



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 4

Final Determination and Response to Comments Outer Continental Shelf Air Permit OCS-EPA-R4006 Shell Offshore, Inc.

On August 19, 2011, the Region 4 office of the United States Environmental Protection Agency (EPA) requested public comment on a draft Outer Continental Shelf (OCS) air permit for Shell Offshore, Inc. (Shell). The permit will regulate air pollutant emissions from either the Transocean *Deepwater Nautilus* drillship or the *Noble Bully I* or *Bully II* drillships and support vessels, which Shell intends to operate within the DeSoto Canyon and Lloyd Ridge area lease locations on the OCS in the Gulf of Mexico, approximately 160 miles southeast of the mouth of the Mississippi River and greater than 200 miles southwest of Panama City, Florida. The exploratory drilling operation will last up to 150 days per year at multiple locations within the lease blocks for approximately 5 to 10 years.

EPA also prepared a preliminary determination and statement of basis document that explains the derivation of the permit conditions. The preliminary determination and the draft permit are available on EPA Region 4's website at: <http://www.epa.gov/region4/air/permits/OCSPermits/OCSpermits.html>. The permit incorporates applicable requirements from the federal Prevention of Significant Deterioration preconstruction and title V operating permit programs, New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAP), as required by the OCS Air Quality Regulations at 40 Code of Federal Regulations (CFR) part 55.

During the public comment period, which commenced on August 19, 2011, and ended on September 19, 2011, EPA received comments from Shell and from ConocoPhillips Company. One request for a public hearing was received after the hearing request deadline and after the hearing was canceled due to insufficient interest. In addition, the request did not state the nature of the issues proposed to be raised at the hearing, as required by 40 CFR part 124 and requested by EPA's notice.

EPA carefully reviewed each of the comments. This Response to Comments document summarizes the comments received, provides EPA's response, and summarizes the changes made to the permit. Complete copies of all comments are included in the administrative record for the Shell permit and available at the website listed above.

After consideration of the expressed view of all interested persons, the pertinent federal statutes and regulations, the application and supplemental information submitted by the applicant, and additional material relevant to the application and contained in the administrative record, EPA has made a final determination in accordance with title 40 CFR part 55 to issue an air permit to construct and operate to Shell for the proposed exploratory drilling operation in the DeSoto Canyon and Lloyd Ridge OCS lease blocks. The final permit does not differ significantly from the draft permit offered for public comment.

Comments from Shell Exploration & Production Company

Comments 1 through 3: Engine Manufacture Dates (Draft Permit page 4, Section 4, Tables 2 and 3).

The manufacture year for the Deepwater Nautilus Fast Rescue Boats (MOB-1 & MOB-2) is 2001.

The manufacture year for the Bully Life Boats is 2008.

The manufacture year for the Bully Fast Rescue Boat (MOB) is 2009.

The manufacture dates for the fast rescue boats on the *Deepwater Nautilus* and the *Noble Bully I* and *Noble Bully II* are not specified in Tables 2 and 3 of the draft permit. Shell requests a revision of the tables to incorporate manufacture dates of these emergency vessels.

Response: EPA has added the manufacture years to the specified emissions units in the referenced Tables 2 and 3.

Comment 4: Discontinuation of Construction (Draft Permit page 7; Section 5.7.1).

Drilling operations are unique in that there is no official "construction" per se- rather, logistical preparations are made, the existing rigs and vessels are brought into the area and drilling operations commenced. As such, the term "discontinued" needs clarification to avoid unintended invalidation of the PSD permit due to time lapses between drilling campaigns in the Gulf of Mexico. For example, if Shell completes a drilling campaign and then due to normal exploration business variables does not start the next campaign for 19 months, the permit would be deemed expired unless the proposed language is adopted.

Shell requests a revision to draft permit Condition 5.7.1 to include the following language:

"For purposes of this permit, periods greater than 18 months between drilling campaigns is not considered to be a discontinuation of construction."

