

# **Attachment 1**

AR-EPA-J-3

U.S. Environmental Protection Agency (EPA) Region 10, Response to  
Comments for Outer Continental Shelf Permit to Construct and Title V  
Operating Permit, Conical Drilling Unit Kulluk, Shell Offshore Inc.  
Beaufort Sea Exploration Drilling Program Permit No. R10OCS030000  
(Oct. 21, 2011)

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
SEATTLE, WASHINGTON**

**RESPONSE TO COMMENTS  
FOR  
OUTER CONTINENTAL SHELF  
PERMIT TO CONSTRUCT AND  
TITLE V AIR QUALITY OPERATING PERMIT  
CONICAL DRILLING UNIT KULLUK**

**SHELL OFFSHORE INC.  
BEAUFORT SEA EXPLORATION DRILLING PROGRAM  
PERMIT NO. R10OCS030000**

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## I. CATEGORY – ENFORCEABILITY OF PTE LIMITS

### I.1 SUBCATEGORY – GENERAL

**Comment I.1.a:** Commenters request that Region 10 add to the list of “Prohibited Activities” the operation of the vessels between December 1 and June 30 because the Draft Permit specifies that the “permittee shall only conduct exploration drilling operations in the Beaufort Sea between July 1 and November 30 each year (referred to hereafter as the “drilling season”).”

**Response:** The Kulluk Permit clearly states that “The permittee shall only conduct exploration drilling operations in the Beaufort Sea between July 1 and November 30 each year (referred to hereafter as the “drilling season”).” Permit Condition D.3.1. This condition adequately prohibits operation of the Kulluk as an OCS source in the Beaufort Sea between December 1 and June 30 of each year, and the additional condition suggested by the commenters is not necessary.

**Comment I.1.b:** Commenters state that Region 10 fails to explain why monthly limits could not be imposed in the Draft Permit and why Shell was provided 12-month rolling emission limits for certain pollutants. The commenters reference EPA guidance providing that production and operational limits must be stated as conditions that can be enforced independently of one another and that EPA recommends a one month limit as the maximum time EPA should generally accept for avoiding a PSD threshold. The commenters also point to EPA guidance and state that Region 10 should first consider the possibility of imposing month-by-month limits, and only if that is not feasible should the Region impose a 12-month rolling time period. The commenters reference the following statement that they cite as originating from the Statement of Basis: “because the annual NAAQS are set based on calendar years, the restriction can similarly apply on a calendar year basis (or, in the case of these permits, a drilling season which is limited by the permit to a specific 5-month period out of any calendar year).” The commenters contend that this statement is misleading because it implies that Shell is complying with the NAAQS and other standards during the limited drilling season instead of taking a rolling 12-month timeframe in which to document compliance.

**Response:** Agency guidance provides that production or operational limits expressed on a calendar year basis cannot be considered capable of legally restricting potential to emit, and that such limits should generally not exceed one month, but can include longer rolling limits (*e.g.*, on a 12-month rolling basis). 1989 PTE Guidance at 10. This guidance applies to limiting a source’s potential to emit and does not explicitly address limits established to protect the NAAQS. Region 10 believes that in this case limits imposed to ensure compliance with annual NAAQS standards can reasonably be expressed on a calendar year basis because compliance with the annual standard is determined based on calendar year or multi-year averages of calendar years.

The commenters’ concern appears to relate to the fact that the Draft Permit includes PTE limits set on a rolling basis even though Shell is prohibited from operating under the permit between December 1 and June 30 of each year. The rolling PTE limits in Permit

Condition D.4 of the Draft Permit were established assuming zero emissions during the period when operations are prohibited (December through June of each year). In addition, each of the limits in the permit applies independently. In other words, even though the limits in Permit Condition D.4 could—on their own—allow the source to emit pollutants between December 1 and June 30 of each year, Permit Condition D.3.1 prohibits operation during that time period, and the permittee must comply with both requirements.

The commenters are correct that EPA guidance does express a general preference for shorter time periods rather than 12-month rolling limits. See 1989 PTE Guidance at 9. As the commenters acknowledge, however, EPA has also recognized that longer rolling limits are appropriate for sources with substantial and unpredictable annual variations in emissions, as well as for those sources that curtail operations during part of a year on a regular seasonal cycle. *Id.* at 9-10. Such is the case here. Shell's planned exploratory operations are atypical as compared to other sources because the emission units consist of multiple engines and generators with variable emissions on the Kulluk and a fleet of numerous support vessels. Operations will vary from hour-to-hour, day-to-day, month-to-month, and season-to-season based on factors such as the number of wells drilled, the activity being undertaken (drilling mud cellar lines, other drilling activity, or activity that does not involve drilling), the depth of the wells drilled, whether emergency engines are being run for testing, and ice conditions. Given the variability in operations, and thus emissions expected from this source, and after considering a full range of options for limiting the source's potential to emit, Region 10 determined that it was appropriate to establish longer-term rolling limits. In short, the Kulluk Permit does not set PTE limits on a calendar year basis, but instead establishes rolling 365-day limits for NO<sub>x</sub> and CO, and 12-month rolling limits for SO<sub>2</sub> and GHG emissions. Region 10 determined that these limits are appropriate considering the nature of the source and are consistent with the 1989 PTE Guidance. See also response to comment I.1.c.

Similar to the 2011 Revised Permits for the Discoverer, the limit on the number of days in the drilling season in the Kulluk Permit is a limit set to ensure compliance with the annual NAAQS and therefore can reasonably be established, as was done here, on a calendar year (drilling season) basis. Region 10 also notes that the statement quoted by the commenters concerning setting annual NAAQS compliance limits on a calendar year basis is not contained in the Kulluk Statement of Basis. This statement is from the Supplemental Statement of Basis for the Discoverer Permits.

**Comment I.1.c:** Commenters contend that the owner-requested limits and other provisions designed to limit Shell's potential to emit are unenforceable as a practical matter and unlawful. Commenters note that absent enforceable permit limitations, Shell's yearly potential to emit exceeds the applicable major source threshold of 250 tpy for NO<sub>x</sub>, CO, SO<sub>2</sub>, and GHG emissions. The commenters reference that Shell's pre-permitted PTE for NO<sub>x</sub> is 2,339 tpy and that the Draft Permit limits NO<sub>x</sub> emissions to 240 tpy determined on a rolling 365-day basis. Commenters further contend that although the Draft Permit describes how to calculate NO<sub>x</sub> emissions it fails to specify how the emissions will be limited through an operational limit, a production limit, or the

installation of controls or other mechanisms. As a result, the commenters state that the limit is not enforceable and fails to serve the intended purpose of restricting Shell's emissions of NO<sub>x</sub>. The commenters assert that the same is true for potential to emit limits for CO and CO<sub>2</sub>e.

**Response:** The commenters are correct that, absent enforceable permit limits, Shell's yearly potential to emit would exceed the applicable PSD major source thresholds for NO<sub>x</sub>, CO, SO<sub>2</sub>, and GHG emissions. See Statement of Basis, p. 24. Potential to emit is defined as the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, is treated as part of its design if the limitation or the effect it would have on emissions is enforceable. See 40 CFR §§ 52.21(b)(4) and 55.2. Region 10 believes that the limits established in the Kulluk Permit to restrict the source's potential to emit are both federally enforceable and enforceable as a practical matter.

Title V of the CAA and Part 71 provide a mechanism to create limits in a Title V permit that restrict a source's potential to emit. The Environmental Appeals Board (EAB) has specifically acknowledged that "Title V permits (and other permits as well) may function as vehicles for establishing such PTE limits, potentially allowing a source to avoid more burdensome permitting requirements for 'major sources' by instead qualifying as a 'synthetic minor' source for purposes of some other regulatory programs." *In re Peabody Western Coal Company*, 12 EAD 22, 31 (EAB Feb. 18, 2000). Limits established in a Title V permit are federally enforceable. See 42 U.S.C. § 7661a, 40 CFR § 71.6(b), Permit Condition A.3.4. See also 18 AAC 50.225 (COA authority to impose owner-requested limits on PTE).

Region 10 determined that, given the variable nature of Shell's proposed operations and the number, types, and location of emission sources spread across the Kulluk and Associated Fleet, the most effective means to limit Shell's potential to emit was through the application of enforceable source-wide emission limits for NO<sub>x</sub>, CO, SO<sub>2</sub> and CO<sub>2</sub>e. The proposed exploratory drilling operations will involve variable operations from well-to-well and season-to-season due to factors such as weather, sea state, remoteness of the drilling site, and the exploratory nature of the operations (i.e. the speculative nature of exploratory drilling). Emissions from many units will also vary depending on the activity being conducted. For example, emissions from drilling equipment on the Kulluk will depend on the stage of drilling activity (e.g., drilling mud cellar lines versus other drilling activities), and emissions from the propulsion engines on the icebreakers will depend on the frequency, thickness, and location of ice. Such considerations require a level of operational flexibility that makes it impractical to establish unit-specific limits or operating parameters for some pollutants that might typically be applied to limit a stationary source's potential to emit. For these reasons, Region 10 determined that, for this permit, the most effective and reliable way to limit potential to emit was through a combination of emission limits and specified emission factors, supported by stringent monitoring, frequent emission calculations, recordkeeping requirements, and operating

limitations. This approach accounts for variability in operations and emissions, yet still provides assurance that limits on potential to emit can be enforced as a practical matter.

The Kulluk Permit establishes an emission limit for SO<sub>2</sub> (10 tpy) that is well below the applicable PSD major source threshold as determined on a 12-month rolling basis. This emission limit is supported by operational limits on both the type and amount of fuel combusted that ensure emissions remain below the applicable emission limit. The permit restricts the sulfur content of fuel combusted on the Kulluk and Associated Fleet to 100 ppm. Permit Condition D.4.5. Compliance with this operational limit is determined by Permit Condition D.4.9 which requires that all fuel purchased have a maximum sulfur content of 15 ppm. The permit also establishes an aggregate fuel limit for all emission sources that limits the total amount of fuel combusted during any 12-month rolling period to 7,004,428 gallons. Permit Condition D.4.6. Compliance with the fuel limit is determined through stringent fuel monitoring requirements. For the majority of emission units, fuel usage is monitored continuously using a fuel flow meter. For the units where a fuel flow meter is not required (Kulluk emergency generator, seldom used sources, and OSRV work boats) the permit requires that fuel usage be measured using a fuel sight glass, tank gauge, or graduated dip stick. Under Permit Condition F.2.2.2. Shell is required to record fuel usage for each emission unit on an hourly, daily, and monthly basis. Permit Condition F.2.2. Together, the limits on the type and amount of fuel combusted, along with the fuel monitoring requirements, assure compliance with the emission limit for SO<sub>2</sub>.

