

# 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-R4012-M1

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 Regulations (CFR) part 55, which incorporate by reference the Prevention of Significant Deterioration of Air Quality (PSD) regulations at 40 CFR § 52.21, and the Title V Operating Permit Program regulations at 40 CFR part 71.

Statoil Gulf Services, LLC  
2103 CityWest Boulevard, Suite 800  
Houston, Texas 77042

is hereby authorized to construct and operate air emissions units and to conduct other air pollutant emitting activities at an OCS source at multiple sites within the Gulf of Mexico, within the areas defined in this permit as the project location. Upon commencing activities in the area defined in this permit as the project location, this OCS source and associated support vessels shall be constructed and operated in accordance with the terms and conditions set forth in this permit.

This permit originally became effective on November 27, 2013.

This permit was modified on August 14, 2014.

This permit shall expire on: November 27, 2018.

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 and the Title V Operating Permit Program regulations at 40 CFR part 71. This permit is based upon application materials submitted to the EPA by Statoil Gulf Services, LLC (Statoil) dated September 5, 2012, December 7, 2012, January 28, 2013, and June 27, 2013, and, as revised, March 27, 2014; all supplemental submittals and information included in the administrative record for this permit action; and upon the technical analysis performed by the EPA.

## 2 APPLICANT

Statoil Gulf Services, LLC  
2103 CityWest Boulevard, Suite 800  
Houston, Texas 77042

## 3 PROJECT LOCATION

Statoil's project is located in the OCS waters of the Gulf of Mexico. The Transocean *Discoverer Americas* will operate in the DeSoto Canyon area lease blocks 143, 187, 188, 230, 231, 625, 669, 670, 671, 715, 716, 759, 760, and 804. The Maersk *Developer* will operate in the same DeSoto Canyon area or in any eastern Gulf of Mexico area located further from the Breton Wilderness Class I area, east of longitude 87.5, west of the Military Mission Line (86°41' west longitude), outside of the current Congressional moratoria area as specified by the Gulf of Mexico Energy Security Act of 2006, and not within 75 nautical miles of the state seaward boundary of Florida.

The northwest corner of lease block 143, the closest point within the specified lease blocks to any state's shoreline, is located on OCS waters of the Gulf of Mexico east of longitude 87.5 ° W at latitude 28.85° N and longitude 86.42 ° W.

## 4 PROJECT DESCRIPTION

Statoil will operate either the Maersk *Developer* (Operating Scenario 1) or the Transocean *Discoverer Americas* (Operating Scenario 2) deepwater drilling vessel and its associated support vessels to perform exploratory drilling activities for approximately 180 days per year at multiple locations listed in Section 3 above. Drilling operations are expected to occur for approximately five to ten years. This permit does not authorize the construction or establishment of any permanent production facilities.

Air pollutant emissions generated from the project include nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>) (known as criteria pollutants), as well as other regulated air pollutants including volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), and greenhouse gases (GHG). VOC and NO<sub>x</sub> are the measured precursors for the criteria pollutant ozone, and NO<sub>x</sub> and SO<sub>2</sub> are measured precursors for PM<sub>2.5</sub>.

GHG emissions for this project were calculated based on Global Warming Potential (GWP) factors from the GHG Reporting Rule at 40 CFR Part 98, Subpart A, Table A-1. The following GWP factors in Table A-1 as of the date of the original permit remain applicable to the unmodified terms of the permit (*i.e.*, emissions related to the Transocean *Discoverer Americas* operating under Operating Scenario 2):

<u>GHG Pollutant</u>	<u>GWP Factor</u>
CO <sub>2</sub>	1
CH <sub>4</sub>	21
N <sub>2</sub> O	310
SF <sub>6</sub>	23,900

GWP factors currently in 40 CFR Part 98, Subpart A, Table A-1 and applicable to the modified permit terms related to the Maersk *Developer* and support vessel emissions are:

<u>GHG Pollutant</u>	<u>GWP Factor</u>
CO <sub>2</sub>	1
CH <sub>4</sub>	25
N <sub>2</sub> O	298
SF <sub>6</sub>	22,800

Emissions are primarily released from the combustion of diesel fuel in the drilling vessel's main engines, as well as in engines that supply power for drilling equipment and support vessels. Emissions are also released from other equipment such as storage tanks, and from activities such as vessel maintenance, cementing the wells, and the pumping of heavy lubricating mud.

Based on emissions estimates and the applicable permitting thresholds, both operating scenarios will have significant emissions of NO<sub>x</sub>, and are considered major sources of NO<sub>x</sub> with respect to the PSD and title V regulations. Therefore, drilling operations conducted under either operating scenario are subject to the PSD and title V programs for NO<sub>x</sub> as the measured pollutant for criteria pollutants NO<sub>2</sub> and ozone and as a precursor to PM<sub>2.5</sub>. Based on stack testing data from October 2013 included in Statoil's permit modification application dated March 27, 2014, drilling under Operating Scenario 1 using the *Developer* also has emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, and VOC that meet or exceed the respective PSD significant emission rates. In addition, either operating scenario will be considered an area source of hazardous air pollutants pursuant to 40 CFR 63 subpart ZZZZ.

Based on Statoil's original permit application dated September 5, 2012, PM<sub>2.5</sub> will be emitted at close to its significant emission rate in Operating Scenario 2. Therefore, the EPA has also included a condition in the draft permit that limits the *Discoverer America's* total filterable and condensable PM<sub>2.5</sub> emissions.

The *Developer* (Operating Scenario 1) is a self-powered, dynamically positioned semi-submersible drill rig constructed with pontoon structures below the water surface and columns supporting a platform above the surface. Rig positioning is achieved using a computer controlled sensor system and the vessel's propellers and thrusters. Therefore, the rig will not require the use of towing or anchoring vessels as part of the support fleet.

The rig is equipped with eight main generator engines to provide propulsion and electrical power, two cementing unit engines, an emergency generator, four life boats, a fast rescue boat (man overboard boat), and storage vessels for fuel and waste oil storage. Electric powered well logging (wireline) units, forklifts, and cranes are used on the rig. However, since the electric units do not have combustion

engines, they are not addressed as a separate source of air emissions. Information regarding emissions units for the *Developer* is provided in Table 1 below.

The information provided in Tables 1 and 2 is for description and identification purposes and does not establish operating limits. Permit conditions may limit operation to less than rated capacity.

**Table 1 – Developer Emissions Units (Operating Scenario 1)**

Emissions Unit ID	Description	Manufacturer and Model	Displacement (L/cylinder)	Rating (kW) <sup>a</sup>	Rating (hp) <sup>b</sup>	Manufacture Date
GEN-1	Main Generator Engine 1	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-2	Main Generator Engine 2	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-3	Main Generator Engine 3	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-4	Main Generator Engine 4	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-5	Main Generator Engine 5	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-6	Main Generator Engine 6	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-7	Main Generator Engine 7	Wärtsilä 16V26A	17.0	4840	6651	8/2006
GEN-8	Main Generator Engine 8	Wärtsilä 16V26A	17.0	4840	6651	8/2006
EGEN	Emergency Generator Engine	Caterpillar 3516B	4.9	1902	2551	11/2006
CMU-1	Cement Unit Engine 1	Caterpillar C15	2.4	373	500	10/2006
CMU-2	Cement Unit Engine 2	Caterpillar C15	2.4	373	500	9/2006
LB-1	Lifeboat 1 Engine	BUKH or similar	---	22	29	8/2007
LB-2	Lifeboat 2 Engine	BUKH or similar	---	22	29	8/2007
LB-3	Lifeboat 3 Engine	BUKH or similar	---	22	29	8/2007
LB-4	Lifeboat 4 Engine	BUKH or similar	---	22	29	8/2007
MOB-1	Fast Rescue Boat Engine	Steyr Motors or similar	---	122	163	3/2007

<sup>a</sup> Kilowatt

<sup>b</sup> Horsepower

The *Discoverer Americas* (Operating Scenario 2) is a dynamically positioned drillship. Similar to the *Developer* in Operating Scenario 1, this drillship is equipped with a computer controlled sensor system to automatically maintain the vessel's position and heading over a location using its propellers and thrusters. The drillship travels under the main generator engines' power to the next drill site and does not require towing or anchoring vessels as part of the support fleet.

The *Discoverer Americas*' equipment includes six main engines that power electrical equipment and serve as propulsion generators, an emergency generator, two emergency air compressors, two forklifts, six life boats, a fast rescue boat (man overboard boat), and storage vessels for fuel and waste oil. The ship is also equipped with electric-powered wireline units, cementing units, and cranes. However, since these units do not have combustion engines, they are not addressed as separate sources of air emissions. Information regarding emissions units for the *Discoverer Americas* of Operating Scenario 2 is provided in Table 2 below.

