UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4
Atlanta, Georgia

Permit to Construct and Operate Under the Outer Continental Shelf Air Regulations
Permit No. OCS-EPA-R4009

In accordance with the provisions of section 328 of the Clean Air Act (CAA), 42 U.S.C. § 7627, and the implementing Outer Continental Shelf (OCS) Air Regulations at title 40 Code of Federal Regulation (CFR) part 55, which incorporate by reference the Prevention of Significant Deterioration of Air Quality (PSD) Regulations at 40 CFR § 52.21,

Murphy Exploration & Production Co.
16290 Katy Freeway, Suite 600
Houston, Texas 77094

is hereby authorized to construct and operate air emissions units and to conduct other air pollutant emitting activities at an OCS source at the following location:

Lloyd Ridge lease block 317, located in the OCS waters in the Gulf of Mexico east of longitude 87.5°, approximately 135 miles southeast of the mouth of the Mississippi River and 180 miles from the nearest Florida shoreline.

Upon initial start-up, this OCS source and support vessels shall be constructed and operated in accordance with the terms and conditions set forth in this permit.

This permit shall become effective on: June 11, 2012.

This permit shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of federal and state law.

_____
Date Signed

_____
Beverly H. Banister
Director
Air, Pesticides, and Toxics
Management Division

1 AUTHORITY

The United States Environmental Protection Agency (EPA) issues this permit pursuant to section 328 of the CAA, 42 U.S.C. § 7627, and the implementing OCS Air Regulations at 40 CFR part 55, which incorporate by reference the PSD Regulations at 40 CFR § 52.21. This permit is based upon the permit application materials submitted to EPA by Murphy Exploration & Production Co. (Murphy) dated January 13, 2011, March 21, 2011, June 22, 2011, September 12, 2011 and supplemental submittals in the administrative record for this permit action, and upon the technical analysis performed by EPA.

2 APPLICANT

Murphy Exploration & Production Co.
16290 Katy Freeway, Suite 600
Houston, Texas 77094

3 PROJECT LOCATION

Lloyd Ridge lease block 317 is located on the OCS waters in the Gulf of Mexico east of longitude 87°30' (87.5) approximately 135 miles southeast of the mouth of the Mississippi River and 180 miles from the Florida shoreline.

4 PROJECT DESCRIPTION

The proposed project will mobilize the dynamically positioned semisubmersible drilling vessel *Ocean Confidence*, up to three work boats, and a crew boat to drill on the OCS in Lloyd Ridge lease block 317 to determine if natural gas or oil reserves are present in this location. If natural gas reserves are discovered, the project will proceed to the completion phase using the *Ocean Confidence* and the well will be tied back to a floating production facility located west of longitude 87°30'00"W for processing and transporting to the intrastate gas marketing system. This air permit is for both the drilling and completion phases of the project. The operation will last no more than 90 calendar days over a two-year period, and based on applicable regulations, is a temporary source for PSD permitting purposes.

Based on emissions estimates and applicable permitting thresholds, the project is considered to have significant emissions of NO_x and is subject to the PSD program for this pollutant as the measured pollutant for the criteria pollutant nitrogen dioxide (NO_2) and as a precursor to ozone and $PM_{2.5}$. Based on Murphy's permit application, both VOC and $PM_{2.5}$ will also be emitted close to their respective PSD significant emissions rates. Therefore, EPA has also included conditions in the permit that limit the project's VOC and $PM_{2.5}$ emissions to below the PSD major source thresholds.

Diesel units to be used onboard the *Ocean Confidence* drilling vessel are detailed in Table 1. These units include eight main propulsion diesel electrical generators, three diesel electrical generators for drilling and hotelling, an emergency generator, four escape capsules, a fast rescue craft, an emergency air compressor, a pressure washer, a wire line unit and two cementing units.

Support vessels operating within 25 nautical miles of the *Ocean Confidence* will include up to three work boats and a crew boat. The support vessels will be used to transport personnel, supplies, and fuel to the drilling vessel as required during the duration of drilling. Various support vessels will be used interchangeably depending on availability. Specific support vessels to be used during the project will be identified prior to commencing operations. Emissions from the support vessels, including emissions

while at the OCS source or en route to or from the OCS source within 25 nautical miles of the OCS source, shall be considered direct emissions from the OCS source.

The information provided in Table 1 is for description and identification purposes and does not establish operating limits.