The Kulluk Permit establishes an emission limit for CO<sub>2</sub>e (80,000 tpy) below the threshold at which GHGs become “subject to regulation” for a new stationary source under the Tailoring Rule as determined on a 12-month rolling basis. This emission limit is supported by the operational limit on the amount of fuel combusted over a 12-month rolling period and an operational limit on the amount of waste combusted each day that, together, ensure emissions remain below the applicable emission limit, so the source’s GHG emissions are not “subject to regulation” for PSD permitting purposes and PSD permitting requirements do not apply. Permit Conditions D.4.6 and D.4.7. The permit requires Shell to monitor total fuel usage, as described above, and to monitor and record the operation of the incinerators on the Kulluk and Associated Fleet. Emissions are calculated by applying emission factors specified in Tables D.2.1 and D.2.2 to the amount of fuel combusted and the assumed maximum operation of the incinerators. Each month, Shell is required to calculate and record the rolling 12-month emissions of GHGs to ensure that emissions of CO<sub>2</sub>e remain below 80,000 tpy. For a discussion of methane emissions see response to comment I.3.b.

The Kulluk Permit establishes emission limits for NO<sub>x</sub> (240 tpy) and CO (200 tpy) below the applicable PSD major source threshold, as determined on a rolling 365-day basis.

Compliance with the emission limits for NO<sub>x</sub> and CO is determined by calculating daily NO<sub>x</sub> and CO emissions from each emission unit using emission factors derived from stack testing conducted pursuant to specified requirements (Permit Condition E) or specifically identified in the permit (Permit Condition D.1). The permit requires Shell to



conduct stack tests for the majority of emission units to develop reliable emission factors for NO<sub>x</sub> and CO. Stack testing is conducted across multiple load conditions for each emission unit or group of emission units. The highest emission factor determined through stack testing is used to calculate all emissions from the unit regardless of actual operating load conditions. For groups of the emission units, the highest emission factor observed for the group is used for all emission units in the group. For emission units that are not subject to stack testing for NO<sub>x</sub> and CO (Kulluk emergency generator, seldom used sources, OSRV workboats, heaters and boilers), the permit specifies emission factors which are either the AP-42 emission factor or the 90<sup>th</sup> percentile value derived from source tests of corresponding emission units on Shell's Discoverer drillship and Associated Fleet. For more discussion of emission factors see response to comment I.3.a.

Compliance with the emission limits for NO<sub>x</sub> and CO is determined by applying the relevant emission factor to the amount of fuel combusted by each emission unit (or hours of operation for incinerators). The fuel monitoring requirements, described above, and the specified emission factors for individual emission units allow for source-wide emission calculations to be made. Shell is required to calculate and record on a weekly basis the daily emissions of NO<sub>x</sub> and CO from each emission unit, and to calculate and record on a weekly basis the daily rolling 365-day emissions of NO<sub>x</sub> and CO. In this way, Shell is required to provide a continuous assessment of daily NO<sub>x</sub> and CO emissions to ensure that the source complies with its PTE limits. Determining NO<sub>x</sub> and CO emissions from each unit on a daily basis provides a reliable and timely mechanism that will allow Shell to frequently assess compliance and to determine whether it is approaching the emission limits established to limit its potential to emit and to adjust its operations accordingly.

In addition to emission limits, the Kulluk Permit includes a combination of operational limits which effectively limit potential to emit as well. In addition to the limits on the type and amount of fuel combusted, the Kulluk Permit imposes hourly operational limits on MLC drilling and overall drilling activity. Permit Conditions D.3.3 and D.3.4. Shell is required to record the date and hour the Kulluk becomes an OCS Source and the date and hour of drilling and incineration activities. Permit Conditions D.3.6 to D.3.8. To limit emissions of NO<sub>x</sub> and CO from larger emission units, the Kulluk Permit requires the installation and operation of add-on controls. Exhaust from emission units with the highest PTE for NO<sub>x</sub> – the Kulluk electricity generation engines and the propulsion and generation engines on both icebreakers – will be directed to an operating selective catalytic reduction (SCR) control device that is evaluated at all times the affected source is operating using a continuous monitoring system (CMS). In addition, exhaust from the Kulluk electricity generation engines, MLC HPU engines, MLC air compressor engines, Kulluk deck cranes, and the propulsion and generation engines on both icebreakers are directed to an oxidation catalyst control device that controls combustible substances such as CO and PM and is evaluated using a CMS. Permit Conditions F.3 and F.4.

The 1989 PTE Guidance recognizes exceptions to the statement that emission limits alone are not generally sufficiently enforceable as a practical matter so as to limit PTE. While the situation presented by the Kulluk and Associated Fleet was not contemplated at

the time the 1989 PTE Guidance was issued, Region 10 believes that this situation is sufficiently analogous to the rationale for recognizing the exception for the VOC surface coating. As in the case of VOC coating operations, the operational and production parameters for the emission units on the Kulluk and Associated Fleet are not readily limited due to the uniqueness of the source which includes a wide variety of emission units and varying emission factors for NO<sub>x</sub> and CO for the various emission units, resulting from the unpredictable nature and variability of operations, and the need for operational flexibility on fuel usage. Therefore, Region 10 has required the use of emission limits and specific emission factors based on conservative assumptions, coupled with a requirement to calculate hourly and/or daily emissions, to restrict potential to emit. In this way, the combination of emission limits and specified emission factors has an effect similar to operational limits because the operational parameters that are linked to the emissions are continuously tracked and used for compliance.

Region 10 believes the permit appropriately limits Shell's potential to emit in a manner that is both legally enforceable and enforceable as a practical matter. Moreover, Shell is aware that operations must be suspended when necessary to avoid exceeding the limits. In the unlikely event that PTE limits are exceeded, not only may Shell need to apply for and obtain a PSD permit, but it may be considered to have been in violation of PSD requirements from the time it was initially constructed.

## **I.2 SUBCATEGORY – APPROPRIATENESS OF EMISSION LIMITS**

**Comment I.2.a:** Commenters cite to a letter from EPA Region 9 to the Nevada Division of Environmental Protection as support for the proposition that EPA's position is that a 5-10% buffer is appropriate for synthetic minor source air permits. The commenters apply the 5-10% buffer to the potential to emit NO<sub>x</sub> under the Draft Permit and note that the 240 tpy emission limit provides less than a 5% buffer. The commenters assert that, at the very least, the final permit needs to provide a 5% buffer, but that given the unknowns associated with the Draft Permit and the Arctic conditions, Region 10 should ensure a 10% buffer for all owner requested restrictions.

**Response:** The letter cited by the commenters involved a revision to a Title V permit to allow the source to install and operate additional emission units that would have increased the source's potential to emit CO above the applicable major source threshold of 250 tpy. In the draft permit, the state permitting authority established a facility-wide emission limit for CO of 249 tpy, just below the major source threshold. Region 9 did not object to the emission limit, but encouraged the permitting authority to provide a larger buffer of between 5-10% in that case.

Congress established specific thresholds to determine when a source would be considered major for purposes of PSD review. 42 U.S.C. § 7479(1). Although establishing a 5-10% buffer where an emission limit is just below the major source threshold may increase confidence that a source will not exceed the applicable threshold, the commenter does not cite anything to suggest that this is a legal requirement.

## Z. APPLICABILITY OF PSD INCREMENT AND VISIBILITY PROTECTION

### Z.1 IN GENERAL

**Comment Z.1.a:** Although commenters support Region 10's determination that the Kulluk is a Title V temporary source, commenters state that the draft permit for the Kulluk is unlawful because it does not include conditions that will assure compliance with all applicable requirements of the CAA at all authorized locations. In particular, the commenters contend, Region 10 has failed to assess whether emissions from Shell's Kulluk operations will exceed applicable air increments. The commenters assert that, through the creation of limits called "increments," Congress designed the CAA not only to clean up dirty air but also to prevent the degradation of clean air. The commenters cite to language in CAA § 504(e) and similar language in 40 CFR Part 71 stating that no operating permit shall be issued to a temporary source "unless it includes conditions that will assure compliance with all the requirements of [the Clean Air Act] at all locations, including, but not limited to, ambient standards and compliance with any applicable increment or visibility requirements . . . ." The commenters continue that Region 10 has both identified an offshore "baseline area" to assess increments in the Chukchi and Beaufort Seas and identified a "minor source baseline date" (namely, July 31, 2009) for SO<sub>2</sub>, NO<sub>2</sub>, and PM. Because the minor source baseline date has passed, the commenters assert, the CAA "places strict limits on aggregate increases in pollution within the baseline area whether the increases come from minor or major sources," citing as support *Great Basin Mine Watch v. EPA*, 401 F.3d 1094, 1096 (9th Cir. 2005), *Reno-Sparks Indian Colony v. U.S. E.P.A.*, 336 F.3d 899, 903 (9th Cir. 2003), and 75 Fed. Reg. at 64,864, 64,868 (October 20, 2010) ("After the minor source baseline date, any increase in actual emissions (from both major and minor sources) consumes the PSD increment for that area.") (parenthetical added for emphasis). The commenters state that increments are thus applicable to all sources—both major and minor. The commenters further assert that EPA's interpretation that a demonstration of compliance with increments is not required to issue Title V permits to temporary sources that are not PSD major source is inconsistent with the statutory language of CAA § 504(e), EPA's own Part 70 and Part 71 regulations, and the preamble to the Part 70 regulations. The commenters also state that Region 10 is only interpreting a part of the statutory language, therefore missing both the meaning and the intent behind the provision pertaining to temporary sources. Because Region 10 did not analyze Shell's compliance with applicable increments or impose permit conditions to ensure compliance with them, the commenters conclude, the draft permit does not ensure compliance with increments and the permit violates CAA § 504(e).

**Response:** EPA agrees with the commenters that all emission increases and decreases from both major and minor sources (with only a few exceptions provided for in the PSD statute<sup>16</sup>) occurring after the minor source baseline date is triggered, will consume or expand available increment. However, EPA does not agree that the CAA and regulations applicable in this instance require that Shell demonstrate that the Kulluk will not cause a

<sup>16</sup> See CAA § 163.

violation of the PSD increments in order to obtain the type of permit issued by EPA in this case.