**Table 2 – Discoverer Americas Emissions Units (Operating Scenario 2)**

Emissions Unit ID	Description	Manufacturer and Model	Displacement (L/cylinder)	Rating (kW) <sup>a</sup>	Rating (hp) <sup>b</sup>	Manufacture Date
GEN-1	Main Generator Engine 1	STX MAN 14V32/40	32.2	7000	9387	3/2008
GEN-2	Main Generator Engine 2	STX MAN 14V32/40	32.2	7000	9387	3/2008
GEN-3	Main Generator Engine 3	STX MAN 14V32/40	32.2	7000	9387	3/2008
GEN-4	Main Generator Engine 4	STX MAN 14V32/40	32.2	7000	9387	3/2008
GEN-5	Main Generator Engine 5	STX MAN 14V32/40	32.2	7000	9387	4/2008
GEN-6	Main Generator Engine 6	STX MAN 14V32/40	32.2	7000	9387	4/2008
EGEN	Emergency Generator	STX MAN 7L27/38	21.8	2309	3097	2/2008

Emissions Unit ID	Description	Manufacturer and Model	Displacement (L/cylinder)	Rating (kW) <sup>a</sup>	Rating (hp) <sup>b</sup>	Manufacture Date
	Engine					
ACOMP-1	Emergency Air Compressor Engine 1	Duetz F3L912	0.9	37	50	1/2007
ACOMP-2	Emergency Air Compressor Engine 2	Duetz F4L912	0.9	51	68	1/2007
FORK-1	Forklift Engine 1	Mitsubishi 8MVKL.0AAD or similar	3.3 (engine total)	37	50	2008
FORK-2	Forklift Engine 2	Mitsubishi 8MVKL.0AAD or similar	3.3 (engine total)	37	50	2008
LB-1	Lifeboat 1 Engine	BUKH or similar	---	27	36	9/2006
LB-2	Lifeboat 2 Engine	BUKH or similar	---	27	36	9/2006
LB-3	Lifeboat 3 Engine	BUKH or similar	---	27	36	8/2006
LB-4	Lifeboat 4 Engine	BUKH or similar	---	27	36	9/2006
LB-5	Lifeboat 5 Engine	BUKH or similar	---	27	36	9/2006
LB-6	Lifeboat 6 Engine	BUKH or similar	---	27	36	9/2006
MOB-1	Fast Rescue Boat Engine	Steyr Motors or similar	---	158	212	9/2006
HTR	Cargo Hold Heater	---	---	---	---	Post 1989

<sup>a</sup> Kilowatt

<sup>b</sup> Horsepower

The drillships are supported by various vessels operating within 25 miles. Support vessels include crew boats and offshore support vessels (OSVs) that bring crew, supplies, and materials to the ship as needed during exploratory drilling activities. A representative vessel for each support vessel category, the crew boat *Sybil Graham* and the OSV *Peyton Candies*, was used to calculate the worst case potential emissions from the support fleet.

## 5 GENERAL CONDITIONS

### 5.1 Compliance

- 5.1.1 The permittee shall comply with all requirements of 40 CFR part 71, 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 The permittee must comply with all conditions of this permit. All terms and conditions of this permit are enforceable by the EPA and citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
- 5.1.3 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.

[40 CFR §§ 55.8, 55.9(a), 55.9(b), 71.6(a)(6)(i), and 71.6(a)(6)(ii)]

## 5.2 Permit Shield

Compliance with the terms and conditions of this permit shall be deemed compliance with the applicable requirements that are included and are specifically identified in this permit. Nothing in this permit shall alter or affect the following:

- The provisions of CAA section 303 (emergency orders), including the authority of the Administrator under that section;
- The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- The ability of EPA to obtain information from a source pursuant to CAA section 114.

[40 CFR § 71.6(f)(1)]

## 5.3 Other Credible Evidence

For the purpose of submitting compliance certifications in accordance with Condition 5.21 of this permit, or 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.

[CAA §§ 113(a) and 113(e)(1), 40 CFR §§ 60.11(g) and 61.12]

## 5.4 Construction and Operation

5.4.1 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.

5.4.2 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.

[40 CFR § 52.21(r)(1)]

## 5.5 Compliance and 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.

[40 CFR § 55.6(a)(4)(iii)]

## 5.6 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.

[40 CFR § 55.6(a)(4)(iv)]

## 5.7 Expiration of Approval to Construct and Permit Renewal

5.7.1 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. The EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. For the purposes of this permit, periods greater than 18 months between drilling campaigns are not considered to be a discontinuation of construction.

[40 CFR § 52.21(r)(2)]

5.7.2 This permit shall expire on the expiration date on page one of this permit.

[40 CFR § 71.6(a)(2)]

5.7.3 Expiration of this permit terminates the permittee's right to operate unless a timely and complete permit renewal application has been submitted at least six (6) months, but not more than 18 months, prior to the date of expiration of this permit. If the permittee submits a timely and complete renewal application, and the EPA does not take final action on the renewal application before the end of the term of this permit, the permittee's failure to have a permit is not a violation of 40 CFR part 71 until the permitting authority takes final action on the renewal application. Such protection will cease to apply if, subsequent to the EPA's determination that the renewal application is complete, the permittee fails to submit by the deadline specified in writing by the EPA any additional information identified as being needed to process the application.

[40 CFR §§ 71.5(a)(1)(iii), 71.7(b), and 71.7(c)(1)(ii)]

5.7.4 If the permittee submits a timely and complete permit application for renewal, consistent with 40 CFR §§71.5(a)(1)(iii) and 71.5(a)(2), but the EPA does not take final action on the renewal application before the end of the term of this permit, then all the terms and conditions of this permit, including any permit shield granted pursuant to 40 CFR § 71.6(f), shall remain in effect until EPA takes final action on the renewal application.

[40 CFR §§ 71.7(c)(3) and 71.7(b)]

5.7.5 Renewal of this permit is subject to the same procedural requirements that apply to initial permit issuance, including those for public participation and affected State review.

[40 CFR §71.7(c)(1)(i)]

- 5.7.6 An application to the EPA for renewal shall include all information required pursuant to 40 CFR § 71.5(c), as well as the current permit number, a description of permit revisions and off-permit changes that occurred during the permit term and were not incorporated into the permit during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application form.

[40 CFR §§ 71.5(a)(2) and 71.5(c)(5)]

## **5.8 Property Rights**

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

[40 CFR §71.6(a)(6)(iv)]

## **5.9 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:

- Have access to and copy any records that must be kept under the 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;
- Inspect the OCS source, support vessels, equipment, practices, or operation regulated or required under this permit; and
- 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.

[40 CFR §§ 71.6(c)(2) and 55.8]

## **5.10 Emergency Provisions**

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 noncompliance with such technology-based emissions limitation. The permittee shall demonstrate the affirmative defense of emergency 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 5.17.2 of this permit, concerning prompt notification of deviations.

[40 CFR §§ 71.6(g)(2), 71.6(g)(3), and 71.6(g)(5)]

### **5.11 Burden of Proof for Emergencies**

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

[40 CFR § 71.6(g)(4)]

### **5.12 Emergency Defined**

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.

[40 CFR § 71.6(g)(1)]

### **5.13 Certification Requirement**

Any document required to be submitted under this permit shall be certified by a responsible official as to truth, accuracy, and completeness. Such certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[40 CFR §§ 71.5(d), 71.6(c)(1), and 71.9(h)(2)]

### **5.14 Permit Actions**

This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[40 CFR § 71.6(a)(6)(iii)]

### **5.15 Reopening for Cause**

The permit shall be reopened by the EPA and the permit revised prior to expiration under any of the circumstances described in 40 CFR § 71.7(f).

[40 CFR § 71.7(f)]

### **5.16 Recordkeeping Requirements**

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

- 5.16.1 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- 5.16.2 The permittee shall furnish all records required by this permit.
- 5.16.3 During enforcement actions, the retention period for all records required by this permit will be extended automatically until the permittee receives written notice from EPA that the permittee no longer needs to retain these records.
- 5.16.4 The permittee shall hold at the corporate offices of Statoil Gulf Services, LLC, located at 2103 CityWest Boulevard, Suite 800, Houston, Texas 77042, all records required by the permit, including, but not limited to, monitoring data and support 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. Records of all data used to complete the permit application must be kept for five years from the date of the application, unless otherwise specified. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and copies of all reports required by the permit.

[40 CFR §§ 71.6(a)(3)(ii)(B) and 55.8]

- 5.16.5 Records of monitoring information shall include:

- Date and time of sampling or measurements;
- Emission unit or other place as defined in this permit;
- Name of the person who performed the sampling or measurements;
- Operating conditions as existing at the time of sample or measurement;
- Date(s) the analyses were performed;
- Results of such analyses; and
- Analytical techniques or methods used.