Table 1 – Diesel Emission Units used on the Diamond Offshore *Ocean Confidence* Drilling Vessel

Emissions Unit ID	Description	Make & Model	Rating[1](hp)	Manufacture Year
DR-GE-01	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-02	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-03	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-04	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-05	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-06	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-07	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-08	Main Propulsion Generator	Wärtsilä F316A Diesel Engine	4435	1986
DR-GE-09	Drill Floor/hotelling Electrical Generator	Caterpillar 3616 Diesel Engine	6789	1998
DR-GE-10	Drill Floor/hotelling Electrical Generator	Caterpillar 3616 Diesel Engine	6789	1998
DR-GE-11	Drill Floor/hotelling Electrical Generator	Caterpillar 3616 Diesel Engine	6789	1998
DR-GE-12	Emergency Electrical Generator	Caterpillar 3508 Diesel Engine	1100	1998
DR-EC-01	Escape Capsule	SABB M4.295GRLB Diesel Engine	70	1986
DR-EC-02	Escape Capsule	SABB M4.295GRLB Diesel Engine	70	1986
DR-EC-03	Escape Capsule	SABB M4.295GRLB Diesel Engine	70	1986
DR-EC-04	Escape Capsule	SABB M4.295GRLB Diesel Engine	70	1986
DR-FRC-01	Fast Rescue Craft	Volvo M-TAMD70D Diesel Engine	270	1986
DR-AC-01	Emergency Air Compressor	Lister-Petter M-TR2A01 Diesel Engine	23.1	2000
DR-PW-01	Pressure Washer	Yanmar M-L100V Diesel Engine	9.1	2008
DR-WL-01	Wire Line Unit	EPA certified Tier 2 or higher nonroad engine	~90	2004 or later model year-
DR-CU-01	Cementing Unit	EPA certified Tier 2 or higher nonroad engine	~472	2002 or later model year
DR-CU-02	Cementing Unit	EPA certified Tier 2 or higher nonroad engine	~472	2002 or later model year-

[1] Permit conditions may limit operation to less than rated horsepower (hp) capacity.

5 GENERAL CONDITIONS

5.1 Compliance

5.1.1 The permittee shall comply with all requirements of 40 CFR § 52.21, 40 CFR part 55, and this permit. Failure to do so shall be considered a violation of section 111(e) of the CAA. All enforcement provisions of the CAA, including, but not limited to, the provisions of sections 113, 114, 120, 303, and 304 of the CAA, shall apply to the OCS source and permittee.

5.1.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5.2 Other Credible Evidence

For the purpose of establishing whether or not a person has violated or is in violation of any requirement of this permit, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

5.3 Construction and Operation

5.3.1 As approved and conditioned by this permit, all construction and operation, including equipment operations and maintenance, of the OCS source and support vessels shall be in accordance with the data, specifications, drawings, exhibits, and assumptions included with the application and supporting materials submitted by the permittee, which resulted in this permit (application materials). This permit is valid only for the specific processes and operations applied for and indicated in the application materials. Any unauthorized deviation from the application materials, or from any term or condition of this permit may constitute grounds for revocation or enforcement action by EPA.

5.3.2 The permittee shall properly operate and maintain the OCS source and support vessels, including all systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the terms and conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to minimize or prevent emissions in achieving compliance with the terms and conditions of the permit.

5.4 Compliance with Other Requirements

This permit does not relieve the permittee of the responsibility to comply fully with applicable provisions of any other requirements under federal law.

5.5 Notification to Owners, Operators, and Contractors

The permittee must notify all other owners or operators, contractors, and the subsequent owners or operators associated with emissions from the OCS source and support vessels of the terms and conditions of this permit.

5.6 Expiration of Approval to Construct

5.6.1 This approval to construct shall become invalid if construction is not commenced within 18 months after the effective date of this permit, construction is discontinued for a period of 18 months or more, or construction is not completed within a reasonable time. EPA may extend the 18-month period upon a satisfactory showing that an extension is justified and under the condition that project emissions do not exceed those specified in this permit.

5.6.2 This permit shall expire upon the earliest of the following dates: completion of the well, after 90 calendar days of operation on Lloyd Ridge Lease Block 317, or two years from the date the OCS source commences activity on Lloyd Ridge lease block 317. EPA may extend the above upon a satisfactory showing that the extension is justified, and under the condition that project emissions do not exceed those specified in this permit.

5.7 Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

5.8 Inspections

The permittee, by accepting this permit, specifically agrees to allow authorized EPA personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted or where any records are required to be kept under the terms and conditions of this permit to:

5.8.1 Have access to and copy any records that must be kept under conditions of the permit, including but not limited to, information relating to the OCS source, support vessels, monitoring data, or compliance or noncompliance with the permit;

5.8.2 Inspect the OCS source, support vessels, equipment, practices, or operations regulated or required under this permit; and

5.8.3 Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or EPA rules.