The fact that minor source emissions consume increment does not necessarily mean that a minor source permit applicant is required to demonstrate that its proposed action will not cause or contribute to a violation of the increment to obtain a minor source construction permit. The criteria that must be met to obtain a minor source construction permit in this case are principally based on the terms of the minor source permitting program approved by Region 10 as part of the COA regulations. In this instance, the applicable Alaska regulations approved by EPA (18 Alaska Administrative Code (AAC) 50.502) do not require that a minor source permit applicant demonstrate that it will not cause or contribute to a violation of the PSD increment in order to obtain this type of permit.

The CAA and EPA regulations do not require that state minor source permitting programs contain criteria that require a minor source permit applicant to demonstrate that proposed construction will not cause a violation of a PSD increment. This is something states have the discretion to require, but is not a mandatory requirement under the provisions of the CAA or EPA regulations applicable to minor source permitting programs.

Section 110(a)(2)(C) of the CAA sets forth the basic requirement for preconstruction permits for both major and minor sources. Specifically, Section 110(a)(2)(C) states that the implementation plan shall:

(C) include a program to provide for the . . . regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D;

The permit program required in Part C of the CAA applies to major emitting facilities as defined in Section 169(1) of the CAA and the permit program required in Part D of the CAA applies to major stationary sources as defined in Section 302(j) of the CAA and in the various pollutant specific subparts of Part D. Only the major emitting facilities subject to the Part C permitting program (also referred to as the PSD permitting program) are expressly required under the CAA to demonstrate compliance with applicable PSD increments in order to obtain a permit to construct. See CAA § 165(a)(3)(A). New and modified stationary sources that are not major emitting facilities subject to the Part C permitting program are only required to demonstrate that the NAAQS will be achieved unless the applicable implementation plan provides otherwise. See CAA § 110(a)(2)(C); 40 CFR §§ 51.160(a)(2) and (b)(2).

For non-PSD sources, a state air quality management authority has a responsibility to ensure that its state implementation plan contains measures to prevent significant deterioration of air quality in accordance with section 161 of the CAA and 40 CFR §§ 51.166(a)(1) of EPA's implementing regulations. However, these provisions leave states with the discretion to determine whether it is necessary to require minor sources to

demonstrate that they will not cause a violation of any PSD increments as a condition of obtaining a minor source permit. In this instance, Alaska has not adopted minor source permit program regulations that require a showing that a minor source will not cause a violation of an increment in order to obtain the appropriate construction permit. Thus, the minor source COA regulations applicable to this source do not require a source to demonstrate compliance with PSD increments.

Furthermore, as discussed in the Statement of Basis (at 26), EPA does not interpret CAA § 504(e) to create new permitting requirements for temporary sources with respect to demonstrating compliance with increments beyond what would otherwise be applicable to such sources under applicable CAA construction permitting programs. The statute states in relevant part that:

The permitting authority may issue a single permit authorizing emissions from similar operations at multiple temporary locations. No such permit shall be issued unless it includes conditions that will assure compliance with all applicable requirements of this chapter at all authorized locations, *including but not limited to ambient standards and compliance with any applicable increment or visibility requirements under part C of subchapter I of this chapter.*

CAA § 504(e) (emphasis added).

The difference in phrasing here is important: ambient standards are referenced without qualification, whereas increment and visibility requirements are prefaced with “any applicable” and followed by “under part C of subchapter I of this chapter.” Based on this distinction, EPA reads this provision of the Clean Air Act to require that all Title V temporary sources<sup>17</sup> demonstrate that the source will not violate ambient standards (NAAQS) at all authorized locations but that such a source need only assure compliance with increment at all locations where the source is otherwise required to show it will not cause of violation of increments under part C of subchapter I of this chapter, such as through section 165(a)(3) of the CAA and the applicable PSD permitting program in the case of major sources or other provisions in an implementation plan or COA regulation that implement Section 161 of the Act and may also apply to minor sources.

The language used in Section 504(e) is consistent with the provisions in the CAA and EPA’s regulations described above that make the ambient standards (the NAAQS) applicable to all stationary sources (both minor and major) at the time of construction permitting, but that make the increment requirements in Part C only applicable to certain stationary sources, that is PSD major sources or minor sources when applicable under an applicable minor source permitting program. This reading of the statute gives meaning to the different language that Congress used when referring to the ambient standards on the one hand and the Part C requirements for increments on the other hand.

<sup>17</sup> This term includes any source that would move more than once during the life of its Title V operating permit. See Memorandum to Docket A-90-33, re: Docketing of Detailed Responses to Comments on the Part 70 Operating Permit Regulations, at 6-34. It thus includes both PSD portable sources and PSD temporary sources.

Similarly, there is no indication in EPA's promulgation of the regulations implementing Section 504(e) that EPA interpreted that section of the CAA to impose on Title V temporary sources that are not also PSD major sources a direct requirement to demonstrate compliance with increment in the Title V permitting process. The thirteenth item in EPA's definition of "applicable requirement" in the Part 70 or Part 71 Title V regulations reads as follows: "Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act." 40 CFR § 70.2; 40 CFR § 71.2. The last clause makes clear that the NAAQS, increment, and visibility requirements are applicable requirements for Title V applicants only to the extent required under section 504(e) of the Act. Thus, this provision of the regulations was clearly not intended to require more than the cited provision of the Clean Air Act would otherwise require. As discussed above, because the reference to the increment in section 504(e) of the CAA is modified by the phrase "any applicable," the regulatory language EPA adopted in section 71.2 is likewise limited to requiring a Title V temporary source to demonstrate compliance with the increment where otherwise applicable under construction permitting programs.

**Comment Z.1.b:** Commenters state that, in the Statement of Basis (at 25), Region 10 attempts to justify its wholesale failure to address compliance with increments by suggesting that they are applicable only where a source "would otherwise be subject to PSD" and that Region 10 bases this conclusion on the observation that the word "applicable" precedes "increment" in CAA § 504(e). The commenters assert that this interpretation is wrong as a matter of law because, once triggered by a major source permit application in an area, increment limits apply to both major and minor sources. The commenters contend that Section 504(e) does not create a different rule for Title V temporary sources and, indeed, states that a Title V permit shall not be issued to a temporary source "unless it includes conditions that will assure compliance with all the requirements" of the CAA. The commenters state that the term "applicable" as used in CAA § 504(e) is not a reference to the applicability of general PSD requirements to a particular source, but rather refers to whether a major source application has triggered increment requirements for the relevant baseline area within which the temporary source is expected to operate and thus made such requirements "applicable." As support, the commenters state that, in promulgating its Title V implementing regulations, EPA declared that "NAAQS and the increment and visibility requirements under part C of title I of the Act are applicable requirements for temporary sources . . . ." Because in this case, previous major source applications have triggered the increment requirements in the area, the commenters state that Region 10 must ensure that the permit meets those requirements.

**Response:** EPA agrees that, once a minor source baseline date is triggered, emission increases and decreases of all sources, including minor sources after the minor source baseline date, will consume or expand increment. However, the increments themselves are not directly applicable as permitting criteria for sources that are not otherwise required to demonstrate compliance with increments to obtain a construction permit. As

discussed above the state air quality management authority is required under Section 161 of the CAA and 40 CFR §§ 51.166(a)(1) of EPA's implementing regulations to adopt measures in its SIP to prevent significant deterioration. States have the discretion to determine the types of measures that are needed to meet this objective and are not expressly required to mandate that minor sources demonstrate they will not cause a violation of an increment to obtain a construction permit. When an air pollution authority finds that these measures have not been successful and an increment violation has occurred, it must revise its SIP to adopt emission limitations or other control measures to remedy the violation. 40 CFR § 51.166(a)(3).

As discussed in the response to comment Z.1.a above, EPA does not interpret section 504(e) and EPA's Part 71 regulations to require non-PSD sources to demonstrate compliance with increments in order to get a Part 71 operating permit when the applicable state or federal implementation plan does not otherwise require such a demonstration. The commenter quotes the thirteenth item in the definition of applicable requirement, but neglects to reference the last clause of this provision, which reads as follows "but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act." As discussed above, this clause indicates that EPA's regulations do not create any additional requirements for stationary sources beyond what the Act would require. Thus, EPA is not persuaded by commenter that the "any applicable" language that precedes the reference to increments is only intended to reference circumstances when a major source permit application has triggered increment requirements in a baseline area.

If, at any time after the Kulluk begins operation under its Title V/OCS permit, Region 10 determines that the actual emissions increases from the permitted OCS source cause or contribute to an increment violation,<sup>18</sup> Region 10 has authority to adopt additional requirements to ensure that increments are not violated. See CAA §§ 301 and 328; 40 CFR § 55.13(h). However, as shown in the Technical Support Document (Table 11, at 33) and confirmed by the comments of the North Slope commenters' (see Table 3 at page 13), the modeling analysis for this project shows that the allowable emissions would not cause or contribute to a violation of any increment where the minor source baseline has already been triggered. And, as discussed below in the response to comment Z.2.a, PM<sub>2.5</sub> emissions from the Kulluk will be part of the baseline concentration and will not consume any of the available PM<sub>2.5</sub> increment. So, although EPA does not believe that CAA § 504(e) and 40 CFR Part 71 require a demonstration of compliance with increments in this Title V permit issuance process, the modeling analysis supporting this permit actually demonstrates that PSD increments will not be violated.

**Comment Z.1.c:** Commenters state that EPA's regulations fail to support the interpretation that increment and visibility are not "applicable requirements" for minor sources under CAA § 504(e) and 40 CFR Part 71. According to the commenters, EPA's regulations explain that "[p]ermits for temporary sources shall include the following: (1) Conditions that will assure compliance with all applicable requirements at all authorized

<sup>18</sup> 40 CFR § 52.21(b)(13) (definition of "baseline concentration" is in terms of actual emission increases and decreases).

locations .....,” citing to 40 CFR § 71.6(e). The commenters continue that the Part 71 regulations also include a definition of “applicable requirement” that includes thirteen requirements, including “(2) Any terms or condition of the preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C and D, of the Act” and “(13) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act,” citing to 40 CFR § 71.2 (definition of applicable requirement). The commenters contend that EPA’s interpretation of this definition reads the thirteenth requirement out of the regulations because, under Region 10’s interpretation, the thirteenth requirement is subsumed by the second requirement. Thus, the commenters conclude, an interpretation that requires temporary sources to comply with the NAAQS, increments, and visibility standards is the only reading that gives meaning to all the regulatory provisions in the definition of applicable requirement. Commenters also cite to language in the preamble to the final Part 70 rule which states that “Temporary sources must comply with these requirements because the SIP is unlikely to have performed an attainment demonstration on a temporary source.”

