BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
	)	
Shell Gulf of Mexico, Inc.	)	
OCS Permit No. R10 OCS/PSD-AK-09-01	)	
	)	**OCS Appeal Nos.**
	)	**11-02, 11-03 & 11-04**
	)	
Shell Offshore, Inc.	)	
OCS Permit No. R10 OCS/PSD-AK-2010-01	)	
	)	
Frontier Discoverer Drilling Unit	)	
	)	

RESPONSE TO PETITIONS FOR REVIEW

Table of Contents

INTRODUCTION

The Board should deny review because Petitioners have failed to demonstrate clear error in Region 10's September 19, 2011 decision to grant two Outer Continental Shelf ("OCS")/Prevention of Significant Deterioration ("PSD") permits to Shell for operation of the Discoverer drillship in the Chukchi and Beaufort Seas under sections 328 and 165 of the Clean Air Act ("CAA"). That decision is fully supported by the record, including a detailed Supplemental Response to Comments ("SRTC"). Petitions were filed by: (1) the Alaska Eskimo Whaling Commission and the Iñupiat Community of the Arctic Slope (collectively, "AEWC Petitioners"); (2) Earthjustice on behalf of the Native Village of Point Hope and a number of environmental groups (collectively, "Earthjustice Petitioners"); and (3) Daniel Lum.[1]

BACKGROUND

The permits at issue here ("2011 Revised Permits" or "permits") authorize Shell to conduct air pollutant emitting activities for the purpose of oil exploration with the Discoverer drillship on lease blocks in the Beaufort and Chukchi Seas off the North Slope of Alaska as authorized by the United States Bureau of Ocean Energy Management, Regulation and Enforcement ("BOEMRE"). Both permits provide for the use of an associated fleet of support ships ("Associated Fleet").[2]

The 2011 Revised Permits were issued in response to orders from the Board remanding permits issued by Region 10 to Shell in 2010 for the same operations (the "2010 Permits"). *See Shell Gulf of Mexico, Inc. & Shell Offshore, Inc.*, OCS Appeal Nos.

[1] References to the petitions are identified as "AEWC Pet.," "Earthjustice Pet.," and "Lum Pet."
[2] The "Associated Fleet" refers to vessels supporting the Discoverer that will be within 25 miles of the Discoverer while the Discoverer is an "OCS source." *See* CAA § 328(a)(4)(C); 40 C.F.R. § 55.2.

10-01 through 10-04 (EAB Dec. 30, 2010) (Order Denying Review in Part and Remanding Permits) (*Shell II*); *Shell Gulf of Mexico, Inc. & Shell Offshore, Inc.*, OCS Appeal Nos. 10-01 through 10-04 (Feb. 10, 2011) (Order on Motions for Reconsideration and/or Clarification); *Shell Gulf of Mexico, Inc. & Shell Offshore, Inc.*, OCS Appeal Nos. 10-0110-04 (March 14, 2011) (Order on Four Additional Issues) (*Shell III*). After analysis of additional information from Shell and following the Board's directions in addressing the remand issues, Region 10 on July 6, 2011. After reviewing and considering public comments, Region 10 issued the 2011 Revised Permits on September 19, 2011.

In remanding the 2010 Permits, the Board specifically stated that petitions on remand are "limited to issues addressed by the Region on remand and to issues otherwise raised in petitions before the Board in this proceeding but not addressed by the Region on remand." The Board prohibited "new issues that could have been raised, but were not raised" in the previous appeals. *Shell II*, slip op. at 82.

STANDARD OF REVIEW

The petitioner bears the burden of demonstrating that review is warranted. To meet that burden, Petitioner must not only specify the objections to the permit, but also explain why the permit issuer's previous response to those objections is clearly erroneous or otherwise warrants review. The petitioner's burden is particularly heavy in cases where a petitioner seeks review of issues that are fundamentally technical or scientific in nature, as the Board typically defers to the expertise of the permit issuer on such matters that are supported in the record. *In re Avenal Power Center, LLC*, PSD Appeal Nos. 11-02 through 11-05, slip. op. at 4-5 (EAB Aug. 18, 2011) (internal citations omitted).

ARGUMENT

Petitioners do not satisfy their burden of demonstrating that Region 10's permitting decisions constitute clear error or an abuse of discretion, or involve an important policy consideration that the Board should review. *See* 40 C.F.R. §124.19(a)(1)-(2). The petitions contain numerous statements taken out of context or outright misstatements. Region 10 has attempted to address these inaccuracies within the space limitations. Petitioners also raise several arguments for the first time on appeal; these arguments are not properly before the Board. In other cases, Petitioners do not comply with, or make only a passing attempt to address, the Board's requirement that they demonstrate with specificity why Region 10's response to comments was inadequate. *See Order Governing Petitions for Review of Clean Air Act New Source Review Permits* (April 19, 2011) ("EAB PSD Review Order"). Where the petitions more substantively confront the Region's responses to comments, they generally address only an isolated statement or section of those responses without considering the full extent and context of the response. Considering the full record and responses to comments, Petitioners fail to make the required showing to obtain the Board's review and fail to demonstrate any clear error, abuse of discretion, or important policy consideration.

I. Petitioners Do Not Demonstrate Clear Error in Region 10's Determination of When the Discoverer Becomes an OCS Source

The regulations specify that a vessel is an OCS source "only" when it is "permanently or temporarily attached to the seabed and erected thereon and used for the purpose of exploring, developing or producing resources therefrom." 40 C.F.R. § 55.2. The Board rejected Region 10's previous application of that definition to the Discoverer. *See Shell II*, slip op. at 39-63. On remand, Region 10 carefully considered the Board's

order, the relevant statutory and regulatory language, and Shell's description of the process it would use to secure the Discover at a drill site. Region 10 reasonably concluded that the Discoverer becomes an OCS source when it is attached to the seabed by at least one anchor at a drill site where it has authorization to drill from BOEMRE.[3] AR-EPA-QQQ-3, QQQ000200-207 (Supplemental Statement of Basis ("SSB")). Petitioners disagree with Region 10's interpretation of the "erected thereon" requirement in the context of this permitting action, but have not demonstrated clear error in the Region's determination.

The process of securing the Discoverer at a drill site has changed since the Region issued the 2010 Permits. The Icebreaker/Anchor Handler now proceeds to the drill site ahead of the Discover and sets each of the eight anchors that will be used for securing the Discoverer. The Discoverer transits to the vicinity of the drill site under its own power and, when approximately one mile away, shuts down its propulsion engines. It is then towed to the drill site by the Icebreaker/Anchor Handler and, after dropping its ship's anchor at the drill site, secured to the pre-layed anchors. *Id.* QQQ000203-204.

Region 10's interpretation of "OCS source" as applied to the Discoverer and explained in the SSB and SRTC gives meaning to each of the three criteria in the regulatory definition of "OCS source." Further, the Region's interpretation is consistent with the language and legislative history of CAA § 328 and OCSLA § 4(a)(1) (which is directly referenced in EPA's regulatory definition of "OCS source" in the case of vessels).[4] Region 10 explained that it interprets the regulatory reference to "erected thereon" in 40 C.F.R. § 55.2 as applied to the Discoverer as referring to the point in time

[3] BOEMRE authorizes drilling at a particular location through approval of an Application for Permit to Drill, which occurs after leases are granted and approval of the exploration plan. See Attachment A.
[4] AR-EPA-QQQ-3, QQQ000204-207; AR-EPA-SSS-4 SSS000281-286.

when the drillship first becomes situated at a location where it can be used for the purpose of exploring, developing, or producing resources from the seabed.[5] Region 10 further explained that this is because the term "to erect" generally means "to construct" or "to build," definitions that generally suggest an intention that the activity be conducted according to some plan or specification. AR-EPA-QQQ-03, QQQ000206. Thus, the "erected thereon" element would not be met if the Discoverer was attached to the seabed at a location where the drillship could not conduct its intended activity. Noting also that the term "erected thereon" in OCSLA § 4(a)(1) reflects the process of being erected ("which may be erected thereon") rather than the final condition of being erected, Region 10 concluded that the regulatory "erected thereon" criterion in 40 C.F.R. § 55.2 is best interpreted as being satisfied when the drillship first becomes situated at a location where it is able to carry out the intended activity, rather than at a later point when the source has been fully situated or erected, such as when the Discoverer is connected to all anchors at that location. *Id*.[6]

Petitioners do not demonstrate clear error in Region 10's interpretation of "erected thereon" as applied to the Discoverer. First, Petitioners assert that a drillship is "erected" within the meaning of 40 C.F.R. § 55.2 when it is constructed onshore at the shipyard or at port before it ever sets sail. AEWC Pet. 11. While it is true that a ship is usually built before setting sail, Petitioners' proposed interpretation is refuted by the plain

[5] This is not, as Petitioners assert, conflating the "erected thereon" criterion with the "used for the purpose of" criterion. AEWC Pet. 13. The Discoverer is, by design, used for the purpose of exploring, developing, or producing resources from the seabed. AR-EPA-QQQ-3,QQQ000205-206. But it is not "erected thereon" (on the seabed) within the meaning of 40 C.F.R. § 55.2 unless it is attached to the seabed at a location where it can be used for its intended purpose.

[6] Region 10 is familiar with the First Circuit decision in *Alliance to Protect Nantucket Sound, Inc. v. United States Dep't of the Army*, 398 F.3d 105, 109 (1st Cir. 2005) (interpreting the "which may be erected" clause in OCSLA § 4(a)(1)), and believes it is instructive but not directly applicable in light of the different phrasing in OCSLA § 4(a)(1) and the definition of OCS source in 40 C.F.R. § 55.2 (where the criteria are separated by "and").

language of EPA's regulation and OCSLA § 4(a)(1). EPA's regulatory definition states that a vessel is an OCS source "*only*" when it is "erected *thereon*," with "thereon" plainly referencing the seabed. *See* 40 C.F.R. § 55.2 (emphasis added). OCSLA § 4(a)(1) is the same: "which may be erected *thereon*" (emphasis added).[7] Petitioners' rely on the preamble to the OCS regulations and the legislative history of OCSLA to suggest that the "erected thereon" criterion does not apply to drillships (AEWC Pet. 14). This ignores the fact that the regulatory language at issue here requires that a vessel be "erected thereon" to be considered an OCS source.

Second, to avoid the obviously absurd result that the Discoverer be considered an OCS source if it anchors anywhere on the OCS, Petitioners propose that the Discoverer be considered an OCS source if it drops an anchor anywhere within the lease blocks covered by the 2011 Revised Permits. AEWC Pet. 13 & n. 6. Petitioners do not attempt to explain, however, how their "lease block" requirement is encompassed within or related to any of the three regulatory criteria. This is in contrast to Region 10's reasoned explanation of why requiring that the attachment be at a BOEMRE-authorized drill site in these permitting actions carries out the requirement that the Discoverer be "erected thereon."

Third, Petitioners proposed interpretation is based on their expressed concern that emissions from the vessel that pre-lays the Discoverer's anchors will not be captured in the potential to emit of the OCS source. To prevent such a result, they offer an interpretation that arbitrarily includes in the Discoverer's potential to emit the emissions

[7] Petitioners' argument that the "erected thereon" criterion does not apply to drillships because they are already "erected" when they set sail but would have meaning when applied to platform exploration and other phases of oil and gas activity (AEWC Pet. 14-15) ignores the fact that the "erected thereon" language only applies in determining when a vessel is an OCS source. *See* 40 C.F.R. § 55.2.

from the Icebreaker/Anchor Handler while pre-laying the Discoverer's anchors whenever the Discoverer is anchored in a lease block authorized by the permits, no matter how far from the drill site. AEWC Pet. 11-12. As discussed in the SRTC,[8] given the number and size of the lease blocks, the Petitioners' proposed interpretation would make the Discoverer an OCS source even if it is anchored 160 miles from an authorized drill site, as long as the anchor location is in a Shell lease block. Not only is that an absurd result, but including in the Discoverer's potential to emit the emissions from the Icebreaker/Anchor Handler while pre-laying anchors for, but located more than 25 miles from, the Discoverer would be contrary to the OCS statute and regulations, which count emissions from support vessels as emissions of the OCS source only when "within 25 miles of the OCS source." CAA § 328(a)(4)(C); 40 C.F.R. § 55.2. It also produces the incongruous result that the Discoverer would not be considered an OCS source if it is anchored just outside a Shell lease block but very close to where the Icebreaker/Anchor Handler is laying anchors and drilling will be conducted.

Finally, Petitioners have not demonstrated that there is, as they allege, an impermissible inconsistency in the fact that the permits potentially authorize operations at all identified lease blocks, but then limit where the Discoverer is considered an OCS source to locations where the Discoverer has a current authorization to drill. AEWC Pet. 15-16. Petitioners point to no requirement that the potential geographic scope of the permit is relevant to determining whether the Discoverer is considered an OCS source. Shell demonstrated that its operations would not cause or contribute to a violation of the NAAQS or increment when it is operating at any location in the identified lease blocks, and it was therefore appropriate for Region 10 to issue permits to authorize operation at

[8] AR-EPA-SSS-4, SSS000283.

all such locations if all other permit conditions are met. In contrast, Region 10's OCS source determination is based on the regulatory definition of OCS source, which requires that the vessel be "erected" on the seabed.[9] Contrary to Petitioners' assertion, Region 10 is not leaving it to BOEMRE to determine when the Discoverer is an OCS source. AEWC Pet. 16. Rather, Region 10 has determined that the Discoverer will become an OCS source when a specific, verifiable event occurs: the drillship first attaches to the seabed at a location where it has been authorized by BOEMRE to drill.

In sum, Region 10's determination that the Discoverer becomes subject to CAA regulation as an "OCS source" at the point that it first attaches to the seabed at an authorized drill site is based on a reasonable interpretation of 40 C.F.R. § 55.2 in light of CAA § 328 and OCSLA § 4(a)(1). Petitioners have not demonstrated clear error in Region 10's determination.

II. Petitioners Do Not Demonstrate Clear Error in Permit Conditions Limiting Greenhouse Gas Emissions

AEWC Petitioners allege that the permit conditions which limit greenhouse gases (GHGs) to below the Tailoring Rule "subject to regulation" threshold of 75,000 tons per year (tpy) carbon dioxide equivalent (CO_2e)[10] are not enforceable as a practical matter.[11] In doing so, they focus on emissions from the drilling mud system (DMS), which constitute at most 0.12% of the total permitted GHG emissions under the permits.

[9] Petitioners reference to the Title V temporary source provisions (AEWC Pet. at 16) ignores the fact that there is a specific regulatory requirement at issue in these OCS permits that is not a requirement for Title V temporary sources—that the Discoverer be attached to the seabed, erected on the seabed, and used for the specified purpose.

[10] 75 Fed. Reg. 31,514 (June 3, 2010).

[11] In preparing this brief, Region 10 discovered that a comment summary in the SRTC related to GHGs was evidently deleted by mistake just prior to finalization. A copy of the comment summary, which should have immediately preceded the "Response" on page 28 of the SRTC (AR-EPA-SSS-4, SSS000293) is at Attachment B.

Petitioners have not demonstrated clear legal error in Region 10's conclusion that an emission unit permitted at an emissions level that reflects its full potential to emit (PTE) over the five-month drilling season, as based on several conservative assumptions and expressed on a monthly basis, does not need a monthly production or operational limit or monthly monitoring of emissions to ensure compliance with the overall limit on GHGs (as CO2(e)). They also have not demonstrated factual error in Region 10's technical determination of the PTE of the DMS.

