



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 Sixth Avenue, Suite 900  
Seattle, Washington 98101-3140

JAN 10 2013

OFFICE OF  
COMPLIANCE AND ENFORCEMENT

Reply to: OCE-127

**Certified Mail - Return Receipt Requested**

C T Corporation System  
Registered Agent for  
Shell Offshore Inc.  
9360 Glacier Hwy, Suite 202  
Juneau, Alaska 99801

Re: Notice of Violation issued to Shell Offshore Inc.

Dear Registered Agent:

The U.S. Environmental Protection Agency ("EPA") is issuing the enclosed Notice of Violation ("Notice") to Shell Offshore Inc. ("Shell") in accordance with Section 113(a) of the Clean Air Act ("CAA"), 42 U.S.C. § 7413(a), regarding operation of the Kulluk Conical Drilling Unit ("Kulluk") and its fleet of associated vessels ("Associated Fleet") in the Beaufort Sea.

EPA has determined that Shell has violated Outer Continental Shelf Permit to Construct and Title V Air Quality Operating Permit No. R10OCS030000 issued on October 21, 2011, effective on April 12, 2012, and revised on September 28, 2012 (the "Permit"). Based on information in Excess Emission/Permit Deviation Reports and other reports and information submitted by Shell, EPA has determined that Shell violated numerous conditions in the Permit during the 2012 drilling season. Violations of the Permit constitute violations of Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a).

If Shell wishes to request an opportunity to confer on this Notice, please contact Ms. Julie Vergeront, Office of Regional Counsel, at 206-553-1497 within seven days of receipt of this letter. Please also contact Ms. Vergeront if you have any questions regarding this Notice.

Sincerely,

A handwritten signature in blue ink, appearing to read "Edward J. Kowalski".

Edward J. Kowalski  
Director

Enclosure

cc: **Pete Slaiby**  
**Shell Offshore Inc.**

**Susan Childs**  
**Shell Offshore Inc.**

**Lance Tolson**  
**Shell Offshore Inc.**

**Justin Savage**  
**U.S. Department of Justice**

**BEFORE THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

In the Matter of: )  
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 )  
**Shell Offshore Inc.,** ) **NOTICE OF VIOLATION**  
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 )  
 Respondent. )

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Pursuant to Section 113(a) of the Clean Air Act (“CAA”), 42 U.S.C. § 7413(a), the U.S. Environmental Protection Agency (“EPA”), through the Director of the Office of Compliance and Enforcement, upon the basis of available information, hereby issues the following Notice of Violation (“Notice”) to Shell Offshore Inc. (“Shell” or “Respondent”). The Notice alleges violations of the CAA arising out of Respondent’s operation of the Kulluk Conical Drilling Unit (“Kulluk”) and a fleet of associated vessels (“Associated Fleet”) in 2012 on the Outer Continental Shelf (“OCS”) in the Beaufort Sea off the North Slope of Alaska.

**I. STATUTORY AND REGULATORY AUTHORITIES**

1. Pursuant to Section 328 of the CAA, 42 U.S.C. § 7627, EPA promulgated air quality regulations applicable to OCS sources, which are set forth in 40 C.F.R. Part 55.
2. Section 328(a)(1) of the CAA, 42 U.S.C. § 7627(a)(1), and the implementing regulations at 40 C.F.R. Part 55, distinguish between those sources operating on the OCS within 25 miles of a state’s seaward boundary (“Inner OCS”) and those operating on the OCS beyond 25 miles of a state’s seaward boundary (“Outer OCS”).

3. Section 328(a)(1) of the CAA, 42 U.S.C. § 7627(a)(1), provides that requirements for a source located on the Inner OCS be the same as would be applicable if the source was located in the corresponding onshore area (“COA”).

4. Title V of the CAA, 42 U.S.C. §§ 7661-7661f, and the implementing regulations at 40 C.F.R. Part 70 (for permits issued by states) and 40 C.F.R. Part 71 (for permits issued by EPA), establish an operating permit program for certain sources, including “major sources” as defined in 42 U.S.C. § 7661(2).

5. Under 40 C.F.R. § 55.13(e)(2), the Title V operating permit requirements of 40 C.F.R. Part 71 apply to sources operating on the Outer OCS.