Response: EPA has considered the comment and concurs in part. EPA does not concur with the assumption that the permit would be deemed expired unless the proposed language is adopted. "Construction," as defined in the applicable PSD regulations and used in this permit, is not intended to include the normal operation of the source. Rather, construction refers to fabrication, erection, installation or modification type activities. The proposed project is a portable source, intended to operate intermittently and at different locations within the specified lease blocks with the possibility of extended periods between campaigns. In addition, the OCS source may be "erected" on the OCS at multiple times during the life of the permit. However, since the permittee is concerned that Condition 5.7.1 of the permit could be misconstrued, and the requested clarification is consistent with the application and assumptions used in EPA's review, EPA has reworded the permit language in Condition 5.7.1 as proposed by the commenter. This clarification does not alter the requirement to "commence construction," as defined in 40 CFR 52.21, within 18 months after the effective date of the permit, nor the obligation to maintain all necessary permits.

Comment 5: Monitoring Records (Draft Permit page 10; Section 5.16.4).

Shell prefers the monitoring records be held in New Orleans, LA rather than Houston, TX.

Shell requests that records required to be held at its corporate offices be kept at 701 Poydras Street, New Orleans, LA 70139 instead of the offices at 200 North Dairy Ashford, Houston Texas.

Response: EPA has no objection to the housing of records at this alternate corporate office. EPA has revised the address in Condition 5.16.4 of the final permit.

Comment 6: Deviation Reporting (Draft Permit page 12; Section 5.17.4).

Please delete "potentially" in bullet 11 of Section 5.17.4. This condition would imply that Shell would be responsible for reporting potential or possible emission limit exceedances rather than known violations.

Shell requests that "potentially" be deleted in bullet 11 of Section 5.17.4 of the draft permit.

Response: EPA does not concur with the commenter's request. The purpose of Condition 5.17.4 is not to require reporting only for "known violations" of applicable requirements. Rather, the purpose of Condition 5.17.4 is to require the submittal of certain information pertaining to deviations, subsequent to the initial reporting of such deviations. Not all deviations result in the exceedance of an emission limit or in permit violations requiring enforcement. However, for deviations that may affect compliance with one or more emission limit, it is necessary to identify the subject emission limits and any information regarding the potential for their having been exceeded, so that EPA can make the appropriate determination regarding compliance. No change to the permit was made based on this request.

Comment 7: Safe Shutdown Coordination (Draft Permit page 15; Section 5.23).

Coordination of a safe shutdown should be coordinated with the permittee and operator in addition to the BOEM and Coast Guard.

Shell requests that draft permit Condition 5.23 be revised to include the following language:

"... the shutdown will be coordinated by EPA with the Bureau of Ocean Energy Management, Regulation and Enforcement, the United States Coast Guard, the permittee and operator to assure that the shutdown will proceed in a safe manner."

Response: EPA concurs with the commenter. EPA has reworded Condition 5.23 as proposed by the commenter to reflect this clarification of safe shutdown coordination.

Comment 8: Prompt Reporting (Draft Permit page 15; Section 5.21.2).

It is unclear what is meant by the term "immediate" in Section 5.21.2 of the draft permit and how these reporting requirements differ from those specified in Section 5.17.2. Shell suggests that Section 5.21.2 be moved to create Section 5.17.3 (as this provision is more logically related to prompt reporting than annual compliance certification of 5.21) and that the term immediate be replaced with prompt, this latter term being clearly defined in the current Section 5.17.3.

Response: EPA agrees with the commenter that the terms in draft permit Condition 5.21.2 are redundant with respect to reporting requirements included in Condition 5.17, and for clarification has deleted draft permit Condition 5.21.2. However, the third bullet in draft permit Condition 5.21.2 represents a necessary reporting requirement that was not included in Condition 5.17. Therefore, this condition has been revised and incorporated into the general reporting requirements of Condition 5.17.4 of the final permit.

Comment 9: Crane Engine Operating Limit (Draft Permit page 23; Section 6.6.3.2).

To clarify this limitation applies to each engine or each unit in this group of sources as opposed to the entire group, please revise the permit term as follows. This proposed language is consistent with section 6.6.2.2 that makes this distinction and the permit application basis.

Shell requests that draft permit Section 6.6.3.2 be revised to include the following language:

"Operating Limit: These units shall be operated no more than 12 hours (each unit) per year..."

