1-120	\$50
Days 121-180	\$100
Days 181 - 365	\$300
Over 365 Days	\$3,000

87. For failure to complete any corrective action under Paragraph 27 of this Settlement in accordance with the schedule for such corrective action agreed to by Calumet or imposed on Calumet pursuant to the dispute resolution provisions of this Settlement (with any such extensions thereto as to which LDEQ and Calumet may agree in writing):

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day after deadline	\$2000

88. Paragraph 31 – Requirements for Control of Hydrocarbon Flaring Incidents.

For each failure to perform a root cause analysis or submit a written report or perform corrective actions for a Hydrocarbon Flaring Incident, per day:

<u>Period of Delay or Non-Compliance</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

89. Section V.I - Requirements for Benzene Waste NESHAP Program Enhancements.

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

- a. For failure to complete the BWN Compliance Review and Verification Reports as required by Paragraph 35, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$100
31st through 60th day after deadline	\$250
Beyond 60th day after deadline	\$500

- b. For failure to implement the actions necessary to correct non-compliance as required by Paragraph 36, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

- c. Princeton Refinery (if TAB equals or exceeds 1 Mg/yr). For failure to implement the training requirements of Paragraph 39, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$100
31st through 60th day after deadline	\$250
Beyond 60th day after deadline	\$500

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

Paragraph 40 of this Settlement:

\$2,000 per record or submission

e. For failure to install controls on waste management units handling organic wastes as required by Paragraph 40.b, per waste management unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

f. For failure to conduct sampling in accordance with the sampling plans required by Paragraphs 41 (1 Mg/yr or more) or 42 (10 Mg/yr or more), as applicable, per stream, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

g. For failure to submit the plan or retain the third-party contractor required by Paragraphs 41.f (1 Mg/yr or more), 42.g (10 Mg/yr or more), or 42.h (10 Mg/yr or more) per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

h. For failure to comply with the miscellaneous compliance measures set forth in Paragraph 43.b, as follows:

For 43.b.i, monthly visual inspections: \$500 per drain not inspected;

For 43.b.ii, weekly monitoring of vents: \$500 per vent not monitored;

i. For failure to identify/mark segregated stormwater drains as required in Paragraph 43.c: \$500 per week per drain;

j. For failure to submit the written deliverables required by Paragraph 45, per report, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$100
31st through 60th day after deadline	\$250
Beyond 60th day after deadline	\$500

k. If it is determined through an LDEQ investigation that a Covered Refinery has failed to include all benzene containing waste streams in its TAB calculation submitted pursuant to Paragraph 35, Calumet shall pay the following:

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

90. Section J – Requirements for Leak Detection and Repair Program Enhancements.

- a. For failure to implement the training programs specified in Paragraph 48, per program, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

- b. For failure to conduct any of the audits described in Paragraph 50, per audit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1st through 30th day after deadline	\$500
31st through 60th day after deadline	\$1000
Beyond 60th day after deadline	\$2000

- c. For failure to implement any actions necessary to correct non-compliance as required in Paragraph 51, per day:

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

Beyond 60th day \$2000

- d. For failure to initiate an internal leak rate definition as specified in Paragraph 52, per process unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

- e. For failure to implement the QA/QC procedures described in Paragraph 56, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

- f. For failure to implement the more frequent monitoring program required by Paragraph 54, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

- g. For failure to designate an individual as accountable for LDAR performance as required in Paragraph 57, or for failure to implement the maintenance tracking program in Paragraph 58, or for failure to write a LDAR program that meets the requirements of Paragraph 47, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

h. For failure to use dataloggers or maintain electronic data as required by

Paragraph 55, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

i. For failure to conduct the calibration drift assessments or remonitor valves and pumps based on calibration drift assessments in Paragraph 59:

\$100 per missed event, per refinery

j. For failure to comply with the requirements for repair set forth at Paragraph

60.b:

\$5,000 per pump

k. For failure to submit the written deliverables required by Paragraph 61, per report, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

- 1. If it is determined through an LDEQ investigation that Calumet has failed to include all valves and pumps in its LDAR program, Calumet shall pay \$175 per component that it failed to include.

91. Section V.K – Requirements to Incorporate Settlement Requirements into Federally-Enforceable Permits.

For each failure to submit an application as required by Section V.K, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
Days 1-30	\$500
Days 31-60	\$1000
Over 60 Days	\$2000

92. Section VI – Requirements Related to QOO Audits and Beneficial Environmental Projects.

- a. For failure to conduct audits conforming to the requirements of Paragraphs 67 and 69, per day, per refinery, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$200
Beyond 60 th day	\$500

- b. For failure to submit permit modifications and/or install the controls required pursuant to the approved schedule of implementation required in Paragraph 68 or 69, per unit, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$500
31 st through 60 th day after deadline	\$1000
Beyond 60 th day	\$2000

93. Paragraphs 68 and 69 - Requirements for Reporting and Recordkeeping.

For failure to submit reports as required by Paragraphs 68 and 69, per day:

<u>Period of Delay</u>	<u>Penalty per day</u>
1 st through 30 th day after deadline	\$100
31 st through 60 th day after deadline	\$250
Beyond 60 th day	\$500

94. Paragraph 77 -- Requirements for Payment of Civil Penalties. For Calumet's failure to pay the civil penalties as specified in Paragraph 77 of this Settlement, Calumet shall be liable for \$2,500 per day plus interest on the amount overdue at the rate specified as the Judicial Interest Rate.

95. Paragraphs 96 and 97 -- Requirement to Escrow and/or Pay Stipulated Penalties. For failure to escrow and/or pay stipulated penalties as required by Paragraph 96 and 97 of this Settlement, Calumet shall be liable for \$625 per day and shall be liable for interest on the amount overdue at the rate specified as the Judicial Interest Rate.

96. Payment of Stipulated Penalties. Calumet shall pay stipulated penalties upon written demand by LDEQ no later than sixty (60) days after Calumet receives such demand. Stipulated penalties owed by Calumet shall be paid to LDEQ. Stipulated penalties shall be paid to LDEQ in the manner set forth in Section X. (Civil Penalty) of this Settlement. A demand for the payment of stipulated penalties will identify the

particular violation(s) to which the stipulated penalty relates, the stipulated penalty amount LDEQ is demanding for each violation (as can be best estimated), the calculation method underlying the demand, and the grounds upon which the demand is based. LDEQ may, in its unreviewable discretion, waive payment of any portion of stipulated penalties that may accrue under this Settlement.

97. Stipulated Penalties Dispute. Should Calumet dispute its obligation to pay part or all of a stipulated penalty, it may avoid the imposition of a stipulated penalty for failure to pay a stipulated penalty under Paragraph 96 by placing the disputed amount demanded in a commercial escrow account pending resolution of the matter and by invoking the dispute resolution provisions of Section XV within the time provided in Paragraph 96 for payment of stipulated penalties. If the dispute is thereafter resolved in Calumet's favor, the escrowed amount plus accrued interest shall be returned to them; otherwise, LDEQ shall be entitled to the amount that was determined to be due by dispute resolution, plus the interest that has accrued in the escrow account on such amount. LDEQ reserves the right to pursue any other non-monetary remedies to which they are entitled, including but not limited to, additional injunctive relief for Calumet's violations of this Settlement.

XII. INTEREST

98. Calumet shall be liable for interest on the unpaid balance of the civil penalty specified in Section X, and for interest on any unpaid balance of stipulated penalties to be paid in accordance with Section XI. All such interest shall accrue at the rate specified as the Judicial Interest Rate as determined by the Louisiana Commissioner of Financial Institutions per La. R.S.13:4202(B)(1). Interest shall be computed daily and

compounded annually. Interest shall be calculated from the date payment is due under this Settlement through the date of actual payment. For purposes of this Paragraph 98, interest pursuant to this Paragraph will cease to accrue on the amount of any stipulated penalty payment made into an interest bearing escrow account as contemplated by Paragraph 97 of this Settlement. Monies timely paid into escrow shall not be considered to be an unpaid balance under this Section.

XIII. RIGHT OF ENTRY

99. Any authorized representative of LDEQ, including independent contractors, upon presentation of credentials, shall have a right of entry upon the premises of the facilities of the Covered Refineries, at any reasonable time for the purpose of monitoring compliance with the provisions of this Settlement, including inspecting plant equipment, and inspecting and copying all records maintained by Calumet required by this Settlement. Calumet shall retain such records for the period of this Settlement. Nothing in this Settlement shall limit the authority of LDEQ to conduct tests, inspections, or other activities under any statutory or regulatory provision.

XIV. FORCE MAJEURE

100. If any event occurs which causes or may cause a delay or impediment to performance in complying with any provision of this Settlement, Calumet shall notify LDEQ in writing as soon as practicable, but in any event within ten (10) business days of the date when Calumet first knew of the event or should have known of the event by the exercise of due diligence. In this notice, Calumet shall specifically reference this Section XIV of this Settlement 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

Calumet to prevent or minimize the delay and the schedule by which those measures shall be implemented. Calumet shall adopt all reasonable measures to avoid or minimize such delays. The notice required by this Section shall be effective upon the mailing of the same by certified mail, return receipt requested, to LDEQ as specified in Paragraph 122 (Notice).