The 2011 Revised Permits limit GHG emissions from Shell's operations to 70,000 tons per year (tpy) of CO_2e on a rolling 12-month basis, 5,000 tpy below the "subject to regulation" threshold. AR-EPA-SSS-2 and SSS-3, Condition B.6.1. The majority of the GHGs authorized under this limit (99.88%) come from the combustion of diesel fuel in engines and boilers/heaters, and the combustion of waste in incinerators (collectively, "combustion sources"). AR-EPA-SSS-4, SSS000294. The combustion sources are subject to overall operational limits on fuel and waste, along with stringent monitoring, recordkeeping, and reporting, all of which ensure that emissions do not exceed the limit on GHGs or the "subject to regulation" threshold. AR-EPA-SSS-2 and SSS-3, Conditions B.6.2 to B.6.4. Petitioners do not appear to raise any issues with those limits or their enforceability, which cover the vast majority of GHGs from Shell's operations.[12] In addition, all operations and emissions, including the DMS, are restricted by the source-wide limit prohibiting operation except during the "drilling season" (July 1 to November 30), which is monitored by recordkeeping. AR-EPA-SSS-2 and SSS-3, Condition B.2.

[12] As explained in the SRTC (AR-EPA-SSS-4, SSS000291-292), the combustion sources are subject to enforceable operational limits and monitoring on fuel and waste, and Petitioners have not presented any facts or legal arguments to demonstrate otherwise. Region 10 therefore assumes that AEWC Petitioners' sole remaining argument relates to the methane emissions from the DMS.

As discussed above, a tiny portion (0.12%) of all permitted GHG emissions from Shell's operations is emitted as methane from the DMS, which Region 10 has determined (based on several conservative assumptions) has an unrestricted monthly PTE of 17 tons.[13] To determine compliance with the source-wide GHG emission limit, the permits require that the maximum potential DMS methane emissions (17 tons CO_2e) for each month of operation be added to the monthly monitored emissions of CO_2e from the combustion sources to account for GHGs from the DMS. AR-EPA-SSS-2 and SSS-3, Condition B.6.1.

Petitioners assert that the limit on GHG emissions from Shell's operations is not enforceable as a practical matter because there is no short term production or operational limit or monitoring of methane emissions from the DMS. Their argument rests on the assumption that an emission unit permitted at its maximum PTE expressed on a monthly basis must be subject to an operational or production limit and/or to monitoring to ensure its emissions do not exceed that level. Yet Petitioners point to no guidance document or other support for this assertion. In fact, the guidance document Petitioners cite specifically contemplates that a production or operational limit is needed in addition to an emission limitation only "in cases where the emission limit does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment." AR-EPA-BBB-2, BBB000011-012.

The DMS emissions in this case do not need to be restricted or monitored on a monthly (or more short term) basis to ensure that overall GHG emissions do not exceed the facility-wide emission limit because the permits assume that the DMS is emitting at

[13] Region 10 agrees with Petitioners that the 17 tons per month is not an emission limit on the DMS. AEWC Pet. at 18. It is the unrestricted monthly PTE of that emission unit.

its PTE at all times. And PTE is, by definition, the maximum that can be emitted from a source under its physical and operational design. 40 C.F.R. § 52.21(b)(4); 40 C.F.R. § 55.2. Accordingly, Petitioners have not demonstrated that inclusion of the DMS under the source-wide GHG emission limit without requiring a monthly production or operational limit on or monitoring of DMS methane emissions compromises that limit's enforceability, given its structure and compliance method.

Petitioners also contest Region 10's determination of the PTE of the DMS. Because this is a technical determination, Petitioners bear an especially heavy burden in making this challenge. *In re Carlota Copper Co.*, 11 E.A.D. 692, 708 (EAB 2004). Petitioners do not appear to contest that there are sources for which inherent physical operational limitations restrict the potential emissions of individual emission units. They also do not appear to contest that, where these inherent limitations can be documented by the source and confirmed by the agency, it is appropriate to make such judgments and factor them into estimates of PTE.[14] *See* AR-EPA-SSS-4, SSS000293. Instead, Petitioners contest Region 10's determination of the PTE of the DMS, asserting that Region 10 simply adopted Shell's estimate of maximum emissions from the DMS without conducting an independent assessment. AEWC Pet. 9 n.10. This is not true. Shell provided an estimate of the maximum amount of methane that could be emitted from drilling a single well. AR-EPA-CCC-282 (last page); AR-EPA-CCC-438, CCC-004864. Although, as Petitioners have previously asserted, various restrictions in the

[14] Petitioners contend Region 10's reliance on EPA guidance for determining the PTE of grain handling terminals (AR-EPA-BBB-4) is in error because there are no definitive measurements of the amount of methane that will be emitted from oil and gas exploration. Although Shell's estimate is not based on five years of data, it is based on actual well data from the Arctic Ocean. Region 10 accounted for the smaller data set by scaling up Shell's estimates by five times, far more than the adjustment factor of 1.2 recommended in the grain handling guidance.

permits likely limit Shell's drilling to one or two wells a year,[15] Shell's exploration plan for the Beaufort Sea requests authorization to drill four wells in the five-month drilling season. AR-EPA-BBB-94, 1-1. Shell's exploration plan for the Chukchi Sea requests authorization to drill a maximum of three wells in a drilling season.[16] AR-EPA-BBB-95, 1-1, 1-3. Region 10 scaled the per-well estimate up by a factor of four to determine the maximum methane emissions that could be emitted from the DMS over the drilling season, even though information in the record shows that it is unlikely Shell will be able to complete four wells in a single drilling season. Then, to add another measure of conservatism, the permits require Shell to use the four-well estimate of maximum emissions from the DMS when determining compliance with the GHG limit each month (effectively scaling up the calculation by a factor of five). AR-EPA-SSS-4, SSS000293.

During the public comment period, AEWC Petitioners did not contest Region 10's determination of the monthly PTE from the DMS. AR-EPA-RRR-29. One commenter raised general questions about Shell's calculation of maximum emissions from the DMS, referring to it as an "unsubstantiated appraisal" "based on nothing more than assurance from Shell regarding its 'past drilling experience.'" AR-EPA-RRR-30, RRR000194. The comments did not provide specific information to show that Shell's underlying estimate was inaccurate or that Region 10's scaling up of that estimate did not provide a more-than-adequate margin of safety. Nonetheless, to address general questions regarding Region 10's determination of the maximum monthly emissions that could be emitted from the DMS, Region 10 requested additional information from Shell to document Shell's calculations and assumptions. AR-EPA-SSS-4, SSS000294; AR-

[15] AR-EPA-SSS-4, SSS000287-288.
[16] The AEWC Petition states that Shell seeks authorization to drill six wells in the Chukchi Sea. AEWC Pet. 15. The exploration plan clarifies it is three wells each year. AR-EPA-BBB-95, 1-3.

EPA-CCC-438. Region 10 also requested additional information from ConocoPhillips, a permit applicant seeking an OCS permit in the Chukchi Sea that had provided a much higher PTE estimate from its DMS. AR- EPA-DDD-83. Based on a review of information provided by both Shell and ConocoPhillips, Region 10 confirmed that Shell had a sound basis for its underlying calculation and that it was not appropriate to revise the PTE of Shell's DMS on the Discoverer. The record shows the reason for the difference between Shell's calculation and ConocoPhillips' calculation. AR-EPA-SSS-4, SSS000294. Specifically, Shell based its emission factor on actual data from drilling wells in the Arctic Ocean, whereas ConocoPhillips' estimate is based on data from wells throughout the United States, particularly in the Gulf of Mexico. AR-EPA-CCC-438; CCC004863; AR-EPA-BBB-148, BBB011431-433 (citing to AR-B-2; see BBB000121, -161, -195). Shell also based its calculation on the maximum depth of the hydrocarbon bearing zone (the portion of the well where oil deposits are found and where methane would occur) for the Arctic Seas, whereas ConocoPhillips based its estimate on the excessively conservative assumption that the entire depth of the well would be a hydrocarbon bearing zone. *Id.*[17] As Region 10 explained in the SRTC, the fact that one company chooses to rely on excessively conservative assumptions in determining its PTE does not in any way undermine the validity of a lower, but still conservative,

[17] Petitioners' claim that they were unable to evaluate information in the record at the time of proposal because the basis for Shell's estimate was not fully disclosed at that time. This argument has no merit because there was some information in the record at the time of proposal and Petitioners did not comment at all on Region 10's PTE determination for the DMS. Petitioners' suggestion that a remand may be appropriate because the more detailed information regarding the Shell and ConocoPhillips estimates was not available when the permits were proposed runs directly counter the Board's recent ruling in *In re Cape Wind Associates*, LLC, OCS Appeal No. 11-01, slip op. 10-11 (EAB May 20, 2011) (no clear error for the Region, in responding to comments, to review and rely on additional information made part of the administrative record after the close of public comment). As in *Cape Wind*, AEWC Petitioners made no attempt to request additional information regarding GHGs from Region 10 after the permits were issued but before they filed their petition. *Id*. slip op. at 9. This stands in direct contrast to the AEWC Petitioners' actions just after proposal, when they immediately requested Region 10 to provide documents in the record. *See* AR-EPA-DDD-49.

determination of another source's PTE. AR-EPA-SSS-4, SSS000294 n. 9. The Board should defer to Region 10 on this technical determination.

III. Petitioners Do Not Demonstrate Clear Error in Region 10's Determination of the Ambient Air Boundary

Region 10 determined that the area within 500 meters of the center of the Discoverer is not ambient air if the permit conditions are met. AR-EPA-QQQ-3, QQQ000208-209 & n. 15; AR-EPA-SSS-4, SSS000304-305. This determination is consistent with the regulatory definition of ambient air and an appropriate application of EPA guidance to the specific over water situation at issue in these permits. Shell's demonstration that the NAAQS and increment will be protected was thus not required to consider the area within 500 meters of the center of the Discoverer in its ambient air quality analysis. Petitioners have not demonstrated clear error in Region 10's determination on this issue.

A. The USCG Safety Zone Will Legally Preclude Public Access

Ambient air is defined as "…[t]hat portion of the atmosphere, external to buildings, to which the general public has access." 40 C.F.R. § 50.1(e). EPA has long stated that this definition is applied to a specific permitting action on a case-by-case basis. 50 Fed. Reg. 7056, 7057 (Feb. 20, 1985). In this case, the permits require that the Discoverer be subject to a United States Coast Guard (USCG) safety zone that encompasses an area of at least 500 meters from the center of the Discoverer. The safety zone must also prohibit members of the public from entering except for attending

vessels[18] or vessels authorized by the USCG. AR-EPA-SSS-2, SSS000096; AR-EPA-SSS-3, SSS000194. This, coupled with implementation of the access control program discussed in Section III.B below, the remote location, the hostile environment, and other facts specific to these permits, ensures that public access is precluded. As such, it is fully consistent with the definition of ambient air in 40 C.F.R. § 50.1(e).

The longstanding interpretation of the definition of ambient air referred to by Petitioners (EJ Pet. 29) and acknowledged by Region 10 in the SRTC is an interpretation that, by its terms, applies over land. *See* AR-EPA-BBB-1 ("exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or physical barrier."). In responding to comments, Region 10 explained that the criteria previously laid out by EPA for application over land must be adapted to some extent because the permitted activities in this case occur over open water in the Arctic and Shell does not and cannot "own" the areas of the Beaufort and Chukchi Seas on which the Discoverer will be operating as might be the case for a stationary source on land.[19] Region 10 also noted that EPA has previously recognized a USCG safety zone as evidence of sufficient control for establishing the ambient air boundary over water where that safety zone is monitored to pose a barrier to public access, citing as an example a 2007 determination from EPA Region 2 (Broadwater Letter).[20] Petitioners do not address the precedent of the Broadwater Letter or Region 10's acknowledgement of and explanation why EPA

[18] An attending vessel is any vessel "operated by the owner or operator of an OCS facility located in the safety zone, which is used for the purpose of carrying supplies, equipment or personnel to or from the facility, which is engaged in construction, maintenance, alteration, or repair of the facility, or which is used for further exploration, production, transfer or storage of natural resources from the seabed beneath the safety zone." 33 C.F.R. § 147.20.
[19] AR-EPA-SSS-4, SSS000304-305.
[20] AR-EPA-BBB-25.

guidance for determining the ambient air boundary on land must be adapted to some extent to address the unique circumstances involved in a source operating over water.

EPA guidance for determining ambient air boundaries in the context of lessor-lessee relationships must also be adapted to some extent to the over water situation involved in these permits. Indeed, a key EPA guidance document on this issue[21] applies to "land" by its title and terms. The example cited by Petitioners also involves sources on land. Earthjustice Pet. 29, n. 52. Over water sea-based operations obviously differ from land-based operations in that no private entity owns or controls the sea below its operations in the way that private entities on land typically do.

Petitioners are correct that the USCG ultimately controls access within a prescribed area around the drilling activities through its promulgation of the safety zone. *See* 33 C.F.R. § 147.10. The 2011 Revised Permits, however, authorize "attending vessels" to enter the safety zone.[22] Given that "attending vessels" are defined to include vessels operated by the owner or operator of the OCS source in the safety zone and other vessels servicing the OCS source, *see* 33 C.F.R. § 147.20, Shell will in fact exercise considerable control over the vessels that are allowed to enter the USCG safety zone.

B. The Safety Zone and Physical Conditions in this Case Together with the Required Public Access Control Program Are Tantamount to a Physical Barrier

Petitioners are correct that EPA has consistently held that legal authority to exclude the public is not alone sufficient to exclude an area from ambient air. Public

[21] AR-EPA-BBB-21.

[22] This is based on the terms of the safety zones established for the Discoverer in 2010. *See* 33 U.S.C. § 147.T001(b)(1); 75 Fed. Reg. 18,404, 18,407 (April 12, 2010). Although the previously established safety zones for the Discoverer are no longer in effect (75 Fed. Reg. at 18405 (stating the USGS intent that safety zones be re-established each year)), the permits require that the Discoverer be subject to a USCG safety zone with similar conditions.

access must also be precluded by a fence or physical barrier. Petitioners completely ignore, however, that EPA has previously recognized that an access control program in conjunction with facts specific to the particular situation can serve as a barrier on par with a fence or a physical boundary.

Depending on the facts of a particular situation—natural physical features such as rivers or rugged terrain, coupled with a program of signage and patrol designed to warn and intercept members of the public, may be sufficient to preclude public access. *See* 50 Fed. Reg. at 7057 ("Kennecot's man-made barriers, and other security measures, together with the inherently rugged nature of the mountainous terrain involved here, combine to effectively preclude public access."); AR-EPA-BBB-152 (river coupled with posting and regular patrols could be adequate to preclude public access). In the SRTC,[23] Region 10 cited to the Broadwater Letter as an example of a situation where a radar detection system in combination with a radio warning system accompanying a USCG safety zone was deemed sufficient to preclude public access. Similarly, the State of Alaska, whose regulations apply in the Inner OCS as the "corresponding offshore area," has also recognized that an access control program can, depending on the circumstances, serve the same function as a fence or physical boundary. *See* AR-EPA-BBB-150, BBB011549 ("In these rare cases, ADEC has allowed applicants to establish an access control plan for their ambient air boundary.").