[40 CFR § 71.6(a)(3)(ii)(A)]

- 5.16.6 When requested by the 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 the EPA, such facts or information shall be corrected promptly.

[40 CFR §§ 71.5(b) and 55.8]

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:

<u>Name</u>	<u>Email</u>	<u>Phone</u>
David Lloyd	lloyd.david@epa.gov	404-562-9216
Jason Dressler	dressler.jason@epa.gov	404-562-9208
Kelly Fortin	fortin.kelly@epa.gov	404-562-9117
Lori Shepherd	lorinda.shepherd@epa.gov	404-562-8435

5.16.7 The permittee shall furnish to the EPA, within a reasonable time, any information that the EPA may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the EPA copies of records that are required to be kept pursuant to the terms of the permit, including information claimed to be confidential. Information claimed to be confidential must be accompanied by a claim of confidentiality according to the provisions of 40 CFR part 2, subpart B.

[40 CFR §§ 71.6(a)(6)(v), 71.5(a)(3), and 55.8]

## 5.17 General Reporting Requirements

5.17.1 The permittee shall submit to the EPA reports of any required monitoring for each six month reporting period from July 1 to December 31 and from January 1 to June 30, except that the first reporting period shall begin on the effective date of this permit and end on either June 30 or December 31, whichever occurs first. All reports shall be submitted to the EPA and shall be postmarked by the 30th day following the end of the reporting period. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with Condition 5.13.

5.17.2 The permittee shall promptly report to the EPA, by telephone or facsimile, deviations from permit conditions, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. The report shall be made using the following numbers:

Telephone: (404) 562-9194

Facsimile: (404) 562-9019

Attn: Air Permits Part 71 Deviation Report

5.17.3 For the purposes of Condition 5.17.2 of the permit, prompt is defined as follows:

5.17.3.1 Any definition of prompt or a specific time frame for reporting deviations provided in an underlying applicable requirement as identified in this permit.

5.17.3.2 Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:

- For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence;
- For emissions of any regulated pollutant excluding those referenced in the preceding bullet, that continue for more than two (2) hours in excess of permit requirements, the report must be made within 48 hours of the occurrence; or
- For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report required in Condition 5.17.1.

5.17.4 Within 10 working days of the occurrence of a deviation that requires 24-hr or 48-hr notification as provided in Condition 5.17.3.2 above, the permittee shall also submit a written notice, which shall include a narrative description of the deviation and updated information as listed below to the EPA, certified consistent with Condition 5.13 of this permit. When reporting excess emissions or permit deviations, including those that are required to be submitted for the first time with the semi-annual monitoring report, the permittee must report in writing the following information:

- OCS Source (Facility) Name;
- OCS Air Permit Number;
- Company Name;
- Date/Time when the deviation was discovered;
- Date/Time when the event began (24-hour clock);
- Date/Time when the event ended (24-hour clock);
- Duration of the event: (hours: minutes) 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;
- If not corrected, the anticipated time the deviation is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the deviation; and
- Certification: Based on information and belief formed after reasonable inquiry, certify that the statements and information reported are true, accurate, and complete.

5.17.5 For the purposes of Conditions 5.17.1 through 5.17.6, 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 recordkeeping 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.

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

[40 CFR §§ 55.8, 71.6(a)(3)(i)(B), and 71.6(a)(3)(iii)]

## 5.18 Off Permit Changes

The permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met:

- Each change is not addressed or prohibited by this permit;
- Each change shall meet all applicable requirements and shall not violate any existing permit term or condition; and
- Each change may not include changes subject to any requirement under any provision of title I of the Clean Air Act.

5.18.1 The permittee shall provide contemporaneous written notice to the EPA of each change under this provision, except for changes that qualify as insignificant activities under 40 CFR § 71.5(c)(11). The written notice shall include the following:

- A description of each change;
- Date of the change;
- Any change in emissions;
- List of pollutants emitted; and
- Any applicable requirements that would apply as a result of the change.

5.18.2 The permit shield in Condition 5.2 does not apply to changes made under this provision.

5.18.3 The permittee shall keep a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes.

[40 CFR §71.6(a)(12)]

## 5.19 Operational Flexibility

The permittee is allowed to make a limited class of changes under section 502(b)(10) of the Clean Air Act within this permitted facility without applying for a permit revision, provided the changes do not

exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions) and are not title I modifications. This class of changes does not include changes that would violate applicable requirements or changes that would contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

5.19.1 The permittee is required to send a notice to EPA at least 7 days in advance of any change made under this provision. The notice must describe the change, when it will occur and any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The permittee shall attach each notice to its copy this permit.

5.19.2 Any permit shield provided under Condition 5.2 does not apply to changes made under this provision.

[40 CFR §§ 71.2 and 71.6(a)(13)(i)]

## **5.20 Combined Operating Scenarios**

In the event that more than one drilling vessel is constructed or operated during any compliance period, such as a 12-month rolling average, any applicable condition of this permit, including but not limited to emission limits, fuel consumption limits, operating limits, and fee calculations, shall be prorated based on the duration of the operation of each vessel during the compliance period. In no case does this condition allow for the simultaneous operation of more than one drilling vessel concurrently within the lease blocks specified in Section 3 under the terms of this permit.

[40 CFR § 55.6]

## **5.21 Annual Compliance Certification**

The permittee shall submit to the EPA a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, postmarked by February 28 of each year and covering the previous calendar year except that the first certification shall cover the period from the effective date of this permit through December 31. The compliance certification shall be certified as to truth, accuracy and completeness by a responsible official consistent with Condition 5.13 of this permit. The certification shall include the following:

- Identification of each permit term or condition that is the basis of the certification;
- Identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the methods and means required in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the CAA, which prohibits knowingly making a false certification or omitting material information;
- Status of compliance with each term and condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated above. The certification shall identify each deviation and take it into account in the compliance certification; and
- A summary of NO<sub>x</sub>, CO, PM/PM<sub>10</sub>/PM<sub>2.5</sub>, SO<sub>2</sub>, VOC, GHG, and HAP emissions in tons per year emitted by each emissions unit regulated under this permit during the duration of the

reporting period based on recorded data, such as actual fuel usage and actual hours of operation.

[40 CFR §§71.6(c)(5), 55.6(a)(4) and 55.8]

## **5.22 Compliance Schedule**

For applicable requirements with which the source is in compliance, the permittee will continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis.

[40 CFR §§ 71.6(c)(3) and 71.5(c)(8)(iii)(A) and (B)]

## **5.23 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 the EPA, the shutdown will be coordinated by the EPA with the DOI 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 the EPA's consultation with these entities, but in no case will initiation of the shutdown be delayed by more than 24 hours after the EPA consults with these agencies. The initiation of the shutdown process will not preclude well procedures necessary to ensure safety.

[40 CFR § 55.9(c)]

## **5.24 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. Permittee shall notify the succeeding owner and operator of the existence of this permit and its conditions by letter, a copy of which shall be forwarded to EPA Region 4.

[40 CFR § 55.6(a)(4)(iv)]

## **5.25 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.

[40 CFR §71.6(a)(5)]

## **5.26 General Testing Requirements**

- 5.26.1 In addition to the specific testing requirements contained in the emission unit sections of this permit, the permittee shall comply with the generally applicable testing requirements in Conditions 5.26.2 through 5.26.10 whenever conducting a performance test required by this permit unless specifically stated otherwise in this permit.

5.26.2 The permittee shall provide the EPA at least 30 days prior notice of any performance test, except as otherwise specified in this permit, to afford the EPA the opportunity to have an observer present. If after the 30-day notice for an initially scheduled performance test, there is a delay in conducting the scheduled performance test, the permittee shall notify the EPA as soon as possible of any delay in the original test date, either by providing at least seven (7) days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the EPA by mutual agreement.

5.26.3 The permittee shall submit to the EPA a source test plan 30 days prior to any required testing. The source test plan shall include and address the following elements:

- Purpose and scope of testing;
- Source description, including a description of the operating scenarios and mode of operation during testing and including fuel sampling and analysis procedures;
- Schedule/dates of testing;
- Process data to be collected during the test and reported with the results, including source-specific data identified in the emission unit sections of this permit;
- Sampling and analysis procedures, specifically requesting approval for any proposed alternatives to the reference test methods, and addressing minimum test length (*e.g.*, one hour, eight (8) hours, 24 hours, etc.) and minimum sample volume;
- Sampling location description and compliance with the reference test methods;
- Analysis procedures and laboratory identification;
- Quality assurance plan;
- Calibration procedures and frequency;
- Sample recovery and field documentation;
- Chain of custody procedures;
- Quality assurance/quality control project flow chart;
- Data processing and reporting;
- Description of data handling and quality control procedures; and
- Report content and timing.

