

RECEIVED

13 SEP -5 PM 1:36

HEARINGS CLERK  
EPA -- REGION 10

BEFORE THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:	)	
	)	DOCKET NO. CAA-10-2013-0133
Shell Gulf of Mexico Inc.,	)	
	)	<b>CONSENT AGREEMENT AND</b>
	)	<b>FINAL ORDER</b>
	)	
Respondent.	)	

---

**I. STATUTORY AUTHORITY**

1.1. This Consent Agreement and Final Order (“CAFO”) is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (“EPA”) by Section 113(d) of the Clean Air Act (“CAA”), 42 U.S.C. § 7413(d).

1.2. The Administrator has delegated the authority to issue the Final Order contained in Part V of this CAFO to the Regional Administrator of EPA Region 10, who has redelegated this authority to the Regional Judicial Officer in EPA Region 10.

1.3. Pursuant to Section 113(d) of the CAA, 42 U.S.C. § 7413(d), and in accordance with the “Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties,” 40 C.F.R. Part 22, EPA issues, and Shell Gulf of Mexico Inc. (“Respondent”) agrees to issuance of, the Final Order contained in Part V of this CAFO.

**II. PRELIMINARY STATEMENT**

2.1. In accordance with 40 C.F.R. §§ 22.13(b) and 22.18(b), issuance of this CAFO commences this proceeding, which will conclude when the Final Order contained in Part V of this CAFO becomes effective.

2.2. The Administrator has delegated the authority to sign consent agreements between EPA and the party against whom an administrative penalty is proposed to be assessed pursuant to CAA Section 113(d), 42 U.S.C. § 7413(d), to the Regional Administrator of EPA Region 10, who has redelegated this authority to the Director of the Office of Compliance and Enforcement, EPA Region 10 (“Complainant”).

2.3. Part III of this CAFO contains a concise statement of the factual and legal basis for the alleged violations of CAA together with the specific provisions of CAA and the implementing regulations that Respondent is alleged to have violated.

### **III. ALLEGATIONS**

3.1 Respondent is a Delaware corporation and a "person," as that term is defined in Section 302(e) of the CAA, 42 U.S.C. § 7602(e).

3.2 Pursuant to the authority of Section 328 of the CAA, 42 U.S.C. § 7627, and Part C of Title I of the CAA, EPA issued to Respondent Outer Continental Shelf/Prevention of Significant Deterioration Permit No. R10OCS/PSD-AK-09-01 (the “Permit”) to authorize air emissions associated with exploratory oil and gas drilling operations in the Chukchi Sea from the Discoverer drillship (“Discoverer”) and its fleet of associated vessels (“Associated Fleet”).

3.3 On September 7, 2012, EPA issued and Respondent agreed to issuance of a Compliance Order on Consent under Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3) (“COC”). The COC imposed additional interim limits on Respondent’s operations, including additional emission limits on nitrogen oxides (“NO<sub>x</sub>”) for the Main Generator Engines on the

Discoverer (Units FD-1 to FD-6) and additional particulate matter limits on the Nanuq oil spill response vessel, as well as additional operating, monitoring, and reporting requirements.

3.4 Respondent reported to EPA that it operated the Discoverer and the Associated Fleet as an “OCS Source,” as that term is defined in the Permit (“OCS Source”), for 43 days between September 6 and October 28, 2012 (the “2012 Drilling Season”), that it ceased operating as an OCS Source on October 28, 2012, and that it does not intend to operate the Discoverer and the Associated Fleet as an OCS Source in 2013. Thus, Respondent is not currently operating under the Permit or COC.

3.5 During and subsequent to the 2012 Drilling Season, Respondent submitted to EPA Excess Emission/Permit Deviation Reports identifying excess emissions and permit deviations under the Permit and COC during the 2012 Drilling Season.

3.6 From September 25 to 27, 2012, EPA conducted an inspection of the Discoverer under the authority of Section 114 of the CAA, 42 U.S.C. § 7414. In follow-up to that inspection, EPA requested, and Respondent provided, records and reports regarding Respondent’s operations under the Permit and COC during the 2012 Drilling Season.

3.7 On January 10, 2013, EPA issued to Respondent a Notice of Violation for violations of the Permit and COC under Section 113(a) of the CAA, 42 U.S.C. § 7413(a), and terminated the COC based on a finding that Respondent had not complied with the material provisions of the COC.