Reasonable time may depend on the nature of the concern being investigated.

5.9 Emergency Provisions

5.9.1 In addition to any emergency or upset provision contained in any applicable requirement, the permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. An emergency constitutes an affirmative defense to an action brought for non-compliance with such technology-based emission limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- The permitted facility was at the time being properly operated;
- During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and
- The permittee submitted notice of the emergency to the EPA within two (2) working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirements of Condition 5.12.2 of this permit, concerning notification of deviations.

5.9.2 In any enforcement proceeding, the permittee attempting to establish the occurrence of an emergency has the burden of proof.

5.9.3 An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

5.10 Recordkeeping Requirements

In accepting this permit, the permittee understands and agrees that all information relating to this permitted source which is submitted to EPA may be used by EPA as evidence in any enforcement case involving the permitted source arising under federal statutes, EPA rules, or rules enforceable by EPA.

5.10.1 This permit or a copy thereof shall be kept at the work site of the permitted activity.

5.10.2 The permittee shall furnish all records required by this permit.

5.10.3 During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by EPA.

5.10.4 The permittee shall hold at the corporate offices of Murphy, located at 16290 Katy Freeway, Suite 600, Houston, Texas 77094, records of all monitoring information required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five years from the date of the sample, measurement, report, or application unless otherwise specified.

5.10.5 Records of monitoring information shall include:

- The date, emission unit or other place as defined in this permit, and time of sampling or measurements;
- The results of such analyses and operating conditions as existing at the time of sample or measurement;
- The person who performed the sampling or measurements;
- The date(s) the analyses were performed; and
- The analytical techniques or methods used.

5.10.6 When requested by EPA, the permittee shall furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to EPA, such facts or information shall be corrected promptly.

5.10.7 All notifications, reporting or other communications relating to this permit shall be submitted to:

Chief
Air & EPCRA Enforcement Branch
Air, Pesticides and Toxics Management Division
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

In addition, electronic copies of the above-referenced notifications and communications shall be submitted to the following individuals at their corresponding email address:

Name	Email	Phone
David Lloyd	lloyd.david@epa.gov	404-562-9216
Jason Dressler	dressler.jason@epa.gov	404-562-9208
Gregg Worley	worley.gregg@epa.gov	404-562-9141

5.10.8 Any document required to be submitted under this permit shall be certified by the permittee as to truth, accuracy, and completeness. Such certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. Such certification shall be made by the responsible official of the permittee, authorized to make such certification on behalf of the permittee. For purposes of this condition, the definition of "responsible official" at 40 CFR § 71.2 shall apply.

5.11 Permit Revision or Amendment

This permit may be revised and reissued or amended by EPA, as necessary for cause, including, but not limited to, the following reasons:

5.11.1 This permit contains a material mistake;

5.11.2 Materially inaccurate statements were made in establishing the terms or conditions of this permit; or

5.11.3 To assure compliance with CAA requirements.

5.12 Excess Emission and Permit Deviation Reports

The permittee shall report all emissions or operations that exceed or deviate from the terms and conditions of this permit as follows:

5.12.1 As soon as possible after the event commences or is discovered, but not more than 24 hours following discovery, report any excess emissions or deviations that present a potential threat to human health or the environment;

5.12.2 Within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that caused emissions in excess of an emission limit;

5.12.3 Report all other excess emissions, permit deviations and failures to monitor as follows:

5.12.3.1 Within 10 working days of when the excess emissions or deviation occurs, except as provided in Condition 5.12.3.2; and

5.12.3.2 If continuous or recurring excess emissions are not corrected, report within 48 hours of discovery.

5.12.4 When reporting excess emissions or permit deviations, the permittee must report in writing the following information. For reporting under 5.12.1 and 5.12.2, if information required below is not available at the time of the report, the permittee shall submit the additional information within 10 working days of the initial report:

- OCS Source (Facility) Name;
- OCS Air Permit Number;
- Company Name;
- Date/Time when the deviation was discovered;
- Date/Time when the event began (24hr clock);
- Date/Time when the event ended (24hr clock);
- Duration of the event: (hrs: min) or days (total number of hours, minutes, or days, if intermittent then include only the duration of the deviation);
- If the deviation was intermittent or continuous;
- Brief description of what happened and the cause, including information regarding the operating conditions during the deviation;
- Identification of the emission unit(s) or source(s) involved in the event, using the same identification number(s) and name(s) as in the permit;
- Identification of each emission limit potentially exceeded during the event and the level of exceedance, if applicable;
- Whether the deviation was unavoidable;
- Describe corrective action taken and action taken to prevent future recurrence; and
- Certification: Based on information and belief formed after reasonable inquiry, certify that the statements and information reported are true, accurate, and complete.