5.26.4 Only regular operating staff may adjust the processes or emission control devices during or within two (2) hours prior to the start of a source test. Any operating adjustments made during a source test that do not result in representative testing conditions may render the source test invalid.

5.26.5 For the duration of each test run (unless otherwise specified), the permittee shall record the following information:

- All data which is required to be monitored during the test in the emission unit sections of this permit; and
- All continuous monitoring system data that is required to be routinely monitored in the emission unit sections of this permit for the emission unit being tested.

5.26.6 Each source test shall follow the reference test methods specified by this permit and consist of at least three (3) valid test runs conducted under normal operating conditions.

5.26.7 If the reference test method yields measured pollutant concentration values at an oxygen concentration other than specified in the emission standard, the permittee shall correct the measured pollutant concentration to the oxygen concentration specified in the emission standard by using the following equation:

$$PC_X = PC_m \times \frac{(21-X)}{(21-Y)}$$

Where:

PC<sub>X</sub> = Pollutant concentration at X percent;

PC<sub>m</sub> = Pollutant concentration as measured;

X = the oxygen concentration specified in the standard; and

Y = the measured average volumetric oxygen concentration.

5.26.8 Facilities for performing and observing the emission testing shall be provided that meet the requirements of 40 CFR § 60.8(e) and Reference Method 1 (40 CFR § 60, Appendix A).

5.26.9 Emission test reports shall be submitted to the EPA within 45 days of completing any emission test required by this permit along with items required to be recorded in Condition 5.26.5 above.

5.26.10 Source test emission data shall be reported as the arithmetic average of all valid test runs and in the terms of any applicable emission limit, unless otherwise specified in the emission unit sections of this permit.

[40 CFR §§ 71.6(a)(3) and 71.6(c)(1)]

## 5.27 Fee Payment

5.27.1 No later than April 1 of each year, the permittee shall submit the following to the EPA:

- Full payment of the annual permit fee, as specified in Conditions 5.27.2 through 5.27.11;
- An updated fee calculation worksheet form and a photocopy of each fee payment check (or other confirmation of actual fee paid), as specified in Conditions 5.27.4 through 5.27.8; and
- An annual emissions report of actual emissions, as specified in Condition 5.27.6, for the preceding calendar year.

5.27.2 The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of the U.S. Environmental Protection Agency.

5.27.3 The permittee shall send fee payment and a completed fee filing form to either of the addresses listed below.

If sent by Regular Mail through U.S. Postal Service (USPS), send to:

U.S. Environmental Protection Agency  
FOIA and Miscellaneous Payments

Cincinnati Finance Center  
PO Box 979078  
St. Louis, MO 63197-9000

If sent by Express Delivery (or when a physical address is required), send to:

U.S. Bank  
Government Lockbox 979078  
US EPA FOIA & Misc. Payments  
1005 Convention Plaza  
Mail Station SL-MO-C2GL  
St. Louis, MO 63101  
Contact: Natalie Pearson  
(314-418-4087)

5.27.4 The permittee shall send an updated fee calculation worksheet form and a photocopy of each fee payment check (or other confirmation of actual fee paid), submitted annually by the date specified in Condition 5.27.1, to:

Chief  
Air Permits Section  
Air, Pesticides and Toxics Management Division  
U.S. EPA Region 4  
61 Forsyth Street, SW  
Atlanta, GA 30303

5.27.5 The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of all “regulated pollutants (for fee calculation),” emitted from the source by the presumptive emission fee (in dollars/ton) in effect at the time of calculation. The presumptive emission fee is revised each calendar year and is available from the EPA prior to the start of each calendar year.

5.27.5.1 “Actual emissions” means the actual rate of emissions in tons per year (TPY) of any “regulated pollutant (for fee calculation),” as defined in 40 CFR § 71.2, emitted from a part 71 source over the preceding calendar year. Actual emissions shall be calculated using each emissions unit’s actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year.

5.27.5.2 Actual emissions shall be computed using methods required by the permit for determining compliance, such as monitoring or source testing data.

5.27.5.3 If actual emissions cannot be determined using the compliance methods in the permit, the permittee shall use other federally recognized procedures.

5.27.5.4 The permittee shall exclude the following emissions from the calculation of fees:

- The amount of actual emissions of each regulated pollutant (for fee calculation) that the source emits in excess of 4,000 tons per year;
- Actual emissions of any regulated pollutant (for fee calculation) already included in the fee calculation; and
- The insignificant quantities of actual emissions not required to be listed or calculated in a permit application pursuant to 40 CFR § 71.5(c)(11).

5.27.6 The permittee shall submit an annual emissions report of its actual emissions for the preceding calendar year. The annual emissions report shall be certified by a responsible official and shall be submitted each year to the EPA by the date specified in Condition 5.27.1. The annual emissions report shall be submitted to the EPA at the address listed in Condition 5.27.3 of this permit.

5.27.7 Fee calculation worksheets shall be certified as to truth, accuracy, and completeness by a responsible official in accordance with Condition 5.13 of this permit.

5.27.8 The permittee shall retain in accordance with the provisions of Conditions 5.16.4 and 5.16.5 of this permit, all worksheets and other materials used to determine fee payments. Records shall be retained for five years following the year in which the emissions data is submitted.

5.27.9 Failure of the permittee to pay fees in a timely manner shall subject the permittee to assessment of penalties and interest.

5.27.10 The permittee, when notified by the EPA of additional amounts due, shall remit full payment within 30 days of receipt of an invoice from the EPA.

5.27.11 If the permittee believes that an EPA-assessed fee is in error and wishes to challenge such fee, the permittee shall provide a written explanation of the alleged error to the EPA along with full payment of the EPA assessed fee.

[40 CFR § 71.9]

## 6 SPECIFIC CONDITIONS

### 6.1 Drill Site Notification

6.1.1 At least 10 days prior to entering the drill site, the permittee shall notify the EPA in writing, in accordance with Condition 5.16.7 of this permit, of the following information:

- The location of the proposed drill site, using coordinates in latitude/longitude and Universal Transverse Mercator grid system formats;
- The proposed date that the drilling vessel will enter the lease block and commence construction or operation and the probable duration of operation at that location; and
- The certification of maintenance and no physical changes required by Condition 6.5.1.1 (if applicable).

6.1.2 Not less than 24 hours prior to commencing construction or operation, the permittee shall notify the EPA of any changes to information provided by the permittee in Condition 6.1.1. This notification of changes may be provided to the EPA electronically.

[40 CFR §§ 71.6(a)(6)(v), 52.21 and 55.8]

### 6.2 Support Vessel Identification

The permittee shall maintain records, in accordance with Condition 5.16, of the engine specifications and number of hours operated within 25 miles of the drilling vessel for any support vessel used in place of the *Peyton Candies* (offshore support vessel) and/or the *Sybil Graham* (crew boat). These records, as well as engine emission factors and calculated mass emissions in tons per year of regulated pollutant, shall be submitted as part of the Annual Compliance Certification in accordance with Condition 5.21.

6.2.1 Any offshore support vessel used in place of the *Peyton Candies* shall meet Condition 6.20, and shall be selected to have worst case potential emissions less than those of the *Peyton Candies*.

6.2.2 Any crew boat used in place of the *Sybil Graham* shall meet Condition 6.21, and shall be selected to have worst case potential emissions less than those of the *Sybil Graham*.

[40 CFR § 55.8]

### 6.3 Source-wide SO<sub>2</sub> Emission Limits

The permittee shall not combust any diesel fuel with a sulfur content greater than 15 parts per million (ppm) by weight (0.0015%), as determined by Condition 6.3.1, in any diesel fueled emission unit on the *Developer*, the *Discoverer Americas*, or 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 Prior to mobilizing the selected drilling vessel for activities covered by this permit, the permittee shall determine and record the sulfur content of the diesel fuel on the drilling vessel and the support vessels using the procedures in Condition 6.3.1.
- 6.3.3 Thereafter, the permittee shall determine and record the sulfur content of diesel fuel on the drilling vessel and the support vessels using procedures in Condition 6.3.1 upon receiving each fuel shipment.
- 6.3.4 The permittee shall provide the results of all fuel sample analyses required by Conditions 6.3.2 and 6.3.3 with the Annual Compliance Certification required by Condition 5.21.

