

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:

SHELL CHEMICAL LP

AI # 3462

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

* **Settlement Tracking No.**
* **SA-AE-12-0028**
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* **Enforcement Tracking No.**
* **AE-CN-09-0140**
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SETTLEMENT

The following Settlement is hereby agreed to between Shell Chemical LP (“Respondent”) and the Department of Environmental Quality (“DEQ” or “the Department”), under authority granted by the Louisiana Environmental Quality Act, La. R.S. 30:2001, et seq. (“the Act”).

I

Respondent is a limited partnership that owned and/or operated a petroleum refinery facility located in St. Rose, St. Charles Parish, Louisiana (“the Facility”).

II

On October 27, 2010, the Department issued to Respondent a Consolidated Compliance Order & Notice of Potential Penalty, Enforcement No. AE-CN-09-0140, which was based upon the following findings of fact:

The Respondent owns and/or operates the St. Rose Refinery located at 11842 River Road in St. Rose, St. Charles Parish, Louisiana. The facility operated under Title V Permit No. 2520-00028-V0, issued on May 20, 2003. The facility currently operates under Title V Permit No. 2520-00028-V1, issued on June 11, 2008.

On or about April 26, 2010, a file review of the Respondent's facility was performed to determine the degree of compliance with the Act and the Air Quality Regulations.

The following violations were noted during the course of the file review:

- A. In a letter dated August 14, 2006, the Respondent reported a release occurred on August 7, 2006, at the facility. According to the Respondent's letter, the plant experienced over-pressuring in the de-salter vessel leading to the opening of a relief valve and subsequently, materials were sent to the flare. According to the Respondent's letter, the permitted maximum emission rates for the following pollutants were exceeded, and the duration of the incident was ten (10) minutes. These emissions are associated with Emission Point No. 5-77 (Flare).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
Carbon Monoxide (CO)	0.33	0.55	14
Nitrogen Oxides (NO _x)	0.06	0.10	2.7
Particulate Matter (PM)	0.01	0.02	0.5
Volatile Organic Compounds (VOCs)	0.75	1.00	1.95
Benzene	0.002	0.003	0.02
Ethylbenzene	<0.001	<0.001	0.001
n-Hexane	0.005	0.01	0.08
Toluene	0.001	0.001	0.014
Xylene	<0.001	<0.001	0.01

Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2). This release is also a violation of LAC 33:III.905.A.

- B. In letters dated June 20, 2007, and August 14, 2007, the Respondent reported that a release occurred on June 3, 2007, at the facility. According to the Respondent, a unit upset occurred when water and emulsion from a feed tank was introduced into the process during a crude tank switch. This led to over-pressuring of a de-salter vessel to the flare, spill of water and emulsion to the water treatment facility and the shutdown of a compressor with additional flaring. According to these letters, the permitted maximum rates for the following pollutants were exceeded, and the following pollutants were released during the incident. These emissions are associated with Emission Point No. 5-77 (Flare).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
CO	0.33	0.55	558
NO _x	0.06	0.10	103
PM	0.01	0.02	19
Sulfur Dioxide (SO ₂)	0.03	0.20	13
VOCs	0.75	1.00	358
1,3 Butadiene	<0.001	<0.001	0.04
Benzene	0.002	0.003	7
Ethylbenzene	<0.001	<0.001	0.03
n-Hexane	0.005	0.01	23
Toluene	0.001	0.001	9
Xylene	<0.001	<0.001	0.19

Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2). This release is also a violation of LAC 33:III.905.A.

- C. In letters dated June 20, 2007, and August 14, 2007, the Respondent reported that on June 3, 2007, that the roof legs on tanks TK-8552 and TK-8553 were landed on the floor. According to the Respondent's letter dated April 21, 2010, the roof legs were estimated to have been on the tank floor for 2.5 hours. According to these letters, the permitted maximum rates for the following pollutants were exceeded, and the following pollutants were released during the incident. These emissions are associated with EPN 5018-01 (External Floating Tank Cap).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
Benzene	0.01	0.01	0.92
Ethylbenzene	0.003	0.003	0.10
n-Hexane	0.03	0.03	3.23
Hydrogen Sulfide	0.003	0.003	1.14
Xylene	0.02	0.02	0.49
Toluene	0.02	0.02	0.95
VOCs	4.3	4.3	338

Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2). This

incident is also a violation of 40 CFR 60.112b(a)(2)(iii), which language has been adopted as a Louisiana regulation in LAC 33:III.3003, and LAC 33:III.905.A.