Response: EPA concurs with the commenter that the operating limit was intended to apply to each unit (diesel cranes CR-1 and CR-2), and the requested addition of "(each unit)" is consistent with the application and assumptions used in EPA's review. The permit language has been revised to reflect this clarification in Condition 6.6.3.2 of the final permit. However, it should be noted that Shell's suggested language specifies hours "per year," which is inconsistent with both the permit application and EPA's understanding of the intended daily crane engine usage. Therefore, the final permit retains the language from the draft permit limiting the hours of operation "per day."

Comments 10 and 11: Deepwater Nautilus Life Boat and Fast Rescue Boat Non-emergency Operating Limits (Draft Permit page 24; Sections 6.6.4.1 and 6.6.5.1).

The original application proposed 10 hours of operation for each Life Boat and Fast Rescue Boat for the Deepwater Nautilus per 150-day campaign. However, upon further review, it has been determined 15 hours per campaign per boat is more representative of the operating hours needed to meet the requirements for the operation of diesel engines powering emergency equipment under flag-State and coastal-State regulatory requirements, etc. (for example, the regulatory requirements include SOLAS regulation III/19.3.3.3 that requires the launching and maneuvering in the water of each lifeboat, at least once every three months during an abandon ship drill, and requires each lifeboat to be maneuvered in the water by its assigned operating crew).

Increasing the hours of operation to 15 hours per campaign per boat results in a very minor emission increase that has no impacts on the results of the regulatory applicability (including PSD applicability), determinations or modeling represented in the permit application.

and

To clarify that the hours of operation limitation applies to each engine or each unit in this group of sources as opposed to the entire group, please revise the permit terms as follows. This language is consistent with section 6.6.2.2 that makes this distinction and the permit application basis. Note the suggested revision includes the operating hours increase per Shell Comment #10 above: "Operating Limit: These units shall be operated no more than 15 hours (each unit) per year..."

Shell requests that draft permit Conditions 6.6.4.1 and 6.6.5.1 be revised in the final permit to include additional non-emergency operation time for the lifeboat and fast rescue boat engines on the *Deepwater Nautilus* and to clarify that the operational limits apply to each engine.

Response: EPA understands the need to allow for sufficient time to test and maintain emergency vessels onboard the drillship and has reexamined the regulatory applicability and air quality modeling presented in the application with respect to increased operating time for the lifeboats and fast rescue boats. Because drilling operations are expected to occur for up to 150 days per year, the short-term (1-hour) standards (not the annual standards) are the controlling factors for the ambient air quality impact assessment. EPA has determined that Shell's requested modifications to increase the non-emergency operating time of the lifeboat and fast rescue boat engines from 10 hours per year to 15 hours per year will not affect the short term emissions or the ambient standard. Furthermore, EPA concurs with the commenter regarding applying the hours of operation to each emergency vessel engine. The requested changes do not impact regulatory applicability determinations or the modeling used in EPA's review. Therefore, the permit language in Conditions 6.6.4.1 and 6.6.5.1 has been revised in the final permit to reflect the increased hours of operation and the clarification that operation limits apply to each unit.

Comments 12 and 21: Life Boat and Fast Rescue Boat Stationary Source Requirements (Draft Permit pages 24, 26, and 32; Sections 6.6.4.2, 6.6.5.2, 6.9.2.2, 6.9.3.2, and 6.20.2).

It is Shell's understanding that EPA intends to clarify the stationary source requirements applied to the Life Boats and Fast Rescue Boats to more accurately reflect the intended use of these vessels. As such it is expected that the provisions of Sections 6.6.4.2, 6.6.5.2, 6.9.2.2, and 6.9.3.2 for the Deepwater Nautilus and Nobel Bully I and Noble Bully II Life Boats and Fast Rescue Boats will likely be revised.

and

As noted previously, Shell understands EPA intends to clarify the stationary source status of the Life Boats and Fast Rescue Boats. To carry this clarification forward in the permit, Shell recommends the following change to Section 6.20.2:

Shell requests the following change to permit language in Condition 6.20.2:

"...diesel engines on the Deepwater Nautilus (excluding the Life Boats (LB-1 through LB-4) and Fast Rescue Boats (MOB-1 & MOB-2) engines) are subject to..."