[40 CFR §§ 52.21, 60.42c(h) subpart Dc, 71.6(a)(3), 71.6(c)(1), and 55.8]

#### **6.4 Discoverer Americas Source-Wide PM<sub>2.5</sub> Emission Limits**

- 6.4.1 The permittee shall not discharge or cause the discharge into the atmosphere 10 TPY or more of total filterable and condensable PM<sub>2.5</sub> emissions from all emission units on the *Discoverer Americas*, including any support vessels operating within 25 miles and used in service of the drilling vessel, on a 12-month rolling basis.
- 6.4.2 Compliance with this operating limit shall be demonstrated by calculating total PM<sub>2.5</sub> emissions in TPY from all emission units using monthly fuel consumption, as required by Conditions 6.19 (*Discoverer Americas*), 6.20.2 (OSVs), and 6.21.2 (crew boats), or hours of operation and verifiable equipment-specific emissions rates for total filterable and condensable PM<sub>2.5</sub> emissions determined in accordance with compliance demonstration methods set forth in Condition 6.22, or by using the most accurate equipment specific emission rate that may be obtained from among those included in the application, vendor data, or manufacturer emissions certification, if actual emissions rates are not available. The permittee shall calculate total PM<sub>2.5</sub> emissions for the previous 12-month period on a 12-month rolling basis within 15 days following the end of each calendar month.
- 6.4.3 The permittee shall submit a written report in compliance with Condition 5.17.1 including the results of the PM<sub>2.5</sub> limit calculations performed in accordance with Condition 6.4.2 for each 12-month period completed in the report.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

#### **6.5 General Stack Test Requirements**

- 6.5.1 Within 90 days of the start of the first campaign that the subject drilling vessel operates under this permit, the eight main engines (GEN-1 through GEN-8) of the *Developer* or the six main engines of the *Discoverer Americas* (GEN-1 through GEN-6) shall have been stack tested under the requirements of Condition 6.5 and Condition 5.26 within the previous 12 month period.

- 6.5.1.1 If, after the initial stack tests, the drilling vessel discontinues drilling under the permit for more than 12 months, the permittee shall certify that a continuous maintenance program has been conducted and that no physical changes that could impact emissions have occurred since the latest stack test, or the permittee shall conduct a new stack test prior to restarting drilling operations in accordance with the general stack testing requirements set forth in Condition 5.26 and Conditions 6.5.2 through 6.5.6.
- 6.5.1.2 If a continuous maintenance program is selected from the options in Condition 6.5.1.1, the certification shall be included with the drill site notification required pursuant to Condition 6.1. Maintenance records shall be kept in accordance with the recordkeeping requirements set forth in Condition 5.16
- 6.5.2 Each stack test shall be conducted by using stack testing data collected according to an EPA approved source test plan set forth in Condition 5.26.
- 6.5.3 Each stack test shall be conducted at three different loads spanning the expected range of operations.
- 6.5.4 At a minimum, each stack test run shall test for emissions of CO, NO<sub>x</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, VOC, and visible emissions at a reference O<sub>2</sub> or CO<sub>2</sub> concentration.
- 6.5.5 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).
- 6.5.6 For each engine, each load, and each pollutant (CO, CO<sub>2</sub>, NO<sub>x</sub>, PM, PM<sub>2.5</sub>, PM<sub>10</sub>, VOC), the permittee shall determine emission rates in g/kW-hr. Pollutant test data obtained in accordance with Condition 6.5 or fuel usage monitoring data may be used to calculate CO<sub>2</sub> and PM.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

## **6.6 Developer Main Generator Engines (GEN-1 through GEN-8) Emission and Operating Limits**

- 6.6.1 The permittee shall not discharge or cause the discharge of emissions into the atmosphere in excess of the following from each of the main generator engines on a rolling 24-hour average basis:
- 6.6.1.1 NO<sub>x</sub> BACT Emission Limit: 12.0 g/kW-hr.
- 6.6.1.2 VOC BACT Emission Limit:
- 6.6.1.2.1 2.15 g/kW-hr for engine loads < 55%, or
- 6.6.1.2.2 1.73 g/kW-hr for engines loads ≥ 55%.

6.6.1.3 PM<sub>10</sub> BACT Emission Limit:

6.6.1.3.1 0.50 g/kW-hr for engine loads < 55%; or

6.6.1.3.2 0.26 g/kW-hr for engines loads ≥ 55%.

6.6.1.4 PM<sub>2.5</sub> BACT Emission Limit:

6.6.1.4.1 0.49 g/kW-hr for engine loads < 55%; or

6.6.1.4.2 0.26 g/kW-hr for engines loads ≥ 55%.

6.6.2 The permittee shall not discharge or cause the discharge of emissions into the atmosphere in excess of the following from the eight main generator engines combined on a rolling 12-month total basis.

6.6.2.1 NO<sub>x</sub> BACT Emission Limit: 416.15 TPY.

6.6.2.2 VOC BACT Emission Limit: 66.12 TPY.

6.6.2.3 PM<sub>10</sub> BACT Emission Limit: 12.81 TPY.

6.6.2.4 PM<sub>2.5</sub> BACT Emission Limit: 12.43 TPY.

6.6.3 The permittee shall use the following BACT work practice standards:

6.6.3.1 Main generator engines with low NO<sub>x</sub> tuning design, including turbocharger, aftercooler, open crankcase ventilation system, and high injection pressure fuel system;

6.6.3.2 Good combustion practices based on the most recent manufacturer's specifications for these engines issued at the time that the engines are operating under this permit;

6.6.3.3 Diesel fuel with sulfur content less than or equal to 15 ppm by weight ultra-low sulfur diesel;

6.6.3.4 Engines certified to 40 CFR part 94 Tier 1 or better emissions standards; and

6.6.3.5 Additional enhanced work practice standards including, but not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

- 6.6.4 Monitoring and Recordkeeping: The permittee shall monitor NO<sub>x</sub>, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions at a determined reference O<sub>2</sub> or CO<sub>2</sub> concentration by the use of an EPA-approved continuous emissions monitoring system, an EPA-approved parametric monitoring method, or with prior written approval by the EPA, an EPA approved stack testing emissions monitoring method or an alternative parametric monitoring method, pursuant to Condition 6.22.
- 6.6.5 Reporting: All information required to be collected, recorded, or maintained pursuant to Conditions 6.6 and 6.22 shall be submitted to EPA by the permittee in accordance with the reporting specifications detailed in Conditions 5.17.

[40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## **6.7 Developer Emergency Generator Engine (EGEN) Standards & Limits**

6.7.1 The permittee shall use the following BACT Work Practice Standards:

- 6.7.1.1 An emergency generator engine with low NO<sub>x</sub> engine design, including turbocharger, aftercooler, open crankcase ventilation system, and electronic fuel injection;
- 6.7.1.2 Good combustion practices based on the most recent manufacturer's specifications for this engine issued at the time that the engine is operating under this permit;
- 6.7.1.3 Diesel fuel with sulfur content less than or equal to 15 ppm by weight ultra-low sulfur diesel;
- 6.7.1.4 Engines certified to 40 CFR part 89 Tier 1 or better emission standards; and
- 6.7.1.5 Additional enhanced work practice standards including, but not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

6.7.2 Operating Limit: This engine shall be operated no more than 39 hours per year of non-emergency, planned operation time on a rolling 12-month average basis.

6.7.3 Monitoring, Recordkeeping, and Reporting:

- 6.7.3.1 The permittee shall maintain a record of hours of operation and sum such hours on a rolling 12-month basis in accordance with Condition 6.23.
- 6.7.3.2 All information required to be collected, recorded, or maintained pursuant to Conditions 6.7 and 6.23 shall be submitted to EPA by the permittee in accordance with the reporting specifications detailed in Condition 5.17.

[40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## **6.8 Developer Cementing Unit Engines (CMU-1 and CMU-2) Standards & Limits**

6.8.1 The permittee shall use the BACT work practice standards:

- 6.8.1.1 Cementing unit engines with low NO<sub>x</sub> engine design, including turbocharger, aftercooler, open crankcase ventilation system, and electronic fuel injection;
- 6.8.1.2 Good combustion practices based on the most recent manufacturer's specifications issued for these engines at the time that the engines are operating under this permit;
- 6.8.1.3 Diesel fuel with sulfur content less than or equal to 15 ppm by weight ultra-low sulfur diesel;
- 6.8.1.4 Engines certified to 40 CFR part 94 Tier 2 or better emissions standards; and
- 6.8.1.5 Additional enhanced work practice standards including, but not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

6.8.2 Operating Limit: These engines shall be operated no more than a combined total of 300 hours per year on a rolling 12-month average basis.

6.8.3 Monitoring, Recordkeeping, and Reporting:

- 6.8.3.1 The permittee shall maintain a record of hours of operation and sum such hours on a rolling 12-month basis in accordance with Condition 6.23.
- 6.8.3.2 All information required to be collected, recorded, or maintained pursuant to Conditions 6.8 and 6.23 shall be submitted to EPA by the permittee in accordance with the reporting specifications detailed in Condition 5.17. [40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## **6.9 Developer Life Boat Engines (LB-1 through LB-4) and Fast Rescue Boat Engine (MOB) Standards and Operating Limits**

6.9.1 Operating Limit: These engines shall be operated no more than 12 hours for each unit per year of non-emergency, planned operation time on a rolling 12-month total basis.