101. Failure by Calumet to substantially comply with the notice requirements of Paragraph 100 as specified above shall render this Section XIV (Force Majeure) voidable by LDEQ as to the specific event for which Calumet has failed to comply with such notice requirement, and, if voided, is of no effect as to the particular event involved.
102. LDEQ shall notify Calumet in writing regarding its claim of a delay or impediment to performance within thirty (30) days of receipt of the force majeure notice provided under Paragraph 100.
103. If LDEQ agrees that the delay or impediment to performance has been or will be caused by circumstances beyond the control of Calumet, including any entity controlled by Calumet and that Calumet could not have prevented the delay by the exercise of due diligence, the Parties shall stipulate to an extension of the required deadline(s) for all requirement(s) affected by the delay by a period equivalent to the delay actually caused by such circumstances. Such stipulation shall be filed as a modification to the Settlement pursuant to the modification procedures established in this Settlement. Calumet shall not be liable for stipulated penalties for the period of any such delay.
104. If LDEQ does not accept Calumet's claim of a delay or impediment to performance, Calumet must submit the matter for dispute resolution to avoid payment of stipulated

penalties. If it is determined that the delay or impediment to performance has been or will be caused by circumstances beyond the control of Calumet, including any entity controlled by Calumet, and that the delay could not have been prevented by Calumet by the exercise of due diligence, Calumet 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.

105. Calumet shall bear the burden of proving that any delay of any requirement(s) of this Settlement was caused by or will be caused by circumstances beyond its control, including any entity controlled by it, and that it could not have prevented the delay by the exercise of due diligence. Calumet 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.
106. Unanticipated or increased costs or expenses associated with the performance of Calumet's obligations under this Settlement shall not constitute circumstances beyond its control, or serve as the basis for an extension of time under this Section XIV.
107. As part of the resolution of any matter submitted for dispute resolution under this Section XIV, the Parties by agreement or by order, may in appropriate circumstances extend or modify the schedule for completion of work under the Settlement to account for the delay in the work that occurred as a result of any delay or impediment to performance agreed to by LDEQ. Calumet shall be liable for stipulated penalties for their failure thereafter to complete the work in accordance with the extended or modified schedule.

XV. DISPUTE RESOLUTION

108. The dispute resolution procedure set forth in this Section XV shall be available to resolve all disputes arising under this Settlement, including assertion of commercial unavailability under Paragraph 75 of this Settlement, provided that the Party making such application has made a good faith attempt to resolve the matter with the other Party.
109. The dispute resolution procedure required herein shall be invoked upon the giving of written notice by one of the Parties to this Settlement to another advising of a dispute pursuant to this Section XV. The notice shall describe the nature of the dispute, and shall state the noticing Party's position with regard to such dispute. The Party receiving such a notice shall acknowledge receipt of the notice and the Parties shall expeditiously schedule a meeting to discuss the dispute informally not later than fourteen (14) days from the receipt of such notice.
110. Disputes submitted to dispute resolution shall, in the first instance, be the subject of informal negotiations between the Parties. Such period of informal negotiations shall not extend beyond thirty (30) calendar days from the date of the first meeting between representatives of the Parties, unless it is agreed that this period should be extended.
111. In the event that the Parties are unable to reach agreement during such informal negotiation period, LDEQ shall provide Calumet with a written summary of its position regarding the dispute. The position advanced by LDEQ shall be considered binding unless, within forty-five (45) calendar days of Calumet's receipt of the written summary of LDEQ's position, Calumet files a request for a hearing with the Secretary of LDEQ. If the request for hearing is granted, the issues raised in the

request shall be resolved by an adjudicatory hearing before a hearing officer. The Secretary's final decision or order after this hearing is a Final Agency Action for the purpose of judicial review. In the event Calumet fails to object to LDEQ written notice of non acceptance or decision made pursuant to this Settlement Agreement, Calumet will be bound by such written notice of non acceptance or decision.

112. Where the nature of the dispute is such that a more timely resolution of the issue is required, the time periods set forth in this Section XV may be shortened by agreement of the Parties to the dispute.
113. As part of the resolution of any dispute submitted to dispute resolution, the Parties, by agreement or by order, may, in appropriate circumstances, extend or modify the schedule for completion of work under this Settlement to account for the delay in the work that occurred as a result of dispute resolution. Calumet 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

114. The effect of Settlement of this action is governed by this Paragraph 114.
 - a. Definitions. For purposes of this Paragraph 114, the following definitions apply:
 - i. "Applicable PSD Requirements" shall mean PSD requirements at LAC 33:III.509.
 - ii. "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.

iii. “Post Effective Date Compliance Dates” shall mean any dates in this Paragraph 114 after the Effective Date of this Settlement. Post Effective Date Compliance Dates include dates certain (e.g., “December 31, 2011”), dates after the Effective Date represented in terms of “months after the Effective Date” (e.g., “Twelve Months after the Effective Date”), and dates after the Effective Date represented by actions taken (e.g., “Date of Certification”). The Post Effective Date 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 Settlement.

b. New Source Review/Prevention of Significant Deterioration: Liability Resolution regarding the Applicable NSR/PSD Requirements.

i. Specific Pollutant and Units. With respect to emissions of the following pollutants from the following units, this Settlement shall resolve all civil liability of Calumet to LDEQ: (1) for violations of the Applicable NSR/PSD Requirements resulting from construction or modification, that occurred prior to the Effective Date of this Settlement, of the following units; and (2) for any pre-Effective Date construction or modification of the following units that resulted in

violations of the Applicable NSR/PSD Requirements that continued up to the following dates:

<u>Unit</u>	<u>Pollutant</u>	<u>Date</u>
Heaters and boilers listed in Appendix B	NO _x	December 31, 2015
All heaters and boilers other than those listed in Appendix B	NO _x	Effective Date
All heaters and boilers	SO ₂	Effective Date

- ii. Reservation of Rights: Release for Violations Continuing After the Effective Date Can be Rendered Void. Notwithstanding the resolution of liability in Paragraph 114.b.i, the release of liability by LDEQ to Calumet for violations of the Applicable NSR/PSD Requirements during the period between the Effective Date of this Settlement and the Post Effective Date Compliance Dates shall be rendered void if Calumet materially fails to comply with the obligations and requirements of Sections V.A through V.B; provided however, that the release in Paragraph 114.b.i, shall not be rendered void if Calumet remedies such material failure and pays any stipulated penalties due as a result of such material failure.
- iii. Exclusions from Release Coverage: Construction and/or Modification Not Covered by Paragraph 114.b.i. Notwithstanding the resolution of liability in Paragraph 114.b.i, nothing in this Settlement precludes the LDEQ from seeking from Calumet injunctive relief, penalties, or other appropriate relief for violations by Calumet of the Applicable

NSR/PSD Requirements resulting from construction or modification that: (1) commenced prior to or commences after the Effective Date of this Settlement for pollutants or units not covered by the Settlement; or (2) commences after the Effective Date of this Settlement for units covered by this Settlement, except for construction and/or modification required by this Settlement.

iv. Evaluation of Applicable NSR/PSD Requirements Must Occur.

Increases in emissions from units covered by this Settlement, where the increases result from the Post Effective Date construction or modification of any units within the Covered Refineries, are beyond the scope of the release in Paragraph 114b.i, and Calumet must evaluate any such increases in accordance with the Applicable NSR/PSD Requirements.

c. New Source Performance Standards Subparts A and J: Resolution of Liability.