Response: EPA agrees that the language in condition 6.20.2 could be interpreted to apply 40 CFR part 63, subpart ZZZZ, to the Life Boats and Fast Rescue Boats. As these units are not subject to this standard, EPA clarified Condition 6.20.2, as proposed in the comment. In addition, EPA has removed draft permit Conditions 6.6.4.2, 6.6.5.2, and 6.9.3.2 to eliminate "BACT work practice standards" for the Life Boats and Fast Rescue Boats. While the application indicates that Shell intends to maintain good combustion practices for these units, EPA believes it is inappropriate to refer to them as "BACT requirements" in the permit. Vessels operating within 25 miles of the OCS source are not subject to BACT requirements unless they are attached to the OCS, and then only the stationary source aspects of the vessel are regulated. See 40 CFR § 55.2. These units do not have any stationary source aspects with respect to NO_x emissions, as they are used for man overboard and emergency escape scenarios. The emission units from these vessels were appropriately included in the OCS source's potential to emit and emissions modeling, as required by 40 CFR part 55. In addition, these vessels are subject to operating limits, and to monitoring, recordkeeping and reporting requirements to ensure they will not exceed the potential emissions assumed in the application and air quality impact review.

Comments 13 and 14: Noble Bully I and II Life Boats and Fast Rescue Boat Non-emergency Operating Limits (Draft Permit page 26; Sections 6.9.2.1 and 6.9.3.1).

The original application proposed 10 hours of operation for each Life Boat and the Fast Rescue Boat for the Noble Bully I and Noble Bully II per 150-day campaign. However, upon further review, it has been determined 15 hours per campaign per boat is more representative of the operating hours needed to meet the requirements for the operation of diesel engines powering emergency equipment under flag-State and coastal-State regulatory requirements, etc. (for example, the regulatory requirements include SOLAS regulation III/19.3.3.3 which requires the launching and maneuvering in the water of each lifeboat, at least once every three months during an abandon ship drill, and requires each lifeboat to be maneuvered in the water by its assigned operating crew).

Increasing the hours of operation to 15 hours per campaign per boat results in a very minor emission increase that has no impact on the results of the regulatory applicability (including PSD applicability) determinations or modeling as represented in the permit application.

and

To clarify that the hours of operation limitation applies to each engine or each unit in this group of sources as opposed to the entire group, please revise the permit terms as follows. This language is consistent with section 6.6.2.2 that makes this distinction and the permit application basis. Note the suggested revision includes the operating hours increase per Shell Comment #13 above: "Operating Limit: These units shall be operated no more than 15 hours (each unit) per year..."

Shell requests that draft permit Conditions 6.9.2.1 and 6.9.3.1 be revised to include additional non-emergency operation time for the lifeboat and fast rescue boat engines on the *Noble Bully* drillships and to clarify that the operational limits apply to each engine.

Response: See the response to Comments 10 and 11 regarding increased non-emergency operating time for the lifeboat and fast rescue boat engines. Conditions 6.9.2.1 and 6.9.3.1 of the final permit have been revised to reflect the increased hours of operation and the clarification that operation limits apply to each unit. It should be noted that the requested language change to “these units” and additional language of “(each unit)” does not apply to Condition 6.9.3.1, because there is only one Fast Rescue Boat emission unit on each *Noble Bully* drillship. As such, these changes were not made to this condition in the final permit.

Comment 15: Anchor Handling Boat Utilization (Draft Permit page 27; Section 6.12).

Shell represented in the permit application that 1 to 3 anchor vessels could be used for setting and removing anchors. For the purpose of the air quality impact analysis, Shell modeled the use of 2 anchor vessels, which is the typical number of vessels utilized during deployment and removal of the anchors. Based on a review of the modeling results and expected emissions impacts, Shell does not believe the use of three vessels would adversely impact the results of the air quality analysis. Furthermore, the total number of days and fuel usage for these vessels represented in the draft permit is accurate; however, Shell may elect to utilize more than one boat at a time while staying within the total days per year and total fuel usage limits.