In this case, the permitted operations will be miles offshore in harsh and rugged seas. The permits require Shell to develop in writing and implement a public access control program to locate, identify, and intercept by radio, physical contact, or other reasonable measures to inform the public that they are prohibited by USCG regulations

[23] AR-EPA-SSS-4, SSS000305.

from entering the safety zone. The permits also require Shell to communicate to the North Slope communities on a periodic basis when exploration activities are expected to occur, where they will be located, and any restrictions on activities in the vicinity of Shell's exploration operations. AR-EPA-SSS-2, SSS000096; AR-EPA-SSS-3, SSS000194. Petitioners do not address the Broadwater Letter relied on by Region 10 in responding to comments. Moreover, they have not demonstrated clear error in Region 10's determination that the permit conditions adequately ensure that public access will be precluded within the meaning of the definition of ambient air and EPA guidance, as applied to the unique facts underlying these permits. Shell therefore appropriately excluded the area within 500 meters of the center of Discoverer from the source impact analysis it conducted to meet the requirements of the PSD regulations.

IV. Petitioners May not Raise and the Board Should Reject Petitioners' Novel Theory that CAA §§ 165(a)(3) and 163(b)(4) Create a Third Type of NO_2 Air Quality Standard Previously Unrecognized by EPA and Never Promulgated by the Administrator

Earthjustice Petitioners make the remarkable argument that CAA §§ 165(a)(3) and 163(b)(4) require Shell to demonstrate that the Discoverer will not cause an exceedance of a new type of air quality standard—one not previously identified by EPA in any PSD permitting decision or regulation. Through creative alchemy, Petitioners would have the Board manufacture a "maximum allowable concentration" by taking the level of the NAAQS and stripping away the form of the NAAQS, which is an integral element of the standard.[24] The Board should deny review on this issue because Petitioners did not raise this concern with sufficient clarity in public comments. Further,

[24] The indicator, averaging time, form, and level "together serve to define each standard" and "must be considered collectively in evaluating the health protection afforded." 75 Fed. Reg. 6,474, 6,477 (Feb. 9, 2010).

Petitioners' argument amounts to an untimely challenge to EPA's long-standing PSD regulations, not the application of those regulations to this specific case. To the extent the Board considers the merits of this argument, Petitioners cannot show Region 10 was compelled to apply Petitioners' novel reading of the CAA.

A. Petitioners Failed to Raise this Issue in Public Comments with Reasonable Specificity

The argument in Section I of the Earthjustice Petitioners' brief (pages 10-24) was not made by Petitioners or any other commenter during the public comment period. Petitioners instead commented that Shell must demonstrate that it would not "'cause or contribute to air pollution in violations [sic] of' any NAAQS or increment," citing to 40 C.F.R. § 52.21(k) and CAA § 165(a)(3). AR-EPA-RRR-30, RRR000182. In a footnote, they also commented that there was no basis for Region 10 "to discount its highest projected impacts [and] that such an approach ignores both the importance of the absolute value of the NAAQS standard … as well as the PSD program requirement that a proposed new source demonstrate that it will not cause a NAAQS exceedance. 42 U.S.C. § 7475(a)(3); 40 C.F.R. § 52.21(k)." *Id*. 5, n. 1. Region 10 responded to those comments. AR-EPA-SSS-4, SSS000333-334. Nowhere in Petitioners' comments do they use the term on which they base the 12-page argument in their petition—"maximum allowable concentration." Nor do they specifically cite to the provisions in the CAA in which that term is used (CAA §§ 163(a), 163(b)(4), 165(a)(3)(A)) and on which they now base the lengthy argument in their petition. Petitioners failed to raise all reasonably available arguments to support their position during the public comment period. 40 C.F.R. §124.13; *see, e.g.*, *B.P. Cherry Point*, 12 E.A.D. 209, 216 (EAB 2005). Moreover, Petitioners do not and cannot contend that their interpretation of the PSD

provisions in the CAA was not reasonably ascertainable during the public comment period. Indeed, their argument calls into question EPA's 30-year interpretation and implementation of the CAA and PSD statutes and regulations. This issue is thus not properly preserved for review.

B. Petitioners Challenge an EPA Regulation Promulgated More than 30 Years Ago

Despite Petitioners' claims to the contrary, the first section in Petitioners' brief is an attack on EPA regulations adopted long ago that may not be challenged in this proceeding. The PSD regulations provide that the owner or operator of a proposed source or modification must demonstrate that its emissions "would not cause or contribute to air pollution in violation of (1) Any national ambient air quality standard in any air quality control region; and (2) Any applicable maximum allowable increase over a baseline concentration in any areas." 40 C.F.R. § 52.21(k). The former are promulgated in 40 C.F.R. Part 50 and the latter in 40 C.F.R. § 52.21(c). In essence, Petitioners argue that section 52.21(k) should have included a third subsection that requires a showing that a proposed construction of a stationary source will not cause an exceedance of a maximum allowable concentration defined only by some, but not all, of the characteristics of the NAAQS promulgated by EPA. But there is no such prong in section 52.21(k), and the time for challenging its absence has long since past.

The history of EPA's PSD regulations illustrates that these provisions fully implement the requirements of CAA §§ 165(a)(3) and 163(b)(4). Section 52.21(k) was originally adopted in 1978 as section 52.21(l). 43 Fed. Reg. 26,388, 26,407 (June 19, 1978). At the time, EPA explained that "[f]ull PSD review" includes an "ambient impact analyses of whether the source or modification would cause or contribute to a

violation of the applicable increments and NAAQS." *Id*. at 26,392. This was based on EPA's understanding that the "maximum allowable concentration" describes the ceiling on air quality concentrations that results from adding the PSD increments (the "maximum allowable increases") to the baseline concentration. EPA said exactly that as recently as 2007. 72 Fed. Reg. 31,372, 31,374 (Jun. 6, 2007). But EPA adopted this view even earlier, as illustrated by the regulatory framework EPA established in the late 1970s to implement CAA §§ 165(a)(3) and 163(b)(4). The 1978 version of section 52.21(l) contained two prongs, one of which incorporated both the increments and the baseline concentration. 43 Fed. Reg. at 26,407. EPA did not overlook the term "maximum allowable concentration" in sections 163(b)(4) or 165(a)(3)(A). To the contrary, EPA implemented section 163(b)(4) by promulgating section 52.21(d), which closely tracks the language in the statute. *Id*. at 26,405. This provision follows the list of PSD increments to make clear that the NAAQS establish an upper bound on the maximum allowable concentration otherwise permitted by adding the increments and baseline concentrations. Section 52.21(d) actually carried forward language that EPA adopted in its first regulations after the 1977 amendments of the CAA. 42 Fed. Reg. 57,439, 57,461 (Nov. 3, 1977) (then section 52.21(c)(2)(ii)). EPA used the term "maximum allowable concentration" in the text of the 1977 regulations and explained in the preamble that one of the requirements of the 1977 Amendments that was "immediately effective is the Section 163(b)(4) requirement that each NAAQS (not just particulate matter and sulfur dioxide) shall act as an overriding ceiling to any otherwise allowable increments." *Id*. at 57,460. The description of the NAAQS as an "overriding ceiling" illustrates that EPA

understood the CAA to establish another ceiling (derived from the baseline concentration plus the increment) that could be overridden.

There was ample opportunity when EPA created these regulations implementing the statutory PSD program for parties to argue in public comments and rule challenges that EPA should define "maximum allowable concentration" differently and add this third type of air quality standard to section 52.21(k). EPA's actions provided notice of how it was applying these parts of the CAA. But this was not an issue addressed in the multi-faceted challenge to EPA's 1977 PSD regulations in *Alabama Power Co. et al v. Costle*, 636 F.2d 323 (D.C. Cir. 1979). In the 1980 rule following this decision, EPA moved the language in what had been section 52.21(l) into its present day location in section 52.21(k) and changed only the introductory title from "air quality review" to "source impact analysis." 45 Fed. Reg. 52,676, 52,740 (Aug. 7, 1980). No party raised the issue Petitioners are raising here in response to the re-adoption of this language in the 1980 rule. Therefore, it was not clearly erroneous for Region 10 to respond to the footnote in Petitioners' comments by explaining that the 2011 Revised Permits comply fully with the terms of section 52.21(k) and that Petitioners' indirect challenge to this regulation is precluded by CAA § 307(b). AR-EPA-SSS-4, SSS000334.

C. Petitioners Fail to Show EPA is Compelled to Adopt Petitioners' Novel CAA Interpretation

To the extent the Board reaches the merits, Petitioners have failed to show it was clearly erroneous for Region 10 to overlook Petitioners' novel theory for defining the "maximum allowable concentration" using select parts of the 1-hour NO_2 NAAQS. The clear statutory language and legislative history support EPA's previously-expressed reading that the "maximum allowable concentration" is the combination of the baseline

concentration and PSD increments and that the purpose of CAA § 163(b)(4) is to establish that the NAAQS controls and sets an upper bound in those cases where the baseline concentration plus the increment may exceed the NAAQS.

Section 163(b)(4) does not purport to establish an exclusive definition of the term "maximum allowable concentration" as Petitioners suggest. This term is not included among the definitions applicable under Part C of Title I listed in CAA § 169. The operative language in CAA § 163(b)(4) states that the maximum allowable concentration "shall not exceed" rather than using terms such as "is" or "shall mean." The language actually in the CAA does not preclude EPA from construing the "maximum allowable concentration" as the ceiling resulting from the increment plus the baseline concentration, and then reading CAA § 163(b)(4) to define the upper bound of that concentration to be the NAAQS. There is nothing in this provision or elsewhere in the CAA that suggests the phrase "concentration permitted under the primary national ambient air quality standards" means something other than the standard itself in its full and complete form.

The Senate Report for the 1977 amendments supports this interpretation. S. Rep. No. 95-127, at 11, 30 (1977). In one notable passage, the report says the following:

> The national standard to prevent significant deterioration is this single set of increments[.] … The increment, of course, is measured from the baseline ambient air quality as defined in these amendments. The increment would thus be in addition to whatever levels of pollution exist from present sources, natural background, and other activities. The only exception occurs when pollution up to the increment would produce ambient air exceeding any primary or secondary standard. If that occurs, the full increment may not be used, and the national ambient standards set the ceiling for additional ambient pollution.

Id. at 30.

Consistent with this legislative history, EPA's interpretation of the CAA gives meaning to the usage of "maximum allowable concentration" in section 165(a)(3)(A) in a manner that is not completely duplicative of the requirement in section 165(a)(3)(B) to ensure that no source causes or contribute to a violation of the NAAQS. Sections 163(b)(4) and 165(a)(3)(A) work in concert to ensure that there is no confusion that the "maximum allowable increases," when combined with the background concentration, are not intended to permit air quality in excess of the "maximum allowable concentration" that is limited by the NAAQS. To the extent this clarity produced some overlap, this does not compel EPA to create a third requirement that is not discussed anywhere else in the CAA.

There is no discussion in the 1977 legislative history of the CAA of a third air quality criterion derived from only part of the NAAQS created by EPA regulation. Indeed, versions of section 163(b)(4) introduced in the House and Senate capped the maximum allowable concentration at 90% of the NAAQS. H.R. 4151, 95th Cong. (1977), pp. 53-54; S. 253, 95th Cong. (1977), p. 92 . The fact that this language was not adopted in what became section 163(b)(4) strongly suggests Congress did not intend for this provision to describe anything other than the NAAQS itself.

Petitioners' theory that section 163(b)(4) actually defines the "maximum allowable concentration" as something other than the NAAQS or the increment plus baseline concentration is not supported by this legislative history or EPA's past practice. EPA has consistently stated that the NAAQS — rather than just the level of the NAAQS or some other incomplete derivative — are what form the upper bound on the ceiling

resulting from the combination of the increment and baseline concentration. 70 Fed. Reg. 59,582, 59,596 (Oct. 12, 2005); 72 Fed. Reg. 54,112, 54,117 (Sept. 21, 2007).

D. Preamble to the 1-Hour NO_2 NAAQS Does Not Change Agency Interpretation

Petitioners have not demonstrated that EPA intended to change this historical reading of the CAA and PSD regulations when it used the phrase "maximum allowable concentration" and "maximum allowable NO_2 concentration" in several places in the preamble of the 1-hour NO_2 NAAQS rule. None of the 29 references identified by Petitioners include any mention of CAA § 165(a)(3)(A) or 163(b)(4), much less express EPA's intention to announce a new reading of the term "maximum allowable concentration" used in those provisions. In the section in the rule preamble where EPA actually discussed implementation of the NAAQS in the PSD program, EPA said clearly that "major new and modified sources applying for NSR/PSD permits will initially be required to demonstrate that their proposed emissions increases of NO_X will not cause or contribute to a violation of either the annual or 1-hour NO_2 NAAQS and the annual PSD increment." 75 Fed. Reg. 6474, 6525. There is no mention here of Petitioners' newly-defined "maximum allowable concentration" or the provisions of the CAA on which Petitioners' argument is based.

Furthermore, Petitioners neglect to mention that most of their cited references to this phrase in the NAAQS preamble occur within a statement describing an approach to the standard "that reflects the maximum allowable NO_2 concentration anywhere in an area." *See e.g.* 75 Fed. Reg. at 6492-93. EPA frequently used this phrase in the preamble because a central issue in the NO_2 NAAQS review was the fact that concentrations of NO_2 on or adjacent to roads can be higher than concentrations measured away from

roads, but the monitoring network primarily measured the lower, "area-wide" concentrations. 74 Fed. Reg. at 34,404, 34,409 (July 15, 2009). EPA thus considered whether to set a standard based on peak concentrations, with a new monitoring network, or set a standard based on area-wide concentrations using the existing monitoring network. 75 Fed. Reg. at 6482. The first approach was to set "a 1-hour standard reflecting the maximum allowable NO_2 concentration anywhere in an area and to set the level of such a standard from 80 to 100 ppb." The second was "a standard that reflects the allowable areawide NO_2 concentration and setting the standard level from 50 to 75 ppb." 75 Fed. Reg. at 6,493. EPA thus used the words "maximum allowable concentration" to help it distinguish between these two approaches, rather than to establish a new PSD requirement as Petitioners contend. This context also illustrates that the level of the standard cannot be divorced from other elements. The Administrator made clear that "the public health protection provided by the 1-hour NO_2 standard is based on the approach used to set the standard and the level of the standard …, in conjunction with the form of the standard." *Id.* at 6493.

For these reasons, The Board should not entertain Petitioners' invitation to use this proceeding to adopt a dramatic new interpretation of the CAA and rewrite EPA's PSD regulations and the 1-hour NO_2 NAAQS.

V. Petitioners May not Raise and the Board Should Reject Petitioners' Argument that the Agency has Changed its Position on the Modeling Demonstration Required for the 1-Hour NO_2 NAAQS

The Earthjustice Petitioners again make an argument in their petition here that no one raised during the public comment period. They assert for the first time that Region 10 improperly accepted Shell's modeling for the 1-hour NO_2 NAAQS because Region 10

relied on a March 1, 2011 guidance document[25] regarding the use of background data that they contend takes a different position on this issue than an earlier June 29, 2010 guidance document,[26] with no explanation for this change in position. Earthjustice Pet. 24-26. Petitioners' did submit eight pages of comments regarding the 1-hour NO_2 modeling analysis raising several different legal and technical issues, including one regarding the use of background data. But none of these comments raise the issue Petitioners now ask the Board to consider—the alleged discrepancy between the approaches in the two guidance documents regarding use of background data. *See* AR-EPA-RRR-30, RRR000182-190 (in particular Section II.a.iii).[27] The Board should reject Petitioners' attempt to raise this issue for the first time on appeal. *See* 40 C.F.R. § 124.19(a); EAB PSD Review Order at 4.