- i. Specific Pollutants and Units. With respect to emissions of the following pollutants from the following units, for violations of the Applicable NSPS Subparts A and J Requirements, this Settlement shall resolve all civil liability of Calumet to LDEQ from the date that the claims of LDEQ accrued through the following dates:

<u>Unit</u>	<u>Pollutant</u>	<u>Date</u>
All heaters and boilers	SO ₂	Effective Date
Shreveport SRP	SO ₂	Effective Date
Flaring Devices	SO ₂	Dates in Appendix A

- ii. Reservation of Rights: Release for NSPS Violations Occurring After the Effective Date Can be Rendered Void. Notwithstanding the resolution of liability in Paragraph 114.c.i, the release of liability by LDEQ to Calumet for violations of any applicable NSPS Subparts A and J requirement that occurred between the Effective Date and the Post Effective Date Compliance Dates shall be rendered void if Calumet materially fails to comply with the obligations and requirements of Paragraphs 14 through 24; provided however, that the release in Paragraph 114.c.i shall not be rendered void if Calumet remedies such material failure and pays any stipulated penalties due as a result of such material failure.
- iii. Prior NSPS Applicability Determinations. Nothing in this Settlement shall affect the status of any FCCU, fuel gas combustion device, or sulfur recovery plant currently subject to NSPS as previously determined by any federal, state, or local authority or any applicable permit.

d. Benzene Waste NESHAP: The National Emission Standard for Benzene Waste Operations for Benzene Waste Operations, 40 C.F.R. Part 61, Subpart FF, which language has been adopted as Louisiana regulation in LAC 33:III.5116.

i. Resolution of Liability. This Settlement shall resolve all civil liability of Calumet to the LDEQ for alleged violations of Benzene Waste NESHAP Requirements at the Covered Refineries that either:

(1) commenced and ceased prior to the Effective Date of this Settlement; or

(2) are based on events identified in the BWN Compliance Review and Verification Report required under Paragraph 35 and are corrected pursuant to the requirements of Paragraph 36.

ii. Reservation of Rights. Except as specifically provided in Paragraph 114.d.i, and notwithstanding the resolution of liability in Paragraph 114.d.i, nothing in this Settlement precludes LDEQ from seeking from Calumet injunctive and/or other equitable relief or civil penalties for violations by Calumet of Benzene Waste NESHAP Requirements that (1) commenced prior to the Effective Date of this Settlement and continued after the Effective Date if Calumet fails to identify and address such violations as required by Paragraphs 35 and 36 or (2) commenced after the Effective Date of this Settlement.

e. LDAR: For All equipment in Light Liquid Service and Gas and/or Vapor Service, All State LDAR Requirements

- i. Resolution of Liability. This Settlement shall resolve all civil liability of Calumet to the LDEQ for alleged violations of LDAR Requirements at the Covered Refineries that either: (1) commenced and ceased prior to the Effective Date of this Settlement; or (2) are based on events identified in the LDAR Initial Audit Report required under Paragraph 50 and are corrected pursuant to the requirements of Paragraph 51.
- ii. Reservation of Rights. Except as specifically provided in Paragraph 114.e.i, and notwithstanding the resolution of liability in Paragraph 114.e.i, nothing in this Settlement precludes LDEQ from seeking from Calumet injunctive and/or other equitable relief or civil penalties for violations by Calumet of LDAR Requirements that (1) commenced prior to the Effective Date of this Settlement and continued after the Effective Date if Calumet fails to identify and address such violations as required by Paragraphs 50 and 51 or (2) commenced after the Effective Date of this Settlement.

f. NSPS Subpart QQQ.

- i. This Settlement shall resolve all civil liability of Calumet to LDEQ for violations of 40 C.F.R. §§ 60.690-60.699 (Subpart QQQ), which language has been adopted as a Louisiana regulation in LAC 33:III.3003, from the date that the claims of LDEQ first accrued through completion of the requirements of the compliance plan and

schedule in accordance with paragraphs 67 and 68; provided however, that the release of liability for the period between the Effective Date and post-Settlement compliance date, may be rendered void if Calumet does not meet the NSPS requirements at 40 C.F.R. §§ 60.692-60.693, on or before the dates specified in the compliance plan and schedule.

ii. Reservation of Rights. Except as specifically provided in Paragraph 114.f.i, and notwithstanding the resolution of liability in Paragraphs 114.f.i, nothing in this Settlement precludes LDEQ from seeking from Calumet

injunctive and/or other equitable relief or civil penalties for violations of NSPS Subpart QQQ that (1) commenced prior to the Effective Date of this Settlement and continued after the Effective Date if Calumet fails to identify in its Subpart QQQ Compliance Review Report and correct such violation as required by Paragraph 68 or (2) commenced after the Effective Date of this Settlement.

g. Beneficial Environmental Projects

i. This Settlement shall resolve all civil liability of Calumet to LDEQ for violations of the requirements of their respective Title V permits for each of the Covered Refineries, from the date that the claims of LDEQ first accrued through completion of the requirements of the compliance plan and schedule in accordance with paragraph 69 or issuance of a modified Title V permit, if necessary for compliance; provided

however, that the release of liability for the period between the Effective Date and post-Settlement compliance date, may be rendered void if Calumet does not meet the dates specified in the compliance plan and schedule.

- ii. Reservation of Rights. Except as specifically provided in Paragraph 114.g.i, and notwithstanding the resolution of liability in Paragraphs 114.g.i, nothing in this Settlement precludes LDEQ from seeking from Calumet injunctive and/or other equitable relief or civil penalties for violations of the requirements of their respective Title V permits for each of the Covered Refineries that (1) commenced prior to the Effective Date of this Settlement and continued after the Effective Date if Calumet fails to identify in its audits and correct such violations as required by Paragraph 69 or (2) commenced after the Effective Date of this Settlement.

- h. SIP Provisions. Entry of this Settlement shall resolve all of Calumet's liability to LDEQ for violations of SIP provisions and state regulations adopting, incorporating and implementing the foregoing federal requirements as specified above in Paragraphs 114.a through 114.g of the Effect of Settlement.

- i. Other Matters. This Settlement shall resolve all of Calumet's liability to LDEQ for violations noted in the following: (1) Notice of Potential Penalty for the Cotton Valley Refinery, dated May 16, 2001, Enforcement Tracking No. AE-PP-00-0406, Agency Interest No. 312; (2) Consolidated Compliance Order & Notice of Potential Penalty for the Cotton Valley Refinery, dated December

31, 2002, Enforcement Tracking No. AE-CN-01-0207, Agency Interest No. 312; (3) Consolidated Compliance Order & Notice of Potential Penalty for the Cotton Valley Refinery, dated December 23, 2004, Enforcement Tracking No. AE-CN-04-0345, Agency Interest No. 312; (4) Consolidated Compliance Order & Notice of Potential Penalty for the Princeton Refinery, dated August 15, 2005, Enforcement Tracking No. AE-CN-04-0288, Agency Interest No. 1224; (5) Consolidated Compliance Order & Notice of Potential Penalty for the Shreveport Refinery, dated May 5, 2010, Enforcement Tracking No. WE-CN-09-0202, Agency Interest No. 1214; (6) Consolidated Compliance Order & Notice of Potential Penalty for the Shreveport Refinery, dated December 8, 2010, Enforcement Tracking No. HE-CN-10-00818, Agency Interest No. 1214; (7) the alleged past violations specified in Appendix C and (8) any potential violations or noncompliance disclosed to LDEQ in writing or otherwise known to LDEQ up to and through December 22, 2010.

- j. Claim/Issue Preclusion. In any subsequent administrative or judicial proceeding initiated by LDEQ for injunctive relief, penalties, or other appropriate relief relating to Calumet for violations of the PSD, NSPS, NESHAP, and/or LDAR requirements, not identified in Paragraph 114 of the Settlement and/or Appendix C.
- i. Calumet 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 Calumet assert, or maintain, any other defenses based upon any contention that the claims

raised by LDEQ 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 Calumet to assert that the claims are deemed resolved by virtue of this Paragraph 114 of this Settlement.

- ii. LDEQ may not assert or maintain that this Settlement constitutes a waiver or determination of, or otherwise obviates, any claim or defense whatsoever, or that this Settlement constitutes acceptance by Calumet of any interpretation or guidance issued by LDEQ related to the matters addressed in this Settlement.
- k. Imminent and Substantial Endangerment. Nothing in this Settlement shall be construed to limit the authority of LDEQ to undertake any action against any person, including Calumet, to abate or correct conditions which may present an imminent and substantial endangerment to the public health, welfare, or the environment.

XVII. GENERAL PROVISIONS

115. Other Laws. Except as specifically provided by this Settlement, nothing in this Settlement shall relieve Calumet of its obligations to comply with all applicable federal, state and local laws and regulations. Subject to Paragraph 114, nothing contained in this Settlement shall be construed to prevent or limit the rights of LDEQ to seek or obtain other remedies or sanctions available under other state statutes or regulations, by virtue of Calumet's violation of the Settlement or of the statutes and regulations upon which the Settlement is based, or for Calumet's violations of any applicable provision of law, other than the matters resolved herein.

116. Post-Permit Violations. Nothing in this Settlement shall be construed to prevent or limit the right of LDEQ to seek injunctive or monetary relief for violations of permits issued as a result of the procedure required under Paragraphs 62 through 66 of this Settlement; provided however, that with respect to monetary relief, LDEQ must elect between filing a new action for such monetary relief or seeking stipulated penalties under this Settlement, if stipulated penalties also are available for the alleged violation(s).
117. Failure of Compliance. LDEQ does not, by its consent to this Settlement, warrant or aver in any manner that Calumet's complete compliance with the Settlement will result in compliance with the provisions of the Louisiana Environmental Quality Act. Notwithstanding the review or approval by LDEQ of any plans, reports, policies or procedures formulated pursuant to the Settlement, Calumet shall remain solely responsible for compliance with the terms of this Settlement, all applicable permits, and all applicable federal, state and local laws and regulations, except as provided in Section XIV (Force Majeure).
118. Service of Process. Calumet hereby agrees to accept service of process by mail with respect to all matters arising under or relating to the Settlement and to waive the formal service requirements. The persons identified by Calumet at Paragraph 122 (Notice) are authorized to accept service of process with respect to all matters arising under or relating to the Settlement.
119. Costs. Each Party to this action shall bear its own costs and attorneys' fees.
120. Public Documents. All information and documents submitted by Calumet to LDEQ pursuant to this Settlement shall be subject to public inspection in accordance with

the statutes and regulations that are applicable to LDEQ, unless subject to legal privileges or protection or identified and supported as business confidential in accordance with LDEQ statutes or regulations.