Shell requests that draft permit Condition 6.12 and its sub-conditions be revised to include clarification that as many as three anchor handling boats may be used simultaneously in support of the *Deepwater Nautilus* and that operational and fuel consumption limits of 20 days per year and 11,668 gallons of fuel per day of operation, respectively, represent combined totals for the operation of all anchor handling boats. Shell also requested an increase in anchor handling boat usage after the public comment period had ended. This request is discussed below in the Other Permit Changes section of this document.

Response: EPA evaluated the effect of increasing the number of anchor handling boats in use at one time from two vessels, as included in the ambient air quality impact assessment modeling provided in the application, to three as requested by Shell. For modeling purposes, the anchor boats were included with the primary modeling location (at the drilling site). Because the anchor handling boats do not operate simultaneously with the *Deepwater Nautilus*' drilling operations and their hourly emissions are less than the drilling operation emissions, increasing the number of vessels in use to three will not affect compliance with the hourly NO₂ standard. In other words, since there are no increases in short-term emissions at the primary location; there are no changes to the reported modeled short term impacts from this location. Furthermore, because the operational and fuel consumption limits which represent combined totals for the operation of all anchor handling boats would remain consistent with the assumptions used in EPA's review for the draft permit, there are no changes to the annual emissions estimates or impacts to the annual NO₂ standard. Therefore, draft permit Conditions 6.12 and 6.12.1 through 6.12.3 have been modified in the final permit to allow for the flexibility to use up to three anchor handling boats simultaneously.

Comments 16 and 17: Offshore Support Vessel and Crew Boat Utilization (Draft Permit page 28; Sections 6.13 and 6.14).

Shell represented in the permit application that multiple Offshore Support Vessels (OSV) could be used throughout the drilling campaign. For the purpose of the air quality impact analysis, Shell modeled the use of a single OSV within 25 nautical miles of the drilling location. Based on a review of the modeling results and expected emissions impacts, Shell does not believe the use of more than one OSV would adversely impact the results of the air quality analysis. Furthermore, the total number of days and fuel usage for these vessels represented in the draft permit is accurate; however, Shell may elect to utilize more than one boat at a time while staying within the total days per year and total fuel usage limits.

and

Shell represented in the permit application that multiple Crew Boats could be used throughout the drilling campaign. For the purpose of the air quality impact analysis, Shell modeled the use of a single Crew Boat within 25 nautical miles of the drilling location. Based on a review of the modeling results and expected emissions impacts, Shell does not believe the use of more than one Crew Boat would adversely impact the results of the air quality analysis. Furthermore, the total number of days and fuel usage for these vessels represented in the draft permit is accurate; however, Shell may elect to utilize more than one boat at a time while staying within the days per year and fuel usage limits.

Shell requests that draft permit Conditions 6.13 and 6.14 and their sub-conditions be revised to allow the use of multiple offshore support vessels and crew boats simultaneously in support of the *Deepwater Nautilus* or *Noble Bully* drillships. Shell also requests the clarification that operational and fuel consumption limits specified in the final permit represent combined totals for the operation of all OSVs and crew boats, respectively.

Response: The maximum number of OSVs and crew boats that are expected to be in use at any given time was not specified in Shell's request. Therefore, EPA evaluated the effect of increasing the number of vessels from one OSV and one crew boat, as included in the ambient air quality impact assessment modeling provided in the application, to two OSVs and two crew boats operating at one time. For modeling purposes, these vessels were included with the second modeling location (25 nautical miles from the drilling location in the direction closest to shore). EPA's evaluation indicated that there would be no change in the reported conclusions for short-term limits with respect to the significant impact levels (SIL) applicable to either the modeled PSD Class I or Class II areas. In addition, the maximum modeled nitrogen deposition would remain much less than the PSD Class I area target value. Similarly, in terms of the PSD Class I area visibility impacts, the increased NO_x emissions should not alter the less than significant visibility impact from project emissions. Furthermore, because the operational and fuel consumption limits which represent combined totals for the operation of all OSVs and crew boats would remain consistent with the assumptions used in EPA's review for the draft permit, there are no changes to the annual emissions estimates. Therefore, draft permit Conditions 6.13, 6.13.1 through 6.13.3, 6.14 and 6.14.1 through 6.14.2 have been modified in the final permit to allow for the flexibility to use up to two OSVs and up to two crew boats simultaneously.