- D. In a letter dated June 20, 2007, the Respondent reported a release occurred at the facility on June 3, 2007. The letter states, "Final calculations confirm that no reportable quantities were exceeded." On August 7, 2007, the Respondent verbally notified the Department regarding a reportable quantity exceedance during the June 3, 2007, incident. The Respondent's failure to verbally notify the Department within 24 hours after learning of the discharge is a violation of LAC 33:I.3917.A, LAC 33:III.927.A, Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(2).
- E. In a letter dated December 21, 2007, the Respondent reported that a release occurred at the facility on December 18, 2007. According to the Respondent's letter, a unit upset occurred when the water line to a de-salter was taken out of service for maintenance work. This resulted in a pressure swing at the de-salter and the exceedance of a relief valve set-point pressure. The relief valve opened to the flare, but when the pressure got below the relief valve setting, the valve would not reset. According to the Respondent's letter, the permitted maximum emission rates for the following pollutants were exceeded, and the duration of the incident was one (1) hour. These emissions are associated with Emission Point No. 5-77 (Flare).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
CO	0.33	0.55	24
NO _x	0.06	0.10	5
PM	0.01	0.02	1
VOCs	0.75	1.00	17
Benzene	0.002	0.003	0.2
n-Hexane	0.005	0.01	1
Ethylbenzene	<0.001	<0.001	0.04
1,3-Butadiene	<0.001	<0.001	0.001
Toluene	0.001	0.001	0.2
Xylene	<0.001	<0.001	0.06

Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2). This release is also a violation of LAC 33:III.905.A.

- F. In the Respondent's Title V 2nd Semiannual Monitoring Report dated March 27, 2008, and a letter dated January 3, 2008, the Respondent reported

that a release occurred at the facility on December 29, 2007. According to the Respondent's reports, a unit upset occurred when a high level in a compressor discharge knockout drum tripped the gas compressor resulting in materials being sent to the flare. According to the Respondent's reports, the permitted maximum emission rates for the following pollutants were exceeded, and the duration of the incident was one hour. These emissions are associated with Emission Point No. 5-77 (Flare).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
CO	0.33	0.55	17
NO _x	0.06	0.10	3
PM	0.01	0.02	1
SO ₂	0.03	0.20	1
VOCs	0.75	1.00	14
Benzene	0.002	0.003	0.09
n-Hexane	0.005	0.01	1
Toluene	0.001	0.001	0.004
Xylene	<0.001	<0.001	0.002

Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2). This release is also a violation of LAC 33:III.905.A.

- G. In the Respondent's Title V 1st Semiannual Monitoring Report dated September 25, 2008, and a letter dated May 22, 2008, the Respondent reported that the roof legs on tank TK-8553 had landed on the floor of the tank. According to these reports, this was discovered on May 17, 2008, and resulted in the permitted maximum emission rates for the following pollutants to be exceeded. These emissions are associated with Emission Point No. 5018-01 (External Floating Roof Tank Cap).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
Benzene	0.01	0.01	0.28
Ethylbenzene	0.003	0.003	0.030
n-Hexane	0.03	0.03	0.99
Hydrogen Sulfide	0.003	0.003	0.352
Xylene	0.02	0.02	0.15
Toluene	0.02	0.02	0.29
VOCs	4.3	4.3	105.9

According to the Respondent's letter dated April 21, 2010, the roof legs were estimated to have been on the tank floor for one (1) hour. Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