6.9.2 The permittee shall use good combustion practices based on the most recent manufacturer's specifications issued for these engines at the time that the engines are operating under this permit.

6.9.3 Monitoring, Recordkeeping, and Reporting:

6.9.3.1 The permittee shall maintain a record of hours of operation and sum such hours on a rolling 12-month basis in accordance with Condition 6.23.

6.9.3.2 All information required to be collected, recorded, or maintained pursuant to Condition 6.9 and 6.23 shall be submitted to EPA by the permittee in accordance with the reporting specifications detailed in Condition 5.17.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

## **6.10 Developer Non-engine Related Standards and Operating Limits**

### **6.10.1 Source Identification: Cement and Barite Transfer Activities (CEMENT-BARITE)**

6.10.1.1 As a BACT work practice standard, the permittee shall use proper maintenance and operation of the enclosed pneumatic conveyance dust collector system based on the most recent manufacturer's specifications for the system issued at the time that project activities are conducted under this permit.

6.10.1.2 The permittee shall vent all system exhaust under the ocean surface.

6.10.1.3 The permittee shall perform a daily visual check of the dust collector system and maintain a record of daily inspections and system maintenance.

### **6.10.2 Source Identification: Welding Activities (WELD)**

6.10.2.1 As a BACT work practice standard, the permittee shall use best management practices including, but not limited to, following the most recent manufacturer's specifications for all equipment used in welding operations issued at the time that project activities are conducted under this permit.

6.10.2.2 The permittee shall maintain an accurate record of the types and quantity (in pounds) of welding rods used on a rolling 12-month basis for the purpose of calculating actual emissions pursuant to Condition 5.21.

### **6.10.3 Source Identification: Painting Activities (PAINT)**

6.10.3.1 As BACT work practice standards, the permittee shall use best management practices that include, but are not limited to, the following:

6.10.3.1.1 Limit the amount of painting that is performed on the vessel;

6.10.3.1.2 Use of paint rollers instead of sprayers where practical;

6.10.3.1.3 Use of high volume, low pressure paint sprayers with a minimum transfer efficiency of 65%, operated within the manufacturer's recommended pressure range, and following the most recent manufacturer's specifications issued at the time that coating operations are conducted under this permit;

- 6.10.3.1.4 Down spraying of paint where possible;
- 6.10.3.1.5 Use of a containment system such as a shroud or a barrier around the section of the drillship being painted whenever practical to reduce airborne particulate matter;
- 6.10.3.1.6 Proper storage of coatings and thinners in appropriately labeled, non-leaking containers; and
- 6.10.3.1.7 The permittee shall maintain and record the types and amounts (in gallons) of coatings and thinners used on a weekly basis.
- 6.10.3.1.8 Maintenance of MSDS information for all paints and thinners used while conducting painting activities under this permit.

6.10.3.2 The permittee shall record the following:

- 6.10.3.2.1 Types and quantity (in gallons) of all paints and thinners used on a rolling 12-month basis;
- 6.10.3.2.2 Method of application (sprayed or rolled); and
- 6.10.3.2.3 Location where painting activity occurs (inside or outside).

#### 6.10.4 Source Identification: Mud Degassing (MUD)

- 6.10.4.1 As a BACT work practice standard, the permittee shall use proper maintenance and operation of the mud degassing operations units in accordance with the most recent manufacturer's specifications for all equipment used in mud handling operations issued at the time that project activities are conducted under this permit.
- 6.10.4.2 The permittee shall monitor and record the type of mud used and throughput for each type on a rolling 12-month basis.

#### 6.10.5 Source Identification: Fugitive Emissions (FUG)

- 6.10.5.1 As a BACT work practice standard, the permittee shall use good maintenance practices to minimize fugitive emissions from valves, pump seals, and flanges, including a daily visual inspection and prompt repair of leaking components.
- 6.10.5.2 The permittee shall visually inspect components daily and maintain the following information:
  - Date of inspection;
  - Type of component;
  - Method of leak detection used;
  - Date and duration of any leak detected from critical components;
  - Corrective action taken;
  - Date of corrective action;

- Date of component re-inspection;
- Name of person inspecting equipment (printed); and
- Signature of person inspecting equipment.

6.10.6 Source Identification: Storage Tank Emissions (FO CMV ST, FO MOB ST, FO SER ST 1 and 2, FO SET ST 3 and 4, FO ST 1 through 4, FO LB ST 1 through 4, FO EGEN ST, AV ST 1 through 3, WO ST 1 and 2)

6.10.6.1 As a BACT work practice standard, the permittee shall use good maintenance practices in accordance with the most recent manufacturer's specifications for all storage tanks on the drilling vessel at the time that project activities are conducted under this permit.

6.10.6.2 The permittee shall use a submerged fill system for tanks FO ST 1 through 4 and FO SER ST 1 and 2.

6.10.6.3 The permittee shall use EPA's TANKS 4.0.9d program to calculate emissions for annual reporting.

6.10.6.4 The permittee shall maintain the following information:

- Storage tank ID;
- Tank dimensions;
- Fuel type stored; and
- Capacity of each storage tank.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

## 6.11 Developer Fuel Consumption Limits

6.11.1 The drill rig is limited to an annual consumption of 2,459,150 gallons of diesel fuel on a rolling 12-month total basis.

6.11.2 In the event that *Developer* and *Discoverer Americas* are operated sequentially during any rolling 12-month basis, the fuel consumption limits in Conditions 6.11.1 and 6.19.1 shall be prorated based on daily vessel usage. The permittee shall not operate *Developer* and *Discoverer Americas* concurrently within the lease blocks specified in section 3 of this permit.

6.11.3 Compliance with this operating limit will be demonstrated by calculating and maintaining a record of monthly fuel consumption based on information obtained pursuant to Condition 6.11.4 for the duration of the drilling campaign to obtain the annual fuel usage.

6.11.4 The permittee shall monitor and maintain a contemporaneous record of the following information:

- Number of barrels/gallons of diesel fuel on the rig at the start of drilling operations;
- 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
- Number of barrels/gallons of diesel fuel on the rig at the end of each month.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

## **6.12 Discoverer Americas Main Generator Engines (GEN-1 through GEN-6) NO<sub>x</sub> Emission Limits**

6.12.1 NO<sub>x</sub> BACT Emission Limit: The permittee shall not discharge or cause the discharge of emissions into the atmosphere in excess of 12.7 g/kW-hr for each of the main generator engines on a rolling 24-hour average basis.

6.12.2 NO<sub>x</sub> BACT Work Practice Standards:

6.12.2.1 The permittee shall use main generator engines with low NO<sub>x</sub> engine design, including turbocharger, aftercooler, and high injection pressure.

6.12.2.2 The permittee shall use good combustion practices based on the manufacturer's current specifications for these engines.

6.12.2.3 The permittee shall use additional enhanced work practice standards as detailed in Section 5.3.1.16 of the September 2012 application (provided in the administrative record). These practices shall include, but are not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

6.12.2.4 The permittee shall use an engine performance management and monitoring system that employs parametric or continuous emissions monitoring, such as described in Condition 6.22, to establish indicator ranges for maintenance evaluation and repair.

6.12.3 Compliance Demonstration Method: The permittee shall monitor NO<sub>x</sub> emissions by the use of an EPA-approved continuous emissions monitoring system, an EPA-approved parametric monitoring method, or, with prior written approval by the EPA, an EPA approved stack testing emissions monitoring method, or, an alternative parametric monitoring method, pursuant to Condition 6.22.

6.12.4 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.22.

[40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## **6.13 Discoverer Americas Emergency Generator Engine (EGEN) NO<sub>x</sub> Standards & Limits**

6.13.1 NO<sub>x</sub> BACT Work Practice Standards:

6.13.1.1 The permittee shall use an emergency generator engine with low NO<sub>x</sub> engine design, including turbocharger, aftercooler, and high injection pressure.

6.13.1.2 The permittee shall use good combustion practices based on the manufacturer's current specifications for this engine.

6.13.1.3 The permittee shall use additional enhanced work practice standards as detailed in Section 5.3.1.16 of the September 2012 application (provided in the administrative record). These practices shall include, but are not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

6.13.2 Operating Limit: This engine shall be operated no more than 41 hours per year of non-emergency, planned operation time on a rolling 12-month average basis.

6.13.2.1 Compliance Demonstration Method: Compliance with the operating limit set forth in Condition 6.13.2 will be assured by maintaining a record of total monthly operating hours, identifying and describing any periods of emergency use.