121. Public Notice and Comment. The Parties agree and acknowledge that final approval by LDEQ of this Settlement is subject to the requirements of La R.S. 30:2050.7, which provides for public notice of this Settlement in newspapers of general circulation and the official journals of parishes in which the facilities are located, an opportunity for public comment, consideration of any comments, and concurrence by the State Attorney General. The State of Louisiana reserves the right to withdraw or withhold consent if the comments regarding this Settlement disclose facts or considerations which indicate that this Settlement is inappropriate, improper or inadequate.
122. Notice. Unless otherwise provided herein, notifications to or communications between the Parties shall be deemed submitted on the date they are postmarked and sent by U.S. Mail, postage pre-paid, except for notices under Section XIV (Force Majeure) and Section XV (Dispute Resolution) which shall be sent by overnight mail or by certified or registered mail, return receipt requested. Each report, study, notification or other communication of Calumet shall be submitted as specified in this Settlement. Except as otherwise provided herein, all reports, notifications, certifications, or other communications required or allowed under this Settlement to be submitted or delivered to LDEQ shall be addressed as follows:

As to LDEQ:

Celena J. Cage
Administrator, Enforcement Division
Office of Environmental Compliance
Louisiana Department of Environmental Quality
P.O. Box 4312
Baton Rouge, Louisiana 70821-4312

As to Calumet:

To the applicable Refinery:

Charles Cost
Plant Manager, Cotton Valley Refinery
1756 Old Highway 7
Cotton Valley, LA 71018

Tom Germany
Plant Manager, Shreveport Refinery
3333 Midway Avenue 71109
PO Box 3099
Shreveport, LA 71133

Jerry Arnold
Vice President, Refining, Princeton Refinery
10234 Highway 157
Princeton, LA 71067

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 Settlement may be modified by mutual consent of the Parties. The consent of LDEQ to such modification must be in the form of a written notification from LDEQ.

123. Approvals. All LDEQ approvals or comments required under this Settlement shall come from LDEQ, Office of Environmental Compliance, Enforcement Division, at the address listed in Paragraph 122 (Notice).

124. Modification. The Settlement 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 Settlement shall not be used in any action involving the interpretation or enforcement of the Settlement. Non-material modifications to this Settlement shall be in writing, signed by the Parties. Material modifications to this Settlement shall be in writing, signed by the Parties, and shall be effective upon finalizing of the modification. Specific provisions in this Settlement that govern specific types of modifications shall be effective as set forth in the specific provision governing the modification.

XVIII. TERMINATION

125. Provisions of this Settlement relating to Calumet shall be subject to termination upon request by Calumet (under the conditions identified in this Paragraph 125). Calumet must have satisfied all of the following requirements of this Settlement:
- a. installation of control technology systems as specified in this Settlement;
 - b. achieving compliance with all provisions contained in this Settlement;
 - c. paying all penalties and other monetary obligations due under the terms of the Settlement; no penalties or other monetary obligations due hereunder can be outstanding or owed to LDEQ;
 - d. the completion of the project(s) set forth in Paragraph 69;
 - e. the receipt of permits incorporating the emission limits established under Section V.K;
 - f. LDEQ's receipt of the first calendar semi-annual progress report following the conclusion of the operation for at least one year of all units in compliance with

the emission limits established herein; and

g. Calumet has certified compliance pursuant to Paragraph 125.a through f, above, to LDEQ in writing.

126. Unless, within 120 days of receipt of the certification required by Paragraph 125(g), LDEQ objects in writing with specific reasons, this Settlement shall be deemed terminated. If LDEQ objects to the certification by Calumet, then the matter shall be subject to dispute resolution under Section XV (Dispute Resolution) of this Settlement. In such case, Calumet shall bear the burden of proving that this Settlement should be terminated.

XIX. SIGNATORIES

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

CALUMET SPECIALTY PRODUCTS

PARTNERS, L. P., ET AL.

BY: _____
(Signature)

(Print)

TITLE: _____

THUS DONE AND SIGNED in duplicate original before me this _____ day of _____, 20_____, at _____.

NOTARY PUBLIC (ID # _____)

(Print)

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Peggy M. Hatch, Secretary

BY: _____
Beau James Brock, Assistant Secretary
Office of Environmental Compliance

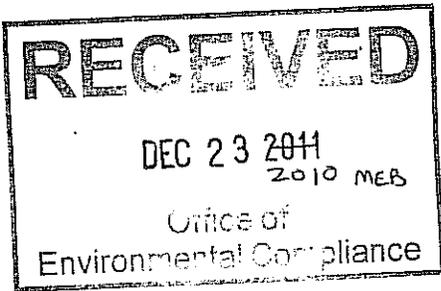
THUS DONE AND SIGNED in duplicate original before me this _____ day of _____, 20_____, at Baton Rouge, Louisiana.

NOTARY PUBLIC (ID # _____)

(Print)

Approved: _____
Beau James Brock, Assistant Secretary

R.V.



CALUMET SPECIALTY PRODUCTS

PARTNERS, L. P., ET AL.

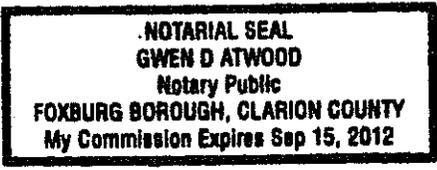
BY: [Signature]
(Signature)

Timothy Z. Barnhart
(Print)

TITLE: V.P. Operations

THIS DONE AND SIGNED in duplicate original before me this 22nd day of December, 20 10, at Lavins City Pennsylvania

[Signature]
NOTARY PUBLIC (ID # _____)
Gwen D. Atwood
(Print)



LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Peggy M. Hatch, Secretary

BY: _____
Beau James Brock, Assistant Secretary
Office of Environmental Compliance

THIS DONE AND SIGNED in duplicate original before me this _____ day of _____, 20_____, at Baton Rouge, Louisiana.

NOTARY PUBLIC (ID # _____)

(Print)

Approved: [Signature]
Beau James Brock, Assistant Secretary

APPENDIX A

List of Flaring Devices and NSPS Subpart J Compliance Schedule for Flares

Shreveport Refinery:

Flaring Device	Type	Compliance Date
Flare No. 3	AG Flaring Device/ HC Flaring Device	On the Effective Date of Settlement, the flare gas recovery system will be operated in lieu of CEMS.
Flare No. 2	AG Flaring Device/ HC Flaring Device	Currently out of service. Will become an affected facility upon return to service. The flare gas recovery system will be operated in lieu of CEMS.

Princeton Refinery:

Flaring Device	Type	Compliance Date
Hydrocal Unit No. 1 Flare	AG Flaring Device/ HC Flaring Device	Effective Date of Settlement
Crude Unit E.V. Flare	HC Flaring Device	Effective Date of Settlement

Cotton Valley Refinery:

Flaring Device	Type	Compliance Date
Flare No. 2	HC Flaring Device	Upon installation and operation of redundant fuel gas treatment device, no later than September 30, 2011 Complete necessary activities to qualify for exemption by no later than the Effective Date of Settlement.

APPENDIX B

List of Heaters and Boilers with a Heat Input Capacity of Greater Than 40 mmBtu/Hour

Current Operations					Low NOx Operations		
Service	Firing Rate (MMBTU/HR)		NOx Emissions			Target NOx Emissions	
	Design	Actual	Tested Lbs NOx/MMBTU	Tons/Yr		Target Lbs NOx/MMBTU	Tons/Yr
Shreveport							
No. 5 Steam Boiler	184.70	151.54	0.0517	34.3		0.0400	26.5
No. 6 Steam Boiler	184.70	155.14	0.1497	101.7		0.0400	27.2
No. 2 Platformer Unit Charge Heater	47.60	26.64	0.0919	10.7		0.0919	10.7
No. 4 Crude Unit Charge Heater**	90.44	85.54	0.0890	33.3		0.0400	15.0
No. 8 Steam Boiler*	47.10	48.61	0.0950	20.2		0.0455	9.7
Princeton							
Erie City Boiler No. 3	45.00	1.63	0.1027	0.7		0.1027	0.7
Boiler No. 4	48.70	12.55	0.0702	3.9		0.0702	3.9
Reformer Furnace H-101	60.80	32.63	0.0621	8.9		0.0621	8.9
				213.8			102.6
				50% Reduction Target			106.9

Note: The actual replacement requirements will be driven by the NOx levels achieved after modification. Additions or deletions to the heaters modified will be made as actual results are achieved.