- H. In the Respondent's Title V 1st Semiannual Monitoring Report dated September 25, 2008, and a letter dated May 22, 2008, the Respondent reported that the roof legs on tank TK-8553 had landed on the floor of the tank. According to these reports, this was discovered on May 17, 2008. According to the Respondent's letter dated April 21, 2010, the roof legs were estimated to have been on the tank floor for one (1) hour. This is a violation of 40 CFR 60.112b(a)(2)(iii), which language has been adopted as a Louisiana regulation in LAC 33:III.3003, LAC 33:III.905.A, Title V Permit No. 2520-00028-V0, LAC 33:III.501.C.4 and La. R.S. 30:2057(A)(1) and 30:2057(A)(2).
- I. In a letter dated September 22, 2008, the Respondent reported that a release occurred at the facility on August 25, 2008. The Respondent's letter states, "...lost power to the controls for the crude column overhead fans. Power to the controls of these fans is backed up with an Uninterrupted Power Supply (UPS)... Once the batteries in the UPS were exhausted the aforementioned fans shut down leading to the necessity of a safe and orderly shutdown of the unit and flaring..." According to the Respondent's letter, the permitted maximum emission rates for the following pollutants were exceeded, and the duration of the incident was 3.6 hours. These emissions are associated with Emission Point No. 5-77 (Flare).

Pollutant	Permit Limit Average (lb/hr)	Permit Limit Maximum (lb/hr)	Total Quantity Released by Event (lbs)
CO	0.71	0.93	339.4
NO _x	0.13	0.17	62.4
PM	0.02	0.03	11.7
SO ₂	0.51	0.68	11.9
VOCs	0.75	1.00	229.2
Benzene	<0.01	<0.01	1.9
Toluene	<0.01	<0.01	3.7
Xylene	<0.01	<0.01	5.0
n-Hexane	0.01	0.01	4.6

Each incident of exceeding the permitted emission limit of each pollutant is a violation of Title V Permit No. 2520-00028-V1, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(1) and 30:2057(A)(2). This release is also a violation of LAC 33:III.905.A.

The following deviations, although not included in the foregoing enforcement action, are included within the scope of the settlement herein.

- A. On June 28, 2005, during maintenance activities to install a new suction screen on the skim line on Tank 8554 approximately 3 barrels of slop oil leaked to the ground. Upon investigation, it was discovered that one of the valves on the skim line was left partially opened. When the tank level reached the height of the opened valve, slop oil began leaking from the line to the ground within the tank's secondary-containment dike. According to the Respondent, this incident was preventable.
- B. On September 25, 2005, the Respondent found oil on the ground in the tank dike area surrounding Tanks TK-8552 and TK-8553. Upon investigation it was discovered that a level control valve had failed open allowing off gas to pressure into Tanks TK-8552 and TK-8553. This non-condensable then exited through the roof seals bubbling product through the roof seals and onto the roof. Heavy rainfall from Hurricane Rita then allowed the product to exit the roof through the roof drain onto the ground in the tank dike area.
- C. On September 28, 2005, there was a daily maximum TSS permit exceedance. The mass of TSS released was 161 lbs. The St. Rose site typically conducts daily source control analyses for TSS. These samples are collected from a location upstream of the final sand filter and Outfall 001. There were no indications of a potential TSS exceedance based on the source control data. Upon discovery of the reported exceedance, an investigation was initiated to determine the cause. The investigation determined that the return line from the composite sampler was plugged. This is a violation of LAC 33:IX.501.A and La. R.S. 30:2076(A)(3).
- D. There was a daily maximum TSS permit exceedance on February 14, 2006. The mass of TSS released was 229 lbs. At the time of the exceedance the wastewater treatment plant had been in an upset state for a period of 3 weeks. The initiating event for the system upset was a rapid pH increase due to the inadvertent routing of caustic to the treatment plant. While this pH spike did not cause an immediate exceedance, it did cause a "bug float" that increased the TSS load exiting the system clarifier. In addition, the Respondent determined that during this time the sand filter was not sufficiently back-flushed to remove accumulated solids as effluent water was used in the back-flushing procedure rather than potable water. The Respondent also suspected that solids may have accumulated in the sample line feeding the composite sampler due to the increased TSS load. This is a violation of LAC 33:IX.501.A and La. R.S. 30:2076(A)(3).