Further, the new issue raised by Petitioners here is based on a clear misreading of the June 2010 Guidance. Petitioners cite language that does not relate to the 1-hour NO_2 NAAQS, but rather to the 24-hour $PM_{2.5}$ NAAQS. The June 2010 Guidance explains that—while "combining the 98th percentile monitored value with the 98th percentile modeled concentrations for a cumulative impact assessment could result in a value that is below the 98th percentile of the combined cumulative distribution and would, therefore, not be protective of the [$PM_{2.5}$] NAAQS"—a different approach is appropriate for the 1-hour NO_2 NAAQS. *See* AR-EPA-BBB-153, BBB011663. This is clear from the language stating that the recommendations for NO_2 are "*unlike* the recommendations

[25] AR-EPA-BBB-80 ("March 2011 Guidance").
[26] AR-EPA-BBB-153 ("June 2010 Guidance").
[27] The AEWC Petitioners commented that Region 10 should take the same approach to the use of NO_2 background data (the pairing of modeled and monitored data) for the 1-hour NO_2 NAAQS as EPA has said is appropriate for the 24-hour $PM_{2.5}$ NAAQS. AR-EPA-RRR-29, RRR000107-108. They did not, however, contend as the Earthjustice Petitioners do here that Region 10 accepted a modeling approach that is inconsistent with the June 2010 Guidance.

presented for $PM_{2.5.}$" *Id*. (emphasis added). EPA explained that this difference in approach is appropriate because of the different forms of the two standards.

Petitioners are also mistaken in claiming that the March 2011 Guidance departs from the earlier guidance without an adequate explanation. The June 2010 Guidance states that:

> A "first tier" assumption that may be applied without further justification is to add the overall highest hourly background NO_2 concentration from a representative monitor to the modeled design value, based on the form of the standard, for comparison to the NAAQS. Additional refinements to this "first tier" approach based on some level of temporal pairing of modeled and monitored values may be considered on a case-by-case basis, with adequate justification and documentation.

Id. The March 2011 Guidance then references the June 2010 Guidance and the specific provision for "additional refinements" before stating, "Given the importance of this aspect of the analysis and the challenges that have arisen in application of the guidance to date, we feel compelled to offer additional guidance on this issue." AR-EPA-BBB-80, BBB008099

The June 2010 Guidance provided a very simple and conservative ("first tier") approach of adding the overall highest 1-hour background NO_2 concentration to the "modeled design value." *Id*. The March 2011 Guidance explains that, although the approach in the June 2010 Guidance "should be acceptable without further justification in most cases," it "could be overly conservative in *many* cases." *Id*. (emphasis added). EPA then described several possible refinements, including the use of the monitored NO_2 design value (the 98^{th} percentile of the annual distribution of daily maximum 1-hour values averaged across the most recent three years of monitored data) or the pairing of modeled and monitored concentrations based on hour of day (*i.e.*, a "diurnal" profile).

Id. BBB008099-100. The specific approach used by Shell for combining the modeled concentrations with the monitored background concentrations is consistent with the March 2011 Guidance. Petitioners do not contend otherwise.

Shell's modeling is also consistent with the other aspects of the June 2010 and the March 2011 Guidance, as is explained at length in the SSB, the Region 10 technical analysis, and the SRTC.[28] Region 10 responded at length to all of the technical and legal comments challenging Shell's 1-hour NO_2 NAAQS demonstration, including the approach for combining modeled and background data that underlies the issue raised by Petitioners for the first time on appeal. Petitioners do not attempt to directly challenge the 1-hour NO_2 analysis based on the issues they raised during the public comment period, presumably because of the strong technical analysis underlying the permits. Petitioners instead offer a new, specious argument regarding an alleged change in EPA's position. The Board should decline to consider Petitioners' attempt to raise this specific issue for the first time on appeal. Alternatively, the Board should reject the substance of Petitioners' argument because it is contradicted by the language of the June 2010 and March 2011 Guidance. Petitioners have not demonstrated clear error on this issue, and have certainly not met their high burden for obtaining review of a technical disagreement with the Region. *See In Re Peabody Western Coal Co.*, 12 E.A.D. 22, 33-34 (EAB 2005).

[28] AR-EPA-QQQ-3, QQQ000231-233; AR-EPA-BBB-108, BBB009589-593; AR-EPA-SSS-4, SSS000332-350,

VI. Petitioners Do Not Demonstrate Clear Legal Error in the Public Participation Process

The public process provided by Region 10 fully complied with applicable requirements at 40 C.F.R. part 124 which implement the statutory purpose of assuring "adequate procedural opportunities for informed public participation in the decisionmaking process." CAA § 160(5). Each draft permit was subject to a 30-day public comment period as required by 40 C.F.R. § 124.10(b), which Region 10 determined was appropriate in light of the prior comment periods for the permits and a scope of review limited to the issues remanded by the Board in response to the 2010 Permits and the revised aspects of the permits. *See Shell II*, slip op. at 82; AR-EPA-SSS-4, SSS000276-279.

AEWC Petitioners advance a novel argument that the Region committed clear legal error by holding concurrent 30-day public comment periods for each draft permit, which they argue effectively limited public comment to 15 days for each permit.[29] AEWC Pet. 8-9. However, Petitioners do not cite, nor is there any legal support for such an argument.[30] Due to the substantial similarities between the 2011 Revised Permits[31] and because the revised permits were prepared at the same time following the Board's consolidated review and remand, Region 10 deemed it appropriate to consolidate

[29] AEWC Petitioners also reference a June 15, 2011 letter sent to Region 10 in which they requested non-overlapping 45-day comment periods for each draft permit (AEWC Pet. 9). Region 10 denied this request in a letter dated July 21, 2011, noting its responsibility to balance public participation with timely permit issuance and describing the additional efforts the Region was undertaking to promote meaningful public participation. AR-EPA-DDD-58; AR-EPA-SSS-4, SSS000276-277; *see also Shell I*, 13 E.A.D. at 402 (Petitioners did not demonstrate clear legal error in Region's determination not to reschedule a public hearing based on the need to carefully balance competing interests).

[30] Each Board decision cited by Petitioners in comments and again in their petition involved remand for failure to comply with the applicable procedures in part 124. AR-EPA-SSS-4, SSS000279-280; *see also In re Weber #4-8*, 11 E.A.D. 241, 245 (EAB 2003)(failure to properly respond to comments). Furthermore, part 124 provides that when a facility requires permits under two or more statutes, the Region has discretion to consolidate processing. 40 C.F.R. § 124.4(a)(1). Here, the consolidated process involved nearly identical permits issued under the same authorities.

[31] AR-EPA-SSS-4, SSS000278.

proceedings by holding simultaneous 30-day comment periods and preparing for both draft permits a single statement of basis, technical support document, environmental justice analysis, response to comments, and administrative record. 40 C.F.R. § 124.4(a)(2).

Petitioners also argue that they were deprived a meaningful opportunity to comment on new air modeling results because they were unable to hire an air modeler during the time provided. AEWC Pet. 10. As a practical matter, accepting Petitioners' implication that the inability to retain technical assistance means a public process that otherwise complies with part 124 is inadequate would place the Region in a difficult predicament.[32] As a legal matter, the arguments raised by Petitioners in comments, and now in petition, do not adequately demonstrate the need for additional time. 40 C.F.R. § 124.13.

On remand, Region 10 was directed to consider the new 1-hour NO_2 NAAQS in its environment justice analysis, and to explain whether $PM_{2.5}$ precursors would be emitted in significant quantities and whether modeling secondary $PM_{2.5}$ was necessary. *Shell II*, slip op. at 81-82; *Shell III*, slip op. at 41. AEWC Petitioners briefed both of these issues to the Board and were certainly aware of the technical nature of the issues. Accordingly, Petitioners should have known early on that new modeling or technical analyses would be required to address the remanded issues and had ample time to retain technical assistance in advance of the public comment period. In fact, to facilitate planning for public review of the remanded permits, Region10 notified AEWC

[32] Such a holding would require the Region to speculate or otherwise assess whether the period provided is sufficiently long enough to retain technical assistance. Requiring the Region to account for what is essentially a contractual agreement between external parties, which includes considerations such as fee arrangements and availability of contractors, would make it extremely difficult to determine the appropriateness of a comment period.

Petitioners on May 25, 2011 that the public comment period would begin in early July 2011, providing more than a month to plan for public comment and retain technical assistance. AR-EPA-DDD-12. Even assuming AEWC Petitioners had no foreknowledge that the remanded 2010 Permits would include new or revised technical analyses or modeling, their inability to hire a technical consultant does not mean that the public comment period which complied with 40 C.F.R. § 124(b)(10) was inadequate.[33]

The number of comments received (more than 14,500) and the substantive comments received on technically and legally complex issues in the permits, including the choice of model, modeling data, and air quality analysis, support Region 10's determination that the 30-day period provided adequate opportunity for informed and meaningful public comment. *See Conf. of St. Bank Supervisors v. Off. of Thrift Supervision*, 792 F.Supp. 837, 844 (D.D.C. 1992) (30-day comment period for national rulemaking was adequate in light of comments submitted). Petitioners have simply not demonstrated clear legal error in Region 10's public process.

VII. Region 10 Took Appropriate Action in the Context of These Permitting Decisions to Identify and Address Potential Disproportionately High and Adverse Human Health or Environmental Effects

The AEWC Petitioners argue that Region 10 failed to put forth a valid basis for concluding that Alaska Natives will not be disproportionately impacted by emissions from Shell's operations and that there are substantive and procedural problems with the Region's environmental justice analysis. None of the arguments, however, demonstrate

[33] Petitioners also raise an equitable argument that the public comment period was unfair because Shell had six months to prepare new application materials, Region 10 had six weeks to respond to comments and issue final permits, but the public only had 30 days to comment. AEWC Pet. 10, n 4. Petitioners' equitable argument mischaracterizes the purpose of public comment which is not to recreate the application, supporting materials, and permit *de novo*, but to provide opportunity for review and comment on the work done by the applicant and Region 10.

that Region 10's permitting decisions were based on a "finding of fact or conclusion of law which is clearly erroneous" or involve "an exercise of discretion or an important policy consideration" which the Board in its discretion should review.

Executive Order 12898 states in relevant part that "to the greatest extent practicable and permitted by law. . . each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." 59 Fed. Reg. 7629, 7629 (Feb. 11, 1994) (EO 12898). In implementing EO 12898, a permit issuer should exercise its discretion to examine any "superficially plausible" claim that a minority or low-income population may be disproportionately affected by a particular facility that is the subject of a PSD permit proceeding. *Shell II*, slip op. at 63-64 & n. 71; *In re Avenal Power Center, LLC, PSD Appeal Nos. 11-02, 11-03, 11-04 & 11-05*, slip op. at 20 (August 18, 2011). As the Board recently noted, however, the language of EO 12898 directing federal agencies to identify and address impacts "as appropriate," and "[t]o the greatest extent practicable and permitted by law" imparts considerable leeway to federal agencies in determining how to comply with the spirit and letter of the Executive Order. *Avenal*, slip op. at 24.

In accordance with EO 12898, Region 10 thoroughly considered and appropriately addressed environmental justice concerns associated with these PSD permitting actions, as detailed in the 21-page Supplemental Environmental Justice

Analysis (AR-EPA-FFF-8) ("EJ Analysis"), an 8 page summary of the analysis in the SSB (AR-EPA-QQQ-3, QQQ000224-251), and the SRTC.[34]

A. Region 10 Provided Meaningful Public Process for North Slope Communities

AEWC Petitioners have not demonstrated that the public process provided by Region 10 did not provide adequate opportunity for meaningful involvement. Petitioners argue that the Region relied heavily on the public process for the 2010 permits to show the sufficiency of its public involvement. AEWC Pet. 31; s*ee Shell II*, slip op. at 68 (describing the "significant outreach" to North Slope communities for 2010 Permits). This is spurious. In addition to complying with part 124 (*see supra* Section VI), Region 10 deliberately implemented several affirmative steps to engage North Slope communities in the public process and to provide for meaningful involvement on the 2011 Revised Permits.[35]

As evidence that the process was inadequate, AEWC Petitioners selectively cite to language in Region 10's North Slope Communications Protocol (Protocol) stating that the Region "will routinely plan for a 60-day window for public comment opportunity" and use this excerpt to argue that the 30-day comment period was inadequate. AR-EPA-G-4, G000023. Petitioners misleadingly omit the express statement in the following sentence that "[t]his does not mean we will routinely offer 60-day comment periods." *Id.* As the Protocol explains, the purpose of the 60-day planning window is to provide

[34] Petitioners refer to Region 10's "scant" environmental justice analysis, citing to the Board's decisions in *Avenal* (slip op. at 24) and *Shell II* (slip op. at 75), and imply that those references pertain to the EJ Analysis at issue here. AEWC Pet. 22. Both *Avenal* and *Shell II* are discussing the analysis supporting the 2010 Permits, not the EJ Analysis supporting issuance of these revised permits.

[35] *See* AR-EPA-DDD-12 (May 25, 2011 notice to North Slope communities of informational meetings held in Barrow and Kaktovik on June 15-17, 2011 and of upcoming public comment period); AR-EPA-GGG-2, 3, and 4 (inviting tribal consultation on air permits); EPA-AR-QQQ-3, QQQ000248, and EPA-AR-SSS-4, SSS000275-281, SSS000372 (describing the Region's outreach efforts).

flexibility in the public process. It does not extend all comment periods on the North Slope to 60 days. Furthermore, Petitioners' reliance on the Protocol is misplaced. The purpose of the Protocol is to provide staff with considerations and a framework for communicating with North Slope communities dispersed across a vast geographic area in a remote location. *Id.* at G000023-024.

Petitioners raise four additional arguments, none of which provide a legitimate basis for finding the public process inadequate, nor do they demonstrate a lack of opportunity for meaningful involvement. AEWC Pet. 31-33. First, Petitioners again raise their inability to hire a modeler during the public comment period. The inability to retain a contractor during the comment period does not mean there was no opportunity for meaningful involvement. *See supra* Section VI. Second, Petitioners argue that because the Protocol recognizes July as a month when subsistence activities occur, the Region should be sensitive to requests for additional time. The Protocol recognizes that subsistence activities occur each month of the year (AR-EPA-G-4,G000032), but Petitioners do not explain how the public process was inadequate due to the subsistence activities taking place. Third, Petitioners allege that the process was inadequate because the Region did not travel to most of the North Slope communities. The Region traveled to Barrow for the public meeting and hearing and provided for remote participation by teleconference. Petitioners do not explain how this process did not provide for meaningful involvement, or why it is necessary for the Region to travel to each potentially affected community.[36] Finally, Petitioners argue that public process was inadequate because the EJ Analysis was not posted on the website on the first day of the

[36] *See also* AR-EPA-SSS-4, SSS000280-281(discussing challenges in arranging for public meetings on the North Slope and decision to encourage participation by teleconference).

public comment period and the SSB did not include the full analysis. Although not required, the Region intended to post the full EJ Analysis on its website and acknowledges an oversight that inadvertently omitted the analysis from the website at the start of the comment period. When Petitioners requested the EJ Analysis on July 6, 2011 (the start of the comment period), the Region immediately emailed it to Petitioners and posted the document to its website as intended. AR-EPA-DDD-49. In sum, Petitioners try to spin an EJ violation from an inadvertent oversight in website posting and the preparation of a separate EJ Analysis. This is not enough to demonstrate clear error in the public process.