**Response:** EPA disagrees with the commenter’s assertion that its interpretation of the thirteenth requirement does not give meaning to all of the regulatory provisions in the definition of “applicable requirement.” The commenters argue that EPA’s interpretation would be subsumed by the second requirement – that the permit include the terms and conditions of any preconstruction permit. However, the commenter fails to recognize that the permit for a portable (temporary) source that would be issued pursuant to the PSD regulations, specifically 40 CFR § 52.21(i)(1)(viii), is not required to assure compliance with the NAAQS or increments at all future locations. Rather, the PSD permit must only ensure that, at future locations, emissions from the permitted source would not impact a Class I area or an area where the increment is known to be violated. The PSD permit for a portable source would not thus not be required to ensure that the PSD portable source would not cause a new increment violation at a future location or that it would not have a local visibility impact at a future location. So while EPA’s interpretation is that Title V temporary sources that are not PSD sources do not need to demonstrate compliance with PSD increments and visibility requirements unless otherwise required by the applicable implementation plan, Region 10’s interpretation does result in the imposition through the Title V permit of additional requirements on PSD sources beyond the conditions that would be included in a PSD preconstruction permit under 40 CFR § 52.21. Region 10’s interpretation thus maintains the basic premise of the CAA preconstruction programs—that PSD major sources are subject to NAAQS and increment in the permitting process, where as non-PSD sources are subject only to the NAAQS unless the applicable minor source program also includes the increment—yet still has meaning by imposing on Title V temporary sources the requirement to demonstrate at subsequent locations that they continue to comply with those underlying applicable preconstruction requirements at each subsequent location.

With respect to the language in the preamble to the final Part 70 rule cited by the commenters with respect to Title V temporary sources, there is nothing in that language



to suggest that EPA interpreted Section 504(e) of the Clean Air Act to change the basic premise of the Clean Air Act permitting scheme for PSD sources versus non-PSD sources, namely, that PSD sources are directly subject to NAAQS and increment requirements, whereas non-PSD sources are not required to show they will not cause a violation of the increment unless the applicable implementation plan otherwise requires it for such sources. If a non-PSD Title V source applied for a preconstruction permit at one location and then applied for a new preconstruction permit to move to a new location, the source would have to demonstrate compliance with the NAAQS at each location as a condition of obtaining a permit, but would not have to demonstrate compliance with increment at either location absent a similar requirement for minor sources in the applicable implementation plan. In contrast, a PSD source that applied for a preconstruction permit at one location and then applied for a new preconstruction permit to move to a new location would have to demonstrate compliance with the NAAQS and increment at both locations. EPA believes the intent of the Title V temporary source provisions is to relieve sources of the burden of applying for Title V permits for each new location, while at the same time, assuring compliance with all requirements to which the source would be subject if it were a new source at each such new location.

**Comment Z.1.d:** Commenters assert that, in light of the statutory and regulatory language and the special treatment given to temporary sources in the 1990 amendments to the Clean Air Act, it is appropriate that compliance with both the increments and visibility requirements is ensured for these permits. The commenters state that this is particularly critical because of the proximity of these operations to the Arctic National Wildlife Refuge, (ANWR) and that the OCS regulations provide that EPA “shall not issue a permit to operate to any existing OCS source that has not demonstrated compliance with all applicable requirements of this part.”

**Response:** See the response to comments Z.1.a-Z.1.c above in general with respect to the applicability of increments to Title V temporary sources that are not PSD major sources. EPA has determined that visibility is similarly not an applicable requirement for Title V temporary sources that are not PSD major sources for the reasons set for in the Statement of Basis and response to comments Z.1.a-Z.1.c. In addition, ANWR is not a federal Class I area and as such, the increment and visibility requirements of Part C that apply to federal Class I areas are not relevant for ANWR.

**Comment Z.1.e:** Commenters state that EPA’s regulations for SIPs provide that “[in accordance with the policy of Section 101(b)(1) of the CAA and for the purposes of section 160 of the Act, each applicable State Implementation Plan and each applicable Tribal Implementation Plan shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality.” 40 CFR § 51.166(a). This regulatory provision, the commenters continue, supports the need for the SIP to protect increments. Therefore, the commenters contend, even though the SIP would not have accounted for the temporary sources in assuring protection of the increments, any Title V temporary source permitted under Part 71 must demonstrate compliance with the increments in order to ensure all SIP requirements are met. Commenters contend that the Part 70 regulations pertain to State Implementation Plans

and that the oil and gas companies have advocated that such requirements only apply in the inner OCS (*i.e.*, within 25 miles of the State's seaward boundary). The commenters assert, however, that CAA § 328 makes it clear that EPA “shall establish requirements to control air pollution from Outer Continental Shelf sources located offshore ... to attain and maintain Federal and State ambient air quality standards and to comply with the provisions of the PSD program.” The commenters therefore assert that, because the goal of CAA § 328 is attainment of air quality standards, it matters little whether the source is located on the inner or outer OCS, because in both cases the relevant SIP will not have performed an attainment demonstration for such sources. Because the preamble to the Part 71 regulations relies upon the reasoning put forth by EPA in developing the Part 70 regulations, especially in discussing applicable requirements, the statutory and regulatory language for Part 70, as well as EPA's regulatory preambles, all support a finding that the NAAQS, increments, and visibility requirements are all applicable to temporary OCS sources under Part 71.

**Response:** See the other responses to comments in this Subcategory Z.1 with respect to the applicability of increments and visibility requirements to Title V temporary sources that are not subject to PSD permitting. Region 10 agrees that, in general, there is no intention for the Part 71 federal operating permit program that applies on the outer OCS to be different from the onshore Part 70 operating permit program that Region 10 has incorporated by reference in the COA regulations for application in the inner OCS (the only differences would be the result of differences between the State adopted program and EPA's Part 71 regulations). In this case, the requirements for Title V temporary sources in the inner OCS and outer OCS off of Alaska are the same because Alaska has adopted EPA's Part 71 rules with respect to Title V temporary sources by reference for application onshore and Region 10 has in turn adopted these requirements into the COA regulations for application in the inner OCS.

Region 10 does not agree with the rationale put forth by the commenters, however, that in both cases the relevant SIP will not have performed an attainment demonstration because there is no SIP (or implementation plan equivalent) for the outer OCS. Section 328 does not require EPA to establish an implementation plan or other comprehensive air quality management program for the outer OCS. It only requires EPA to adopt regulations for OCS sources and even then, only for certain purposes. Nonetheless, as discussed in response to comment Z.1.e, EPA does have authority to address violations of increment on the inner and outer OCS.

## **Z.2 SUBCATEGORY – PM<sub>2.5</sub> INCREMENT**

**Comment Z.2.a:** Commenters state that the Kulluk operations, as proposed, do not comply with the 24-hour average Class II PSD increment for PM<sub>2.5</sub>. Commenters note that on October 20, 2010, EPA adopted a final regulation that went into effect on December 20, 2010 and that establish new PSD increments for PM<sub>2.5</sub> that went into effect on October 20, 2011. The commenters assert that Section 328 states that “[n]ew OCS sources shall comply with such requirements on the date of promulgation,” citing to CAA § 328. The commenters state that, as a “new OCS source” yet to commence operation,

## **Attachment 2**

AR-EPA-H-4

EPA Region 10, Statement of Basis for the Draft Outer Continental Shelf Permit to Construct and Title V Air Quality Operating Permit No. R10OCS030000, Shell Offshore Inc., Beaufort Sea Exploration Drilling Program  
(July 22, 2011)

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
SEATTLE, WASHINGTON**

**STATEMENT OF BASIS  
FOR DRAFT  
OUTER CONTINENTAL SHELF  
PERMIT TO CONSTRUCT AND TITLE V AIR QUALITY OPERATING  
PERMIT NO. R10OCS030000**

**SHELL OFFSHORE INC.  
CONICAL DRILLING UNIT KULLUK  
BEAUFORT SEA EXPLORATION DRILLING PROGRAM**

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Date of Permit: July 22, 2011

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Because exploration drilling programs are not included in the list of source categories subject to a 100-tpy PSD applicability threshold, the requirements of the PSD program apply if the project PTE is at least 250 tpy of a regulated NSR pollutant. PSD review also applies if GHG PTE is at least 100,000 tpy. From the pre-permitted PTE shown in Table 2-1, it is evident that Shell's Beaufort Sea exploration drilling program would be a major PSD source for CO, SO<sub>2</sub>, NO<sub>x</sub> and GHG because each would exceed the major source thresholds if federally enforceable limits were not imposed via the permit. Therefore, based on the pre-permitted PTE of the Shell project, federally enforceable limits for CO, SO<sub>2</sub>, NO<sub>x</sub>, and GHGs must be included in the OCS/Title V permit in order for Shell's OCS source to qualify as a "synthetic minor" not subject to PSD.

Shell has estimated its emissions of hazardous air pollutants (HAP) from its Beaufort Sea exploration drilling program at 3.4 tpy for all HAP combined. See April 29, 2011 letter from Shell to Region 10 in the administrative record for detailed HAP emissions calculations. Based upon these calculations, the project is an area source of HAP, rather than a major source of HAP.

## **2.6 Other Standards and Requirements Applicable to the OCS Source**

As discussed above, OCS sources located beyond 25 miles of a state's seaward boundaries are subject to the NSPS in 40 CFR Part 60; the PSD program in 40 CFR § 52.21 if the OCS source is also a PSD major stationary source or if there is a major modification to a PSD major stationary source; standards promulgated under Section 112 of the CAA if rationally related to the attainment and maintenance of federal and state ambient air quality standards or the requirements of Part C of Title I of the CAA; and the operating permit program under Title V and Part 71. See 40 CFR § 55.13(a), (c), (d)(2), (e), and (f)(2), respectively. See also 40 CFR § 71.4(d).

Part 55 makes the requirements of Part 71 applicable to this OCS source. See 40 CFR § 55.13(f). Part 71 requires a Title V permit to address all "applicable requirements" as that term is defined in 40 CFR Part 71.2. The following subsections of this Section discuss the categories of Title V "applicable requirements" for the Shell exploratory operations, as well as other requirements that must be included in the OCS/Title V permit.