- E. Stormwater sample was not collected per the permit requirements during January 2006. Analyses were not performed for TOC, Oil and Grease, pH and flow estimate were not completed. This is a violation of LAC 33:IX.501.A and La. R.S. 30:2076(A)(3).
- F. There was a daily maximum O&G permit exceedance on June 19, 2007. The reported O&G concentration was 29 mg/L. During a storm event which occurred on June 19, 2007, the reported O&G concentration for the sample collected from Outfall 002 exceeded the permitted limit of 15 mg/L. Investigation by facility personnel determined that during the rain event, storm waters from the adjacent IMTT property entered the St. Rose drainage system due to flooding on the IMTT property and overtopping of the berm which separated the Shell site from the IMTT site. This is a violation of LAC 33:IX.501.A and La. R.S. 30:2076(A)(3).
- G. During a storm event on February 21, 2008, operations personnel were unable to open the storm water outfall 002 at the facility due to an unsafe condition of the platform which provides access to the control valve. The elevated platform is needed to open the gate valves during a storm event. The safety department recommended just prior to the rain event not to use the platform for integrity concerns and the platform was tagged with a "Do Not Use Tag." The recommendation was made to protect the personal safety of the operator. As a result of the unsafe condition the operator was unable to open the outfall and at 1745 hours on February 21, 2008, approximately 22,000 gallons of storm water overflowed and bypassed the Outfall 002. Since the released storm water did not go through the actual outfall location, the Respondent reported an unauthorized discharge as a result of the bypass. All required samples were collected during the rain event. This is a violation of LAC 33:IX.501.D and La. R.S. 30:2076(A)(1)(a).
- H. On April 24, 2008, the pH exceeded 9.0 S.U. for a period exceeding 60 minutes. The maximum pH recorded was 9.2 S.U. Adjustments to the fresh caustic was not made at the caustic treater. Caustic adjustments by operations at the caustic treater are needed to handle the various types of crude feedstocks that are eventually treated in the caustic treater upstream from the wastewater treatment plant. This allowed stronger caustic wastewater to exit the treater resulting in the pH increase at the wastewater treatment plant. This is a violation of LAC 33:IX.501.A and La. R.S. 30:2076(A)(3)
- I. Excess emissions of CO and NO_x during a release event which occurred on February 22, 2006. A false level indication resulted in a high level in the crude

overhead receiver. This led to a high level in the suction drum of the gas compressor K-8508 and caused it to shutdown. When the compressor shutdown, the material was automatically diverted to the flare (EPN 5-77). Each incident of emission in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

- J. Excess emissions of VOCs during a release event which occurred on April 21, 2006. The flare pilot flame was extinguished by a strong thunderstorm. Operations relit the flare pilot after several attempts. This incident resulted in excess emission of VOCs from the flare. This is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).
- K. Excess emissions of CO, PM, NO_x, SO₂, benzene, hexane, toluene, xylene, and VOCs during a release event which occurred on July 24, 2006. The facility experienced an unexpected failure of Entergy power supply to the plant which resulted in flaring material from the crude column overhead system to the flare. Each incident of emissions in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).
- L. Correspondence dated April 21, 2006, and September 21, 2006, reported an internal review determined that 40 CFR 60 Subpart GGG should have been further implemented at the facility. Each incident of the Respondent's failure to comply with applicable requirements is a violation of 40 CFR 60 Subpart GGG, which language has been adopted as a Louisiana regulation in LAC 33:III.3003, and La. R.S. 30:2057(A)(2).
- M. In correspondence dated March 29, 2007, the Respondent reported a pilot outage due to loss of pilot flame on September 7, 2006, for 10 minutes. This is a violation of 40 CFR 60.18(c)(2), which language has been adopted as a Louisiana regulation in LAC 33:III.3003, and La. R.S. 30:2057(A)(2).
- N. On April 8, 2008, the facility suffered a power interruption during maintenance activities on an uninterruptible power supply (UPS). The UPS was bypassed to replace the batteries as part of a routine maintenance activity. When the UPS internal bypass switch was operated, the power from the UPS was interrupted due to a loose connection in the UPS. This resulted in several pieces of equipment shutting down and flaring. This incident resulted in excess emissions of CO, NO_x, PM, SO₂, VOCs, benzene, hexane, toluene, and xylene. Each incident of emissions in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