3.8 Respondent reported to EPA that total calculated NO<sub>x</sub> emissions during the 2012 Drilling Season were less than 3 percent of the maximum allowable annual emissions under the Permit and COC.

### **Violation 1**

3.9 Condition B.8 of the Permit states that, except for the MLC Diesel Compressor Engines (Units FD- 9 to FD-11) and the Caterpillar C7 Logging Winch Engine (Unit FD-19), each diesel internal combustion (“IC”) engine on the Discoverer shall be equipped with a closed crankcase ventilation system.

3.10 The Emergency Generator Engine (Unit FD-8) is a diesel IC engine on the Discoverer.

3.11 From September 6 through October 8, 2012, the Emergency Generator Engine (Unit FD-8) was not equipped with a closed crankcase ventilation system. Respondent reported that during this period the Unit was operated for a total of 20 minutes.

### **Violations 2 and 3**

3.12 Conditions B.14 and B.15 of the Permit state that, for any emission unit that is required by the Permit to be controlled by certain control devices, Respondent must install, calibrate, operate, and maintain (in accordance with manufacturer specifications) continuous monitoring systems (“CMS”) to measure and record certain parameters. These conditions also require that Respondent prepare and submit to EPA 60 days before the first drilling season a site-specific monitoring plan and to install, calibrate, operate, and maintain each CMS according to the procedures in the approved site-specific monitoring plan.

3.13 Respondent submitted to EPA a CMS plan for the control systems on the Main Generator Engines (the “CMS Plan”). Section A.4 of the CMS Plan describes the calibration procedures that Respondent will follow when using a Testo 350 handheld instrument for monitoring NO<sub>x</sub> and carbon monoxide (“CO”) emissions from the Main Generator Engines.

Included in this section is a statement that Respondent will supply each vessel with a set of up to 11 EPA protocol gases for calibrating the Testo 350 handheld instrument.

3.14 During EPA's inspection of the Discoverer from September 25 through 27, 2012, the full range of calibration gases for monitoring stack emissions of NO<sub>x</sub> and CO as specified in the CMS Plan were not available. Three calibration gases were still in their shipping containers and had not yet been used by the technician performing the weekly testing required by the Permit and two required gases were not on board the Discoverer at the time of EPA's inspection. Respondent reported that ultra-low calibration gases were not on board at this time due to a manufacturing delay.

3.15 At the time of EPA's inspection, Respondent had performed at least two sets of testing of the Main Generator Engines with the Testo 350 handheld instrument. Respondent reported that it determined that the only concentrations that could not be measured were those less than 63 parts per million (ppm), and that concentrations less than 63 ppm comprised less than 1 percent of all measurements taken during the season.

#### **Violation 4**

3.16 Condition C.1 of the Permit states that, at all times that any of the Main Generator Engines (Units FD-1 to FD-6) are in operation, the exhaust from each emission unit shall be directed to an operating Selective Catalytic Reduction Unit ("SCR").

3.17 Emissions from the six Main Generator Engines on the Discoverer (Units FD-1 to FD-6) are controlled with E-PODs, which combine both SCR control technology and a catalytic diesel particulate filter ("CDPF") control device. A CDPF is constructed with an oxidation catalyst plus a particulate filter.

3.18 The urea pumps on the E-POD control technology systems did not operate during startup of the Main Generator Engines (Units FD-1 to FD-6) and the SCR control technology did not achieve the control efficiency necessary to achieve the NO<sub>x</sub> emission reductions required by the Permit and the COC during some other periods of operation.

3.19 At certain times during the 2012 Drilling Season, the exhaust from Main Generator Engines was directed to an SCR unit when the urea pump was not on or when the SCR unit was not otherwise operating.

#### **Violation 5**

3.20 Condition C.3.1 of the Permit states that NO<sub>x</sub> emissions from each Main Generator Engine on the Discoverer (Units FD-1 to FD-6) shall not exceed 0.50 grams per kilowatt-hour (“g/kW-hr”).

3.21 During the 2012 Drilling Season, during both startup and at other times, NO<sub>x</sub> emissions from each Main Generator Engine (Units FD-1 to FD-6) exceeded 0.50 g/kW-hr.