### **2.6.1 Part 55 Requirements as Applicable Requirements**

Standards and requirements to control air pollution from OCS sources under Section 328 of the CAA are included in the definition of applicable requirement in 40 CFR § 71.2 and apply to the source as provided in Part 55. Accordingly, all requirements of Part 55 applicable to the OCS source have been included in the draft OCS/Title V permit and are discussed in Section 3, this includes the COA requirements incorporated by reference in 40 CFR § 55.14.

### **2.6.2 NAAQS as Applicable Requirements for Title V Temporary Sources**

Region 10 interprets the CAA and EPA regulations to require that a temporary source seeking a Title V permit demonstrate that it will not cause or contribute to a violation of the NAAQS at all locations where it is authorized to operate. Section 504(e) of the CAA authorizes a Title V permitting authority to issue a single permit authorizing emissions from similar operations by the same source owner at multiple temporary locations, provided that the permit includes conditions that will assure compliance with all applicable requirements at all locations. EPA regulations at 40 CFR § 71.6(e) provide that a "temporary source" is any source that moves at least once during the term of a Title V permit. The application submitted by Shell requests authorization to

conduct exploratory drilling at multiple temporary locations during the term of the permit, and the project is therefore a temporary source under Title V.

Section 504(e) further provides that requirements applicable to Title V temporary sources include, but are not limited to, “ambient standards and compliance with any applicable increment or visibility requirements under Part C” of Title I of the Act. In turn, implementing regulations at 40 CFR § 71.2 define “applicable requirements” as including “(13) any national ambient air quality standard [NAAQS] or increment or visibility requirements under Part C, Title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act.” EPA included the same language in 40 CFR § 70.2. When EPA adopted its Part 70 regulations, the Agency interpreted Section 504(e) of the Act to make compliance with the NAAQS an applicable requirement for temporary sources. 57 Fed. Reg. 32550, 32276 (July 21, 1992) (“Under the Act, NAAQS implementation is a requirement imposed on States in the SIP; it is not imposed directly on a source. In its final rule, EPA clarifies that the NAAQS and the increment and visibility requirements under part C of title I of the Act are applicable requirements for temporary sources only.”). Based on this prior interpretation by EPA, Region 10 reads the definition of “applicable requirement” in 40 CFR 71.2 to mean that compliance with the NAAQS is an applicable requirement for all Title V temporary sources and therefore this source.

The definition of “applicable requirement” in 40 CFR 71.2 says that the NAAQS, increment, and visibility requirements are applicable requirements “only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Act.” Section 504(e) of the CAA identifies applicable requirements for temporary sources as including “ambient standards and compliance with any applicable increment or visibility requirements under part C.” Region 10 interprets these provisions to mean that NAAQS are applicable requirements for all Title V temporary sources, but that increment and visibility requirements are applicable requirements only if such sources would otherwise be subject to PSD. Because the language in section 504(e) of the Clean Air Act uses the term “applicable” before “increment or visibility requirements under part C,” Region 10 interprets Section 504(e) to only make increment and visibility requirements “applicable requirements” for a temporary source when they would otherwise be “applicable” to a new major stationary source or major modification to an existing major stationary source in a permit required under Part C of the Act. Because the permittee is taking limits such that the source will not be a new major stationary source subject to PSD, the increment and visibility requirements under 40 CFR § 52.21 and Part C of the Act are not “applicable” in this instance.

Thus, the NAAQS are considered “applicable requirements” for the Kulluk and the OCS/Title V permit must contain terms and conditions that ensure compliance with the NAAQS at all relevant locations. The application submitted by Shell includes an analysis of the air quality impacts of the emissions from its exploratory operations on the NAAQS. The air quality analysis generally follows the regulations and guidance applicable to air quality analyses supporting permits issued under the PSD program. Part 71 does not describe how a Title V temporary source should demonstrate compliance with the NAAQS. In the absence of regulations or guidance setting out the requirements for a demonstration that the terms and conditions of a Title V permit for a temporary source will assure compliance with NAAQS at all authorized locations or operation, Region 10 believes that following the regulations and guidance for conducting an air quality analysis with respect to NAAQS under the PSD program is an appropriate approach. See 40 CFR Part 52, Appendix W (“Industry and control agencies have long expressed a need for

consistency in the application of air quality models for regulatory purposes . . . The *Guideline* provides a common basis for estimating the air quality concentrations of criteria pollutants used in assessing control strategies and developing emission limits.”)

While EPA recognizes that temporary sources must demonstrate compliance with the NAAQS at all authorized locations, in the context of OCS permits, there remains some uncertainty as to whether Section 328 of the CAA should be read by EPA to require such a showing for areas of ambient air over the OCS or solely on land. EPA is therefore currently assessing how to apply the NAAQS to OCS sources beyond 25 miles of a state’s seaward boundary on the Outer OCS. And, for sources located within 25 miles of a state seaward boundary on the Inner OCS, it is considering how to apply those regulatory requirements 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.” Under any readings of these provisions, Region 10 believes that the permit applicant has made a sufficient showing to meet this applicable requirement. As discussed in more detail in Section 4 below, Region 10 reviewed and analyzed Shell’s application and air quality analysis and concluded that it demonstrates that the emissions impact from its exploratory operations, when operating in compliance with the terms and conditions of the draft OCS/Title V permit, will not cause or contribute to a violation of any NAAQS at any location in the ambient air over any point on the OCS or within the state seaward boundary.<sup>14</sup> Therefore, resolving the point of compliance questions is not necessary for this permitting action.

As also discussed below in Section 3, the draft OCS/Title V permit includes emission limits, operating restrictions, and associated monitoring, recordkeeping, and reporting requirements to ensure emissions authorized under the permit will not cause or contribute to a violation of any NAAQS.

### **2.6.3 New Source Performance Standards as Applicable Requirements**

Standards promulgated under Section 111 of the CAA are “applicable requirements” under 40 CFR § 71.2 and Section 111 standards promulgated under 40 CFR Part 60 (Part 60) apply to OCS sources as provided in 40 CFR § 55.13(c). Specific NSPS subparts in Part 60 apply to a source based on the source category, equipment capacity, and the date when the equipment commenced construction or modification. All emission units operating on the Kulluk are potentially subject to NSPS regulations because each is an emission unit on an OCS source. The application submitted by Shell provides that the Kulluk will contain emission units in four NSPS source categories: stationary compression-ignition internal combustion engines, boilers, incinerators, and fuel tanks. The requirements of applicable NSPS subparts for stationary compression-ignition internal combustion engines and incinerators are discussed in Section 3 of the SOB.

*NSPS Subparts K, Ka, and Kb:* 40 CFR Part 60, Subparts K, Ka, and Kb apply to petroleum liquids tanks as follows: K applies to tanks with capacity greater than 40,000 gallons that commenced construction or modification between March 8, 1974 and May 19, 1978; Ka applies to tanks with capacity greater than 40,000 gallons that commenced construction or modification

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<sup>14</sup> As discussed in more detail below, the draft OCS/Title V permit includes a condition that supports excluding the area within 500 meters of the hull of the Kulluk from ambient air.



## **Attachment 3**

AR-EPA-H-1

EPA Region 10, Technical Support Document, Review of Shell's  
Ambient Air Quality Impact Analysis for the Kulluk OCS Permit  
Application, Permit No. R10OCS030000  
(July 18, 2011)

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
SEATTLE, WASHINGTON**

**TECHNICAL SUPPORT DOCUMENT  
REVIEW OF SHELL'S  
AMBIENT AIR QUALITY IMPACT ANALYSIS  
FOR THE KULLUK OCS PERMIT APPLICATION  
PERMIT NO. R10OCS030000**

July 18, 2011

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demonstrate compliance with the ozone, PM-2.5, NH<sub>3</sub> and reduced sulfur ambient air quality standards. Likewise the rules do not require minor permit applicants to demonstrate compliance with the “maximum allowable increases” (also known as PSD increments), or conduct any type of visibility impact analysis.

Shell provided an ambient demonstration for all pollutants triggered under the COA’s minor permit program (NO<sub>2</sub>, SO<sub>2</sub> and PM-10). While not required, they also submitted an ambient demonstration for the State of Alaska’s NH<sub>3</sub> air quality standard.

## **C.2 Modeling Obligations under 40 CFR Part 71**

As specified in 40 CFR § 55.13(f)(2), the requirements of Part 71 apply to OCS sources located beyond 25 miles of state’s seaward boundaries. Since the potential to emit (PTE) for the project is greater than 100 tpy for several criteria pollutants, the Kulluk is classified as a Title V major source under Part 71.

Part 71 includes as “applicable requirements”, “any national ambient air quality standard or increment or visibility requirement under part C of Title I of the Clean Air Act (Act), but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act.” 40 CFR § 71.2. As discussed in the SOB, EPA believes the best interpretation of these provisions is that the NAAQS are applicable requirements for all Title V temporary sources, but that increment and visibility are applicable requirements only if such sources would otherwise be subject to PSD.

Part 71 does not specify how a Title V temporary source must demonstrate compliance with the NAAQS. In the absence of regulations or guidance setting out the requirements for a demonstration that the terms and conditions of a Title V permit for a Title V temporary source will assure compliance with NAAQS at all authorized locations of operation, Region 10 believes that following the regulations and guidance for conducting an air quality analysis with respect to the NAAQS under the PSD program is an appropriate approach. See 40 CFR Part 51, Appendix W.

The modeling analysis Shell submitted under the minor permit is consistent with PSD modeling requirements. Therefore, Shell’s minor permit analysis meets the PSD NAAQS demonstration requirements for the pollutants triggered under the minor permit program. For the CO and PM-2.5 NAAQS, Shell submitted ambient demonstrations following the PSD demonstration requirements. Shell did not provide a modeling analysis for the Pb and ozone NAAQS.

Shell’s decision to not provide a modeling analysis for Pb and ozone NAAQS is reasonable and supportable. It is reasonable because diesel-fired combustion units do not typically release substantive quantities of Pb and ozone-precursor emissions (volatile organic compounds or VOCs), and diesel fuel tanks do not emit large quantities of VOCs. Also, ensuring emissions of other pollutants, especially NO<sub>2</sub> and PM-2.5, do not cause or contribute to a violation of the NAAQS will provide similar assurance for Pb and ozone-precursor emissions for this type of source. Shell’s decision is supportable because Pb and VOC emissions are below PSD significant emission rates for both pollutants. Shell’s quantitative demonstration that they are complying with the NO<sub>2</sub> and PM-2.5 NAAQS is therefore sufficient for qualitatively

demonstrating compliance with the Pb and ozone NAAQS. Additional information regarding ozone may be found in Section H of this TSD.