5.12.5 For the purposes of Conditions 5.12.1 through 5.12.4, deviation means any situation in which the permittee fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or record keeping required by this permit. For a situation lasting more than 24 hours, each 24-hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:

- A situation where emissions exceed an emission limitation or standard;
- A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
- A situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit (including indicators of compliance revealed through parameter monitoring); and

- A situation in which any testing, monitoring, recordkeeping or reporting required by this permit is not performed or not performed as required.

5.12.6 If requested by EPA, the permittee shall provide a more detailed written report to follow up on an excess emissions/deviation report.

5.12.7 Except as provided for in this permit, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

5.13 Compliance Certification

In accordance with Conditions 5.10.7 and 5.10.8, the permittee shall submit to EPA within 90 days of completion of the drilling of the well, and within 30 days of the completion of the tie-back/completion of the well, if not conducted concurrently, a compliance certification report which contains the following:

5.13.1 For each permit term and condition, including terms and conditions for monitoring, recordkeeping and reporting:

5.13.1.1 Certify the compliance status over the duration of each phase of the project consistent with the monitoring required by this permit;

5.13.1.2 State whether compliance was intermittent or continuous; and

5.13.1.3 Briefly describe each method used to determine the compliance status.

5.13.2 A summary of NO_x, CO, PM/PM_{10}/$PM_{2.5}$, SO_2, VOC, CO_2e and HAP emissions in tons per year emitted by each emissions unit regulated under this permit during the duration or phase of the project based on recorded data, such as actual fuel usage and actual hours of operation.

5.14 Safe Shutdown

As provided in 40 CFR § 55.9(c), if this OCS source is ordered to cease operation of any piece of equipment due to enforcement action taken by EPA, the shutdown will be coordinated by EPA with the Bureau of Safety and Environmental Enforcement, the United States Coast Guard, the permittee, and the operator to assure that the shutdown will proceed in a safe manner. No shutdown action will occur until after EPA's consultation with these agencies, but in no case will initiation of the shutdown be delayed by more than 24 hours after EPA consults with these agencies. The initiation of the shutdown process will not preclude procedures necessary to ensure safety.

5.15 Transfer of Ownership

In the event of any changes in control or ownership of the OCS source, this permit shall be binding on all subsequent owners and operators. The permittee shall notify the succeeding owner and/or operator of the existence of this permit and its conditions by letter, a copy of which shall be forwarded to EPA Region 4.

5.16 Severability

The provisions of this permit are severable, and, in the event of any challenge to any portion of this permit or if any provision of the permit is held invalid, the remainder of this permit shall remain valid and in force.

6 SPECIFIC CONDITIONS

6.1 Notification

6.1.1 At least 10 days prior to entering the drill site, the permittee shall notify EPA in accordance with Condition 5.10.7 of this permit, of the following information:

6.1.1.1 The location of the proposed drill site, using coordinates in the following formats:

- Latitude and longitude, and
- Universal Transverse Mercator grid system.

6.1.1.2 The proposed date that the *Ocean Confidence* drilling vessel will enter the lease block and commence construction or operation, and the probable duration of operation at that location.

6.1.2 Not less than 24 hours prior to commencing construction or operation and in accordance with Condition 5.10.7, the permittee shall notify EPA of any changes to the information provided in Condition 6.1.1.

6.1.3 Construction and operation as an OCS source shall not exceed 90 calendar days to be completed within a two year period from the time the source commences drilling activity on Lloyd Ridge 317. Each partial day that the *Ocean Confidence* is operated as an OCS source shall be counted as a calendar day. For each drill site at which the O*cean Confidence* operates, the permittee shall record the following to be reported with the Compliance Certification Report as set forth by Condition 5.13:

6.1.3.1 The date and hour that the *Ocean Confidence* became an OCS Source at that drill site, and

6.1.3.2 The date and hour that the *Ocean Confidence* ceased to be an OCS Source at that drill site.

6.1.4 The permittee shall maintain a record of any time the O*cean Confidence* is put into dry dock or emissions units DR-GE-09, DR-GE-10 or DR-GE-11 experience downtime of 24 days or more beginning with the effective date of this permit and during the pendency of this permit to be reported with the Compliance Certification Report as set forth by Condition 5.13. The report shall specify the length of downtime for each engine DR-GE-09, DR-GE-10 and DR-GE-11 in calendar days and the cause of downtime. This requirement shall end upon completion of upgrade of the referenced engines to IMO Tier I standards, as required by condition 6.5.2.3, or upon receipt by EPA of a schedule to complete the upgrades prior to commencement of drilling operations in Lloyd Ridge lease block 317.