6. 40 C.F.R. Part 55, Appendix A contains the requirements applicable to sources located on the Inner OCS off the coast of Alaska. These requirements include Title V operating permits (18 AAC 50.326), Minor Permits for Air Quality Protection (18 AAC 50.502), and Minor Permits Requested by the Owner or Operator (18 AAC 50.508).

7. Section 328(a)(1) of the CAA, 42 U.S.C. § 7627(a)(1), provides that a requirement established under Section 328 shall be treated for purposes of Sections 113, 114, 116, 120, and 304 of the CAA, 42 U.S.C. §§ 7413, 7414, 7416, 7420, and 7604, as a standard established under Section 111 of the CAA, 42 U.S.C. § 7411, and a violation of any such requirement shall be considered a violation of Section 111(e) of the CAA, 42 U.S.C. § 7411(e).

8. 40 C.F.R. § 55.9(a) provides that failure to comply with the requirements of 40 C.F.R. Part 55 or a permit issued pursuant to that part shall be considered a violation of Section 111(e) of the CAA, 42 U.S.C. § 7411(e).

9. Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), provides that, after the effective date of any permit program approved or promulgated under Title V of the CAA, it shall be unlawful for any person to operate a major source and certain other sources, except in compliance with a permit issued by a permitting authority under Title V of the CAA.

10. Section 113 of the CAA, 42 U.S.C. § 7413, authorizes EPA to issue compliance orders and take enforcement action whenever, on the basis of available information, EPA finds that any person has violated or is in violation of any permit or other requirement of the CAA.

## **II. FACTUAL BACKGROUND**

11. Shell is a Delaware corporation.

12. Shell is a "person," as that term is defined in Section 302(e) of the CAA, 42 U.S.C. § 7602(e).

13. At all times relevant to this Notice, Shell was the owner or operator of the Kulluk and the Associated Fleet.

14. The Kulluk is a "major source" under Title V of the CAA.

15. Pursuant to the authority of Section 328 of the CAA, 42 U.S.C. § 7627, and Title V of the CAA, 42 U.S.C. §§ 7661-7661d, EPA issued to Shell Outer Continental Shelf Permit to Construct and Title V Air Quality Operating Permit No. R10OCS030000 to authorize air emissions associated with exploratory oil and gas drilling operations in the Beaufort Sea from the Kulluk and the Associated Fleet, which was revised on September 28, 2012 ("Permit").

16. The Permit authorizes operation of the Kulluk and the Associated Fleet between July 1 and November 30 of each year at drill sites on certain lease blocks in the Beaufort Sea for

which Shell or the leaseholder has received an authorization to drill from the Bureau of Ocean Energy Management.

17. The locations at which Shell is authorized to operate under the Permit include areas in both the Inner OCS and the Outer OCS.

18. Shell reported that it operated the Kulluk and the Associated Fleet as an OCS Source, as that term is defined in the Permit (“OCS Source”), between September 26, 2012 and November 8, 2012 (the “2012 Drilling Season”).

19. All of the Kulluk’s operations as an OCS Source during the 2012 Drilling Season were in the Inner OCS.

20. From October 9, 2012 to December 28, 2012, Shell submitted to EPA 17 Excess Emission/Permit Deviation Reports identifying excess emissions and permit deviations under the Permit.

### **III. NOTICE AND FINDING OF VIOLATIONS**

#### **Violation 1**

21. Condition B.2.2.1 of the Permit requires Shell, within 30 days of the Kulluk becoming an OCS Source or within 30 days of startup of an emission unit, whichever is later, to observe exhaust from each emission unit for 18 minutes following 40 C.F.R. Part 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a) (“Method 9”).

22. Condition B.2.2.2 of the Permit requires Shell, after the first Method 9 observation referred to in Condition B.2.2.1 of the Permit, to perform an 18-minute Method 9 observation at least once in each calendar month that the emission unit operates.

23. Shell did not perform either one or both of the required Method 9 observations for the following emission units on the Kulluk during the 2012 Drilling Season: K-1A to K-1D (Kulluk Electricity Generation Engines), K-4A to K-4C (Deck Crane Engines), K-5A-5D (Heaters and Boilers), K-6 (Emergency Generator Engine), K-7B (Emergency Anchor Lifting Crane Engine); and K-8 (Incinerator).