#### **Violation 6**

3.22 Conditions 4.4 of the COC and C.3.1 of Attachment A to the COC state that NO<sub>x</sub> emissions from Main Generator Engine Units FD-1, FD-3, FD-4, and FD-5 shall not exceed 1.2 g/kW-hr.

3.23 During the 2012 Drilling Season, during both startup and at other times, NO<sub>x</sub> emissions from Main Generator Engine Units FD-1, FD-3, FD-4, and FD-5 each exceeded 1.2 g/kW-hr.

#### **Violation 7**

3.24 Conditions 4.4 of the COC and C.3.2 of Attachment A to the COC state that NO<sub>x</sub> emissions from Main Generator Engine Units FD-2 and FD-6 shall not exceed 2.0 g/kW-hr.

3.25 During the 2012 Drilling Season, during both startup and at other times, NO<sub>x</sub> emissions from Main Generator Engine Units FD-2 and FD-6 each exceeded 2.0 g/kW-hr.

#### **Violation 8**

3.26 Condition C.5.1 of the Permit states that NO<sub>x</sub> emissions from all six Main Generator Engines (Units FD-1 to FD-6) in aggregate shall not exceed 4.64 pounds per hour (“lb/hr”).

3.27 During the 2012 Drilling Season, during both startup and at other times, NO<sub>x</sub> emissions from all six Main Generator Engines in aggregate exceeded 4.64 lb/hr.

#### **Violation 9**

3.28 Conditions 4.4 of the COC and C.5.1 of Attachment A to the COC state that NO<sub>x</sub> emissions from all six Main Generator Engines (Units FD-1 to FD-6) in aggregate shall not exceed 13.6 lb/hr.

3.29 During the 2012 Drilling Season, during both startup and at other times, NO<sub>x</sub> emissions from all six Main Generator Engines in aggregate exceeded 13.6 lb/hr.

#### **Violation 10**

3.30 Condition D.1 of the Permit states that Respondent shall not operate the Discover Propulsion Engine (Unit FD-7) for any reason when operating the Discoverer as an OCS Source.

3.31 On October 27, 2012, Respondent operated the Propulsion Engine (Unit FD-7) for approximately four hours. Respondent reported that this occurred in the process of unmooring the Discoverer from the drill site in order to prevent the Discoverer from drifting when high seas prevented the Tor Viking Icebreaker/Anchor Handling Vessel (Icebreaker #2) from connecting to the Discoverer.

### **Violation 11**

3.32 Condition E.2.3 of the Permit states that the Emergency Generator Engine (Unit FD-8) shall only operate for reliability testing during the period of 12 pm to 2 pm.

3.33 On September 9 and 30, 2012, Respondent operated the Emergency Generator Engine (Unit FD-8) for reliability testing at times other than during the period of 12 pm to 2 pm. Respondent reported that the Emergency Generator Engine was operated on those dates for 20 and 15 minutes, respectively.

### **Violation 12**

3.34 Condition G.1 of the Permit states that, at all times that any of the Hydraulic Power Unit (“HPU”) Engines (Units FD-12 and FD-13) are in operation, the exhaust from each emission unit shall be directed to an operating CleanAIR Systems CDPF, Part No. FDA300.

3.35 Condition G.1.2 of the Permit states that, during each day that each HPU Engine (Units FD-12 and FD-13) is operated, the exhaust temperature shall be above 300° Celsius (“C”) or 572° Fahrenheit (“F”) for at least 30 percent of the time.

3.36 At certain times during the 2012 Drilling Season, HPU Engines operated without reaching a temperature of 300° C or 572° F for at least 30 percent of the time.

### **Violation 13**

3.37 Condition H.1 of the Permit states that, at all times that any of the Deck Crane Engines (Units FD-14 and FD-15) are in operation, the exhaust from each emission unit shall be directed to an operating CleanAIR Systems CDPF, Part No. 07040401AF.

3.38 Condition H.1.2 of the Permit states that, during each day that each Deck Crane Engine (Units FD-14 and FD-15) is operated, the exhaust temperature shall be above 300° C or 572° F for at least 30 percent of the time.



3.39 At certain times during the 2012 Drilling Season, Deck Crane Engines operated without reaching a temperature of 300° C or 572° F for at least 30 percent of the time.