6.2 Support Vessel Identification

The permittee shall maintain records in accordance with Condition 5.10, of the engine specifications, operating time within 25 nautical miles of the *Ocean Confidence*, and emission estimates for any support vessel used in place of or in addition to the *Andrea Chouest* (work boat) and the *Alice G. McCall* (crew boat). These records shall be submitted as part of the Compliance Certification Report in accordance with Condition 5.13. Also, any support vessels used in place of or in addition to the *Andrea Chouest* (work boat) and the *Alice G. McCall* (crew boat) shall meet Condition 6.9.

6.3 Source-wide SO_2 Emission Limit

The permittee shall not combust any fuel with sulfur content greater than 0.05 percent by weight, as determined by Condition 6.3.1, in any diesel-fueled emission unit on the *Ocean Confidence* or in any support vessel.

6.3.1 The permittee shall obtain a certification of sulfur content for each shipment of fuel from the fuel supplier (the certification must indicate the sulfur content was determined by an approved EPA method), or the permittee shall obtain representative fuel samples using one of the methods in 40 CFR § 80.330 and shall determine the sulfur content of the fuel using one of the methods in 40 CFR § 80.580.

6.3.2 Monitoring and Recordkeeping

6.3.2.1 Prior to mobilizing the *Ocean Confidence* drilling vessel for activities covered by this permit, the permittee shall determine and record the sulfur content of the fuel on the *Ocean Confidence* and the support vessels using the procedures in Condition 6.3.1.

6.3.2.2 Thereafter, the permittee shall determine and record the sulfur content upon receiving each fuel shipment, as follows:

- Obtain a certification of sulfur content for each shipment of fuel from the fuel supplier; or
- Obtain a representative sample of the fuel delivered and analyze the sample for sulfur content using the procedures in Condition 6.3.1.

6.4 Source-wide $PM_{2.5}$ and VOC Emissions Limits

6.4.1 The permittee shall not discharge or cause the discharge into the atmosphere in excess of the following limits for the total emissions from all units permitted on the *Ocean Confidence* drilling vessel:

6.4.1.1 VOC: 39 tons per year on a 12-month rolling total.

6.4.1.2 $PM_{2.5}$: 9.9 tons per year on a 12-month rolling total.

6.4.2 Compliance with this operating limit shall be demonstrated by calculating and maintaining a record of monthly fuel consumption as required by Conditions 6.8 and 6.9 and determining emissions from all diesel units by multiplying fuel usage by the pollutant-specific emissions rates presented in the application.

6.5 *Ocean Confidence* NO_x Emission Limits for Large Non-emergency Diesel Units

6.5.1 Source Identification: Main Propulsion Generators (DR-GE-01 through DR-GE-08)

6.5.1.1 The permittee shall not discharge or cause the discharge of emissions into the atmosphere for each engine in excess of 12.1 g/kW-hr NO_x on a rolling 24-hour average.

6.5.1.2 BACT Work Practice Standard: Use of engine with turbo charger/after cooler, an enhanced work practice power management and NO_x emissions maintenance system as set forth in Condition 6.5.3, and good combustion and maintenance practices based on the current manufacturer's specifications for this engine as described in the revised BACT analysis dated June 22, 2011 of the OCS permit application materials.

6.5.2 Source Identification: Drill Floor and Crew Quarters Electrical Generators (DR-GE-09 through DR-GE-11)

6.5.2.1 The permittee shall not discharge or cause the discharge of emissions into the atmosphere for each engine in excess of 26 g/kW-hr NO_x on a rolling 24-hour average.

6.5.2.2 BACT Work Practice Standard: Use of engine with turbo charger/after cooler, an enhanced work practice power management and NO_x emissions maintenance system as set forth in Condition 6.5.3, and good combustion and maintenance practices based on the current manufacturer's specifications for this engine as described in the revised BACT analysis dated June 22, 2011 of the OCS permit application materials.

6.5.2.3 In the event the *Ocean Confidence* has scheduled downtime for the drilling floor and hotelling engines DR-GE-09, DR-GE-10, or DR-GE-11 for more than 24 consecutive days under this permit or during the pendency of this permit, one or more of engines, as can be achieved in the scheduled time, DR-GE-09 through DR-GE-11 must be upgraded to IMO Tier 1 standards. Compliance with this condition is not required if the *Ocean Confidence* does not perform drilling activities in Lloyd Ridge lease block 317.