Petitioners provide no legitimate basis for finding that the public process provided for EJ communities was clearly erroneous or implicates an important matter of policy that warrants review by the Board.

B. Region 10 Adequately and Appropriately Considered Comments Regarding Ozone

Petitioners contend that Region 10 must analyze the potential impacts to local communities from ozone formation in light of EPA's January 9, 2010 proposal (75 Fed. Reg. 2938) to revise the 8-hour ozone NAAQS. AEWC Pet. 22. Their petition on this issue rests on a series of inaccuracies, mischaracterizations, and arguments not properly raised for review.

Most importantly, Region 10 did not, as Petitioners assert, apply the "old" 8-hour ozone NAAQS. Rather, the air quality analysis for PSD compliance and EO 12898 purposes appropriately focused on the current 8-hour ozone standard of 0.075 parts per million (ppm). What Petitioners refer to as the "old" standard is in fact the Agency's current legal standard regarding what ozone levels are adequate to protect public health

and the environment. Thus, Region 10's technical determination that Shell's emissions will not cause or contribute to a violation of the currently effective 8-hour ozone NAAQS is "emblematic of achieving a level of public health protection that…demonstrates that minority or low-income populations will not experience disproportionately high and adverse human health or environmental effects due to exposure to relevant criteria pollutants." *See Shell II, slip op.* at 73. The situation here does not involve the "unusual" circumstances in *Shell II* (slip op. at 71) in which the permits were issued after EPA issued a final rule establishing the 1-hour NO_2 NAAQS, thereby making a final determination that the existing standard did not adequately protect public health, but before the rule's effective date. *See Shell II, slip op.* at 71-81; *In re Avenal Power Center, LLC, PSD Appeal Nos. 11-02, 11-03, 11-04 & 11-05,* slip op. at 24 (August 18, 2011). Thus, Region 10 appropriately based its consideration of ozone impacts on local communities on the ozone NAAQS currently in effect, including the 8-hour ozone NAAQS of 0.075 ppm.

Petitioners wrongly claim that the proposal to revise the 8-hour ozone NAAQS was not published until after the Board's December 30, 2010 order in *Shell II*. To the contrary, it was published on January 19, 2010, before the public comment period closed on either of the 2010 Permits. 75 Fed. Reg. 2,938. And the impact of the proposed ozone standard was raised in public comment on the 2010 Permits, but in the context of cumulative impacts, not environmental justice. The 2010 comments on environmental justice did not contend that the Region's analysis was inadequate because it failed to consider ozone levels, but that it was wrong for the Region to rely on compliance with the NAAQS as evidence that there are no adverse or disproportionate human health

effects. AR-EPA-L2, L000193-194, L000204-205; AR-EPA-PP-5, PP000395-396, PP000405. Region 10 responded to those comments, and ozone was not raised as an issue in petitions on the 2010 Permits. The Board addressed the issue of whether the NAAQS are emblematic of the absence of adverse and disproportionate impacts, and the adequacy of the Region's ozone analysis was not within the scope of the remand orders. Region 10 made clear in issuing the 2011 Revised Permits that it was relying on the analysis for ozone conducted to support the 2010 Permits, both for purposes of ensuring compliance with PSD requirements and meeting the Agency's obligations under EO 12898. QQQ-3, QQQ000239; AR-EPA-FFF-8, FFF000564. Because no party petitioned the Board to review Region 10's ozone analysis for the 2010 Permits, which has not changed in the 2011 Revised Permits, Petitioners should not be permitted to circumvent the Board's remand orders by raising the adequacy of the Region's ozone analysis now as an environmental justice claim. *See Shell II, slip op.* at 82. Similarly, Petitioners should not now be allowed to question any aspect of Region 10's technical determination that permitted emissions will not cause or contribute to a violation of the 8-hour ozone NAAQS in effect at the time of permit issuance. Nor should they be allowed to contest Region 10's technical determination that a modeling analysis for ozone is not needed to reach that conclusion, even in the environmental justice context, for the reasons discussed in the SRTC. AR-EPA-QQQ-3, QQQ000239; AR-EPA-SSS-4, SSS000356-357.

Even assuming Petitioners' challenge is properly before the Board, they have not demonstrated that the Region's ozone analysis is inconsistent with EO 12898, as interpreted by the Board. When Petitioners raised this issue in comments on the 2011 Revised Permits, Region 10 explained that a revised 8-hour ozone standard had been

proposed but not finalized and that EPA recently announced that it will not take final action on the current proposal but instead intends to consider revisions to the ozone NAAQS in connection with the 5-year mandated review in 2013. AR-EPA-SSS-4, SSS000372-373; AR-EPA-BBB-121; AR-EPA-BBB-122. Region 10 further stated that it did not believe that ozone levels would be expected to exceed even the lowest level that EPA had proposed for consideration (0.060 parts per million (ppm)). AR-EPA-SSS-4, SSS000372-373; *see also* AR-EPA-SSS-4, SSS000356-360 (extensive discussion of ozone monitoring data and the possibility of ozone formation). Region 10 explained that regional ozone levels for the 8-hour ozone NAAQS were a maximum of 0.40 ppm[37] (2/3 of the lowest range proposed by EPA) and the contribution of ozone precursors under these permits is small in proportion to precursor emissions in the region from other sources. Region 10 also responded to all comments specifically raising concerns with cumulative impacts from other proposed OCS operations. AR-EPA-SSS-4, SSS000356-358, SSS000360-363. Region10 explained that PSD regulations only required consideration of existing sources, sources that had been permitted but not constructed, and sources that had submitted complete PSD permit applications. *Id*. Region 10 also explained why it did not believe emissions from other projects then proposed for approval would jeopardize compliance with the NAAQS.[38] *Id.* Petitioners' concerns with

[37] Petitioners' statement that Region 10 acknowledged that background levels of ozone are between 0.040 and 0.050 ppm (AEWC Pet. 24) is misleading. Region 10 made clear in the SRTC that, although individual 8-hour average values of 0.050 ppm have been recorded, the highest design value—the value in the form of the NAAQS—is 0.040 ppm. AR-EPA-SSS-4, SSS000373.

[38] Petitioners disingenuously claim that the Agency is considering four new permits for offshore operations in the Arctic. AEWC Pet. 24-25. Two of the permits are presumably those being appealed here, for a single drillship, and the Discoverer obviously cannot operate at two locations at the same time. Moreover, Petitioners are undoubtedly aware that Conoco-Phillips has withdrawn its application and will be submitting a new application that will need to be evaluated upon submission. Attachment D. Region 10 has issued a final permit for Shell to operate the Kulluk in the Beaufort Sea. That permit, however, prohibits operation of the Kulluk if the Discoverer is operating or will operate in the Beaufort Sea during

the lack of a regional ozone analysis were raised, responded to, and not the subject of a petition in connection with issuance of the 2010 Permits. AR-EPA-L-2, L000192-193. Petitioners should not be allowed to raise those same comments here in the environmental justice context.

In short, Petitioners' arguments regarding ozone are appropriate for the Board's consideration at this time. Moreover, Region 10 appropriately considered and responded to all "superficially plausible" claims of disproportionately high and adverse impacts from ozone precursors on low-income and minority populations. Petitioners' request for review on this issue should be denied.

C. Region 10 Adequately and Appropriately Considered Comments Regarding the 1-Hour NO_2 NAAQS

Petitioners challenge Region 10's reliance on the 1-hour NO_2 NAAQS in Region 10's EJ Analysis as insufficient and ignoring salient evidence in the record. The record and petition fail to demonstrate clear error.

The permits are supported by a robust analysis demonstrating that permitted emissions comply with the 1-hour NO_2 NAAQS. The record shows that the maximum modeled impact (500 meters from the center of the Discoverer) together with background concentrations is just 43% of 1-hour NO_2 NAAQS in the Beaufort Sea. The maximum modeled impact together with background concentrations is higher in the Chukchi Sea—93% of the NAAQS due to differences in meteorology—but impacts from Shell's operations generally decline rapidly as the distance from the point of maximum modeled impact increases and the leases in the Chukchi are not located in areas where subsistence

---

the same drilling season. Attachment D, Condition 4.8; AR-EPA-SSS-4, SSS000289, -363. The leases on which the Discover is permitted in the Chukchi Sea and the Kulluk is permitted in the Beaufort Sea are over 200 miles apart at the closest point.

activities are regularly conducted. The onshore impacts from Shell's operations are just 8% of the NAAQS. Total concentrations in onshore communities (Shell's impact plus background) are at most 53% of the NAAQS, almost all of which is due to background concentrations, and not emissions from Shell's operations. AR-EPA-QQQ-3, QQQ000233-235. The SRTC notes the many conservative assumptions underlying the 1-hour NO_2 NAAQS analysis including: using onshore air quality data, which is more likely to be impacted by local sources, to represent background air quality offshore; assuming the Discoverer will be located at the same drill site for three years, making the 3-year average of the 98^{th} percentile concentrations at each location higher than would be the case if the Discoverer changes locations more frequently (as is expected); modeling the Associated Fleet as always aligned with the prevailing wind directions, which results in combined plumes and thus higher impacts; averaging across fewer than three years of meteorological data; and the fact that the Associated Fleet will likely operate across a wider geographic area than modeled. AR-EPA-SSS-4, SSS000322, -329-330, -336, -341, -348.

As a backdrop to Petitioners' environmental justice claims with respect to the 1-hour NO_2 NAAQS, Petitioners ask the Board to consider what they claim are "significant questions" over whether permitted emissions will comply with the 1-hour NO_2 NAAQS. In support, Petitioners point to several technical issues they raised during the public comment period relating to background monitoring data, how pollution controls for NO_2 will function in the Arctic, NO_X/NO_2 ratios used in modeling, the use of diurnal pairing, the number of stack tests required, the need for additional tracer experiments to establish the accuracy of the model, and their request for continuous emission monitors. Region

10 responded to each of these comments. AR-EPA-SSS-4, SSS000296-300, -310-316, -328-350. Importantly, Petitioners do not challenge Region 10's responses to any of these comments directly by demonstrating legal or factual errors in Region 10's analysis. Instead, Petitioners point to these issues collectively as evidence of the inadequacies in Region 10's environmental justice analysis, in an apparent attempt to avoid the need to demonstrate legal or factual error or carry the especially heavy burden a petitioner bears in challenging a fundamentally technical decision. *In re Carlota Copper Co.*, 11 E.A.D. 692, 708 (EAB 2004). The Board should reject this thinly veiled attempt to avoid the demonstrations a petitioner must make to justify review by the Board.

As part of their argument, Petitioners assert that Region 10 failed "to analyze the impacts of Shell's emissions on subsistence hunters and fishers while offshore" and "never discusses whether subsistence hunters and fishers could be adversely impacted by this pollution [from Shell's operations]." AWEC Pet. 29 & n. 19. This is simply not true. The modeling demonstrated and Region 10 discussed that the NAAQS would be met in all areas that constitute ambient air (*i.e.*, more than 500 meters from the Discover), including in areas where subsistence activities are regularly conducted. AR-EPA-QQQ-3, QQQ000245; AR-EPA-FFF-8, FFF000546, -557, -559. -565. A map showing where subsistence activities are regularly conducted is included in both the SSB and the EJ Analysis.[39] Petitioners' statements relating to consideration of NO_2 emissions on subsistence hunters and fishers are unsupported and flatly contradicted by the record. Petitioners point to no information showing otherwise.

A final argument made by Petitioners is that Region 10 should have considered emissions from vessels related to Shell's operations before the Discoverer becomes an

[39] AR-EPA-QQQ-3, QQQ000247; AR-EPA-FFF-8, FFF000552.

OCS source or that occur more than 25 miles from the Discoverer when it is an OCS source. As discussed by Region 10 in responding to comments, EPA has specifically excluded mobile source emissions that occur as a result of the construction or operation of a stationary source from the definition of secondary emissions considered in the modeling analysis required by the PSD regulations. AR-EPA-SSS-4, SSS000362-363. Because these secondary emissions from vessels are not considered in these PSD permitting actions, Region 10 explained that it had limited information regarding these emissions or their impacts. *Id*. -369. Region 10 also explained that when vessels are moving the impact of emissions at any one location would be reduced, and when not moving the vessels would likely be anchored and thus not using the emission units with the highest impact. *Id*.[40] Elsewhere in the SRTC, Region 10 noted the vast areas over which operations would be occurring, and, as discussed above, the many conservative assumptions underlying the 1-hour NO_2 NAAQS analysis of the emissions from vessels required to be considered under the PSD program. AR-EPA-SSS-4, SSS000322, -329-330, -336, -341, -348.

Based on the information before it, Region 10 found that it had insufficient information to conclude with certainty whether or not emissions from these different vessels and activities that are not required to be considered in the PSD NAAQS analysis would, in conjunction with permitted emissions, cause or a contribute to a violation of the 1-hour NO_2 NAAQS. AR-EPA-SSS-4, SSS000368-369. Petitioners assert that Region 10 should have used information from the modeling conducted while the Discoverer is

[40] Of the seven vessels identified by Petitioners as associated with Shell's operations in the Beaufort Sea (AEWC Pet. at 27) but not part of the Associated Fleet, two are identified as barges, which generally have few emission sources, and three are identified as "Chukchi," indicating that they will be located in the Chukchi Sea, hundreds of miles from Shell's operations in the Beaufort Sea.

considered an OCS source to estimate emissions from vessels in the Associated Fleet before and after that time. Region 10 has no information, however, regarding where these vessels would be coming from and located vis-à-vis each other. Any definitive conclusions regarding the impact of these emissions on 1-hour NO_2 concentrations would be pure speculation. In sum, Region 10 considered the best available data that are germane in light of the scope and nature of the action before the agency in analyzing whether there may be disproportionate and adverse impacts on minority and low-income communities, and Petitioners do not demonstrate otherwise, especially given the heavy burden they bear on technical issues. *Shell II*, slip op. at 80, n. 87; *Avenal*, slip op. at 24. EO 12898 does not require EPA to reach a determinative outcome prior to issuing a permit, particularly when the available data is inconclusive. *Avenal*, slip op. at 24.

VIII. Concerns Relating to Oil Spill Response and Toxins in the Food Chain are Outside the Scope of these Permit Proceedings

Petitioner Lum contends that Region 10 failed to consider all of the health, cultural, and environmental impacts in issuing the 2011 Permits, including Shell's ability to respond to oil spills and the potential impact of emissions and contaminants that may be released into subsistence areas as a result of Shell's operations. These concerns were raised in issuance of the 2010 Permits and Region 10 responded to those comments. Region 10 explained that such considerations are outside the scope of the PSD program and that other programs are in place to consider and address these concerns. AR-EPA-L-2, L000210-216 (citing to *Shell I*, 13 EAD at 405-406 n. 6). Region 10 received similar comments on the 2011 Permits and responded to those comments on the same basis. AR-EPA-SSS-4, SSS000274-275, -376-382. These issues are not properly subject to review

at this time and are outside the scope of these permit proceedings. The Lum Petition should therefore be denied.