#### **Violation 14**

3.40 Condition H.5.1 of the Permit states that NO<sub>x</sub> emissions from both Deck Crane Engines (Units FD-14 and FD-15) in aggregate shall not exceed 2.48 lb/hr.

3.41 At certain times during the 2012 Drilling Season, NO<sub>x</sub> emissions from the Deck Crane Engines (Units FD-14 and FD-15) in aggregate exceeded 2.48 lb/hr.

#### **Violation 15**

3.42 Condition I.1 of the Permit states that, at all times that any of the Cementing Unit and Logging Winch Engines (Units FD-16 to FD-20) is in operation, the exhaust from each emission unit shall be directed to an operating CleanAIR Systems CDPF, Part No. FDA300 for Units FD-16 and FD-17, Part No. FDA225 for Unit FD-18, and as specified by CleanAIR Systems for Units FD-19 and FD-20.

3.43 Condition I.1.2 of the Permit states that, during each day that each of Units FD-16 to FD-20 is operated, the exhaust temperature shall be above 300° C or 572° F for at least 30 percent of the time.

3.44 At certain times during the 2012 Drilling Season, Cementing Unit engines operated without reaching a temperature of 300° C or 572° F for at least 30 percent of the time.

#### **Violation 16**

3.45 Condition N.1 of the Permit states that, at all times that any of the propulsion or generator engines on board Icebreaker #1 are in operation, the exhaust from each engine shall be directed to an operating SCR unit.

3.46 At certain times during the 2012 Drilling Season, the exhaust from the propulsion or generator engines on board the Icebreaker #1 (Fennica) was directed to an SCR unit when the urea pump was not on or when the SCR unit was not otherwise operating.

#### **Violation 17**

3.47 Condition O.1 of the Permit states that, at all times that any of the propulsion or generator engines on board Icebreaker #2 are in operation, the exhaust from each engine shall be directed to an operating SCR unit.

3.48 At certain times during the 2012 Drilling Season, the exhaust from the propulsion or generator engines on board the Tor Viking (Icebreaker #2) was directed to an SCR unit when the urea pump was not on or when the SCR unit was not otherwise operating.

#### **Violation 18**

3.49 Condition O.6.1 of the Permit states that NO<sub>x</sub> emissions from all emission sources on Icebreaker #2 in aggregate shall not exceed 69.06 lb/hr.

3.50 At certain times during the 2012 Drilling Season, aggregate NO<sub>x</sub> emissions from the Tor Viking (Icebreaker #2) Main Propulsion Engines (TV-1, TV-2, and TV-4) and Non-propulsion Generator Engines (TV-5 and TV-6) exceeded 69.09 lb/hr.

#### **Violation 19**

3.51 Condition Q.1 of the Permit states that, at all times while the Discoverer is an OCS Source and the Nanuq is within 25 miles of the Discoverer, and any of the Nanuq propulsion engines (Units N-1 and N-2) or non-propulsion generator engines (Units N-3 and N-4) are in operation, the exhaust from each emission unit shall be directed to an operating CleanAIR Systems CDPF, as specified by CleanAIR Systems.

3.52 Condition Q.1.2 of the Permit states that, during each day that each of Units N-1 to N-4 is operated, the exhaust temperature shall be above 300° C or 572° F for at least 30 percent of the time.

3.53 On one day during the 2012 Drilling Season, Nanuq propulsion or generator engines operated without reaching a temperature of 300° C or 572° F for at least 30 percent of the time. Respondent reported that on September 27, 2012, Unit N-4 was started for several minutes and then turned off, that the generator was not put on-line, and that the engine remained shut down for the remainder of the day.

#### **Violations 20 and 21**

3.54 Conditions F.7.3, G.9.3, H.8.3, and I.9.3 of the Permit state that, while conducting stack tests required by the Permit, Respondent shall monitor and record the following information during each test run: quantity of fuel used (in gallons), density of fuel used (in lb/gallon), heat content of the fuel used (in Btu/gallon), and mechanical power output (in kW).

3.55 Page 13 of the Permit states that permit conditions contained in Sections B through Q of the Permit addressing notification, reporting, and testing apply at all times as specified.