6.13.2.2 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.23.

[40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

#### **6.14 Discoverer Americas Forklift Engines (FORK-1 and FORK-2) NO<sub>x</sub> Standards & Limits**

6.14.1 NO<sub>x</sub> BACT Work Practice Standards:

6.14.1.1 The permittee shall use forklift engines with EPA rated interim Tier 4 or better engines.

6.14.1.2 The permittee shall use good combustion practices based on the manufacturer's current specifications for these engines.

6.14.1.3 The permittee shall use additional enhanced work practice standards as detailed in Section 5.3.1.16 of the September 2012 application (provided in the administrative record). These practices shall include, but are not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

6.14.2 Operating Limit: These engines shall be operated no more than 237 hours per year for each engine on a rolling 12-month average basis.

6.14.2.1 Compliance Demonstration Method: Compliance with the operating limit set forth in Condition 6.14.2 will be assured by maintaining a record of total monthly operating hours.

6.14.2.2 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.23.

[40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## **6.15 Discoverer Americas Emergency Air Compressor Engines (ACOMP-1 and ACOMP-2) NO<sub>x</sub> Standards & Limits**

6.15.1 NO<sub>x</sub> BACT Emission Limit: The permittee shall not discharge or cause the discharge of emissions into the atmosphere in excess of a combined 0.01 tons of NO<sub>x</sub> per year on a rolling 12-month total basis.

6.15.2 NO<sub>x</sub> BACT Work Practice Standards:

6.15.2.1 The permittee shall use emergency air compressor engines with low NO<sub>x</sub> engine design, including turbocharger and aftercooler.

6.15.2.2 The permittee shall use good combustion practices based on the manufacturer's current specifications for these engines.

6.15.2.3 The permittee shall use additional enhanced work practice standards as detailed in Section 5.3.1.16 of the September 2012 application (provided in the administrative record). These practices shall include, but are not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly engine inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to engine-specific maintenance manuals.

6.15.3 Operating Limit: These engines shall be operated no more than 3 hours per year for each engine of non-emergency, planned operation time on a rolling 12-month average basis.

6.15.3.1 Compliance Demonstration Method: Compliance with the operating limit set forth in Condition 6.15.3 will be assured by maintaining a record of total monthly operating hours, identifying and describing any periods of emergency use.

6.15.3.2 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.23.

[40 CFR §§ 52.21, 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## **6.16 Discoverer Americas Cargo Hold Heater (HTR) Standards & Limits**

6.16.1 NO<sub>x</sub> BACT Work Practice Standards:

6.16.1.1 The permittee shall use good combustion practices based on the manufacturer's current specifications for this unit.

6.16.1.2 The permittee shall use additional enhanced work practice standards as detailed in Section 5.3.1.16 of the September 2012 application (provided in the administrative record). These practices shall include, but are not limited to, specialized personnel training, having an equipment maintenance specialist available at all times during drilling activities, conducting weekly inspections, adhering to manufacturer-recommended maintenance schedules, and providing access to a unit-specific maintenance manual.

6.16.2 Operating Limit: This unit shall be operated no more than 2 hours per year on a rolling 12-month average basis.

6.16.2.1 Compliance Demonstration Method: Compliance with the operating limit set forth in Condition 6.16.2 will be assured by maintaining a record of total monthly operating hours.

6.16.2.2 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.23.

[40 CFR §§ 52.21 and 71.6(a)(1), 71.6(a)(3) and 71.6(c)(1)]

### **6.17 Discoverer Americas Life Boat Engines (LB-1 through LB-6) NO<sub>x</sub> Operating Limits**

6.17.1 Operating Limit: These engines shall be operated no more than 12 hours for each unit per year of non-emergency, planned operation time on a rolling 12-month total basis.

6.17.2 Compliance Demonstration Method: Compliance with this operating limit will be assured by maintaining a record of total monthly operating hours, identifying and describing any periods of emergency use.

6.17.3 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.23.

[40 CFR §§ 52.21 and 71.6(a)(1), 71.6(a)(3) and 71.6(c)(1)]

### **6.18 Discoverer Americas Fast Rescue Boat Engine (MOB) NO<sub>x</sub> Operating Limits**

6.18.1 Operating Limit: This engine shall be operated no more than 12 hours per year of non-emergency, planned operation time on a rolling 12-month total basis.

6.18.2 Compliance Demonstration Method: Compliance with this operating limit will be assured by maintaining a record of total monthly operating hours, identifying and describing any periods of emergency use.

6.18.3 Monitoring and recordkeeping shall be conducted in accordance with Condition 6.23.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

### **6.19 Discoverer Americas Fuel Consumption Limits**

6.19.1 The drill rig is limited to an annual consumption of 2,179,983 gallons of diesel fuel on a rolling 12-month total basis.

6.19.2 Compliance with this operating limit will be demonstrated by calculating and maintaining a record of monthly fuel consumption based on information obtained pursuant to Condition 6.19.3 for the duration of the drilling campaign to obtain the annual fuel usage.

6.19.2.1 In the event that *Developer* and *Discoverer Americas* are operated sequentially during any rolling 12-month basis, the emission limits in 6.11.1 and 6.19.1 shall be prorated based on daily vessel usage. The permittee shall not operate *Developer* and *Discoverer Americas* concurrently within the lease blocks specified in section 3 of this permit.

6.19.3 The permittee shall monitor and maintain a contemporaneous record of the following information:

- Number of barrels/gallons of diesel fuel on the rig at the start of drilling operations;
- 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
- Number of barrels/gallons of diesel fuel on the rig at the end of each month.

[40 CFR §§ 52.21 and 71.6(a)(1), (a)(3) and (c)(1)]

## 6.20 Offshore Support Vessels Operating Limits

6.20.1 Offshore support vessels like the *Peyton Candies* or any substitute OSV shall not exceed a total of 2,570 hours per year on a rolling 12-month total basis when within 25 miles of the drilling vessel.

6.20.2 Offshore support vessels like the *Peyton Candies* or any substitute OSV shall not exceed a total of 621,468 gallons of diesel fuel per year on a rolling 12-month total basis when within 25 miles of the drilling vessel.

6.20.3 Offshore support vessels like the *Peyton Candies* or any substitute OSV shall not combust any diesel fuel with sulfur content greater than 0.0015 percent by weight.

6.20.4 Compliance with this operating limit will be demonstrated through the monitoring and recordkeeping conditions as set forth in Condition 6.24.

[40 CFR §§ 52.21, 55.2, 55.6(a)(4), 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## 6.21 Crew Boats Operating Limits

6.21.1 Crew boats like the *Sybil Graham* or any substitute crew boat shall not exceed a total of 618 hours per year on a rolling 12-month total basis when within 25 miles of the drilling vessel.

6.21.2 Crew boats like the *Sybil Graham* or any substitute crew boat shall not exceed a total of 235,176 gallons of diesel fuel per year on a rolling 12-month total basis when within 25 miles of the drilling vessel.

6.21.3 Crew boats like the *Sybil Graham* or any substitute crew boat shall not combust any diesel fuel with sulfur content greater than 0.0015 percent by weight.

6.21.4 Compliance with this operating limit will be demonstrated through the monitoring and recordkeeping conditions as set forth in Condition 6.24.

[40 CFR §§ 52.21, 55.2, 55.6(a)(4), 71.6(a)(1), 71.6(a)(3), and 71.6(c)(1)]

## 6.22 Compliance Monitoring and Recordkeeping Requirements for Main Generator Engines

In accordance with Condition 5.16, the permittee shall monitor and record NO<sub>x</sub>, CO<sub>2</sub>, CO, VOC, and PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions (at a determined reference O<sub>2</sub> concentration) from the main generator diesel engines (GEN-1 through GEN-8 on the *Developer* and GEN-1 through GEN-6 on the *Discoverer Americas*) by the use of an EPA-approved parametric monitoring method as described in Condition 6.22.1, or an EPA-approved continuous emissions monitoring system described in Condition 6.22.2, or, with prior written approval by the EPA, a stack testing emissions monitoring system as described in Condition 6.22.3, or a combination of these methods, as necessary for different pollutants or engines.

### 6.22.1 Parametric Monitoring (Compliance Monitoring Option #1)

6.22.1.1 The permittee shall properly monitor and record emissions of one of more of the subject regulated air pollutants (NO<sub>x</sub>, CO<sub>2</sub>, CO, VOC, and PM/PM<sub>10</sub>/PM<sub>2.5</sub>) from the main generator diesel engines specified in Condition 6.22 by using a parametric monitoring system such as the Transocean Diesel Engines with Turbochargers (DEWT) monitoring system or its equivalent upon prior written approval by EPA.