CONCLUSION

WHEREFORE, for the reasons set forth above, Region 10 requests that the Board deny the Petitions for Review.

Dated: November 16, 2011

Respectfully submitted,

/s/_____
Julie A. Vergeront
Alexander Fidis
Office of Regional Counsel
U.S. EPA, Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101
Telephone: (206) 553-1497
FAX: (206) 553-1762
Vergeront.Julie@epa.gov
Fidis.Alexander@epa.gov

David Coursen
Office of General Counsel
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW (2322A)
Washington, DC 20460
Telephone: (202) 564-0781
FAX: (202) 501-0644

STATEMENT OF COMPLIANCE WITH WORD LIMITATION

I hereby certify that this Response to Petitions for Review by EPA Region 10 contains 13,985 words, as calculated using Microsoft Word word processing software. This excludes parts of the brief exempted from the Environmental Apeals ‘s *Order Governing Petitions for Review of Clean Air Act New Source Review Permits* (April 19, 2011).

/s/_____
Julie A. Vergeront

ATTACHMENTS

(Documents Attached to
Region 10's Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-3 & 11-4)

Attachment	Document Description
A	Oil and Gas Leasing on the Outer Continental Shelf
B	Summary: Comment K.2.b
C	Letter from Mike Faust, ConocoPhillips, to Rick Albright, EPa Region 10, re: OCS Title V Air Quality Operating Permit Number : R10OCS020000, dated September 22, 2011
D	OCS Permit to Construct and Title V Air Quality Operating Permit, Shell Offshore Inc, Conical Drilling Unit Kulluk, R10OCS030000, issued on October 21, 2011

EXHIBITS

(Documents in the Administrative Record Cited in
Region 10's Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-3 & 11-4)

I. Supplemental Documents in the Administrative Record

Section BBB: Supplemental Guidance, Background Information, and Technical Analysis

EPA Exhibit Number	Date	Document Description
BBB-1	12/19/1980	Letter from Douglas Costle, EPA, to Jennings Randolph, Committee on Environment and Public Works, RE: Ambient Air Definition
BBB-2	6/13/1989	Memorandum from Terrel Hunt, EPA, to John Seitz, EPA, RE: Guidance on Limiting Potential to Emit in New Source Permitting, transmitting "Limited Potential to Emit in New Source Permitting," dated June 13, 1989
BBB-4	11/14/1995	Memorandum from John Seitz, EPA, to Director, Office of Ecosystem Protection, Region I, RE: Calculating Potential to Emit (PTE) and Other Guidance for Grain Handling Facilities
BBB-21	6/22/2007	Memorandum from Stephen Page, EPA, to Regional Air Division Directors, EPA, RE: Interpretation of "Ambient Air" in Situations Involving Leased Land Under the Regulations for Prevention of Significant Deterioration (PSD)
BBB-25	10/9/2007	Letter from Steven Riva, EPA, to Leon Sedefian, DEC, RE: Ambient Air for the Offshore LNG Broadwater Project
BBB-80	3/1/2011	Memorandum from Tyler Fox, EPA, to Regional Air Division Directors, EPA, RE: Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 National Ambient Air Quality Standard
BBB-94	5/1/2011	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
BBB-95	5/1/2011	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
BBB-108	6/24/2011	Technical Support Document - Review of Shell's Supplemental Ambient Air Quality Impact Analysis for the Discoverer OCS Permit Applications in the Beaufort and Chukchi Seas, Prepared by EPA

EPA Exhibit Number	Date	Document Description
BBB-121	9/2/2011	Statement by the President on the Ozone National Ambient Air Quality Standards, Prepared by The White House Office of the Press Secretary
BBB-122	9/2/2011	Letter from Cass Sunsetin, Office of Management and Budget, to Administrator Jackson, EPA, RE: Reconsideration of the 2008 Ozone Primary and Secondary National Ambient Air Quality Standards
BBB-148	2/25/2011	ConocoPhillips, Outer Continental Shelf Air Permit Application Amendment Volume I, Chukchi Sea, Devil's Paw Prospect
BBB-150	9/14/2011	2011 ADEC Modeling Review Procedures Manual, Prepared by ADEC
BBB-152	4/30/1987	Memorandum from G.T. Helms, EPA, to Steve Rothblatt, EPA, RE: Ambient Air
BBB-153	6/29/2010	Memorandum from Stephen D. Page, EPA, to Regional Air Division Directors, EPA, RE: NO2 Guidance

Section CCC: Supplemental Correspondence and Communication between EPA and Shell (including Shell contractors)

EPA Exhibit Number	Date	Document Description
CCC-282	4/17/2011	Email from Pauline Ruddy, Shell, to Doug Hardesty, EPA, RE: (No Subject) (Attachments: Action Items Table-8 Final, EPA Submittal-Modeling Meeting Notes 4-7-11-FINAL, and Shell-DiscovererUpdate 20110415)
CCC-438	9/16/2011	Email from Doug Hardesty, EPA, to Susan Childs, Shell, RE: Information Regarding Methane Emissions (Attachments: Methane calc_20101022, Shell Arctic well gas volumes KC, methane emissions DS R3)

Section DDD: Supplemental Other Correspondence

EPA Exhibit Number	Date	Document Description
DDD-12	5/25/2011	Letter from Doug Hardesty, EPA, to North Slope Borough, RE: Invitation to attend informational meetings on EPA air and water permits for oil and gas exploration
DDD-49	7/8/2011	Email from Suzanne Skadowski, EPA, to Tanya Sanerib, RE: Request for further Region 10 Documents Pertaining to Revised OCS Air Permits for Shell
DDD-58	7/21/2011	Letter from Richard Albright, EPA, to Harry Brower, AEWC, RE: Letter requesting that the U.S. Environmental Protection Agency not hold overlapping comment periods as planned for the Outer Continental Shelf exploratory drilling air projects
DDD-83	9/15/2011	Email from Dave Newsad, SLR, to Doug Hardesty, EPA, RE: Mud Degassing Emissions Factor Info (Attachment: API- Table 5-17)

Section FFF: Supplemental Environmental Justice

EPA Exhibit Number	Date	Document Description
FFF-8	Undated	Supplemental Environmental Justice Analysis for Proposed Outer Continental Shelf PSD, Prepared by EPA

Section GGG: Supplemental Government-to-Government Consultation

EPA Exhibit Number	Date	Document Description
GGG-2	6/7/2011	Letter from Richard Albright, EPA, to Tribal President, ICAS, RE: Shell Air Permit Applications for Oil and Gas Exploratory Drilling in the Beaufort Sea
GGG-3	6/7/2011	Letter from Richard Albright, EPA, to Tribal President, Kaktovic, RE: Shell Air Permit Applications for Oil and Gas Exploratory Drilling in the Beaufort Sea
GGG-4	6/7/2011	Letter from Richard Albright, EPA, to Tribal President, Nuiqsut, RE: Shell Air Permit Applications for Oil and Gas Exploratory Drilling in the Beaufort Sea

Section QQQ: 2011 Revised Draft Permits

EPA Exhibit Number	Date	Document Description
QQQ-3	7/1/2011	Supplemental Statement of Basis for Proposed Outer Continental Shelf Prevention of Significant Deterioration Permits Noble Discoverer Drillship, Prepared by EPA

Section RRR: Public Comments on 2011 Revised Draft Permits

EPA Exhibit Number	Date	Document Description
RRR-29	8/5/2011	Public Comment Email from Tiffany Nicolos, to USEPA Region 10, RE: Comments - North Slope Borough (Attachment: NSB AEWC ICAS comments re. Shell Air Permits (8.5.11))
RRR-30	8/5/2011	Public Comment Email from Sarah Saunders, to USEPA Region 10, RE: Comments on Shell's Revised Draft Air Permits, part 1 (Attachments: AWL, et al. Comment to EPA on Draft Shell Supplemental PSD Permits and AWL, et al Comments, Attachment part 1)

Section SSS: Final 2011 Revised Permits

EPA Exhibit Number	Date	Document Description
SSS-2	9/19/2011	Shell Discoverer - Beaufort, Outer Continental Shelf Prevention of Significant Deterioration Permit to Construct - Permit Number: R10OCS/PSD-AK-2010-01
SSS-3	9/19/2011	Shell Discoverer - Chukchi, Outer Continental Shelf Prevention of Significant Deterioration Permit to Construct - Permit Number: R10OCS/PSD-AK-09-01
SSS-4	9/19/2011	Supplemental Response to Comments for Outer Continental Shelf Prevention of Significant Deterioration Permits - Noble Discoverer Drillship, Shell

II. Documents in the Administrative Record as of June 4, 2010

Section B: Guidance, Background Information and Technical Analysis

EPA Exhibit Number	Date	Document Description
B-2	06/1977	U.S. EPA, Atmospheric Emissions From Offshore Oil and Gas Development and Production. EPA-450/3-77-026. Office of Air Quality Planning and Standards. RTP, North Carolina.

Section G: Government-to-Government Consultation

EPA Exhibit Number	Date	Document Description
G-4	05/2009	North Slope Communication Protocol: Communications Guidelines to Support Meaningful Involvement of the North Slope Communities in EPA Decision-Making, EPA Region 10, May 2009

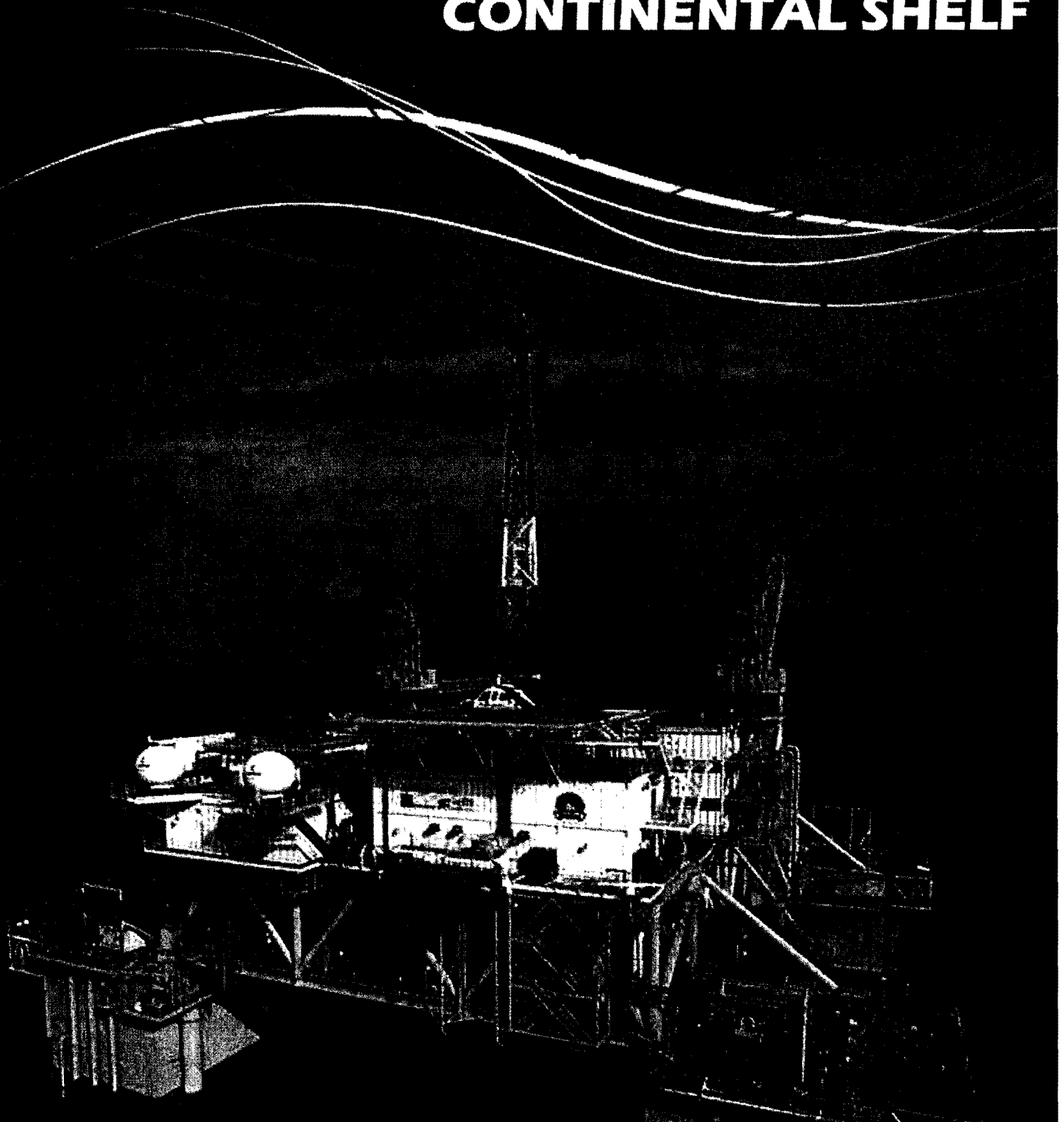
Section L: Final Chukchi Permit

EPA Exhibit Number	Date	Document Description
L-2	3/31/2010	Response to Comments on OCS/PSD Permit

Section PP: Final Beaufort Permit

EPA Exhibit Number	Date	Document Description
PP-5	4/09/2010	Shell Beaufort Sea OSC/PSD Permit Response to Comments

OIL AND GAS LEASING ON THE OUTER CONTINENTAL SHELF



Bureau of Ocean Energy Management,
Regulation and Enforcement

www.boemre.gov

OIL AND GAS LEASING ON THE OUTER CONTINENTAL SHELF

BACKGROUND

The Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) is a bureau in the United States Department of the Interior that manages the Outer Continental Shelf (OCS) and is one of the largest revenue generators for the Federal government. The BOEMRE has a twofold mission of 1) managing all Federal and Indian mineral revenues and 2) managing all Federal offshore renewable and traditional energy and mineral resources. The BOEMRE also manages approximately 1.7 billion acres containing over 8,000 active leases in this federally owned offshore area, while protecting the human, marine, and coastal environments through advanced science and technology research. The approximately 43 million leased OCS acres account for about 15 percent of America's domestic natural gas production and about 27 percent of America's domestic oil production.

The OCS Lands Act authorizes the Secretary of the Interior to grant mineral leases and to prescribe regulations governing oil and natural gas activities on OCS lands. Federal ownership begins three nautical miles off most coastal states. Exceptions are off Texas and the Gulf coast of Florida where the OCS starts at about nine nautical miles. Federal jurisdiction generally ends around 200 nautical miles from the coastline.

Revenues from OCS leases consist of bonuses, royalties, and rentals. These revenues are shared with the coastal states, as directed by statute, and the remaining funds deposited in the U.S. Treasury accounts.

The OCS revenues provide annual deposits of nearly $900 million to the Land and Water Conservation Fund and $150 million to the Historic Preservation Fund. By statute, coastal states share a portion of the revenues from OCS leasing and production under three programs: 1) States with offshore federal leases located within the first 3 miles from the state's seaward boundary receive 27 percent of the revenue generated from those leases; 2) Alabama, Louisiana, Mississippi and Texas share 37.5 percent of the revenues from leases in designated areas in the Gulf of Mexico; and 3) for each Fiscal Year 2007-2010, $250 million is shared with the six coastal states with federal oil and gas leasing off their coasts: Alaska, Alabama, California, Louisiana, Mississippi, and Texas. The remainder is sent to the U.S. Treasury's General Fund.