24. Therefore, Shell violated Conditions B.2.2.1 and B.2.2.2 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

### **Violation 2**

25. Condition D.5.4 of the Permit states that Shell shall not operate the Kulluk Incinerator (Unit K-8) more than 12 hours each day.

26. Shell operated the Kulluk Incinerator (Unit K-8) for 13 hours on October 15, 2012.

27. Therefore, Shell violated Condition D.5.4 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

### **Violation 3**

28. Condition A.18.3.1 of the Permit states that Shell shall report all other excess emissions and deviations not addressed in Conditions 18.1, 18.2, 18.3.2, and 18.3.3 of the Permit within 30 days after the end of the month during which the emissions or deviation occurred.

29. On December 18, 2012, Shell reported a deviation from a condition in the Permit (Condition D.5.4) that occurred on October 15, 2012.

30. Therefore, Shell violated Condition A.18.3.1 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

#### **Violation 4**

31. Condition D.6.1.2.1 of the Permit states that, during all times other than “Drilling Activity,” combined emissions of Oxides of Nitrogen (“NO<sub>x</sub>”) from Units K-1A to K-1D (Kulluk Electricity Generation Engines) shall not exceed 13.4 pounds per hour (“lb/hr”).

32. “Drilling Activity” is defined in the Permit to include “MLC Drilling Activity” and “Well Drilling Activity.”

33. “MLC Drilling Activity” is defined in the Permit as any time when any MLC HPU Engine or MLC air compressor engine is operating.

34. “Well Drilling Activity” is defined in the Permit as any time when the top drive is engaged and turning the conventional rotary bit.

35. Excess Emissions Reports submitted by Shell to EPA identify periods when Units K-1A, K-1B, K-1C and/or K-1D (Kulluk Electricity Generation Engines) operated when the urea feed pump for one or more such units was not operating.

36. These periods occurred when the Kulluk was not engaged in “Drilling Activity” as defined in the Permit.

37. On one or more days during the 2012 Drilling Season, combined emissions of NO<sub>x</sub> from Units K-1A to K-1D (Kulluk Electricity Generation Engines) exceeded 13.4 lb/hr.



38. Therefore, Shell violated Condition D.6.1.2.1 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

#### **Violation 5**

39. Condition A.18.2 of the Permit requires Shell to report any exceedance of an emission limit within two working days after the event commenced or was discovered.

40. On October 9, 2012, Shell reported emissions in excess of the emission limit in Condition D.6.1.2.1 of the Permit had occurred and that Shell had discovered the occurrence of these excess emissions on October 1, 2012.

41. Therefore, Shell violated Condition A.18.2 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

#### **Violation 6**

42. Condition D.6.7.1.1 of the Permit states that combined NO<sub>x</sub> emissions from Units K-7A to K-7D5 (Seldom Used Sources) shall not exceed 0.4 lb/hr.

43. On September 26, 2012, NO<sub>x</sub> emissions from Unit K-7B (Kulluk Emergency Anchor Lifting Crane Engine) alone exceeded 0.4 lb/hr.

44. On November 7, 2012, NO<sub>x</sub> emissions from Unit K-7B (Kulluk Emergency Anchor Lifting Crane Engine) alone exceeded 0.4 lb/hr.

45. Therefore, Shell violated Condition D.6.7.1.1 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

## **Violation 7**

46. Condition D.10 of the Permit states that exhaust from each of the following emission units shall be directed to an operating SCR control device unit at all times: 10.1. Kulluk Electricity Generation Engines (Units K-1A to K-1D); 10.2. Icebreaker #1 propulsion and generator engines (Units IB1-1A to IB1-1Z); and 10.3. Icebreaker #2 propulsion and generator engines (Units IB2-1A to IB2-1Z).

47. On one or more days during the 2012 Drilling Season, the exhaust from one or more Kulluk Electricity Generation Engines (Units K-1A to K-1D) was directed to an SCR unit when the urea pump was not on or when the SCR unit was not otherwise operating.

48. On one or more days during the 2012 Drilling Season, the exhaust from one or more Icebreaker #1 (Nordica) propulsion and generator engines (Units IB1-1A to IB1-1Z) was directed to an SCR unit when the urea pump was not on or when the SCR unit was not otherwise operating.