Comment 18: Stack Testing Requirements (Draft Permit page 28; Sections 6.1 and 6.15.1).

The stack testing requirements (once every 12 months) proposed in Section 6.15 are not practical based on the drilling schedules, logistics, and engine maintenance practices associated with offshore drilling operations. The drilling schedules do not include downtime such that the

stack testing could be coordinated between campaigns; the substantial expenses of leasing a rig ensure they are fully utilized through-out the lease contract period. In addition, the engines are subject to a rigorous maintenance program that applies regardless of drilling location and so emissions are not expected to vary significantly within a 12-month period. Next, the comprehensive monitoring requirements proposed in Section 6.16 are sufficient to ensure engine performance and emissions compliance. Finally, Shell is obligated to ensure the rigs conform to the permit application basis prior to any drilling under the permit.

Shell requests that the draft permit be revised to eliminate the need for annual stack testing and proposes Condition 6.15.1 be changed as follows:

"Before the start of the first drilling campaign, the four main engines of the Deepwater Nautilus or the eight main engines of the Noble Bully I or Noble Bully II shall have been stack tested under the requirements of this section within the previous 12 months. If, after the initial stack test(s), the drilling vessel discontinues drilling under the permit for more than 12 months, the permittee will either certify that a continuing maintenance program has been conducted and that no physical changes that could impact emissions have occurred since the previous stack test, or conduct a new stack test prior to drilling. The certification should be included with the Drill Site Notification required under section 6.1 if permittee elects to certify."

Response: EPA concurs with the commenter that additional clarification regarding stack testing requirements is needed. It was not EPA's intent that an annual stack test be performed on the drillships' main engines unless the stack testing option set forth in draft permit Condition 6.16.1.3 (Stack Testing Emissions Monitoring) was selected for compliance demonstration by Shell and approved in writing by EPA. Therefore, draft permit Conditions 6.15 and 6.16 have been revised in the final permit for clarification.

Final permit Condition 6.15 has been modified to include continuing maintenance certification as proposed by Shell in Comment 18 and to clarify specific requirements for the initial stack testing. The permit revision proposed by Shell for reporting the continuing maintenance certification set forth in Condition 6.15.1 with drill site notification requirements of Condition 6.1 has been added in the final permit as Condition 6.1.4.

Draft permit Condition 6.16 has been modified in the final permit to clarify that annual stack testing may be used with prior written approval by EPA as an ongoing compliance monitoring option, but is independent of the initial stack testing requirements in Condition 6.15.

Comment 19: Stack Testing Pollutant Monitoring Requirements (Draft Permit page 28; Section 6.15.3).

Neither the main engines of the Deepwater Nautilus nor the Noble Bully I or Noble Bully II emit ammonia.

Shell requests that ammonia be removed from the list of pollutants requiring stack testing.

Response: EPA concurs with the commenter and has removed ammonia from the list of pollutants required as part of stack testing in Conditions 6.15 and 6.16 of the final permit.

Comment 20: Parametric Monitoring Requirements (Draft Permit page 30; Section 6.16.1.3.2).

Shell requests that provision 6.16.1.3.2 of the draft permit be deleted because Shell has not defined the specific parameters that may be monitored as part of a Parametric Monitoring System: provision 6.16.1.3.2 as written presumes the use of a DEWT type system. If Shell elects to use a Parametric Monitoring System the specific parameters to be monitored will be established as part of Shell's request and subject to EPA's approval.

Shell requests that Condition 6.16.1.3.2 of the draft permit be deleted.