- O. On July 17, 2008, the facility experienced a unit upset when a bearing failed on the vent gas compressor for the vacuum unit. Operations shut the compressor down and opened a valve to the flare to lower and control the seal drum pressure. This resulted in excess emissions of CO, NO_x, PM, SO₂, and VOCs. Each incident of emissions in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).
- P. On September 20, 2008, the facility experienced a unit upset caused by loss of steam pressure when a tube failed in the boiler. This resulted in flaring and excess emissions of CO, NO_x, PM, SO₂, VOCs, and hexane. Each incident of emissions in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).
- Q. In correspondence dated March 30, 2009, the Respondent reported the following excess emissions for the 2008 calendar year:
EIQ 1-97 pollutant – hexane: Permitted rate: 0.2 TPY; Estimated: 0.26 TPY
EIQ 2-96 pollutant - naphthalene: Permitted rate: 1.4 TPY; Estimated: 1.405 TPY
Each incident of emissions in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).
- R. On March 9, 2009, the facility flared from the crude column to the St. Rose Flare when the process gas compressor was switched from natural gas to the process gas knock out drum during start-up. It was determined that the knock out drum got a high level and tripped the compressor. The suction line to the knock out drum had liquid in it. This resulted in excess emissions of CO, NO_x, PM, SO₂, VOCs, benzene and hexane. Each incident of emissions in excess of a permit limit is a violation of LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

III

Respondent denies it committed any violations or that it is liable for any fines, forfeitures and/or penalties.

IV

Nonetheless, Respondent, without making any admission of liability under state or federal statute or regulation, agrees to pay, and the Department agrees to accept, a payment in the amount of SEVENTY THOUSAND AND NO/100 DOLLARS (\$70,000.00), of which One Thousand Six

Hundred Twenty-Four and 71/100 Dollars (\$1,624.71) represents the Department's enforcement costs, in settlement of the claims set forth in this agreement.

V

Respondent, in addition to the penalty amount specified in Paragraph IV above and as part of this Settlement, agrees to expend the amount of \$250,000.00 to implement and/or perform the following Beneficial Environmental Projects (BEPS):

- A. Respondent, operates five (5) flares located entirely on the Shell Chemical manufacturing facility that are permitted for refinery vent streams that are routed from the Motiva Enterprises LLC facility. These five (5) flares are known as the OL-5 Ground Flare, OL-5 Elevated Flare, GO-1 Elevated Flare, West Ops Elevated Flare, and Utilities East Elevated Flare. Respondent agrees to voluntarily address NSPS Subpart J with regard to these five (5) flares consistent with Appendix A and agrees to execute an Administrative Order on Consent consistent with Appendix A. At least \$250,000 will be expended to complete this project.
- B. Respondent shall submit monthly reports regarding its progress on the projects. The first shall be due on the 5th of the month following the date the Department signs this Settlement. Monthly reports shall be submitted on the 5th of every month thereafter until the project is completed. Each such monthly report shall include a description of the project, tasks completed, tasks remaining, the percentage completed, and money expended on each project through the date of the report. Upon completion of all projects required under this Settlement, Respondent shall submit a final report to

include a summary of all the information previously submitted and a total amount spent on the projects listed above. It shall also contain a certification that the projects were completed as described.

- C. If Respondent does not spend the amount of \$250,000.00, then it shall, in its final report, propose additional projects for the Department's approval [or pay to the Department] in an amount equal to the difference between the amount of money agreed to be spent and the amount of money actually spent.
- D. The total amount of money expended by Respondent on cash payments to the Department and on beneficial environmental projects, as described above, shall be considered a civil penalty for tax purposes, as required by La. R.S. 30: 2050.7(E)(1).

VI

Respondent further agrees that the Department may consider the inspection report(s), the Consolidated Compliance Order & Notice of Potential Penalty and this Settlement for the purpose of determining compliance history in connection with any future enforcement or permitting action by the Department against Respondent, and in any such action Respondent shall be estopped from objecting to the above-referenced documents being considered as proving the violations alleged herein for the sole purpose of determining Respondent's compliance history.