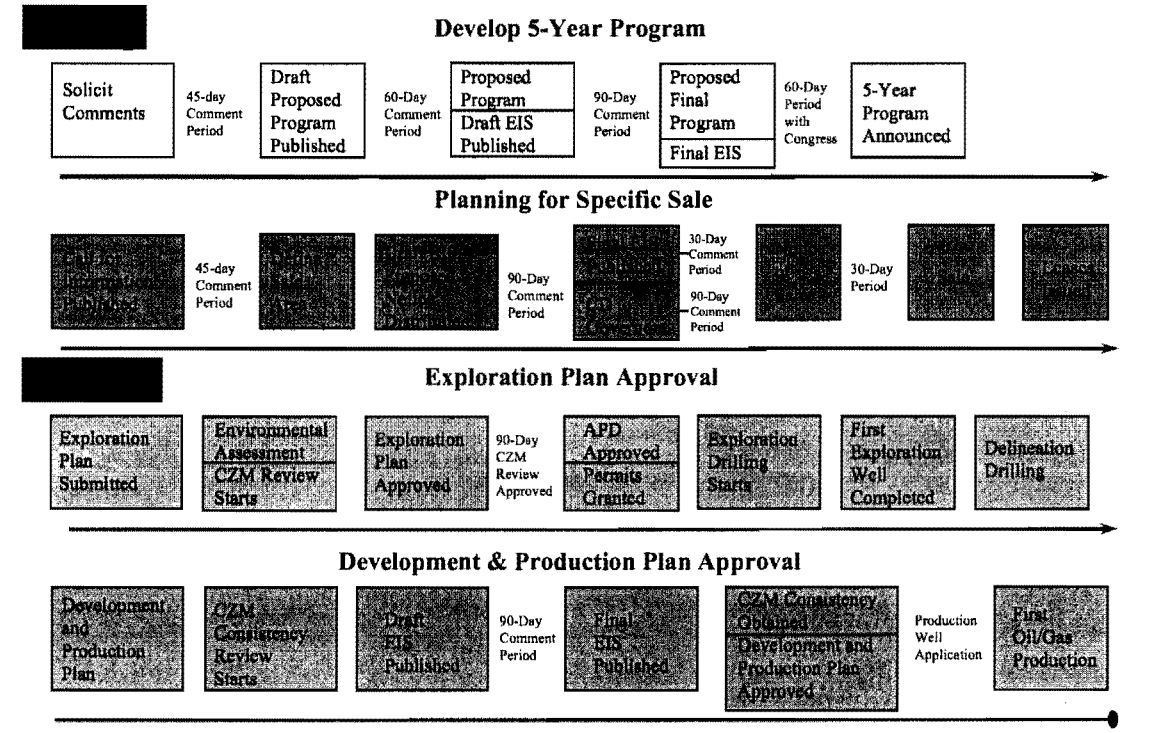
THE OIL AND GAS LEASING PROCESS

The BOEMRE has cradle-to-grave oversight responsibility on oil and gas leasing activities within the OCS. Section 18 of the OCS Lands Act requires the Secretary of the Interior to prepare a 5-year oil and gas leasing program (5-Year Program) that consists of a 5-year schedule of proposed lease sales that shows the size, timing, and location of leasing activity as precisely as possible. The OCS Lands Act mandates that the 5-Year Program must balance the priorities of national energy needs, environmentally sound and safe operations, and fair market return to the taxpayer.

For any specific lease sale to be held, it must be included in an approved 5-Year Program. The Secretary cannot add a lease sale to an existing 5-Year Program. Whether BOEMRE holds a lease sale depends on a sale-specific analysis.

The process to develop a 5-Year Program includes: three separate comment periods, two separate draft proposals, a final proposal, and development of an environmental impact statement (EIS). This statutorily mandated process usually takes about two and a half years. After the Secretary of the Interior approves the Proposed Final Program, the BOEMRE sends it to Congress. If Congress does not pass legislation to modify the proposal within 60 days, the 5-Year Program becomes final.

OCS Oil and Gas Leasing, Exploration, & Development Process



Abbreviations: APD, Application for Permit to Drill; Consistency Determination; CZM, Coastal Zone Management; EIS Environmental Impact Statement

Figure 1. OCS Oil and Gas Leasing Process

THE OIL AND GAS SALE PROCESS

After the adoption of a 5-Year Program, the usual first step in the sale process for an individual area is to publish in the Federal Register a Call for Information and Nominations and a Notice of Intent to Prepare an EIS. The entire process from the Call to the sale may take two or more years (see Figure 1). Some proposed sale areas, such as those in frontier areas, may include an additional first step—a request to industry to indicate their interest in the specific area before BOEMRE proceeds with the sale process. The lease sale process is described below.

- Call for Information/Notice of Intent to Publish an Environmental Impact Statement (EIS) Published – This is the initial request for industry to identify which blocks within an OCS planning area they have interest in potentially leasing. Additionally, the public may comment on areas that should or should not be considered for leasing, as well as issues pertinent to the EIS. The EIS includes: a description of the lease sale proposal, including the oil and natural gas resources estimated to be found and a projection of the exploration and

development activity that might occur; reasonable alternatives to the leasing proposal; a description of the existing environment; a detailed analysis of possible effects on the environment, including socioeconomic and cumulative effects; a description of the assumptions upon which the analysis is based; potential mitigating measures; any unavoidable adverse environmental effects; the relationship between short-term uses and long-term productivity; any irreversible or irretrievable commitment of resources; and the records of consultation and coordination with others in preparation of the document.*

- Scoping Meetings – These are public meetings conducted in the vicinity of the area proposed for leasing consideration in order to receive public comments regarding issues related to developing an EIS.
- Define Proposed Sale Area – After the 45-day comment period, the BOEMRE analyzes comments and considers resource potential and environmental effects and recommends the area to be analyzed in an EIS (called Area Identification).
- Draft EIS Published – The area identified undergoes a full National Environmental Policy Act analysis and a draft EIS is published with a 60-day public comment period.
- Public Hearings – BOEMRE holds public meetings inviting constituents to submit written or oral comments on the draft EIS; these meetings are held in localities near the proposed lease sale area.
- Final EIS Published – After considering comments on the draft EIS, the BOEMRE publishes a Final EIS with a 30-day comment period.
- Proposed Notice of Sale (NOS) Published – This is the first public document stating the proposed time and location of the proposed lease sale with the terms and conditions, as well as any mitigating measures. The BOEMRE sends the Proposed Notice to the Governor of the affected state(s) and the Governor has 60 days to comment on the proposed sale.
- Consistency Determination to Governors – The BOEMRE prepares a consistency determination in accordance with the Coastal Zone Management Act to determine if the proposed lease sale is consistent with the affected state(s)' coastal zone policies. The state has 60 days to agree or disagree with the federal consistency determination.
- Final Notice of Sale (NOS) Published – This Final NOS states the final terms and conditions of the lease sale and must be published in the Federal Register at least 30 days prior to the sale date.
- Sale – No less than 30 days after the Final NOS is published in the Federal Register, sealed bids submitted by qualified bidders are publicly opened and read. Lease sales are open to the public and are conducted by the appropriate Regional Director, usually in the city in which the OCS regional office is located. Qualified bidders may submit bids on each available tract listed in the Final NOS.
- Leases Issued – The high bidder on each block is awarded a lease after BOEMRE determines the bid met fair market value criteria. The Federal government reserves the right to reject any or all bids and the right to withdraw any block from the sale.

ACQUIRING AN OIL AND GAS LEASE

The BOEMRE places some restrictions on who may acquire a lease. In order to become a lease holder, a bidder must be a legal entity under United States law. This includes being an American citizen, national,

* The BOEMRE may do a multi-sale EIS covering all sales in a Region for a specific 5-Year program. After the first such sale in each planning area, subsequent sales are covered by an environmental assessment or supplemental EIS.

resident alien, corporation, or partnership. Prior leaseholders are barred from acquiring new leases if they failed to exercise due diligence or had an unacceptable operating performance. Additionally, a restricted bidder list prohibits major oil companies from jointly bidding on a lease, under certain conditions.

The lease sale is a transparent process. The BOEMRE opens the sealed bids at the place, date, and hour specified in the notice of sale, as published in the Federal Register, for the purpose of publicly announcing and recording the bids. Bids are not accepted or rejected at that time. The BOEMRE accepts or rejects all bids within 90 days, although the time may be extended if necessary. The Department reserves the right to reject any and all bids, regardless of the amount offered, if the bid does not meet BOEMRE's fair market value criteria. If a bid is rejected, any money deposited with the bid will be refunded plus any interest accrued.

A lease conveys the right to explore for, develop, and produce the oil and gas contained within the lease area. Leases are offered as blocks that are generally nine square miles (3 miles on a side). No lease may be sold, exchanged, assigned, or otherwise transferred except with the approval of the BOEMRE. Before BOEMRE issues a lease or approves an assignment of an existing lease, the high bidder must provide either a lease-specific or area-wide general bond.

The BOEMRE may determine that the prospective lessee needs to provide a supplemental bond as security in addition to the requirements for general bonds. The BOEMRE may call for forfeiture of all or part of the bond or pledged security if the high bidder refuses or fails, within the time frame, to comply with any term or condition of the lease.

Fair Market Value

In administering the oil and gas leasing program, the BOEMRE is required by law to see that the government receives a fair return for the lease rights granted and the minerals conveyed. To assure that the government receives a fair return for these offshore lease rights, the BOEMRE uses a two-phased system of bid evaluation to assess the adequacy of bids based on multifaceted criteria.

Immediately after the bids are read publicly, the BOEMRE begins the process of determining whether a bid can be accepted and a lease issued. Each high bid is first examined for technical and legal adequacy. Before any bid is accepted, the bidding results of the sale also are reviewed by the Attorney General and the Federal Trade Commission to determine if awarding a lease would create a situation inconsistent with antitrust laws.

Each valid high bid resulting from these determinations is then analyzed from a fair market value perspective. It is important to note that the fair market value at the time of lease award is not based on the value of the oil and gas that may be eventually discovered or produced; instead, it is related to the value of the right to explore and, if there is a discovery, to develop and produce hydrocarbons. This value is therefore based on the expected, not actual, activities and results that are anticipated to occur after the sale. The value is based on BOEMRE's analysis and interpretation of geologic and geophysical information and BOEMRE's estimate of the likelihood of oil and/or natural gas being discovered on the area of the lease.

Lease Terms and Conditions

The oil and gas lease grants the exclusive right to explore, develop, and produce oil and/or natural gas for a specific period (minimum of 5 and maximum of 10 years) and from a specific tract of OCS land. All exploration, development, and production activities are carefully reviewed by BOEMRE to ensure that they

are done in an environmentally sound and safe manner. If a discovery is made within the initial term of the lease, the lease is extended for as long as oil and/or natural gas is produced in paying quantities or approved drilling operations are conducted. The term of the lease may also be extended if a suspension of production or suspension of operations has been granted or directed by BOEMRE. Examples of when a suspension of operations may be granted include weather delays, such as hurricanes, or other circumstances beyond the lessee's control. Examples of a suspension of production may include unforeseen delays in contracting with a drilling rig once a schedule and commitment to production has been demonstrated.

The lease is a contractual agreement and thus further spells out financial requirements for surety bonds, royalty payments, rental payments, and assignment or other transfers of the lease or any partial interest. No lease may be sold, exchanged, assigned, or otherwise transferred except with the approval of BOEMRE.

Special stipulations are often included in OCS oil and natural gas leases in response to concerns raised by coastal States, Federal agencies, and other stakeholders. Examples of stipulations include: required biological surveys of sensitive seafloor habitats, environmental training for operations personnel, special waste-discharge procedures, archaeological resource reports to determine the potential for historic or prehistoric resources, special operating procedures near military bases or their zones of activity, and other restrictions on OCS oil and natural gas operations. Lease stipulations are legally binding, contractual provisions designed as mitigating measures to address specific concerns pertinent to the lease.

In addition, the lease requires that the lessee comply with additional rules and regulations that may be issued after the lease is awarded to provide for the prevention of waste and the conservation of the natural resources of the OCS. The Notice to Lessees and Operators (NTL) is used by BOEMRE to notify operators quickly within a particular OCS region or nationwide concerning changes in administrative practices or procedures for complying with rules, regulations, and lease stipulations and/ or to clarify requirements or to convey information. For example, the BOEMRE may require certain safety equipment that previously had not been required, as prescribed in regulation.

When the lease is acquired, the lessee pays a bonus bid. This acquisition cost reflects the opportunity cost of exploring and producing those oil and/or natural gas resources. During the initial term of a lease and before the lease goes into production, the lessee pays annual rentals. Rentals reflect the holding cost of the lease. In recent sales, the BOEMRE has imposed rentals that escalate over time to encourage faster exploration and development.

The Federal government receives a royalty payment when production starts. The royalty rate is a percentage of the value or the amount of production. Under certain conditions, the royalty payment might be temporarily waived. This "royalty relief" occurs as an economic incentive to spur additional production, such as in a frontier area or deeper depth. Price "thresholds" or "triggers" suspend royalty payments if market prices are low but do not suspend royalty payments if market prices are high. Price thresholds provide an incentive when production might not otherwise occur but eliminate royalty relief when oil and natural gas market prices are high and the incentive is no longer needed.

EXPLORATION, DEVELOPMENT, AND PRODUCTION

Leasing and operations activities on the OCS are subject to the requirements of some 30 Federal laws administered by numerous federal departments and agencies. Principal laws that may apply to OCS exploration, development, and production are the:

- Outer Continental Shelf Lands Act (OCSLA);
- National Environmental Policy Act (NEPA);
- Endangered Species Act;
- Coastal Zone Management Act (CZMA);
- Federal Water Pollution Control Act;
- Ports and Water Safety Act;
- Marine Mammal Protection Act;
- Clean Air Act; and
- National Historic Preservation Act.

For oil and gas lease activities, the regulations at 30 CFR Part 250 cover all day-to-day operations. The regulations are a mixture of performance-based and prescriptive requirements to ensure safety, protect the environment, and conserve natural resources. Whenever the owner of a producing or non-producing lease fails to comply with the provisions of the lease or governing laws or regulations, the lease(s) may be forfeited and canceled.

An Exploration Plan (EP) and its supporting information must be submitted for approval to the BOEMRE before an operator (the company assigned by the lessee) may begin exploratory drilling on a lease. The EP sets out how the operator will explore the lease and describes all exploration activities planned by the operator, the timing of these activities, information concerning drilling, the location of each well, and other relevant information.

The BOEMRE has found that the strict enforcement of the lease term is the best means of ensuring expeditious development. To further encourage timely exploration and development, the BOEMRE is employing graduated rental rates that increase with time during the primary term. It is important that actions intended to accelerate production do not increase safety and environmental risks, precipitate the drilling of unnecessary wells, or reduce the ultimate recovery of oil and gas resources.

In accordance with the CZMA, each EP must contain a certification of consistency with approved CZM programs of States that could be affected by the exploration activities. All adjacent coastal States with approved programs are requested to review the EP and may take up to 6 months for consistency reviews but must agree with or request an extension within 3 months after receipt of the EP.