(*) No. 8 Steam Boiler is being replaced with a new boiler (No. 10). The Target Lbs NOx/MMBTU value indicates the value of the No. 10 Boiler.

**No. 4 Crude Unit Charge Heater burner will be replaced, if needed, to meet the 50% NOx reduction.

APPENDIX C

ADDITIONAL LDEQ ISSUES

CALUMET SHREVEPORT REFINERY (AI 1214)

A. AIR QUALITY

1. INSPECTIONS:

- a. Areas of Concern noted in the inspection performed on or about March 28 through March 30, 2007. It was noted that the CAPS Report(s) in which the Respondent was to report throughputs for the previous year was not submitted for 2005. The report(s) was/were due by March 31, 2006, as required by Title V Permit No. 0500-00005-V0 issued on December 16, 2005.
- b. Areas of concern identified during the LDEQ Risk Management Plan Program inspection conducted on or about January 5-8, 2009. According to Calumet's letter dated March 4, 2009, Calumet has taken corrective action to address the areas of concern identified during the inspection.

2. REPORTS:

- a. Deviations reported in 2006, 2007, 2008 and 2009 Belco Scrubber Reports dated March 30, 2007, February 25, 2008, January 12, 2009, and January 4, 2010, respectively.
- b. Deviations reported in the Quarterly CEMS Performance and Excess Emissions Reports in which the Respondent noted one or more of the following exceedances: 1,300 ppm SO₂ three-hour rolling average (LAC 33:III.1503.B) from the sulfur recovery unit (SRU) Incinerator Stack; the NSPS 40 CFR 60 Subpart J 160 ppm H₂S in the fuel gas three-hour rolling average standard (fuel gas at Amine Stripper Unit); the NSPS 40 CFR 60 Subpart J 250 ppmv SO₂ twelve hour average standard (SRU Incinerator Stack); 6.7 pounds per hour SO₂ permit limit (loading at the SRU Incinerator Stack); and 0.1 lb/million Btu NO_x NSPS 40 CFR 60 Subpart Db standard for the boilers (No. 5/6 Nebraska Boiler). Deviations reported in the Quarterly CEMS Performance and Excess Emissions Reports in which the Respondent indicated the failure to continuously monitor and record parameter(s). The reports were dated July 16, 2007; April 2, 2007; January 8, 2007; October 6, 2006; April 12, 2006; July 26, 2005 (revised report was dated October 27, 2005); October 2, 2007, and January 31, 2008.

- c. In 2005, the Respondent reported exceedances of the 37.1 pound per hour SO₂ permit limit for the SRU Incinerator (Emission Point Vf). The exceedances were reported by the Respondent in two (2) letters dated July 1, 2005 and a letter dated July 27, 2005. The Respondent sent a letter dated September 26, 2005, in which the Respondent stated troubleshooting of the unit found three (3) potential problems and the exceedances had been resolved. A letter dated October 27, 2005 noted that the Respondent discovered in August 2005 that the software that calculates SO₂ permit compliance for the emission point was using a flow measurement that was 51% higher than actual. The Respondent submitted a revised report dated October 27, 2005 to correct the Second Quarter 2005 Quarterly CEMS Performance and Excess Emissions Reports dated July 26, 2005 to remove the SO₂ permit limit exceedances for that quarter.
- d. A quarterly deviation report dated May 10, 2006, noted a total of 18 hours on January 19, 2006, February 6, 2006, February 18, 2006, and March 7, 2006, during which SO₂ emissions were above 1,300 ppm three hour rolling average (LAC 33:III.1503.B) .
- e. In the semiannual thermal oxidizer report for January through June 2002 dated July 1, 2002, pursuant to 40 CFR 60 Subpart QQQ, 60.698(d)(1), the Respondent reported days in which there were three (3) hour periods of operation for the wastewater thermal oxidizer during which the average temperatures of the gas stream in the combustion zone were 50 degrees below the combustion zone temperature of 1,500 degrees Fahrenheit.
- f. Exceedence of Wax Cap limit in Specific Condition No. 1351 of Permit No. 0500-00005-V1 reported in letter dated November 2, 2007.

3. RELEASES:

- a. In an unauthorized discharge report dated December 20, 2004, the Respondent reported a preventable release of 18.3 lbs/hour of SO₂; 9.6 lbs/hour of H₂S; and 7.3 lbs/hour of VOC on December 19, 2004.
- b. The Respondent reported preventable releases which occurred on July 28, 2005 through August 1, 2005, and reported in the written report dated August 2, 2005.
- c. The Respondent reported preventable releases which occurred on January 12, 2005, and reported in the written report received on January 14, 2005.
- d. The Respondent reported a release which occurred on April 19, 2005, and reported in the written report dated April 19, 2005. The report noted that the Respondent exceeded the LAC 33:III.Chapter 11 standard for smoke. According to the Respondent, the SRU smoked for 20 minutes.

- e. The Respondent reported releases which occurred on April 19, 2005 through April 20, 2005, and were reported in the written report dated April 20, 2005. Another release was reported on April 21, 2005. The Respondent reported that during the releases exceedances of the 1,300 ppm SO₂ three hour rolling average (LAC 33:III.1503.B) occurred.
- f. The Respondent reported preventable releases which occurred on September 15, 2005, and reported in written report dated September 16, 2005.
- g. The Respondent reported preventable releases which occurred on October 20, 2005, and reported in written report dated October 20, 2005.
- h. The Respondent reported preventable releases which occurred on January 19, 2006, and reported in the written report dated January 20, 2006.
- i. In an unauthorized discharge report received on January 25, 2006, the Respondent reported a preventable release of SO₂ on January 19, 2006. The SO₂ was over the 1,300 ppm SO₂ three hour rolling average for 4 hours (LAC 33:III.1503.B). According to the Respondent it discharged 600 ppm SO₂ over the permit limit during the four (4) hour period.
- j. Unauthorized discharge and fire that occurred on or about October 30, 2008.

4. TITLE V REPORTS:

- a. Deviations reported in the first half 2001 Title V semiannual monitoring report received on October 1, 2001, for Title V Permit No. 2670-V0.
- b. Deviations reported in the 2001 Title V annual compliance certification and second half 2001 Title V semiannual monitoring report both under cover letter dated March 20, 2002, for Title V Permit No. 2670-V0.
- c. Deviations reported in the first half 2002 Title V semiannual monitoring report under cover letter dated October 15, 2002, for Title V Permit No. 2670-V0.
- d. Deviations reported in the 2002 Title V annual compliance certification and second half 2002 semiannual monitoring report both under cover letter dated March 14, 2003, for Title V Permit No. 2670-V0.
- e. Deviations reported in the first half 2006 Title V semiannual monitoring report under cover letter dated September 22, 2006, for Title V Permit No. 0500-00005-V0. The deviation reported in the first half 2006 Title V

semiannual monitoring report was in regard to notification not being made to the Department as required by 40 CFR 63.654(h) (Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries).

- f. Deviations reported in the first half 2007 Title V semiannual monitoring report under cover letter dated September 27, 2007, for Title V Permit No. 0500-00005-V1.
- g. Deviations reported in the second half 2007 Title V semiannual monitoring report under cover letter dated February 25, 2008, for Title V Permit No. 0500-00005-V2.
- h. Deviations reported in the 2007 annual compliance certification under cover letter dated February 25, 2008, which was revised under cover letter dated October 27, 2010, for Title V Permit No. 0500-00005-V1/V2.
- i. Deviations reported in the first half 2008 Title V semiannual monitoring report under cover letter dated August 29, 2008, for Title V Permit No. 0500-00005-V2.
- j. Deviations reported in the second half 2008 Title V semiannual monitoring report under cover letter dated March 16, 2009, for Title V Permit No. 0500-00005-V2.
- k. Deviations reported in the 2008 Title V annual compliance certification under cover letter dated March 16, 2009, which was revised under cover letter dated October 27, 2010, for Title V Permit No. 0500-00005-V2/V3.
- l. Deviations reported in the first half 2009 Title V semiannual monitoring report under cover letter dated August 17, 2009, for Title V Permit Nos. 0500-00005-V3/V4.
- m. Deviations reported in the second half 2009 Title V semiannual monitoring report under cover letter dated March 1, 2010, and revised under cover letter dated April 15, 2010 for Title V Permit Nos. 0500-00005-V4/V5.
- n. Deviations reported in the 2009 Title V annual compliance certification under cover letter dated March 1, 2010, and revised under cover letter dated April 15, 2010, for Title V Permit Nos. 0500-00005-V3/V4/V5.
- o. Deviations reported in the first half 2010 Title V semiannual monitoring report under cover letter dated July 12, 2010, for Title V Permit Nos. 0500-00005-V5/V6.