Response: EPA considered the commenter's request and concurs, in part, with the comment. Shell is not limited to the use of DEWT as a parametric monitoring system, and, as is stated in the draft permit terms, may apply to EPA for approval of an alternative system. However, the DEWT system is an existing, available example of typical parameters and procedures that EPA would evaluate when approving or disapproving a monitoring system. EPA felt that this example of a well-defined monitoring system should be retained in some form in the final permit. As such, EPA has modified Condition 6.16.2.2, which addresses parametric monitoring requirements in the final permit, to clarify that the listed parameters and procedures apply to the use of DEWT only.

Comment 22: Deepwater Nautilus Emergency Generator Clarification (Draft Permit page 4, 22, and 31; Sections 4, 6.6, and 6.17).

The Deepwater Nautilus does not have an emergency generator in the sense that it automatically starts when an issue occurs. It has to be manually operated and therefore is classed as a standby generator.

Shell requests that the emergency generator identified as EGEN on the Deepwater Nautilus be changed to a "standby" generator throughout the permit.

Response: EPA has changed the engine description for the EGEN diesel unit on board the *Deepwater Nautilus* from a designation of emergency generator to that of standby generator throughout the final permit.

Comment 23: Noble Bully I and II Drillship Name Correction (throughout permit).

The correct legal name of the vessels is Noble Bully I and Noble Bully II.

Shell has requested that the permit be revised throughout to reflect this correction.

Response: EPA has changed the names of the drillships throughout the final permit to reflect this correction.

Comments from ConocoPhillips Company (ConocoPhillips)

Comment: ConocoPhillips Company supports Shell's permit to construct and operate in the Desoto Canyon and Lloyd Ridge lease blocks in the Gulf of Mexico and recommends that EPA expedite finalization of the permit. However, ConocoPhillips believes that EPA erroneously required Shell to demonstrate attainment of the NAAQS and PSD increments at the Inner/Outer OCS boundary, i.e. 25 miles from the state's seaward boundary. The commenter contends that the OCS air permitting regime requires compliance with the NAAQS and PSD increments only at the nearest state's seaward boundary. ConocoPhillips acknowledges that the point of compliance has no impact on the conditions of Shell's permit. However, the commenter believes the error will hinder other exploration and production activities because it will overstate the ambient impacts of the permitted activity. The commenter requests that Region 4 re-examine and revise its explanation of the point of compliance to ensure that all leaseholders are treated equitably and none are prevented from exercising their lease rights, including ConocoPhillips interests in the Chukchi Sea. The comment letter also includes a several page discussion in support of the position that the OCS air permitting regime requires compliance at the state seaward boundary and onshore, rather than offshore 25 miles from the state seaward boundary. The complete comment letter is available in the Administrative Record for this permit action.

Response: As acknowledged by ConocoPhillips, the comments do not raise issue with any terms and conditions of EPA's draft permit for Shell, and the commenter supports expeditious issuance of the permit. Hence, no conditions of the permit were changed in response to ConocoPhillips' comment letter. The comment letter focused on the broader issue of the appropriate location for an OCS source to demonstrate compliance with the NAAQS and PSD increments. ConocoPhillips maintains that the appropriate location for determining compliance with the NAAQS and PSD increments is at the state seaward boundary (i.e. 3 or 9 miles from shore, as applicable based on state jurisdiction), rather than the more conservative 25 miles from the state seaward boundary, which was used by Shell in their impact analysis. ConocoPhillips submitted an argument that has previously been submitted to the EPA by ConocoPhillips and other applicants.

In the context of NAAQS and PSD increment compliance on the OCS, there remains some uncertainty as to how Section 328 of the CAA should be interpreted with respect to ambient air over the OCS within 25 miles of a state seaward boundary (the "Inner OCS"). EPA is considering how to ensure compliance with the NAAQS and increments consistent with the mandate in CAA § 328(a)(1) that requirements to control pollution from OCS sources located within 25 miles of the state seaward boundary shall be the same as would be applicable if the source were located in the corresponding onshore area. While Shell's operations are located more than 150 miles from shore and well beyond any state seaward boundary, the emissions from Shell's operations had the potential to impact this inner OCS region. Hence, the applicant used a more conservative modeling approach than suggested by the commenter to alleviate any potential concern regarding their operation's impacts on air quality above the inner OCS region.