VII

This agreement shall be considered a final order of the Secretary for all purposes, including, but not limited to, enforcement under La. R.S. 30:2025(G)(2), and Respondent hereby waives any right to administrative or judicial review of the terms of this agreement, except such review as may be required for interpretation of this agreement in any action by the Department to enforce this agreement.

VIII

This settlement is being made in the interest of settling the state's claims and avoiding for both parties the expense and effort involved in litigation or an adjudicatory hearing. In agreeing to the compromise and settlement, the Department considered the factors for issuing civil penalties set forth in La. R. S. 30:2025(E) of the Act.

IX

The Respondent has caused a public notice advertisement to be placed in the official journal of the parish governing authority in St. Charles Parish, Louisiana. The advertisement, in form, wording, and size approved by the Department, announced the availability of this settlement for public view and comment and the opportunity for a public hearing. Respondent has submitted an original proof-of-publication affidavit and an original public notice from the newspaper of the affected parish to the Department and, as of the date this Settlement is executed on behalf of the Department, more than forty-five (45) days have elapsed since publication of the notice.

X

Payment is to be made within thirty (30) days from notice of the Secretary's signature. If payment is not received within that time, this Agreement is voidable at the option of the Department. Payments are to be made by check, payable to the Department of Environmental Quality, and mailed or delivered to the attention of Accountant Administrator, Financial Services Division, Department of Environmental Quality, Post Office Box 4303, Baton Rouge, Louisiana, 70821-4303. Each payment shall be accompanied by a completed Settlement Payment Form (Exhibit A).

XI

In consideration of the above, any claims for penalties are hereby compromised and settled in accordance with the terms of this Settlement.

XII

Each undersigned representative of the parties certifies that he or she is fully authorized to execute this Settlement Agreement on behalf of his or her respective party, and to legally bind such party to its terms and conditions.

SHELL CHEMICAL LP

BY: Donald W. Weaver
(Signature)

DONALD W. WEAVER
(Printed)

TITLE: Attorney-in-fact

THUS DONE AND SIGNED in duplicate original before me this 17th day of October, 20 12, at Moreno, Nev.

[Signature]
NOTARY GREGORY A MILLER

Notary Public
LSBA #19063
NOTARY #15328

(stamped or printed)

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Peggy M. Hatch Secretary

BY: [Signature]
Cheryl Sonnier Nolan, Assistant Secretary
Office of Environmental Compliance

THUS DONE AND SIGNED in duplicate original before me this 13th day of Feb, 20 13, at Baton Rouge, Louisiana.

[Signature]
NOTARY PUBLIC (ID # 19181)

Perry Theriot
(stamped or printed)

Approved: [Signature]
Cheryl Sonnier Nolan, Assistant Secretary

APPENDIX A

Flare Lineup Study Summary of Findings & Proposed Path Forward

BACKGROUND

Shell Chemical operates five (5) flares (OL-5 Ground, OL-5 Elevated, GO-1 Elevated, West Ops Elevated, and Utilities Elevated) at its chemical manufacturing facility located adjacent to the Motiva petroleum refinery facility in St. Charles parish. Each of the flares is permitted for the refinery vent streams that are routed to them from the Motiva facility.

As was discussed during the June 14, 2011 and March 22, 2012 meetings between Shell Chemical, Motiva and LDEQ, Shell Chemical and Motiva have recently become aware that the EPA may consider non-refinery combustion sources as potentially subject to NSPS Subpart J for Petroleum Refineries. As a result of this interpretation, Shell Chemical and Motiva proposed to undertake certain studies to confirm our understanding of the vent streams routed to the various flares and potential corrective actions.