5. OTHER ISSUES NOTED BY THE DEPARTMENT:

- a. The Respondent submitted the first half 2002 Title V semiannual monitoring report under cover letter dated October 15, 2002, for Title V Permit No. 2670-V0. The Respondent failed to submit the first half 2002 Title V semiannual report by the September 30, 2002, due date.
- b. The Respondent submitted a report dated March 14, 2005, reporting the hours that the diesel firewater pump operated in 2004, as required by Air Permit No. 2492. The Respondent failed to submit the report by February 15, 2005, due date.
- c. Areas of Concern noted during LDEQ's investigation of the August 21, 2009 No. 3 Flare outage and odor complaint. The investigation revealed that Calumet failed to operate the flare with a flame present at all times. This is a violation of 40 CFR 60.18(c)(2). According to a letter from Calumet dated September 18, 2009, repairs and maintenance to the No. 3 flare have been completed.
- d. February 5, 2010, Belco wet gas scrubber incident.
- e. Deviations reported in the Title V General Condition R Report dated May 12, 2010, concerning excess emissions from the MEK Dewaxing Unit (Wax Free) Heater (EQT 038), MEK Dewaxing Unit (Soft Wax) Heater (EQT039), and the Wax Hydrofinisher Unit Furnace (EQT 040) and in the Title V Part 70 General Condition R Report dated August 13, 2010, concerning excess emissions from specified heaters. This issue was corrected through the issuance of Title V Permit No. 0500-00005-V7 on October 12, 2010.

B. WATER QUALITY

1. REPORTS:

A file review conducted by the Department on or about December 7, 2010, revealed that the Respondent caused and/or allowed effluent exceedances, which were reported by the Respondent on DMRs for the monitoring periods from May 2010 to September 2010. To resolve the ammonia exceedance issue, the Respondent will comply with the schedule in Appendix D to attain and maintain compliance with the permitted ammonia limits of its LPDES permit.

Monitoring Period	Outfall	Effluent Characteristic	Permit Discharge Limit	Reported Value
05/10	001	Ammonia (NH ₃) (as N) (Monthly Avg.)	98 lbs/day	177 lbs/day
		Ammonia (NH ₃) (as N) (Daily Max.)	232 lbs/day	289 lbs/day
		Ammonia (NH ₃) (as N) (Monthly Avg.)	5 mg/L	15.3 mg/L
06/10	001	Ammonia (NH ₃) (as N) (Monthly Avg.)	98 lbs/day	205 lbs/day
		Ammonia (NH ₃) (as N) (Daily Max.)	232 lbs/day	481 lbs/day
		Ammonia (NH ₃) (as N) (Monthly Avg.)	5 mg/L	17.8 mg/L
07/10	001	Ammonia (NH ₃) (as N) (Monthly Avg.)	98 lbs/day	131 lbs/day
		Ammonia (NH ₃) (as N) (Daily Max.)	232 lbs/day	244 lbs/day
		Ammonia (NH ₃) (as N) (Monthly Avg.)	5 mg/L	10.86 mg/L
08/10	001	Ammonia (NH ₃) (as N) (Monthly Avg.)	98 lbs/day	112 lbs/day
		Ammonia (NH ₃) (as N) (Monthly Avg.)	5 mg/L	11.48 mg/L
09/10	001	Ammonia (NH ₃) (as N) (Monthly Avg.)	98 lbs/day	110 lbs/day
		Ammonia (NH ₃) (as N) (Monthly Avg.)	5 mg/L	9.6 mg/L

2. UNAUTHORIZED DISCHARGE:

A file review conducted by the Department on or about December 7, 2010, revealed that on July 13, 2010, the Respondent caused and/or allowed the unauthorized discharge of crude oil to waters of the state.

CALUMET COTTON VALLEY REFINERY (AI 312)

A. AIR QUALITY

1. REPORTS/LETTERS

- a. Subsequent to the issuance of the Notice of Potential Penalty, Enforcement Tracking No. AE-PP-00-0406 on May 16, 2001, the Respondent noted in a letter dated March 28, 2003, that an audit discovered additional components that were not included and monitored in the fugitive emissions monitoring program (LAC 33:III.2121).
- b. Deviations reported in a letter dated May 16, 2005.

2. TITLE V REPORTS

- a. Deviations reported in the first half 2001 Title V semiannual monitoring report under cover letter dated September 19, 2001, for Title V Permit No. 3080-00010-V0.
- b. Deviations reported in the first half 2002 Title V semiannual monitoring report under cover letter dated September 21, 2002, for Title V Permit No. 3080-00010-V1.
- c. Deviations reported in the second half 2002 Title V semiannual monitoring report signed on March 24, 2003, for Title V Permit No. 3080-00010-V1.
- d. Deviations reported in the 2003 Title V annual compliance certification under cover letter dated March 28, 2003, for Title V Permit No. 3080-00010-V1.
- e. Deviations reported in the 2003 Title V annual compliance certification under cover letter dated March 29, 2004 for Title V Permit Nos. 2490-V1 and 3080-00010-V1.
- f. Deviations reported in the first half 2004 Title V semiannual monitoring report under cover letter dated September 30, 2004, for Title V Permit No. 3080-00010-V1.
- g. Deviations reported in the 2004 Title V annual compliance certification under cover letter dated March 31, 2005, for Title V Permit No. 3080-00010-V1.

- h. Deviations reported in the second half 2004 Title V semiannual monitoring report under cover letter dated March 31, 2005, for Title V Permit No. 3080-00010-V1.
- i. Deviations reported in the first half 2005 Title V semiannual monitoring report under cover letter dated September 23, 2005, for Title V Permit No. 3080-00010-V1/V2.
- j. Deviations reported in the second half 2005 Title V semiannual monitoring report under cover letter dated March 27, 2006, for Title V Permit No. 3080-00010-V2.
- k. Deviations reported in the 2005 Title V annual compliance certification under cover letter dated March 28, 2006, for Title V Permit No. 3080-00010-V2.
- l. Deviations reported in the first half 2006 Title V semiannual monitoring report under cover letter dated September 22, 2006, for Title V Permit No. 3080-00010-V2.
- m. Deviations reported in the second half 2006 Title V semiannual monitoring report under cover letter dated March 26, 2007, for Title V Permit No. 3080-00010-V2.
- n. Deviations reported in the 2006 Title V annual compliance certification under cover letter dated March 28, 2007, for Title V Permit No. 3080-00010-V2.
- o. Deviations reported in the first half 2007 Title V semiannual monitoring report under cover letter dated September 24, 2007, for Title V Permit No. 3080-00010-V2.

B. WATER QUALITY

1. REPORTS:

A file review conducted by the Department on or about December 7, 2010, revealed that the Respondent caused and/or allowed effluent exceedances, which were reported by the Respondent on DMRs for the monitoring periods from January 2008 to September 2010.

Monitoring Period	Outfall	Effluent Characteristic	Permit Discharge Limit	Reported Value
02/08	002	TSS (Monthly Average)	47 lbs/day	50.5 lbs/day
03/08	002	BOD (Daily Maximum)	15 mg/L	16.4 mg/L
07/09	002	BOD (Daily Maximum)	15 mg/L	20.6 mg/L
03/10	002	BOD (Daily Maximum)	15 mg/L	34.6 mg/L
		TSS (Monthly Average)	47 lbs/day	51.1 lbs/day
04/10	002	BOD (Daily Maximum)	15 mg/L	16.6 mg/L

CALUMET PRINCETON REFINERY (AI 1224)

A. AIR QUALITY

1. REPORTS:

- a. Permit deviations reported in the 2004, 2005, 2006 2007 and 2008 Annual Reactor Tank Scrubber Monitoring Reports dated January 31, 2005; January 19, 2006; January 12, 2007, January 22, 2008, and January 16, 2009 noting events in which the scrubber pH fell below the minimum requirement of 7, in violation of State Only Specific Condition No. 4 of Title V Permit No. 0400-00004-V2/V3 and Specific Requirement No. 199 of Title V Permit No. 0400-0040-V4.
- b. In a letter dated October 1, 2004, the Respondent reported deviations pertaining to exceedances of the SO₂ permit limit for Title V Permit No. 0400-00004-V3 from the flare (Emission Point No. 00-1).

2. TITLE V REPORTS

- a. Deviations reported in the first half 2002 Title V semiannual monitoring report under cover letter dated September 27, 2002, for Title V Permit No. 0400-00004-V0.
- b. Deviations reported in the second half 2002 Title V semiannual monitoring report under cover letter dated March 31, 2003, for Title V Permit No. 0400-00004-V0.
- c. Deviations reported in the 2002 Title V annual compliance certification under cover letter dated March 31, 2003, for Title V Permit No. 0400-00004-V0.
- d. Deviations reported in the first half 2003 Title V semiannual monitoring report under cover letter dated September 2, 2003, for Title V Permit No. 0400-00004-V1.