6.5.2.4 At such time as upgrades to IMO Tier 1 standards are completed on engines DR-GE-09, DR-GE-10, or DR-GE-11, the BACT emission limit shall not be in excess of 12.1 g/kW-hr NO_x on a rolling 24-hour average for each upgraded engine.

6.5.3 The permittee shall properly monitor and record the following parameters once every 30 seconds for 30 minutes twice a day:

- Charge Air Pressure (bar) before and after air cooler;
- Charge Air Temperature (Celsius) before and after air cooler;
- Turbocharger RPM A& B (RPM);
- Exhaust Air Temperature (Celsius);
- Engine Air Inlet Pressure (mbar);
- Engine Air Inlet Temperature (Celsius);

- Engine Air Inlet Relative Humidity (%);
- Generator Load (kW); and
- NO_x, O_2 Emission Concentration (ppm).

6.6 Compliance Monitoring and Recordkeeping Requirements for Large Non-emergency Diesel Units

The permittee shall monitor emissions from diesel units DR-GE-01 through DR-GE-11 as defined in Conditions 6.5.1 and 6.5.2 by the use of either an EPA-approved continuous emissions monitoring system or an EPA-approved alternative parametric monitoring method, or, with prior written approval by EPA, a stack testing emissions monitoring system as described in Conditions 6.6.1 through 6.6.3.

6.6.1 Continuous Emissions Monitoring (Compliance Monitoring Option #1)

6.6.1.1 The permittee shall properly install, maintain in good working order, and operate a continuous emissions monitoring system to monitor emissions from the diesel units specified and to determine compliance with the emissions limits in Conditions 6.5.1 and 6.5.2 .

6.6.1.2 The permittee shall obtain stack gas volumetric flow rates using a calibrated flow monitor that records data on a continuous basis.

6.6.1.3 The permittee shall monitor and record electrical power produced in kW-hr.

6.6.1.4 The permittee shall install, calibrate and maintain the continuous emissions monitoring system with a plan approved by EPA.

6.6.1.5 The quality assurance plan used by the permittee for the certification and operation of the continuous emissions monitoring system shall be made available to EPA upon request.

6.6.1.6 To demonstrate compliance, the permittee shall determine the average emission rate (g/kW-hr) for each unit from the hourly emission rate results in each rolling 24-hour period.

6.6.2 Parametric Monitoring (Compliance Monitoring Option #2)

6.6.2.1 The permittee shall properly monitor emissions from the diesel units specified in Conditions 6.5.1 and 6.5.2 by using an EPA-approved parametric monitoring measurement system.

6.6.2.2 In accordance with Condition 6.6.2.1, the permittee shall properly monitor and record parameters as defined in the EPA-approved measurement system and at a frequency defined by the measurement system. Such a system, for example, could include monitoring and recording the following parameters once every 30 seconds for 30 minutes twice a day:

- Charge Air Pressure (bar) before and after air cooler;
- Charge Air Temperature (Celsius) before and after air cooler;
- Turbocharger RPM A& B (RPM);

- Exhaust Air Temperature (Celsius);
- Engine Air Inlet Pressure (mbar);
- Engine Air Inlet Temperature (Celsius);
- Engine Air Inlet Relative Humidity (%);
- Generator Load (kW); and
- NO_x, CO,. O_2 Emission Concentration (ppm).

6.6.3 Stack Testing Emissions Monitoring (Compliance Monitoring Option #3)

6.6.3.1 The permittee shall properly monitor emissions from the diesel units defined in Conditions 6.5.1 and 6.5.2, by using stack testing data collected according to an the EPA approved protocol to prepare a graph of engine load versus emission rates expressed in grams per kilowatt- hour (g/kW-hr) for each engine. Data collected prior to issuance of this permit may be used with the EPA approval.

6.6.3.2 Within 90 days of the start of the drilling campaign, the eleven large non-emergency diesel engines, DR-GE-01 through DR-GE-11, shall be stack tested under the requirements of this section.

6.6.3.3 Each stack test shall be conducted at three different loads within the expected range of operations.

6.6.3.4 At a minimum, each stack test shall test for emissions of NO_x, $PM_{2.5}$, and VOC emissions.

6.6.3.5 During each test run, the permittee shall monitor and record the following information:

- Density of the fuel used (in lbs/gallon);
- Heat content of the fuel used (in Btu/gallon); and
- Electrical power produced (in kW-hr).