3.56 During stack testing of Units FD-9 to FD-17 (nine engines total) between March 28 and May 15, 2012, fuel samples were collected each time the fuel storage tanks were refilled and not during each test run. Respondent reported that its analysis of the laboratory reports for the samples found no material difference in fuel characteristics.

#### **Violation 22**

3.57 Condition A.15.2 of the Permit requires Respondent to report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology-

based emission standard; any other exceedance of an emission limit; or any exceedance of a throughput limit, within two working days after the event commenced or is discovered.

3.58 During 2012, Respondent failed to report exceedances of an emission limit in the Permit within two working days after the event commenced or was discovered.

#### **Violation 23**

3.59 Condition 4.5.6 of the COC requires Respondent to report all emissions in excess of and deviations from the requirements of the COC as provided in Condition A.15 of the Permit.

3.60 Condition A.15.2 of the Permit requires Respondent to report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology-based emission standard; any other exceedance of an emission limit; or any exceedance of a throughput limit, within two working days after the event commenced or is discovered.

3.61 During 2012, Respondent failed to report exceedances of an emission limit in the COC within two working days after the event commenced or was discovered.

#### **IV. CONSENT AGREEMENT**

4.1. Respondent admits the jurisdictional allegations of this CAFO.

4.2. Respondent neither admits nor denies the specific factual allegations contained in this CAFO.

4.3. In light of the nature of the violations, Respondent's actions to address and correct the violations, Respondent's compliance monitoring system, and Respondent's willingness to settle this matter without litigation and in accordance with the *Clean Air Act Stationary Source Civil Penalty Policy*, EPA has determined, and Respondent agrees, that an appropriate penalty to settle all of the alleged violations under this CAFO is seven hundred and ten thousand dollars (\$710,000).

4.4. Respondent agrees to pay the total civil penalty set forth in Paragraph 4.3 within 30 days of the effective date of the Final Order contained in Section V of this CAFO.

4.5. Payment under this CAFO must be made by a cashier's check or certified check payable to the order of "Treasurer, United States of America" and delivered to the following address:

U.S. Environmental Protection Agency  
Fines and Penalties  
Cincinnati Finance Center  
P.O. Box 979077  
St. Louis, MO 63197-9000

Respondent must note on the check the title and docket number of this action.

4.6. Respondent must serve photocopies of the check described in Paragraph 4.5 on the Regional Hearing Clerk and EPA Region 10 at the following addresses:

Regional Hearing Clerk  
U.S. Environmental Protection Agency  
Region 10, Mail Stop ORC-158  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101

John Keenan  
U.S. Environmental Protection Agency  
Region 10, Mail Stop OCE-127  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101

4.7. If Respondent fails to pay the penalty assessed by this CAFO in full by its due date, the entire unpaid balance of penalty and accrued interest shall become immediately due and owing. If such a failure to pay occurs, Respondent may be subject to a civil action pursuant to Section 113(d)(5) of the CAA, 42 U.S.C. § 7413(d)(5), to collect the assessed penalty under the CAA. In any such collection action, the validity, amount, and appropriateness of the penalty shall not be subject to review. If Respondent fails to pay any portion of the penalty assessed by

this CAFO in full by its due date, Respondent shall also be responsible for payment of the following amounts:

4.7.1. Interest. Any unpaid portion of the assessed penalty shall bear interest at the rate established pursuant to 26 U.S.C. § 6621(a)(2) from the effective date of the Final Order, provided, however, that no interest shall be payable on any portion of the assessed penalty that is paid within 30 days of the effective date of the Final Order.

4.7.2. Attorneys Fees, Collection Costs, Nonpayment Penalty. Pursuant to 42 U.S.C. § 7413(d)(5), if Respondent fails to pay the assessed penalty and interest on a timely basis, Respondent shall also be required to pay the United States' enforcement expenses, including but not limited to attorneys fees and costs incurred by the United States for collection proceedings, and a quarterly nonpayment penalty for each quarter during which such failure to pay persists. Such nonpayment penalty shall be ten percent of the aggregate amount of Respondent's outstanding penalties and nonpayment penalties accrued from the beginning of such quarter.

4.8. The penalty described in Paragraph 4.3, including any additional costs incurred under Paragraph 4.7, above, represents an administrative civil penalty assessed by EPA and shall not be deductible for purposes of federal taxes.