- e. Deviations reported in the second half 2003 Title V semiannual monitoring report under cover letter dated March 31, 2004, for Title V Permit No. 0400-00004-V2.
- f. Deviations reported in the 2003 Title V annual compliance certification under cover letter dated March 31, 2004, for Title V Permit No. 0400-00004-V1/V2.
- g. Deviations reported in the first half 2004 Title V semiannual monitoring report under cover letter dated September 16, 2004, for Title V Permit No. 0400-00004-V2.
- h. Deviations reported in the second half 2004 Title V semiannual monitoring report under cover letter dated March 31, 2005, for Title V Permit No. 0400-00004-V2.
- i. Deviations reported in the 2004 Title V annual compliance certification under cover letter dated March 31, 2005, for Title V Permit No. 0400-00004-V2.
- j. Deviations reported in the first half 2005 Title V semiannual monitoring report under cover letter dated September 30, 2005, for Title V Permit No. 0400-00004-V2.
- k. Deviations reported in the second half 2005 Title V semiannual monitoring reports under cover letter dated March 31, 2006, for Title V Permit No. 0400-00004-V2/V3.
- l. Deviations reported in the 2005 Title V annual compliance certifications under cover letter dated March 31, 2006, for Title V Permit No. 0400-00004-V2/V3.
- m. Deviations reported in the first half 2006 Title V semiannual monitoring report under cover letter dated September 15, 2006, for Title V Permit No. 0400-00004-V3.
- n. Deviations reported in the second half 2006 Title V semiannual monitoring report under cover letter dated June 12, 2007, for Title V Permit No. 0400-00004-V3.
- o. Deviations reported in the 2006 Title V annual compliance certification under cover letter dated June 12, 2007, for Title V Permit No. 0400-00004-V3.
- p. Deviations reported in the first half 2007 Title V semiannual monitoring

report under cover letter dated September 4, 2007, for Title V Permit No. 0400-00004-V3.

- q. Deviations reported in the second half 2007 Title V semiannual monitoring report under cover letter dated March 20, 2008, for Title V Permit No. 0400-00004-V3.
- r. Deviations reported in the 2007 Title V annual compliance certification under cover letter dated March 20, 2008, for Title V Permit No. 0400-00004-V3.
- s. Deviations reported in the first half 2008 Title V semiannual monitoring reports under cover letter dated July 30, 2008, for Title V Permit No. 0400-00004-V3/V4.
- t. Deviations reported in the second half 2009 Title V semiannual monitoring report under cover letter dated March 26, 2009, for Title V Permit No. 0400-00004-V3/V4.
- u. Deviations reported in the 2008 Title V annual compliance certification under cover letter dated March 26, 2009, for Title V Permit No. 0400-00004-V3/V4.
- v. Deviations reported in the first half 2009 Title V semiannual monitoring report under cover letter dated September 16, 2009, for Title V Permit No. 0400-00004-V4/V5.
- w. Deviations reported in the second half 2009 Title V semiannual monitoring report under cover letter dated March 30, 2010, for Title V Permit No. 0400-00004-V4/V5.
- x. Deviations reported in the 2008 Title V annual compliance certification under cover letter dated March 30, 2010, for Title V Permit No. 0400-00004-V4/V5.
- y. Deviations reported in the first half 2010 Title V semiannual monitoring report under cover letter dated September 3, 2010, for Title V Permit No. 0400-00004-V5.

3. OTHER ISSUES NOTED BY THE DEPARTMENT:

- a. The facility operated without Wastewater Fugitive Emissions included in Title V Permit No. 3080-00010-V3. The Wastewater Fugitive Emissions were included in Title V Permit No. 3080-00010-V4 issued February 27, 2008.

- b. Late Title V reports for the second half of 2006 and for calendar year 2006 which were due by March 31, 2007. The Title V annual compliance certification and second half 2006 Title V semiannual monitoring report were under cover letter dated June 12, 2007, postmarked on June 13, 2007, and received by the Department on June 18, 2007.

B. WATER QUALITY

1. INSPECTION:

An inspection conducted by the Department on or about June 27, 2008, and a file review conducted by the Department on or about December 7, 2010, revealed that the Respondent caused and/or allowed effluent exceedances, which were reported by the Respondent on DMRs for monitoring periods from July 2002 to September 2010.

Monitoring Period	Outfall	Effluent Characteristic	Permit Discharge Limit	Reported Value
07/2002	003	Oil & Grease (Daily Maximum)	15 mg/L	86 mg/L
07/2002	003	TSS (Daily Maximum)	45 mg/L	122 mg/L
01/2003	102	Zinc (Daily Maximum)	686 µg/L	778 µg/L
07/2003	102	Zinc (Daily Maximum)	686 µg/L	735 µg/L
08/2003	003	Oil & Grease (Daily Maximum)	15 mg/L	86 mg/L
08/2003	003	TSS (Daily Maximum)	45 mg/L	60 mg/L
08/2003	003	TSS (Daily Maximum)	45 mg/L	131 mg/L
07/2004	003	TSS (Daily Maximum)	45 mg/L	142 mg/L
08/2004	003	TSS (Daily Maximum)	45 mg/L	100 mg/L
08/2004	003	Oil & Grease (Daily Maximum)	15 mg/L	27 mg/L
10/2004	003	TSS (Daily Maximum)	45 mg/L	126 mg/L
10/2004	003	Oil & Grease (Daily Maximum)	15 mg/L	20 mg/L
10/2004	102	Zinc (Daily Maximum)	686 µg/L	1,040 µg/L
11/2004	003	TSS (Daily Maximum)	45 mg/L	122 mg/L
11/2004	003	Oil & Grease (Daily Maximum)	15 mg/L	33 mg/L
11/2004	002	Oil & Grease (Daily Maximum)	15 mg/L	32 mg/L
01/2005	003	TSS (Daily Maximum)	45 mg/L	180 mg/L
01/2005	003	Oil & Grease (Daily Maximum)	15 mg/L	18 mg/L
02/2005	003	TSS (Daily Maximum)	45 mg/L	120 mg/L
02/2005	003	Oil & Grease (Daily Maximum)	15 mg/L	110 mg/L
04/2005	003	TSS (Daily Maximum)	45 mg/L	114 mg/L
04-06/2005	005	Oil & Grease (Daily Maximum)	15 mg/L	36 mg/L
05/2005	102	Total Zinc (Daily Maximum)	686 µg/L	948.0 µg/L
06/2005	002	Oil & Grease (Daily Maximum)	15 mg/L	38 mg/L
06/2005	202	TSS (Daily Maximum)	45 mg/L	154 mg/L
07/2005	102	Total Zinc (Daily Maximum)	686 µg/L	906.0 µg/L

Monitoring Period	Outfall	Effluent Characteristic	Permit Discharge Limit	Reported Value
09/2005	003	TOC (Daily Maximum)	50 mg/L	53 mg/L
09/2005	003	Oil & Grease (Daily Maximum)	15 mg/L	26 mg/L
01/2006	003	TSS (Daily Maximum)	45 mg/L	379 mg/L
01/2006	003	Oil & Grease (Daily Maximum)	15 mg/L	62 mg/L
03/2006	003	TSS (Daily Maximum)	45 mg/L	157 mg/L
03/2006	003	Oil & Grease (Daily Maximum)	15 mg/L	71 mg/L
07/2006	003	TSS (Daily Maximum)	45 mg/L	147 mg/L
07/2006	003	Oil & Grease (Daily Maximum)	15 mg/L	53 mg/L
07/2006	002	TOC (Daily Maximum)	50 mg/L	64.4 mg/L
09/2006	002	TOC (Daily Maximum)	50 mg/L	68.6 mg/L
09/2006	002	Oil & Grease (Daily Maximum)	15 mg/L	16 mg/L
09/2006	003	TSS (Daily Maximum)	45 mg/L	94mg/L
09/2006	003	Oil & Grease (Daily Maximum)	15 mg/L	31 mg/L
11/2006	003	TSS (Daily Maximum)	45 mg/L	130 mg/L
11/2006	003	Oil & Grease (Daily Maximum)	15 mg/L	20 mg/L
12/2006	003	TSS (Daily Maximum)	45 mg/L	181 mg/L
12/2006	003	Oil & Grease (Daily Maximum)	15 mg/L	37 mg/L
01/2007	003	TSS (Daily Maximum)	45 mg/L	127 mg/L
01/2007	003	Oil & Grease (Daily Maximum)	15 mg/L	45 mg/L
02/2007	003	TSS (Daily Maximum)	45 mg/L	265 mg/L
02/2007	003	Oil & Grease (Daily Maximum)	15 mg/L	181 mg/L
04/2007	003	TSS (Daily Maximum)	45 mg/L	209 mg/L
04/2007	003	Oil & Grease (Daily Maximum)	15 mg/L	196 mg/L
05/2007	003	TSS (Daily Maximum)	45 mg/L	277 mg/L
07/2007	003	TSS (Daily Maximum)	45 mg/L	74 mg/L
07/2007	202	TSS (Daily Maximum)	45 mg/L	52 mg/L
08/2007	202	TSS (Daily Maximum)	45 mg/L	94 mg/L
08/2007	002	TOC (Daily Maximum)	50 mg/L	82.4 mg/L
08/2007	002	Oil & Grease (Daily Maximum)	15 mg/L	49 mg/L
09/2007	002	TOC (Daily Maximum)	50 mg/L	60.6 mg/L
09/2007	002	Oil & Grease (Daily Maximum)	15 mg/L	20 mg/L
10/2007	002	TOC (Daily Maximum)	50 mg/L	55.2 mg/L
11/2007	003	Oil & Grease (Daily Maximum)	15 mg/L	19 mg/L
02/2008	003	TSS (Daily Maximum)	45 mg/L	429 mg/L
02/2008	003	Oil & Grease (Daily Maximum)	15 mg/L	1, 060 mg/L
03/2008	003	TSS (Daily Maximum)	45 mg/L	142 mg/L
03/2008	003	Oil & Grease (Daily Maximum)	15 mg/L	46 mg/L
04/2008	202	TSS (Daily Maximum)	45 mg/L	61 mg/L
05/2008	003	TSS (Daily Maximum)	45 mg/L	147 mg/L
05/2008	003	Oil & Grease (Daily Maximum)	15 mg/L	33 mg/L
05/2008	002	TOC (Daily Maximum)	50 mg/L	50.1 mg/L
06/2008	003	TSS (Daily Maximum)	45 mg/L	195 mg/L