### **C.3 Modeling Obligations under 40 CFR Part 70**

Shell's request for a Title V permit for continued operation within 25 miles of the seaward boundary did not trigger any ambient demonstration obligations not already triggered under the COA's minor permit program or Part 71.

### **C.4 Additional Discussion of Regulatory Obligations**

For simplicity purposes, Region 10 intends to issue a single OCS permit that fulfills all three permitting mechanisms. This TSD therefore addresses Region 10's review of all ambient demonstration obligations, without further reference to the specific permit mechanism (e.g., COA minor permit program vs. Title V permit obligations).

## **D. Modeling Approach**

A dispersion model is a computer simulation that uses mathematical equations to predict air pollution concentrations based on weather, topography, source characteristics and emissions data. Each of these aspects must be represented with numerical values that characterize the given features of the particular application and location.

Region 10 evaluated Shell's modeling analysis under the guidance established in 40 CFR Part 51, Appendix W, *Guideline on Air Quality Models* (Appendix W). The use of Appendix W for modeling analysis is required under the minor permit program, per 18 AAC 50.215(b). As discussed above, Region 10 believes it is appropriate to use Appendix W for assessing criteria pollutant modeling assessments required under Title V for Title V temporary sources. 40 CFR Part 51, Appendix W, Section 1.0(a).

### **D.1 Air Quality Model**

As stated in Section 3.1 of Appendix W, EPA has developed models suitable for regulatory application. When a single model is found to perform better than others, it is recommended for application as a preferred model and listed in Appendix A of Appendix W. Shell employed the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) system of programs to estimate their ambient impacts (EPA 2002).

Shell and Region 10 started discussing refined modeling options for the Arctic marine environment in June 2010. The initial discussion focused on two preferred models for near-field applications: (1) the Offshore and Coastal Dispersion (OCD) model (DiCristofaro et al. 1989) and AERMOD, and (2) a non-guideline over water version of CALPUFF (BOEMRE 2006). Shell and Region 10 ultimately selected AERMOD after examining the capabilities of each model (EPA 04/01/11).

The AERMOD Modeling System consists of three basic modules: AERMAP (which is used to process terrain data and develop elevations for the receptor grid/sources), AERMET (which is used to process the meteorological data), and the AERMOD dispersion model (which is used to

## **Attachment 4**

AR-EPA-J-7

EPA, Press Release, EPA issues final air permit to Shell Offshore Inc.  
for Arctic oil and gas exploration  
(Oct. 21, 2011)

**Contact:**

Suzanne Skadowski, EPA Public Affairs, 206-553-6689, [skadowski.suzanne@epa.gov](mailto:skadowski.suzanne@epa.gov)

**FOR IMMEDIATE RELEASE****EPA issues final air permit to Shell Offshore Inc. for Arctic oil and gas exploration**

(Seattle – Oct. 21, 2011) Today, EPA Region 10 issued a final air permit to Shell Offshore Inc. for oil and gas exploration drilling in the Alaska Arctic. This air permit is one of several federal authorizations Shell needs to explore for oil and gas on the Outer Continental Shelf in the Beaufort Sea starting in July 2012.

The permit authorizes air pollutant emissions during Shell's exploration drilling with the *Kulluk* drill rig and a support fleet of icebreakers, oil spill response vessels, and supply ships for up to 120 days each year. The Outer Continental Shelf minor source/Title V air operating permit limits Shell's emissions of most air pollutants to less than 250 tons per year, which is the "major source" permit threshold in the Prevention of Significant Deterioration program.

EPA's final permit significantly reduces the potential air pollution from Shell's drilling operations and protects the National Ambient Air Quality Standards. Strict pollution controls in the permit include selective catalytic reduction units and catalytic oxidation reduction units on some engines, use of low-sulfur diesel fuel fleet-wide, and limits on operational hours. The permit reduces Shell's potential emissions of sulfur dioxide from 833 to 10 tons per year, nitrogen oxide from 2,339 to 240 tons per year, carbon monoxide from 855 to 200 tons per year, and greenhouse gases from 141,487 to 80,000 tons per year.

EPA Region 10 proposed the draft *Kulluk* permit for public comment on July 22, 2011 and held public hearings in Barrow and Anchorage, Alaska on Aug. 23 & 26, 2011. The final permit and EPA Region 10 responses to public comments are available at: <http://yosemite.epa.gov/r10/airpage.nsf/Permits/kullukap/>

Public appeals for review of this permit must be received by the Environmental Appeals Board no later than Nov. 28, 2011. Information about filing an appeal can be found at: <http://www.epa.gov/eab/>.

On Sept. 19, 2011, EPA Region 10 issued two "major source" Prevention of Significant Deterioration air permits to Shell for oil and gas exploration drilling in the Alaska Arctic. Shell intends to use the *Discoverer* drillship and associated fleet to explore for oil and gas in both the Beaufort and Chukchi Seas in 2012.

In July 2011, EPA Region 10 proposed a similar draft Outer Continental Shelf Title V air permit for ConocoPhillips to explore for oil and gas using a jack-up drill rig in the



Chukchi Sea. On Sept. 26, 2011 ConocoPhillips withdrew their permit application and expects to reapply in December 2011.

Find out more about EPA Region 10 permits in the Alaska arctic at:

<http://yosemite.epa.gov/R10/AIRPAGE.NSF/Permits/ocsap/>

EPA Region 10 air permits ensure compliance with air quality regulations during drilling operations but on their own do not authorize drilling. The U.S. Bureau of Safety and Environmental Enforcement is the federal agency that provides authorization to drill.

Find more information at: <http://www.bsee.gov/>.

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## **Attachment 5**

AR-EPA-J-7

Albright, Richard, Director, Office of Air, Waste and Toxics, Letter to  
David Hobstetter, Earthjustice, Re. Freedom of Information Act  
Request Number 10-FOI-00214-11  
(Oct. 4, 2011)



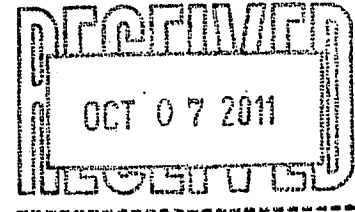
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

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

OCT 04 2011

OFFICE OF  
AIR, WASTE AND TOXICS

Mr. David Hobstetter  
Earthjustice  
441 West 5<sup>th</sup> Avenue Suite 301  
Anchorage, Alaska 99501-2340



Re: Freedom of Information Act Request Number 10-FOI-00214-11

Dear Mr. Hobstetter;

This is a final response to your Freedom of Information Act (FOIA) request regarding records relating to Shell Oil Company's applications for Clean Air Act Permits for exploration using the Kulluk drill ship in the Beaufort Sea beginning in 2012.

EPA previously provided you with three interim responses to your request. The first response was provided with a letter dated May 9, 2011 and included a hard drive containing electronic files that were a complete duplication of the electronic permit application files submitted by Shell to EPA on February 28, 2011. The second interim response included a compact disc sent with a letter dated July 20, 2011 that contained emails and other electronic records responsive to your request. The third interim response included a compact disc sent with a letter dated August 4, 2011 that included documents contained in the Administrative Record for the Kulluk draft permit. Please note that Region 10's draft permit, the statement of basis supporting the draft permit, and other documents including the complete application are currently available on our website at <http://yosemite.epa.gov/R10/airpage.nsf/permits/oscap>.

Enclosed with this final response are copies of paper documents and redacted emails that are responsive to your request and a detailed itemized list of documents compiled in a lotus notes database that were withheld from mandatory disclosure by virtue of 5 U.S.C. § 552 (b)(5) "as interagency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency." As indicated on the list the records are exempt from mandatory disclosure as internal predecisional draft documents, attorney-client and/or attorney-work product privileged records. Although the detailed list of withheld records is not required to be provided at this time, it is less administratively burdensome to provide the detailed list than to describe the large number of similar records being denied by category.

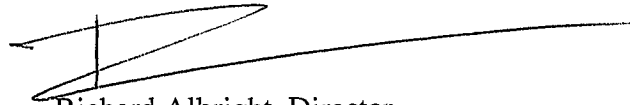
Pursuant to 40 C.F.R. § 2.107(l), the fee for responding to your FOIA request is waived and the records are provided without charge.

You may appeal this partial denial to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: [hq.foia@epa.gov](mailto:hq.foia@epa.gov). Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you

must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20001. Your appeal must be made in writing, and it must be submitted no later than 30-calendar days from the date of this letter. The Agency will not consider appeals received after the 30-calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

This concludes the EPA Region 10 partial denial response to FOIA number 10-FOI-00214-11.

Sincerely,



Richard Albright, Director  
Office of Air, Waste and Toxics

Enclosures

- Copies of redacted responsive emails
- Copies of responsive paper documents
- Detailed itemized list of documents withheld from disclosure

## **Shell Kulluk Administrative Record Index**

- A. Application Materials**
- B. Guidance, Background Information, and Technical Analysis**
- C. Correspondence and Communication**
- D. (Intentionally Left Blank)**
- E. Endangered Species Act/Essential Fish Habitat**
- F. Environmental Justice**
- G. Supplemental Government-to-Government Consultation**
- H. Draft Title V Permit**
- I. Public Comments on 2011 Revised Draft Permits**
- J. Final Title V Permit**
- K. COA-ADEC Regulations**

## **Combined Other Record Documents Index**

- BB. Other Guidance, Background Information, and Technical Analysis**
- CC. Other Correspondence and Communication**
- EE. Other Endangered Species Act/Essential Fish Habitat**
- FF. Other Environmental Justice**
- GG. Other Government-to-Government Consultation**
- HH. Other Draft Title V Permit**
- II. Other Public Comments on 2011 Revised Draft Permits**