6.6.3.6 For each engine, each load, and each pollutant, the permittee shall determine emission rates in g/kW-hr.

6.6.3.7 Data collected pursuant to Condition 6.6.3.1 shall be used to prepare a graph of engine load versus emission rates expressed in g/kW-hr for each engine. Plot the engine load as the independent (or x) variable and the pollutant emission rates as the dependent (or y) variable for each load point tested. Construct the graph by drawing straight -line segments between each load point. Draw a horizontal line to the y-axis from the minimum load point tested.

6.6.3.8 Use the information recorded per Conditions 6.6.3.3 through 6.6.3.6, along with the graph of engine load versus emission rates to determine the emission rate in g/kW-hr for each engine load recorded. Linear interpolation shall be used to determine the emission rate when the actual load falls between two tested load points. When the engine load exceeds the maximum load measured during the stack testing, report the g/kW-hr emission rate obtained for the highest load point tested during the most recent stack test. Calculate the average emission rate for

each hour of operation from all the individual emission rate results recorded during the hour.

6.6.3.9 When records of engine load are not available, substitute the highest g/kW-hr emission rate calculated for all the load points tested during the most recent stack test.

6.6.3.10 To demonstrate compliance, determine the average emission rate (g/kW-hr) for each unit from the hourly emission rate results in each rolling 24 hour period.

6.7 *Ocean Confidence* NO_x Emission Limits for Large Emergency Electrical Generator and Small Diesel Units

6.7.1 Source Identification: Emergency Electrical Generator (DR-GE-12)

6.7.1.1 The permittee shall not discharge or cause the discharge of emissions into the atmosphere in excess of 0.22 tons of NO_x for the duration of the project.

6.7.1.2 Operating Limit: This unit shall be operated no more than 26 hours total for the duration of this project of non-emergency, planned operation time.

6.7.1.3 BACT Work Practice Standard: Use of good combustion and maintenance practices based on the current manufacturer's specifications for this engine.

6.7.2 Source Identification: Pressure Washer (DR-PW-01)

6.7.2.1 Operating Limit: This unit shall be operated no more than 624 hours total for the duration of this project.

6.7.2.2 BACT Work Practice Standard: Use of EPA-certified Tier 1 engine and good combustion and maintenance practices based on the current manufacturer's specifications for this engine.

6.7.3 Source Identification: Wire Line Unit (DR-WL-01)

6.7.3.1 Operating Limit: This unit shall be operated no more than 384 hours total for the duration of this project.

6.7.3.2 BACT Work Practice Standard: Use of EPA-certified Tier 2 engine and good combustion and maintenance practices based on the current manufacturer's specifications for this engine.

6.7.4 Source Identification: Cementing Units (DR-CU-01 and DR-CU-02)

6.7.4.1 Operating Limit: Each unit shall be operated no more than 180 hours total for the duration of this project.

6.7.4.2 BACT Work Practice Standard: Use of EPA-certified Tier 2 engines and good combustion and maintenance practices based on the current manufacturer's specifications for these engines.

6.7.5 Source Identification: Emergency Air Compressor (DR-AC-01)

6.7.5.1 Operating Limit: This unit shall be operated no more than 13 hours total for the duration of this project of non-emergency, planned operation time.

6.7.5.2 BACT Work Practice Standard: Use of good combustion and maintenance practices based on the current manufacturer's specifications for this engine.

6.7.6 Source Identification: Escape Capsules (DR-EC-01 through 04) and Fast Rescue Craft (DR-FRC-01)

6.7.6.1 Operating Limit: Each unit shall be operated no more than 13 hours total for the duration of this project of non-emergency, planned operation time.

6.7.7 Compliance Demonstration Method: Compliance with operating limits set forth in Conditions 6.7.1 through 6.7.6 will be assured by maintaining a record of operating time for each unit in accordance with Condition 6.7.8.

6.7.8 Monitoring and Recordkeeping Requirements: For each unit identified in Conditions 6.7.1 through 6.7.6, the permittee shall monitor and maintain a record with the following information:

- Unit ID;
- Date/time engine started;
- Date/time engine shut down;
- Name of person operating equipment (printed); and
- Signature of person operating equipment.

6.8 *Ocean Confidence* Drilling Vessel Fuel Consumption Limit

6.8.1 Operating Limit: The *Ocean Confidence* drilling vessel is limited to the consumption of 500 barrels per day of diesel fuel, not to exceed 1,890,000 gallons of diesel fuel for the duration of this project.

6.8.2 Compliance Demonstration Method: Compliance with this operating limit will be assured by maintaining a record of fuel consumption for the duration of this project.