Shell's modeling shows that air quality impacts from the planned operations will not exceed the significant impact level 25 miles from the state seaward boundary. Hence, the project is not considered to have a significant impact on the NAAQS or PSD increment onshore, in the inner OCS, or within the State's seaward boundary. It is therefore EPA Region 4's determination that the applicant has made a sufficient showing to ensure compliance with the NAAQS and PSD increment at the inner/outer boundary (i.e. 28 to 34 miles from shore), and, hence at the State seaward boundary and onshore. EPA

will consider ConocoPhillips comments in deciding the broader issue of NAAQS and PSD increment compliance on the OCS. However, resolving the point of compliance question is not necessary for, nor directly applicable to, this permitting action.

Other Permit Changes

Permit Fees

Condition 5.27 of the draft permit erroneously requires the payment of fees to be submitted annually by December 31 each year. However, pursuant to 40 CFR 71.9(h)(1), the submission of annual emissions reports and fee calculation work sheets is required before April 1 of each subsequent year. Therefore, EPA has revised the date in Condition 5.27.1 to April 1.

Compliance Monitoring

Condition 6.16.3.9 (part of compliance monitoring option #3) clearly states that the permittee shall “[d]etermine the average emission rate (g/kW-hr) for each unit from the hourly emission rate results in each rolling 24-hour period.” EPA revised conditions 6.16.1 (compliance monitoring option #1) and 6.16.2 (compliance monitoring option #2) to contain similar language for clarity and consistency. These changes have no impact on the emissions or the required monitoring.

Anchor Handling Vessels

On November 16, 2011, EPA received a request from Shell to modify their proposed project to increase anchor handling vessel (AHV) usage from 20 to 32.5 days per year. EPA reviewed the proposed change and determined that the increased number of days per year of AHV operation will not alter the previous PSD applicability determination. The table below summarizes the revised potential to emit for regulated pollutants compared to the PSD significance thresholds:

Pollutant	DWN (TPY)	Bully (TPY)	PSD Significance Threshold (TPY)	Maximum (DWN or Bully) (TPY)	PSD Major Modification
NO _x	475.54	379.09	40	475.54	Yes
VOC	18.68	25.09	40	25.09	No
SO ₂	6.96	11.04	40	11.04	No
CO	98.97	84.11	100	98.97	No
PM _{2.5}	8.48	8.47	10	8.48	No
PM ₁₀	8.74	8.73	15	8.74	No
PM	10.63	10.63	25	10.63	No
CO _{2e}	21,929	35,831	75000	35,831	No
H ₂ S	Negligible	Negligible	10	0.00	No

The proposed change does not result in an increase above the applicable PSD significance thresholds, which would trigger additional public notice requirements. In addition, EPA evaluated how the proposed change would impact the air quality analyses described in the preliminary determination. Because the anchor handling boats were originally assumed to operate at maximum daily utilization, increasing the number of days the vessels operate will not affect compliance with the hourly NO₂ or 24-hour PM_{2.5}

standards. Likewise, predicated visibility impacts would not change because maximum daily emissions are used in these evaluations, and these have not changed. Annual emissions will increase due to using the AHVs for up to 12.5 more days per year. The increases in the annual emissions, as given in the table above, is approximately 7% of NO_x, SO₂ and particulate annual emissions provided in the Preliminary Determination and Statement of Basis. EPA evaluated this change against the previously modeled predicted maximum annual concentrations. Given that these values were orders of magnitude lower than the Significant Impact Levels (SIL), EPA determined that the proposed increase would not result in impacts exceeding the SILs, and hence additional modeling is not required. Specific details of the applicant's and EPA's analysis are available in the Administrative Record.

Since additional public notice and modeling are not required for this project modification, EPA has included the requested revision in the final permit, as opposed to processing a separate revision after the final permit is issued. Condition 6.12.1 of the final permit was modified to allow 32.5 days of AHV usage.

Typographical and Grammatical Errors

Other minor permit changes have been made to the permit to correct typographical or grammatical errors or to improve the clarity of certain provisions. These changes have no impact on the emissions or the required monitoring. All changes made to the draft permit can be found in the Administrative Record.