## B. Guidance, Background Information, and Technical Analysis

EPA Exhibit Number	Date	Document Description
	1997-03-01	Prudhoe Bay Air Quality Monitoring Program Quality Assurance Plan, Prepared by ENSR
	1997-03-19	Letter from Vincent Scheetz, ENSR, to Richard Heffern, ADEC, RE: Quality Assurance Manual – Prudhoe Bay Monitoring Program
	1997-09-24	Memorandum from Richard Heffern, ADEC, to Jim Baumgartner, ADEC, RE: BP Prudhoe Bay Ambient Air QA Monitoring Plan Review
	1999-11-01	Technical Paper, The Plume Volume Molar Ratio Method for Determining NO <sub>2</sub> /NO <sub>x</sub> Ratios in Modeling—Part I: Methodology, Prepared by, Patrick L. Hanrahan Air Quality Division, Oregon Department of Environmental Quality, Portland, Oregon
	1999-11-01	Technical Paper, The Plume Volume Molar Ratio Method for Determining NO <sub>2</sub> /NO <sub>x</sub> Ratios in Modeling—Part II: Evaluation Studies, Prepared by, Patrick L. Hanrahan Air Quality Division, Oregon Department of Environmental Quality, Portland, Oregon
	2003-09-02	The TOGA-COARE Bulk Air-Sea Flux Algorithm, Prepared by C.W. Fairall, NOAA, and E.F. Bradley, CSIRO Land and Water
	2004-09-30	Final Report, Sensitivity Analysis of PVMRM and OLM in AERMOD, Alaska DEC Contract No. 18-8018-04, Prepared for Alan Schuler, Alaska Department of Environmental Conservation, Submitted by MACTEC Federal Programs, Inc.
	2005-06-30	Final Report, Evaluation of Bias in AERMOD-PVMRM, Alaska DEC Contract No. 18-9010-12, Prepared for Alan Schuler, Alaska Department of Environmental Conservation, Submitted by MACTEC Federal Programs, Inc.
	2007-04-26	Letter from Alan Schuler, Alaska Department of Environmental Conservation, to Alison Cooke, BP Exploration (Alaska) Inc., Subject: Modeling Protocol for BPXA Liberty Project
	2009-10-13	Alaska Department of Environmental Conservation, Technical Analysis Report, Air Quality Control Minor Permit AQ0166CPT04 and Air Quality Control Construction Permit AQ0270CPT04, Prepared by Zeena Siddeek
	2010-01-27	Letter from John F. Kuterbach, Air Permits Program, to James A Pfeiffer, Air Specialist BP Exploration (Alaska) Inc., Subject: Construction Permit AQ0170CPT01 revised Technical Analysis Report (TAR) and Response to Comments (RTC) for BP Exploration (Alaska) Inc. (BPXA) for the Seawater Injection Plant East (SIPE) Main Injection Pump Bundle Replacement Project
	2011-05-01	Revised Outer Continental Shelf Lease Exploration Plan - Camden Bay, Beaufort Sea, Alaska - Flaxman Island Blocks 6559, 6610 & 6658, Beaufort Sea Lease Sales 195 & 202 (Including Attachments: Appendices A-M), Prepared by Shell
	2011-05-01	Revised Outer Continental Shelf Lease Exploration Plan - Camden Bay, Beaufort Sea, Alaska - Burger Prospect: Posey Area Blocks 6714, 6762, 6764, 6812, 6912, & 6915, Chukchi Sea Lease Sale 193 (Including Attachments: Appendices A-M), Prepared by Shell
	2011-05-03	Associated Fleet Testing Reports – Chukchi Sea and Beaufort Sea Exploration Drilling Programs, Prepared by Emission Technologies, Inc.

	2011-05-03	2010 Discoverer Air Emissions Testing – Chukchi Sea and Beaufort Sea Exploration Drilling Programs, Prepared by Emission Technologies, Inc.
	2011-05-06	Memorandum from George Bridgers, NCDENR, to Herman Wong, EPA, RE: Model Clearinghouse Review of AERMOD-COARE as an Alternative Model for Application in an Arctic Marine Ice Free Environment
	2011-05-08	Email from Herman Wong, EPA, to Andy Hawkins, EPA, RE: Approval Request for Non-Guideline Modeling - Shell Disco and Kulluk Dispersion Modeling
	2011-07-06	OFFSHORE DRILLING: Interior starts clock on Shell Arctic proposal (07/06/2011), Phil Taylor, E&E reporter
	2011-07-12	The White House Office of the Press Secretary, Executive Order, Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska
	2011-07-20	Memorandum, from Dan Meyer, Office of Air, Waste and Toxics, to Permit File, Subject: Derivation of Emission Factors in Tables D.2.1 and D.2.2 of Draft Permit to Shell for Operation of Conical Drilling Unit Kulluk in Beaufort Sea
	2011-07-20	Memorandum, from Dan Meyer, Office of Air, Waste and Toxics, to Permit File, Subject: Calculation of No. 2 Diesel Fuel Usage Restriction for Condition D.4.6 in Draft Permit to Shell for Operation of Conical Drilling Unit Kulluk in Beaufort Sea
	Undated	Lease Map - Beaufort Sea, Post-1995 OCS OPD Grid, Prepared by Shell
	Undated	Kaktovik Aerial Site Photo
	Undated	BPXA Prudhoe Bay monitoring map

## **Attachment 6**

AR-EPA-B-24

Order, *In the Matter of Pope and Talbot, Inc., Lumber Mill, Spearfish,*  
*South Dakota*, Petition No. VIII-2006-04  
(Mar. 22, 2007)



BEFORE THE ADMINISTRATOR  
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	
Pope and Talbot, Inc., Lumber Mill	)	
Spearfish, South Dakota	)	
	)	ORDER RESPONDING TO
	)	PETITIONERS' REQUEST THAT
Permit Number: 28.4401-09	)	THE ADMINISTRATOR OBJECT
	)	TO ISSUANCE OF A
	)	STATE OPERATING PERMIT
Issued by the South Dakota Department of	)	
Environment & Natural Resource,	)	
Air Quality Program	)	
	)	Petition Number: VIII-2006-04
	)	
	)	

**ORDER PARTIALLY GRANTING AND PARTIALLY DENYING  
 PETITION FOR OBJECTION TO PERMIT**

The United States Environmental Protection Agency (“EPA”) received a petition on April 11, 2006, from Biodiversity Conservation Alliance, Rocky Mountain Clean Air Action, Defenders of the Black Hills, Native Ecosystems Council, Prairie Hills Audubon Society of Western South Dakota, Center for Native Ecosystems, Nancy Hilding, Brian Brademeyer, and Jeremy Nichols (hereafter “Petitioners”). Petitioners requested that EPA object, pursuant to section 505(b)(2) of the Clean Air Act (“CAA” or “the Act”), 42 U.S.C. § 7661d(b)(2), to the issuance of a state operating permit to Pope and Talbot, Inc., for operation of a lumber mill facility located at 1501 West Oliver Street, Spearfish, South Dakota. The permittee will be referred to as “Pope and Talbot” for purposes of this Order. Pope and Talbot is a wood products company that produces finished lumber and wood pellets from raw logs. The Pope and Talbot facility (“Facility”) includes a wood waste boiler, a 1980 Lamb Debarker, a rotary drier, chip grinder, cooling tower and associated equipment. The various plant operations include: wood waste combustion, lumber drying in kilns, chip grinding, bark transfer and storage. The modified and renewed permit was issued by the South Dakota Department of Environment & Natural Resources (“DENR”) Air Quality Program on February 15, 2006, pursuant to Title V of the Act, the federal implementing regulations at 40 C.F.R. Part 70, and chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota.

The petition alleges that the February 15, 2006 Pope and Talbot, Inc. renewed and modified Title V permit fails to: (1) ensure compliance with Carbon Monoxide (CO)

emissions limits, (2) require sufficient periodic monitoring of CO emissions, (3) comply with Title V and South Dakota's State Implementation Plan (SIP) permit modification requirements, (4) require sufficient opacity monitoring, (5) require prompt reporting of deviations, (6) adequately support the determination that the Facility is not subject to Maximum Achievable Control Technology ("MACT") requirements for emissions of hazardous air pollutants, and (7) contains several problematic permit conditions that warrant objection. Petitioners have requested that EPA object to the issuance of the Pope and Talbot Title V permit for the foregoing reasons and pursuant to the requirements of section 505(b)(2) of the Act, 40 CFR § 70.8(d) and the applicable substantive federal and state regulations.

EPA has reviewed these allegations in accordance with the standard set forth by section 505(b)(2) of the Act, which places the burden on the Petitioners to "demonstrate to the EPA Administrator that the permit is not in compliance" with the applicable requirements of the Act or the requirements of 40 C.F.R. Part 70. *See also*, 40 C.F.R. § 70.8(c) (1); *New York Public Interest Research Group, Inc. v. Whitman*, 321 F.3d 316, 333 n.11 (2nd Cir. 2002).

In reviewing the merits of the various allegations made in the petition, EPA considered information in the permit record including: the petition; pertinent sections of the permit application; Mr. Nichols' November 11, 2005 comments to DENR in response to DENR's solicitation for public comment; DENR's December 22, 2005 response to Mr. Nichols comments (hereafter "Response to Comment"); final Operating Permit (Permit #28.4401-09) for Pope and Talbot, Inc. issued by DENR in February 15, 2006; Statement of Basis Document for Renewal with Modification of the Operating Permit issued by DENR in September 2005 (hereafter "Statement of Basis") and the Pope and Talbot Stack Test Report, February 2006. Based on the review of all the information before me, I grant in part and deny in part the Petitioners' request for an objection to the issuance of the renewed and modified Title V operating permit to Pope and Talbot, Inc. to operate a lumber mill in Spearfish, South Dakota for the reasons set forth in this Order.

## STATUTORY AND REGULATORY FRAMEWORK

Section 502(d)(1) of the Act calls upon each State to develop and submit to EPA an operating permit program to meet the requirements of Title V. EPA granted final interim approval to the Title V operating permit program submitted by the State of South Dakota effective April 21, 1995. 60 Fed. Reg. 15066 (March 22, 1995). EPA also granted final full approval to South Dakota's Title V operating permit program effective February 28, 1996. 61 Fed. Reg. 2720 (January 29, 1996). *See also* 40 C.F.R. Part 70, Appendix A. Major stationary sources of air pollution and other sources covered by Title V are required to apply for an operating permit that includes emission limitations and such other conditions as are necessary to assure compliance with applicable requirements of the Act. *See* CAA §§ 502(a) and 504(a).

The Title V operating permit program does not generally impose new substantive air quality control requirements (which are referred to as "applicable requirements") but

does require permits to contain monitoring, recordkeeping, reporting, and other conditions to assure compliance by sources with existing applicable emission control requirements. *See* 57 Fed. Reg. at 32250, 32251 (July 21, 1992). One purpose of the Title V program is to enable the source, EPA, States, and the public to better understand the applicable requirements to which the source is subject and to readily discern whether the source is meeting those requirements. Thus, the Title V operating permits program is a vehicle for ensuring that existing air quality control requirements are appropriately applied to a facility's emission units and that compliance with these requirements is assured.