4.9. The undersigned representative of Respondent certifies that he or she is authorized to enter into the terms and conditions of this CAFO and to bind Respondent to this document.

4.10. Except as described in Subparagraph 4.7.2, above, each party shall bear its own costs in bringing or defending this action.

4.11. Respondent expressly waives any right to contest the allegations and waives any right to appeal the Final Order set forth in Part V.

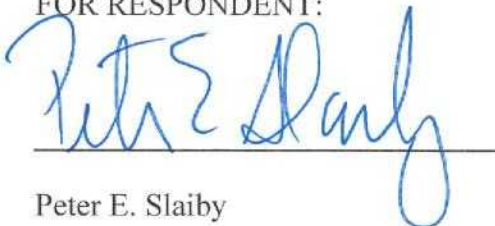
4.12. The provisions of this CAFO shall bind Respondent and its agents, servants, employees, successors, and assigns.

4.13. The above provisions are STIPULATED AND AGREED upon by Respondent and EPA Region 10.

DATED:

3 Sep 2013

FOR RESPONDENT:

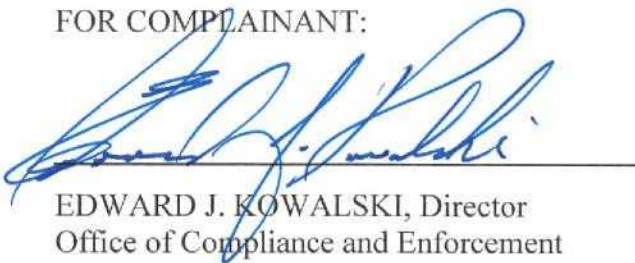


Peter E. Slaiby  
Attorney-in-Fact  
Shell Gulf of Mexico Inc.

DATED:

9/4/2013

FOR COMPLAINANT:



EDWARD J. KOWALSKI, Director  
Office of Compliance and Enforcement  
EPA Region 10

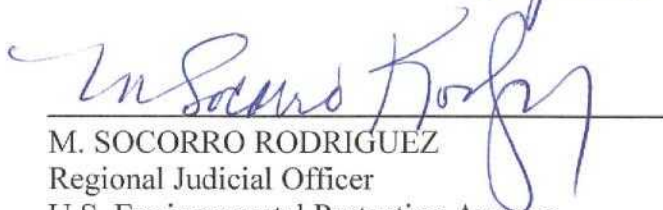
V. FINAL ORDER

5.1. The terms of the foregoing Parts I-IV are ratified and incorporated by reference into this Final Order. Respondent is ordered to comply with the terms of settlement.

5.2. This CAFO constitutes a settlement by EPA of all claims for civil penalties pursuant to CAA for all of the violations alleged in Part III. In accordance with 40 C.F.R. § 22.31(a), nothing in this CAFO shall affect the right of EPA or the United States to pursue appropriate injunctive or other equitable relief or criminal sanctions for any violations of law. This CAFO does not waive, extinguish, or otherwise affect Respondent's obligations to comply with all applicable provisions of CAA and regulations promulgated or permits issued thereunder.

5.3. This Final Order shall become effective upon filing.

SO ORDERED this 5<sup>th</sup> day of September, 2013.

  
\_\_\_\_\_  
M. SOCORRO RODRIGUEZ  
Regional Judicial Officer  
U.S. Environmental Protection Agency  
Region 10



Certificate of Service

The undersigned certifies that the original of the attached **CONSENT AGREEMENT AND FINAL ORDER, In the Matter of: Shell Gulf of Mexico Inc., DOCKET NO.: CAA-10-2013-0133**, was filed with the Regional Hearing Clerk and served on the addressees in the following manner on the date specified below:

The undersigned certifies that a true and correct copy of the document was delivered to:

Julie Vergeront  
Office of Regional Counsel  
U.S. Environmental Protection Agency  
Region 10, Mail Stop ORC-158  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101

Further, the undersigned certifies that a true and correct copy of the aforementioned document was placed in the United States mail certified/return receipt to:

Lance Tolson  
Senior Legal Counsel  
Shell Oil Company  
WCK 3182  
200 North Dairy Ashford  
Houston, Texas 77079

DATED this 5<sup>th</sup> day of September, 2013.



Signature

Candace Smith  
Regional Hearing Clerk  
EPA Region 10