49. On one or more days during the 2012 Drilling Season, the exhaust from one or more Icebreaker #2 (Aiviq) propulsion and generator engines (Units IB2-1A to IB2-1Z) was directed to an SCR unit when the urea pump was not on or when the SCR unit was not otherwise operating.

50. Therefore, Shell violated Condition D.10 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

## **Violation 8**

51. Condition F.3.5 of the Permit states that except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities, Shell shall operate the continuous monitoring system ("CMS") at all times the affected source is operating. Condition F.3.5 of the Permit states that a monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data.

52. On October 17, 2012, Shell submitted Deviation Reports that stated that the temperature measurements on the control system of Unit K-1A produced incorrect values on October 5, 2012 while the unit was operating; Shell was unable to recover temperature and urea injection data for Unit K-1A for the period of October 7 through 12, 2012 while the units were operating; and temperature measurements on the control system of Unit K-1C produced incorrect values on October 7, 2012 while the unit was operating.

53. On November 15, 2012, Shell submitted a Deviation Report that stated that on November 13, 2012, Shell concluded that it was unable to recover complete operational data, including temperature and urea pump operation for Units K-1A to K-1D for the period of November 4 through 7, 2012, while the units were operating.

54. Shell has not demonstrated that any of the monitoring failures referred to in Paragraphs 52 and 53 above occurred during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities.

55. Therefore, Shell violated Condition F.3.5 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

#### **Violation 9**

56. Condition F.4.6 of the Permit requires Shell to monitor and record carbon monoxide (“CO”) emissions (parts per million or “ppm”) from the exhaust of each oxidation catalyst or catalytic diesel particulate filter once per week using a portable CO monitor that meets the requirements of EPA OTM 13.

57. Between September 25 and November 1, 2012, Shell conducted weekly stack gas sampling of the oxidation catalyst controls on the Kulluk Deck Crane Engines (Units K-4A to K-4C) upstream of the catalyst exhaust rather than from the catalyst exhaust as required by Condition F.4.6 of the Permit.

58. Therefore, Shell violated Condition F.4.6 of the Permit and Sections 111(e) and 502(a) of the CAA, 42 U.S.C. §§ 7411(e) and 7661a(a), on one or more days during the 2012 Drilling Season.

#### **IV. ENFORCEMENT**

59. Section 113 of the CAA, 42 U.S.C. § 7413, authorizes EPA to take any of the following actions whenever, on the basis of available information, EPA finds that any person has violated or is in violation of any permit or other requirement of the CAA:

- a. Issue an order requiring such person to comply with the requirements of the CAA;

b. Issue an administrative penalty order in accordance with Section 113(d) of the CAA, 42 U.S.C. § 7413(d), for civil administrative penalties;

c. Bring a civil action in accordance with Section 113(b) of the CAA, 42 U.S.C. § 7413(b), for injunctive relief and/or civil penalties.

60. Section 113(c) of the CAA, 42 U.S.C. § 7413(c), authorizes EPA to request the Attorney General to commence a criminal action for knowing violations of the CAA.

61. Under Section 306 of the CAA, the regulations promulgated thereunder (40 C.F.R. Part 32), and Executive Order 11738, facilities to be used in federal contracts, grants, and loans must be in full compliance with the CAA and all regulations promulgated pursuant to it. Violation of the CAA may result in the subject facility being declared ineligible for participation in any federal contract, grant, or loan.

62. Section 120 of the CAA, 42 U.S.C. § 7420, authorizes EPA to assess penalties for noncompliance aimed at recovering the economic benefits which the violator has received by operating the facility out of compliance.

63. Section 113 of the CAA authorizes civil penalties of up to \$37,500 per day for each such violation occurring on or after January 13, 2009 pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, as amended by 31 U.S.C. § 3701, 40 C.F.R. § 19.4, and 74 Fed. Reg. 626 (Jan. 7, 2009).

## V. NOTICE OF CONFERENCE OPPORTUNITY

64. Respondent may request a conference with EPA to discuss the substance of this Notice. Please contact Julie Vergeront, EPA Region 10, (206-553-1497) within seven days of receipt of this Notice if you wish to schedule a conference.

65. This Notice does not waive or limit EPA's right to any remedy available to it under the CAA.

66. This Notice shall become effective immediately upon issuance.

Issued this 10<sup>th</sup> day of January 2013.



Edward J. Kowalski, Director  
Office of Compliance and Enforcement