Monitoring Period	Outfall	Effluent Characteristic	Permit Discharge Limit	Reported Value
06/2008	003	Oil & Grease (Daily Maximum)	15 mg/L	222 mg/L
07/2008	002	TOC (Daily Maximum)	50 mg/L	52.3 mg/L
07/2008	002	Oil & Grease (Daily Maximum)	15 mg/L	17 mg/L
08/2008	002	TOC (Daily Maximum)	50 mg/L	51.6 mg/L
08/2008	002	Oil & Grease (Daily Maximum)	15 mg/L	19 mg/L
09/2008	002	TOC (Daily Maximum)	50 mg/L	127 mg/L
10/2008	002	TOC (Daily Maximum)	50 mg/L	317 mg/L
10/2008	003	TSS (Daily Maximum)	45 mg/L	49 mg/L
10/2008	003	Oil & Grease (Daily Maximum)	15 mg/L	17 mg/L
11/2008	003	TOC (Daily Maximum)	50 mg/L	55.7 mg/L
11/2008	003	TSS (Daily Maximum)	45 mg/L	104 mg/L
11/2008	003	Oil & Grease (Daily Maximum)	15 mg/L	51 mg/L
11/2008	003	pH (Daily Maximum)	6 S.U. - 9 S.U.	9.2 s.u.
12/2008	003	TOC (Daily Maximum)	50 mg/L	68.4 mg/L
12/2008	003	TSS (Daily Maximum)	45 mg/L	151 mg/L
12/2008	003	pH (Daily Maximum)	6 S.U. - 9 S.U.	9.4 s.u.
03/2009	003	TSS (Daily Maximum)	45 mg/L	182.0 mg/L
03/2009	003	Oil & Grease (Daily Maximum)	15 mg/L	26 mg/L
04/09	002	pH (Daily Maximum)	6 S.U. - 9 S.U.	9.2 S.U.
	003	TSS (Daily Maximum)	45mg/L	93 mg/L
	003	pH (Daily Maximum)	6 S.U. - 9 S.U.	9.1 S.U.
05/09	003	TSS (Daily Maximum)	45mg/L	85 mg/L
	003	Oil & Grease (Daily Maximum)	15 mg/L	26 mg/L
06/09	003	TSS (Daily Maximum)	45mg/L	46 mg/L
07/09	003	TSS (Daily Maximum)	45mg/L	126 mg/L
	003	Oil & Grease (Daily Maximum)	15 mg/L	52 mg/L
08/09	003	Oil & Grease (Daily Maximum)	15 mg/L	16 mg/L
	003	TSS (Daily Maximum)	45mg/L	100 mg/L
08/09	202	TSS (Daily Maximum)	45mg/L	73 mg/L
10/09	003	TSS (Daily Maximum)	45mg/L	72 mg/L
	003	Oil & Grease (Daily Maximum)	15 mg/L	180 mg/L
12/09	003	TSS (Daily Maximum)	45mg/L	140 mg/L
	003	Oil & Grease (Daily Maximum)	15 mg/L	51 mg/L
12/09	004	pH (Daily Maximum)	6 S.U. - 9 S.U.	5.8 S.U.
01/10	003	TSS (Daily Maximum)	45mg/L	193 mg/L
	003	Oil & Grease (Daily Maximum)	15 mg/L	563 mg/L
04/10	002	TOC (Daily Maximum)	50 mg/L	60.1 mg/L

Monitoring Period	Outfall	Effluent Characteristic	Permit Discharge Limit	Reported Value
06/10	003	TSS (Daily Maximum)	45mg/L	145 mg/L
	003	Oil & Grease (Daily Maximum)	15 mg/L	73 mg/L
09/10	002	TOC (Daily Maximum)	50 mg/L	69 mg/L
	002	Oil & Grease (Daily Maximum)	15 mg/L	110 mg/L

2. REPORTS:

A file review conducted by the Department on or about December 7, 2010, revealed that the Respondent failed to sample, as stated on DMRs, all parameters during four monitoring periods for Outfalls 003, 102, and 202.

Date	Parameter	Outfall
06/09	pH	003
07/09	TSS	202
11/09	TOC	003
11/09	TSS	003
11/09	Oil and Grease	003
11/09	pH	003
01/10	TOC	102

3. OTHER ISSUES NOTED BY THE DEPARTMENT:

A file review conducted by the Department on or about December 7, 2010, revealed that the Respondent failed to sample for metals effluent characteristics (arsenic, cadmium, chromium, copper, and lead) for Outfall 102 for the monitoring period of June 2009 through December 2009. The monthly DMRs submitted for Outfall 102 were marked N/A for the metals effluent characteristics during this monitoring period.

APPENDIX D

Compliance Schedule to address Ammonia Exceedances from the Wastewater Treatment Plant and Improvements to the Wastewater Treatment Plant

For the Wastewater Treatment Plant (WWTP), Calumet shall accomplish the following activities and comply with the following schedule of activities associated with achieving compliance at the Calumet Shreveport Lubricants & Waxes, LLC – Shreveport Refinery as referenced in Calumet’s correspondence received by the Department on or about December 17, 2010.

Activity	Completion Date
1. Install a skim tank for the amine system	March 31, 2011
2. Improve air diffusion in all three aeration basin bays	June 30, 2011
3. Evaluate the feasibility of additional capacity for equalization and/or diversion to storage tankage	October 30, 2011
4. Install equipment or take measures to lower process wastewater temperatures	December 31, 2011
5. Changes to WWTP based upon the results of the evaluation performed in Item 3 of this table, if necessary	October 30, 2012

Calumet will also perform additional activities to improve its WWTP at its Shreveport Refinery as follows:

Activity	Completion Date
1. Conduct additional operator training	February 15, 2011
2. Improve pumping capacity for managing high flows associated with rain events	August 30, 2011
3. Identify sources of stormwater entering the process wastewater sewer system and evaluate the feasibility of diversionary measures.	September 30, 2011
4. Changes to WWTP based upon the results of the evaluation performed in Item 3 of this table, if necessary	September 30, 2012

Calumet shall submit separate calendar semi-annual progress reports to the Enforcement Division in accordance with Section IX of this Settlement. The calendar semiannual progress reports shall be submitted until completion of the items in this Appendix D. The reports shall clearly reference on the cover letter that the reports are for Appendix D of this Settlement. If Calumet reports non-compliance with a schedule event, the report shall include a discussion of the cause of the delay, an anticipated date of completion, and a discussion of any impairment of subsequent due dates.

APPENDIX E

SCHEDULE FOR WASTEWATER PROCESS ASSESSMENT

Calumet agrees to complete the following requirements which shall replace and supersede paragraph III of the Order portion of Consolidated Compliance Order & Notice of Potential Penalty, Enforcement Tracking No. HE-CN-10-00818 issued on December 8, 2010:

- A. To conduct, within sixty (60) days after the Effective Date of this Settlement, an assessment of all facility operations and processes associated with the generation, conveyance, management, and treatment of refinery process wastewaters as described in Consolidated Compliance Order and Notice of Potential Penalty Enforcement Tracking No. HE-CN-10-00818. The assessment shall address the necessity for any additional and/or upgraded equipment, as well as any new and/or revised operational procedures and protocols that will mitigate the potential for future unauthorized discharges, treatment, and or disposal of hazardous wastes.

- B. Calumet shall submit a report detailing the results of this assessment to the Department's Enforcement Division within thirty (30) days of the assessment's completion. This report shall address any corrective actions (e.g., equipment upgrades, revisions to procedures/protocols, etc.) implemented and/or proposed by Calumet to address deficiencies noted during the assessment. Calumet shall include in this report a proposed schedule for the execution of any corrective actions deemed necessary by Calumet as a result of the assessment and that will, or may be implemented subsequent to the submittal of the report.