Historically, Shell Chemical and Motiva have taken the position that NSPS Subpart J for Petroleum Refineries (40 CFR 60.100 to 109) is not applicable to these flares since the flares are located in and are operated by a chemical manufacturing plant. Subpart J is only applicable to affected facilities located “within” a petroleum refinery (See *Star Enterprise v EPA*, 235 F.3d 139 (3d cir. 2000)). In addition, in the Title V permit 3047-V1 NSPS Subpart J was listed as not applicable to the West Ops Elevated and the Utilities Elevated Flares. While Shell Chemical and Motiva continue to believe that this is the correct interpretation, Shell Chemical and Motiva would like to voluntarily address NSPS Subpart J for these five (5) flares. Shell Chemical and Motiva would note that the OL-5 Ground, OL-5 Elevated, and GO-1 Elevated flares are completely owned by and solely operated Shell Chemical. Also, Shell Chemical and Motiva have recently become aware that the ownership of the West Ops Elevated and Utilities Elevated flares is not well defined. While performing the above-referenced studies, records were discovered that indicate that the ownership of the West Ops Elevated and Utilities Elevated flares is shared between both Shell Chemical and Motiva. Although the ownership has not been definitively determined; at this time it is believed that there is some shared ownership of these assets, although they are located entirely on the Shell Chemical facility and are solely operated by Shell Chemical.

PROPOSED PATH FORWARD

Given EPA’s interpretation of NSPS Subpart J and a desire to voluntarily proceed with resolution of this issue, both Shell Chemical and Motiva desire to engage in discussions with the LDEQ to voluntarily address NSPS Subpart J for the OL-5 Ground, OL-5 Elevated, GO-1 Elevated, West Ops Elevated, and Utilities East Elevated flares.

Flares Solely Owned by Shell Chemical LP

Based on the currently available data, there are three flares at the Norco Manufacturing Complex that are solely owned and operated by Shell Chemical. These are the OL-5 Ground, OL-5 Elevated, and GO-1 Elevated flares. The current status and recommended actions to be taken for these flares is outlined below.

GO1 Elevated Flare

This flare is the alternate routing for the Motiva S-3 Unit vent streams when the S-3 is operating and the West Ops Elevated Flare is unavailable. The refinery vent streams from the S-3 Unit to the GO1 Elevated Flare meet the definition of process upset gas as they originate only during startup, shutdown, and/or upset and are exempt from the requirements of NSPS Subpart J. This flare also serves as the routing of off-specification dry gas from RCCU during RCCU startup activities; however, this stream would also be considered process upset gas as it originates only during startup, shutdown, and/or upset and is also exempt from the requirements of NSPS Subpart J.

Given that the refinery vent streams to this flare meet the definition of process upset gas, which are exempt from NSPS Subpart J requirements, Motiva and Shell Chemical propose no action to be taken with respect to the GO-1 Elevated Flare.

OL-5 Ground and OL-5 Elevated Flares

These flares receive routine vent streams from the Motiva Diesel Hydrotreating (DHT) Unit that could potentially be considered refinery fuel gas. These flares also receive upset process gases from the Shell Chemical Gasoline Hydrotreating (GHT) Unit.

Shell Chemical and Motiva propose to segregate both the DHT and GHT process units from the OL-5 Flare System and route the DHT/GHT streams to the Coker Flare. By eliminating the routing of refinery vent streams to the OL-5 Flare System, it would no longer combust refinery fuel gas and could no longer even potentially be subject to NSPS Subpart J.

A review has been completed to determine the potential necessary actions and impacts associated with routing of DHT/GHT vent streams to the Coker Flare. This review has identified numerous issues that must be addressed prior to the proposed segregation. The most significant issue is the need to perform a safeguarding study of the Coker Flare to confirm that the proposed routing is, in fact, a safe and acceptable alternative. Shell Chemical and Motiva are prepared to propose a date of June 30, 2015 (or other date mutually agreed by both parties) to complete this study. Provided that the safeguarding study confirms that the preferred segregation method is appropriate, Shell Chemical and Motiva are prepared to propose a date of December 31, 2015 (or other date mutually agreed by both parties) to complete the segregation. Should the safeguarding study find that an alternate solution is required, Shell Chemical and Motiva will commit to performing a study and submitting a report to the LDEQ on or before June 30, 2016 (or other date mutually agreed by both parties) recommending an acceptable alternative with a proposed timeline for implementation of the alternative. Shell Chemical and Motiva will also commit to implementing the recommended alternative in accordance with an activity schedule approved by LDEQ.