Under section 505(a) of the Act and 40 C.F.R. § 70.8(a), States are required to submit all proposed Title V operating permits to EPA for review. Section 505(b)(1) of the Act authorizes EPA to object if a Title V permit contains provisions that are not in compliance with applicable requirements, including the requirements of the applicable SIP. *See also* 40 C.F.R. § 70.8(c)(1).

Section 505(b)(2) of the Act states that if the EPA does not object to a permit, any member of the public may petition the EPA to take such action, and the petition shall be based on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to do so or unless the grounds for objection arose after the close of the comment period. *See also* 40 C.F.R. § 70.8(d). If EPA objects to a permit in response to a petition and the permit has been issued, EPA or the permitting authority will modify, terminate, or revoke and reissue such a permit consistent with the procedures in 40 C.F.R. §§ 70.7(g)(4) or (5)(i) and (ii) for reopening a permit for cause.

In a letter dated November 11, 2005, Petitioners submitted comments to the DENR during the public comment period, raising concerns with the draft Title V operating permit that provided a partial basis for this petition. DENR responded to the comments in a letter to the Petitioners dated December 22, 2005.

## ISSUES RAISED BY PETITIONERS

### **I. Carbon Monoxide (CO) Facility-wide Limit**

Petitioners raise several issues concerning the facility-wide CO limit contained in Pope and Talbot's permit. Petitioners claim that the permit fails to ensure compliance with the CO limit, because it does not contain conditions to ensure that the limit is not exceeded and does not require sufficient periodic monitoring of CO emissions. Petitioners assert further that because of these deficiencies with the CO limit, the Facility is not currently in compliance with Prevention of Significant Deterioration ("PSD") requirements at 40 CFR §52.21 et. seq. and a schedule of compliance may be needed.

Permit Condition 6.9 provides that Pope and Talbot shall not emit greater than or equal to 238 tons of CO per 12 months rolling period. DENR's Statement of Basis and Response to Comment states that DENR considers Pope and Talbot to be a major

stationary source for PSD purposes based on CO emissions, but that a PSD permit review and permit were not required because Pope and Talbot was constructed before the 1974 promulgation of the PSD program. (Statement of Basis at 11). DENR also determined that the proposed addition of a grinder and cyclone (units #12 and #13) were not major modifications for PSD purposes. Id.

DENR's Response to Comment further states "Pope and Talbot proposed equipment is not subject to the PSD program.... There are no federal or state regulations that require Pope and Talbot to accept limitations to avoid the PSD program if they are not applicable to it." (Response to Comment at 4). DENR explains the origin of the CO emission limit (despite its determination that PSD requirements do not apply) as follows: Pope and Talbot does not believe that DENR's estimated carbon monoxide emissions from the boiler are accurate and does not believe it should be considered an existing major source under the PSD program. Pope and Talbot has agreed to accept a facility-wide carbon monoxide limit...until it can be demonstrated through a stack test that the carbon monoxide emissions are not above the major source threshold under the PSD program." Id. at 2.

Based on DENR's Response to Comments and the discussion in the Statement of Basis, it appears that the limit established in Condition 6.9 is not required under the PSD program or required to avoid PSD requirements because the Pope and Talbot facility is considered a grandfathered source, and has not undergone a major modification for PSD purposes and thus is not subject to 40 C.F.R. § 52.21. However, there is also language in the permit suggesting that DENR established the condition based on a belief that it was required to avoid PSD applicability. Condition 9.1 of the permit provides that the Facility's exemption from PSD requirements is based on Condition 6.9.

EPA notes that DENR staff informed EPA staff in a recent (October 31, 2006) phone conversation that the source conducted a stack test and has demonstrated to the satisfaction of DENR that the CO emissions are below the PSD major source threshold. (February 2006 Stack Test Report, available from the South Dakota Department of Environment and Natural Resources (DENR), PMB 2020, Joe Foss Building, 523 East Capitol, Pierre, South Dakota 57501-3182)

**I (A) Permit Fails to Ensure Compliance with CO Limits**

Petitioners allege that the Title V permit fails to ensure compliance with the 238 tons per year (tpy) CO limit established in the permit to avoid PSD requirements. Petitioners argue that based on the operating rates allowed by the Title V permit, CO emissions can greatly exceed 238 tpy because the permit did not limit wood waste consumption, natural gas consumption and/or the hours of operation of the lumber mill. Petitioners allege that Condition 6.9 establishes the potential to emit ("PTE") emissions on the basis of an emission factor of 0.6 lb/MMBtu and that if the boiler were to operate 24 hours a day, seven days a week, CO emissions would amount to 267 tpy. Petitioners conclude that in order to ensure compliance with the permit limit of 238 tpy, there should be a limit on wood and natural gas consumption that correspond to such limit.

The Facility is required under Condition 6.9 together with Condition 5.8.4 of the Title V permit to monitor and record compliance with the plantwide CO synthetic minor source tpy limit (i.e., a limit established to keep the source's emissions below the major source threshold) established at the request of the Facility by the State under authority of the State operating permit requirements, ARSD 74:36:05:16.01(8). Condition 6.9 of the Title V permit establishes the plantwide CO emission limits at 238 tpy on a 12-month rolling average and specifies three equations prescribing exactly how the Facility must calculate total monthly CO emissions for the Boiler (unit #1) and the Dryer (unit #10). The permit requires the Facility to demonstrate that it is meeting limits on CO emissions by requiring monthly monitoring, recordkeeping and reporting of fuel usage (wood waste usage and natural gas fuel usage); recorded monthly fuels usage is multiplied by prescribed fuels emissions factors for CO, and this is summed with the previous months on a 12 month rolling basis to demonstrate continuous compliance with the annual 238 tpy CO limit. (See Permit Conditions 1.1, 5.1, 5.4, 5.8.4, and 6.9). Permit Standard Condition 1.1, Table 1, describes the emissions units, operations and processes at the Facility, including the 2 units with the potential to emit CO, the Dryer and the Boiler, their maximum operating emissions rate, and the associated controls.

In light of these Conditions, and in particular the 12-month rolling limit and terms of Condition 6.9, EPA does not agree that a specific limit on the amount of wood and natural gas consumed at the Facility is necessary to ensure compliance with Condition 6.9. Instead, the Facility has a 238 tpy annual limit on CO; compliance with this limit is assured by the monitoring requirements for CO emissions using the equations prescribed in Condition 6.9. Other conditions such as the annual compliance certification in Condition 5.6, recordkeeping and reporting requirements of Condition 5.1, monitoring log requirement of 5.8.4 and annual records requirements of Condition 5.4 can serve to assure compliance with the emission limit. Therefore, I deny the petition on this issue.

#### **I (B) Permit Lacks Sufficient Periodic Monitoring of CO Emissions**

Petitioners allege that limits on CO emissions are unenforceable as a practical matter due to the lack of sufficient periodic monitoring of CO emissions. Petitioners cite Condition 6.9 as deficient because, they argue, it only requires monitoring of CO emissions once every five years in accordance with Condition 7.6 and that it is insufficient under 40 C.F.R. § 70.6(a)(3)(i)(B). They further argue that one-time performance testing fails to constitute sufficient periodic monitoring in accordance with 40 C.F.R. § 70.6(a)(3)(i)(B). Petitioners cite the *Appalachian Power Co. v. Environmental Protection Agency*, 208 F. 3d 1015 (D.C. Cir 200) case to support their claim that one time test does not constitute periodic monitoring.

Petitioner's allegations regarding Conditions 6.9 and 7.6 are incorrect. The permit as discussed above requires the Facility to demonstrate that it is meeting the 238 tpy limit on plantwide CO emissions every month based on required monthly monitoring and recordkeeping of fuel usage (wood waste usage and natural gas fuel usage). (See Permit Conditions 5.1, 5.4, 5.8.4, and 6.9). For the reasons discussed above, we find that Conditions 5.4, 5.8.4, 5.1 and 6.9 requiring monitoring and recordkeeping, and prompt

deviation reporting meet the periodic monitoring requirement for demonstrating compliance with CO emissions. I, therefore, deny Petitioners' request on this issue.

**I(C) Schedule of Compliance May Need to be Included in the Title V Permit**

Petitioners allege that because the Title V permit fails to ensure that CO emissions are limited below the major source threshold under PSD, the permit is currently not in compliance with PSD requirements. Petitioners argue that because the Facility is in violation of an applicable requirement at the time of permit issuance, the permit must include a schedule containing a sequence of actions with milestones, leading to compliance with any applicable requirement in accordance with 42 U.S.C. § 7661b (b) (1) and 40 C.F.R. § 70.5(c) (8) (iii) (C).

I deny the petition on this claim because, for the reasons discussed above, the permit terms and conditions assure compliance with the 238 tpy CO limit; moreover, test results documented in the February 2006 stack test report prepared for the Facility seem to indicate the Facility plant-wide CO emissions are approximately 210 tpy; thus the emissions appear to be below the PSD major source level of 250 tpy. This suggests that, even in the absence of this 238 tpy limit, the Facility is not subject to PSD.

**II. Permit Fails to Ensure Compliance with South Dakota SIP and Title V Permit Modification Procedure**

Petitioners claim that the Condition 6.9 of the Title V permit allows CO emission factors for the boiler and the dryer to be changed through minor permit amendments, regardless of the significance of the changes in relation to CO emissions and regardless of the criteria set forth at Condition 3.4 in the Title V permit, which is also enumerated in the South Dakota SIP at ARSD 74:36:05:35<sup>1</sup>. Petitioners argue that the permit cannot automatically authorize a minor permit amendment as it does in Condition 6.9.

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<sup>1</sup> **74:36:05:35. Requirements for minor permit amendments.** A minor permit amendment is an amendment to an existing permit and is issued by the secretary. A minor permit amendment may be issued by the secretary if the proposed revision meets the following requirements:

- (1) It does not violate any applicable requirement;
- (2) It does not involve significant changes to existing monitoring, reporting, or record keeping requirements in the permit;
- (3) It does not require or change a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
- (4) It does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement that the source has assumed to avoid an applicable requirement, a federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I, and an alternative emissions limit approved pursuant to regulations promulgated under § 112(i)(5) of the Clean Air Act; and