6.8.3 Monitoring and Recordkeeping Requirements: The permittee shall monitor and maintain a record of the following information:

- Initial number of barrels/gallons of diesel fuel on the *Ocean Confidence* at the beginning of the project;
- Date of each diesel fuel delivery;
- Number of barrels/gallons of diesel fuel in each delivery;
- Name of person recording delivery (printed);
- Signature of recorder; and
- Final number of barrels/gallons of diesel fuel on the *Ocean Confidence* at the end of the project.

6.9 Support Vessel Operating Limits

6.9.1 Work Boat Operating Limit: Up to three work boats including the vessel *Andrea Chouest* and/or substitute boats with equivalent or lower emissions may be used. The vessels shall not exceed a total of 460 operating hours per work boat within 25 nautical miles of the *Ocean Confidence* for the duration of this project.

6.9.2 Crew Boat Operating Limit: One vessel, the *Alice G. McCall* or a substitute crew boat with equivalent or lower emissions, may be used. The crew boat shall not exceed a total of 195 operating hours within 25 nautical miles of the *Ocean Confidence* for the duration of this project.

6.9.3 The vessel *Andrea Chouest* or substitute work boats and the vessel *Alice G. McCall* or substitute crew boat shall not combust any diesel fuel with sulfur content greater than 0.05 percent by weight.

6.9.4 Compliance Demonstration Method: Compliance with these operating limits will be demonstrated by maintaining a record of operating time and fuel consumption for each work and crew boat within the 25 nautical mile radius of the *Ocean Confidence* and during standby time at the *Ocean Confidence*.

6.9.5 Monitoring and Recordkeeping Requirements: The permittee shall monitor and maintain a contemporaneous record of the following information for each support vessel:

- Date/time entering the 25 nautical mile radius;
- Date/time exiting the 25 nautical mile radius;
- Sulfur content of all fuel used in this vessel as specified in Condition 6.3.1;
- Gallons of fuel on each work boat entering the 25 nautical mile radius; and
- Gallons of fuel on each work boat exiting the 25 nautical mile radius.

6.10 New Source Performance Standards and National Emission Standard for Hazardous Air Pollutants (HAP) Requirements

6.10.1 Diesel engines for the pressure washer (DR-PW-01), wire line unit (DR-WL-01) and cementing units (DR-CU-01 and 02) on the *Ocean Confidence* drilling vessel are subject to 40 CFR part 60, subpart IIII and 40 CFR part 63 subpart ZZZZ based on their per cylinder displacement and model years. The permittee shall demonstrate compliance with the applicable requirements through the following:

6.10.1.1 The permittee shall maintain documentation in accordance with Condition 5.10 that engines specified in Condition 6.10.1 were installed and configured according to manufacturer’s specifications.

6.10.1.2 The permittee shall maintain records in accordance with Condition 5.10 of manufacturer data indicating compliance with EPA Tier 1 standards for diesel unit DR-PW-01 and EPA Tier 2 standards for diesel units DR-WL-01 and DR-CU-01 and 02.

6.10.1.3 The permittee shall operate and maintain the engines according to the manufacturer's written instructions or alternate procedures developed by the

permittee that are approved in writing by the engine manufacturer. The permittee shall only change those settings that are approved by the manufacturer. The permittee shall maintain records of the manufacturer's written instructions for operation and maintenance of the engine or the alternate procedures developed by the permittee that are approved in writing by the manufacturer in accordance with Condition 5.10.

6.10.1.4 The permitted engines shall not combust any diesel fuel that does not meet the requirements of Condition 6.3.

6.10.2 If the project extends beyond May 3, 2013, based on engine model years and engine use (summarized in Table 1 of this permit), diesel engines on the *Ocean Confidence* identified in Conditions 6.5.1 and 6.5.2 (DR-GE-01 through 11) are subject to and shall comply with the applicable requirements of 40 CFR part 63, subpart ZZZZ.

6.10.2.1 Existing stationary engines located at an area source of HAP emissions must comply with the requirements in Table 2d and the operating limitations in Table 1b and Table 2b in subpart ZZZZ no later than May 3, 2013 in accordance with the compliance schedule requirements of Conditions 5.1 and 5.4.

6.10.2.2 Compliance with the numerical emission limitations established in subpart ZZZZ is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR § 63.6620.

6.10.2.3 Compliance with Condition 6.11.2 shall be determined based upon recordkeeping required by the Compliance Certification set forth in Condition 5.13.

6.10.3 The permittee shall submit to EPA prior notification of any upgrades to or replacements of diesel units specified in Table 1 of this permit in addition to a reevaluation of the applicability of pertinent NESHAP and NSPS regulations for the modified diesel unit.

6.11 Project Reporting Requirements

The permittee shall submit all information required in Conditions 6.2 through 6.10 with the Compliance Certification Report as set forth by Condition 5.13.