Flares with Shared Ownership

Based on the currently available data, there are two flares that are entirely located on the Shell Chemical facility, solely operated by Shell Chemical and are permitted by the Shell Chemical permits but appear to have shared ownership between Shell Chemical and Motiva. These are the West Ops Elevated and the Utilities East flares. The current status and recommended actions to be taken for these flares is outlined below.

West Ops Elevated Flare

This flare is the primary routing of refinery vent streams from the S-3 Unit; however, as discussed above, the S-3 Unit vents to flare meet the definition of process upset gas as they originate only during startup, shutdown, and/or upset and are exempted from requirements of NSPS Subpart J. In addition, the West Ops Elevated Flare also serves as the backup flare for refinery vent streams that are normally routed to the West Ops Ground Flare when it is unavailable due to maintenance or is over-loaded due to upset conditions. While refinery vent streams directed to the West Ops Elevated Flare during upset conditions are process upset gas and are exempt, routine vents that would also be routed to the West Ops Elevated during the event may not be exempted.

Shell Chemical and Motiva propose to accept NSPS Subpart J applicability for this flare. This will include implementing all NSPS Subpart J requirements for fuel gas combustion and may necessitate continuous H₂S monitoring (CEMS) and potentially treatment of the fuel gas to maintain continuous compliance with H₂S concentration limit of 0.1 gr/dscf. (NOTE - Treatment may not be necessary since all streams currently routed to the West Ops Ground Flare must already meet the H₂S concentration limit of 0.1 gr/dscf.)

Shell Chemical and Motiva propose to be in compliance with the NSPS Subpart J requirements by December 31, 2015 (or other date mutually agreed by both parties). Should this necessitate the installation of a CEMS to measure H₂S in the refinery fuel gas that is routed to this flare (and potentially a treatment system should this be necessary), Shell Chemical and Motiva are prepared to propose a date of December 31, 2015 (or other date mutually agreed by both parties) to complete the CEMS installation. Upon completion of CEMS installation, data collection and all required reporting will commence immediately. While it is considered unlikely that treatment would be required, Shell Chemical and Motiva will also propose that a monitoring and review period be established to confirm this assumption. The CEMS data will be utilized to demonstrate compliance with and review of the data to confirm compliance will begin immediately upon installation. Shell Chemical and Motiva propose to submit a report to the LDEQ on or before January 31, 2018 (or other date mutually agreed by both parties), with findings concerning compliance with the substantive standards of NSPS Subpart J. If the West Ops Elevated Flare is determined not to be in compliance with the substantive standard(s) of NSPS Subpart J at that time, Shell Chemical and Motiva will include in this report a recommended activity schedule to conduct an evaluation and study to determine the measures and actions necessary to bring the West Ops Elevated Flare into compliance with said standard(s) and will conduct the evaluation and study and implement such measures and actions in accordance with an activity schedule that is approved by LDEQ.

Utilities East Elevated Flare

This flare receives vent streams from DU-5 as well as various utility-type vent streams that could be considered refinery fuel gas.

Shell Chemical and Motiva propose to accept NSPS Subpart J applicability for this flare. This will include implementing all NSPS Subpart J requirements for fuel gas combustion and would necessitate continuous H₂S monitoring (CEMS) and potentially treatment of the fuel gas to maintain continuous compliance with H₂S concentration limit of 0.1 gr/dscf.

Shell Chemical and Motiva propose to perform a detailed study of the vent streams routed to the Utilities East Elevated Flare and to propose and implement any feasible operational mitigation measures by December 31, 2015 (or other date mutually agreed by both parties). Based on currently available information, we do not anticipate that operational mitigation measures will be 100% effective. Shell Chemical and Motiva will commit to the LDEQ to complete an evaluation to determine the most feasible option to achieve compliance with NSPS Subpart J no later than December 31, 2015 (or other date mutually agreed by both parties). Upon completion of the study and determination of the compliance alternative(s), Shell Chemical and Motiva will present a proposed compliance schedule to the LDEQ no later than December 31, 2016 (or other date mutually agreed by both parties).