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

- Charge Air Pressure (kPa) after air cooler;
- Charge Air Temperature (Celsius) after air cooler;
- Turbocharger RPM A&B (RPM);
- Engine Air Inlet Pressure (kPa);
- Engine Air Inlet Temperature (Celsius);
- Engine Air Inlet Relative Humidity (%);
- Generator Load (kW); and
- Regulated pollutant Emission Concentrations (ppm) and O<sub>2</sub> or CO<sub>2</sub> concentration (%)

6.22.1.3 The permittee shall record the date and time of the most recent NO<sub>x</sub> analyzer calibration method used to calibrate and the results.

6.22.1.4 permittee shall determine the average emission rate of the monitored air pollutant (g/kW-hr) for each engine from the emission rate results in each rolling 24-hour period, and total annual emissions in TPY on a 12-month rolling basis.

### 6.22.2 Continuous Emissions Monitoring (Compliance Monitoring Option #2)

- 6.22.2.1 The permittee shall install, calibrate, maintain, and operate a continuous emissions monitoring system with a plan approved by the EPA to monitor and record emissions from the main generator engines specified in Condition 6.22.
- 6.22.2.2 The permittee shall obtain stack gas volumetric flow rates using a calibrated flow monitor that records data on a continuous basis.
- 6.22.2.3 The permittee shall monitor and record engine electric power output in kW-hr.
- 6.22.2.4 The quality assurance plan used by the permittee for the certification and operation of the continuous emissions monitoring system shall be made available to the EPA upon request.
- 6.22.2.5 The permittee shall determine the average emission rate in g/kW-hr for each engine from the hourly emission rate results in each rolling 24-hour period, and total annual emissions in TPY on a 12-month rolling basis.

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

- 6.22.3.1 The permittee shall properly monitor and record emissions from diesel engines specified in Condition 6.22 by collecting stack testing data within the previous 12 months according to an EPA approved protocol and in accordance with Conditions 5.26 and 6.22.3.2 through 6.22.3.7. Data collected prior to issuance of this permit may be used with EPA approval. After three annual/periodic stack tests of the same drilling vessel, stack test frequency may be reduced upon written approval by the EPA.
- 6.22.3.2 Each stack test shall be conducted at three different loads spanning the expected range of operations.
- 6.22.3.3 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.
- 6.22.3.4 The permittee shall 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.
- 6.22.3.5 The permittee shall use the load information 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, the g/kW-hr emission rate obtained for the highest load point tested during the most recent stack test may be used. When records of engine load are not available, the highest g/kW-hr emission rate calculated for all the load points tested during the most recent stack test may be substituted. The average emission rate for each hour of operation from all individual emission rate results recorded during the hour will then be calculated.

6.22.3.6 The permittee shall determine the average emission rate in g/kW-hr for each engine from the hourly emission rate results in each rolling 24-hour period and total annual emissions in TPY on a 12-month rolling basis.

[40 CFR §§ 52.21, and 71.6(a)(1), (a)(3) and (c)(1)]

### **6.23 Compliance Monitoring and Recordkeeping Requirements for Emergency Generators, Small (<500 hp) Engines, and Cargo Hold Heater**

Pursuant to Conditions 6.7 through 6.10 and 6.13 through 6.18 and in accordance with Condition 5.16, the permittee shall monitor and maintain a contemporaneous record of the monthly hours of operation of the emergency generator engines (EGEN on both the drill rig *Developer* and the drillship *Discoverer Americas*), the cargo hold heater on the *Discoverer Americas*, and the small on-board diesel engines (CMU-1 and CMU-2, LB-1 through LB-4, and MOB on the *Developer* and FORK-1 and FORK-2, ACOMP-1 and ACOMP-2, LB-1 through LB-6 and MOB on the *Discoverer Americas*). Hours of operation shall be recorded monthly from a non-resettable hour meter or, if such a meter is not available, by monitoring and maintaining a contemporaneous record of the following information:

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

[40 CFR §§ 52.21, 55.8, and 71.6(a)(1), (a)(3) and (c)(1)]

### **6.24 Compliance Monitoring and Recordkeeping Requirements for Support Vessel Engines**

In accordance with Condition 5.16, the permittee shall demonstrate compliance with support vessel operational limits pursuant to Conditions 6.20 and 6.21 by maintaining a record of support vessel operating time and diesel fuel use within a 25 mile radius of the drilling vessel and during standby time at the drilling vessel. The permittee shall monitor and maintain a contemporaneous record of the following information for vessels used in support of the permitted activities:

- Date/time entering the 25 mile radius;
- Date/time exiting the 25 mile radius;
- Sulfur content of all fuel used in any engine as specified in Condition 6.3;
- Gallons of diesel fuel on the support vessel entering the 25 mile radius;
- Gallons of diesel fuel on the support vessel exiting the 25 mile radius. and
- Gallons of diesel fuel loaded on to the support vessel within the 25 mile radius.

[40 CFR §§ 52.21, 55.2, 55.6(a)(4), 55.8, and 71.6(a)(1), (a)(3) and (c)(1)]

## 6.25 Reporting Requirements

All information required to be collected, recorded, or maintained pursuant to Conditions 6.3 through 6.21 shall be submitted to EPA by the permittee in accordance with the reporting specifications detailed in Condition 5.17.

[40 CFR § 71.6(a)(3)(iii) and 55.8]

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

6.26.1 The main generator engines, emergency generator engine, and cementing unit engines on the *Developer* drill rig (Units GEN-1 through GEN-8, EGEN, CMU-1, and CMU-2) and the main generator engines, emergency generator engine, and forklift engines, on the *Discoverer Americas* (GEN-1 through GEN-6, FORK-1, and FORK-2) are subject to 40 CFR part 60, subpart III based on engine size, per cylinder displacement, and model year. The permittee shall demonstrate compliance with the applicable requirements through the following:

6.26.1.1 The permittee shall maintain documentation in accordance with Condition 5.16 that engines specified in Condition 6.26.1 were installed and configured according to manufacturer's specifications.

6.26.1.2 The permittee shall maintain records in accordance with Condition 5.16 of manufacturer data indicating compliance with EPA Tier standards, if applicable, to the engine.

6.26.1.3 The permittee shall operate and maintain the engines according to the manufacturer's written instructions or 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 procedures the permittee developed that are approved in writing by the manufacturer in accordance with Condition 5.16.

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

6.26.2 The emergency generator and emergency air compressor engines on the *Discoverer Americas* (EGEN, ACOMP-1, and ACOMP-2) are subject to 40 CFR part 60, subpart III based on the per cylinder displacement and model year. The permittee has been granted a technical exemption pursuant to 40 CFR § 55.7 from the emission standard certification requirement of 40 CFR 60, subpart III and must comply with the following:

6.26.2.1 The permittee shall demonstrate compliance with alternate emissions standards as specified in Condition 6.15.

6.26.2.2 The permittee shall comply with requirements defined in Conditions 6.26.1.1 through 6.26.1.4.

- 6.26.3 Based on engine model years and engine use (summarized in Tables 1 and 2 of Section 4), the main generator engines, emergency generator engine, and cementing unit engines on the *Developer* drill rig (Units GEN-1 through GEN-8, EGEN, CMU-1, and CMU-2) and the main generator engines, emergency generator engine, forklift engines, and emergency air compressor engines on the *Discoverer Americas* (GEN-1 through GEN-6, EGEN, FORK-1, FORK-2, ACOMP-1, and ACOMP-2) are subject to and shall comply with the applicable requirements of 40 CFR part 63, subpart ZZZZ. The permittee shall demonstrate compliance with subpart ZZZZ for each engine by demonstrating compliance with the applicable requirements of 40 CFR part 60, subpart III and Conditions 6.26.1 and 6.26.2.]
- 6.26.4 Compliance with the requirements of Condition 6.26 shall be determined based upon recordkeeping required by the Annual Compliance Certification set forth in Condition 5.21.
- 6.26.5 Any new, modified, or reconstructed engine shall comply with all applicable NESHAP and NSPS, including but not limited to 40 CFR part 60, subpart III and 40 CFR part 63, subpart ZZZZ, or obtain a technical exemption under 40 CFR § 55.7.
- 6.26.6 The permittee shall notify EPA prior to use of any new, modified, or reconstructed engine intended to be used on the drilling vessel or in replacement of an engine in Tables 1 and 2 of Section 4 of this permit, and shall submit to EPA a reevaluation of the applicability of pertinent NESHAP and NSPS regulations, as well as copies of the manufacturer engine certification to EPA standards.

[40 CFR §§ 55.7, 55.8, 60 subpart III, 63 subpart ZZZZ, 71.6(a)(1), 71.6(a)(3) and 71.6(c)(1)]