A lessee must file an Application for Permit to Drill (APD) before drilling can begin on a lease. BOEMRE often attaches lease-specific conditions of approval to these permits to address matters such as administrative, technical, and environmental issues. In all cases, these are specific requirements depending on the conditions in the area.

If the operator completes its exploration and discovers oil and/or natural gas, it must come to BOEMRE with a plan on how it is going to develop the prospect. This Development Plan will include how many wells and where these wells will be located, what type of structure will be used, and how it will get the oil and natural gas to shore.

The BOEMRE conducts in-depth reviews along the way, as these plans are approved. The operator cannot conduct any of these operations until it receives its approval. Additionally, because of the many different issues addressed in these Plans, the BOEMRE must communicate with other Federal and state agencies. The BOEMRE reviews and approves pipeline and platform applications consistent with environmental and technical requirements (see Figure 2 for examples of various structures reviewed).

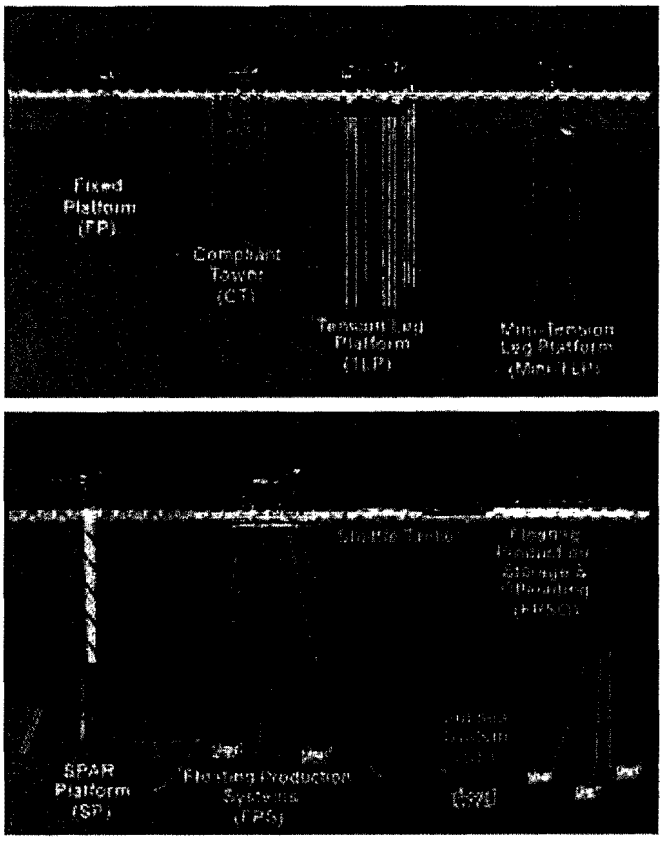


Figure 2. Oil and Gas Platform Structures

ENVIRONMENTAL AND SAFETY ISSUES

The oil and gas lessees are required to submit Oil Spill Response Plans to the BOEMRE for approval by the time they submit Exploration Plans or Development Plans.

The Response Plan outlines the availability of spill containment and cleanup equipment and trained personnel. It must ensure that full response capability can be deployed during an oil-spill emergency. The plan includes specifications for appropriate equipment and materials, their availability, and the time needed for deployment. The plan must also include provisions for varying degrees of response effort, depending on the severity of a spill. The Oil Pollution Act of 1990 requires that spill response plans identify and ensure the availability of private personnel and equipment necessary to respond to a worst case discharge, depending on the severity of the spill.

Throughout the drilling and production phases, the BOEMRE inspects the operations to ensure compliance with regulations, lease terms and statutes. This further ensures operational safety and pollution prevention. It also requires that drilling personnel be trained in well control.

Prevention is the BOEMRE's most important safety strategy. This is accomplished through the regulatory process and the inspection program. The regulatory program includes approval of plans, facilities, and operations. These approvals include reviews where there is much emphasis on design, operations, and

maintenance. Part of BOEMRE's success is BOEMRE presence at offshore facilities. While BOEMRE monitors compliance with the regulations throughout the permitting process and operations, nothing compares to having BOEMRE personnel in the field to ensure operators are complying with the regulations. On average in recent years on the Federal OCS, the BOEMRE has conducted between 20,000 and 25,000 inspections annually.

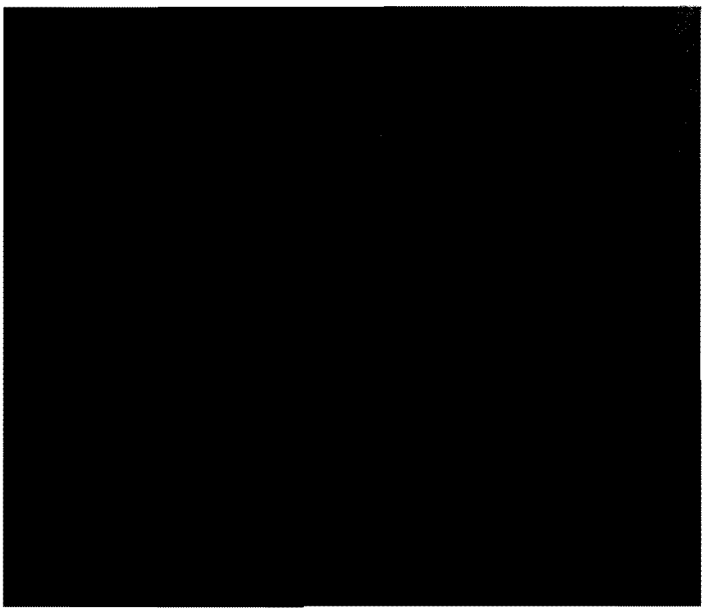
POST-PRODUCTION REQUIREMENTS

When an oil and gas producing field can no longer be economically produced, the lease is decommissioned. Decommissioning is when the lessee ends oil and natural gas operations and returns the lease to a condition that meets the requirements of regulations of BOEMRE and other federal agencies that have jurisdiction over decommissioning activities.

When the lessee's facilities are no longer useful for operations, the lessee must:

- Get approval from the appropriate BOEMRE District Manager before decommissioning wells and from the BOEMRE Regional Supervisor before decommissioning platforms and pipelines or other facilities;
- Permanently plug all wells;
- Remove all platforms and other facilities;
- Decommission all pipelines;
- Clear the seafloor of all obstructions created by the lease and pipeline right-of-way operations; and
- Conduct all decommissioning activities in a manner that is safe, does not unreasonably interfere with other uses of the OCS, and does not cause undue or serious harm or damage to the human, marine, or coastal environment.

One example of how a structure may be used after the lease has been decommissioned is the Rigs-to-Reef program. Rigs-to-Reefs is a term used for converting nonproductive offshore oil and gas structures to designated artificial reefs. This effort has led to reef construction opportunities presented by the decommissioning process for offshore platforms. In the mid-1980's the National Marine Fisheries Service developed and published a National Artificial Reef Plan. This set the stage for Federal endorsement of offshore artificial reef projects. Petroleum platforms function as entirely new places to live; niches for countless animals. In addition to harboring numerous species of juvenile fish and adult life stages, these platforms serve as hunting grounds for swift open-ocean pelagic fishes.



The BOEMRE takes seriously its responsibilities to develop the nation's OCS oil and natural gas resources in an environmentally sound manner and to obtain fair market value for the American people. The agency is committed to being responsive to the public's concerns and interests by maintaining a dialogue with all affected parties.

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Bureau of Ocean Energy Management, Regulation and Enforcement Mission

As a bureau of the Department of the Interior, the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) primary responsibilities are to manage the energy and mineral resources located on the Nation's Outer Continental Shelf, collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Energy and Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil, other mineral resources, and renewable energy. The BOEMRE **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, State and the U.S. Treasury.

The BOEMRE strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending BOEMRE assistance and expertise to economic development and environmental protection.

U.S. Department of the Interior
Bureau of Ocean Energy Management, Regulation and Enforcement
1849 C. Street, NW
Washington, DC 20240

www.BOEMRE.gov

Comment K.2.b: [1] Commenters contend that the owner-requested limit on Shell's potential to emit GHGs is unenforceable as a practical matter because they argue that Shell does not have equipment that will limit its methane emissions and those emissions are unmonitored. The commenters contend that Region 10's assumption that the drilling mud system will vent no more than 0.798 tons per month of methane (17 tons per month of CO_2e) is based on assurances from Shell regarding its "past drilling experience . . . ." and that the lack of monitoring or reporting renders the greenhouse gas owner-requested limit unenforceable as a practical matter. The commenters cite to Memorandum from Terrell E. Hunt, Associates EPA, and John S. Seitz, EPA, re: Guidance on Limiting Potential to Emit in New Source Permitting, dated June 13, 1989) at 5-6 (stating that some system of verification of compliance is necessary to track compliance with production or operational limits) and 18 AAC 50.225(b)(5) (a request for an owner-requested limit shall include "a description of a verifiable method to attain and maintain the limit, including monitoring and recordkeeping requirements").

[1] This is a summary of the comments to which the response on pages 28-29 of the Supplemental Response to Comments (AR-EPA-SSS-4, SSS000293-294) is responding. The summary was apparently deleted by mistake in the final preparation of the Supplemental Response to Comments. It is provided solely to provide context for Region 10's response on pages 28-29 of the Supplemental Response to Comments.

ATTACHMENT C

Mike Faust
Manager
Chukchi Project Integration

P. O. Box 100360
Anchorage, AK 99510-0360
phone 907.265.1470
cell 907.301.9384

ConocoPhillips

September 22, 2011

Richard Albright
Director, Office of Air, Waste and Toxics
EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101

Subject: OCS Title V Air Quality Operating Permit Number: R10OCS020000

Dear Mr. Albright:

On February 12, 2010, ConocoPhillips Company (ConocoPhillips) tendered an application to EPA Region 10 for an Outer Continental Shelf (OCS) Air Permit to conduct exploratory drilling in the Chukchi Sea in Alaska's Outer OCS. Region 10 issued the above-referenced proposed OCS Title V permit on July 22, 2011, with an initial comment period ending on September 6, 2011 and that was subsequently extended to September 21, 2011. Following review of the proposed permit, ConocoPhillips has decided to withdraw its application and to submit a new OCS permit application in the near future. We would like to schedule a conference call with your office next week to agree to a schedule and milestones that we will target as we move forward.

We appreciate your consideration and look forward to continuing to work with you on this project.

Sincerely,

Mike Faust
Chukchi Project Integration Manager

c: Dennis J. McLerran, EPA Region 10 Administrator
Trond-Erik Johansen, President, ConocoPhillips Alaska, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

ATTACHMENT D

OUTER CONTINENTAL SHELF
PERMIT TO CONSTRUCT AND TITLE V AIR QUALITY OPERATING PERMIT

Permit Number:	R10OCS030000	Issuance Date:	October 21, 2011
AFS Plant I.D. Number:	02-010-OCS02	Effective Date:	November 28, 2011
		Expiration Date:	November 28, 2016

In accordance with the provisions of Section 328 and Title V of the Clean Air Act and 40 CFR Parts 55 and 71, and the applicable rules and regulations,

Shell Offshore Inc.
3601 C Street, Suite 1000
Anchorage, AK 99503

is authorized to construct and operate the Conical Drilling Unit Kulluk (Kulluk) and associated air emission units and to conduct other air pollutant emitting activities in accordance with the conditions listed in this permit, and only at the following lease blocks from the Beaufort Sea lease sales 186, 195 and 202:

OPD NR05-04 (Harrison Bay)
- Lease Sale 186: 6369, 6370, 6419, 6420, 6421BC
- Lease Sale 195: 6173, 6222, 6223, 6272, 6273, 6320,6321, 6322, 6323, 6371, 6372, 6373, 6374BC, 6424C, 6418, 6422B, 6423B, 6468, 6469B, 6518B, 6519A
- Lease Sale 202: 6221, 6274, 6319, 6324, 6367, 6368, 6470, 6471

OPD NR06-03 (Beechey Point)
- Lease Sale 186: 6352, 6402A, 6403B
- Lease Sale 195: 6152, 6202, 6203, 6204, 6251A, 6301B, 6252, 6253, 6254, 6255, 6256, 6302, 6303, 6304, 6305, 6306, 6307, 6308, 6309, 6351AB, 6401C, 6353, 6354, 6355, 6356, 6358, 6359, 6360, 6404A, 6405B, 6406B, 6409B, 6410, 6411, 6412
- Lease Sale 202: 6009, 6010, 6011, 6012, 6058, 6059, 6060, 6061, 6062, 6063, 6064, 6065, 6066, 6067, 6068, 6114, 6115, 6116, 6117, 6118, 6324

OPD NR06-04 (Flaxman Island)
- Lease Sale 195: 6657, 6658, 6659, 6707, 6708, 6709, 6712, 6713, 6757, 6758, 6764, 6773, 6774, 6814, 6815, 6822, 6823, 6824, 6873, 6874
- Lease Sale 202: 6251, 6252, 6259, 6301, 6302, 6303, 6304, 6305, 6308, 6309, 6310, 6351, 6352, 6353, 6354, 6355, 6356, 6357, 6358, 6359, 6401, 6402, 6403, 6404, 6405, 6406, 6407, 6408, 6409, 6410, 6453, 6454, 6455, 6456, 6457, 6458, 6459, 6460, 6461, 6504, 6505, 6506, 6508, 6510, 6511, 6512, 6554, 6555, 6558, 6559, 6560, 6561, 6562, 6609, 6610, 6611, 6612, 6660, 6662

OPD NR07-03 (Barter Island)
- Lease Sale 195: 6751, 6752, 6801, 6802, 6851

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced statutes and regulations. All terms and conditions of the permit are enforceable by the United States Environmental Protection Agency (EPA) and citizens under the Clean Air Act (CAA).

/s/
Richard Albright
Director, Office of Air, Waste and Toxics

10-21-2011
Date

TABLE OF CONTENTS

4.2.1. Daily CO emissions (tons) from each emission unit or group of emission units shall be determined by multiplying the appropriate emission factor (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E.2) by the recorded daily operation rate (units/day) and dividing by 2000 lb/ton.

4.2.1.1. For Kulluk electricity generation engines (Units K-1A – 1D), Kulluk MLC HPU engines (Units K-2A – 2Z), Kulluk MLC air compressor engines (Units K-3A – 3Z), Kulluk deck crane engines (Units K-4A – 4C), Icebreaker No. 1 propulsion engines and generator engines (IB1-1A – 1Z), and Icebreaker No. 2 propulsion and generator engines (IB2-1A – 1Z), the permittee shall use the appropriate uncontrolled emission factor from Tables D.2.1 and D.2.2 for all periods when any of the deviations described in Condition F.4.7 exist.

4.2.2. For the Kulluk incinerator (Unit K-8), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12 in place of the recorded daily operation rate when calculating emissions pursuant to Condition D.4.2.1.

4.2.3. For the icebreaker and OSRV incinerators (Units IB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 24 in place of the recorded daily operation rate when calculating emission pursuant to Condition D.4.2.1.

4.3. Sulfur dioxide (SO_2) emissions from the Kulluk and Associated Fleet shall not exceed 10 tpy as determined on a rolling 12-month basis by confirming compliance with Conditions D.4.5 and D.4.6 as specified in this permit.

4.4. Greenhouse gas (GHG) emissions as defined in 40 CFR § 52.21(b)(49) from the Kulluk and Associated Fleet shall not exceed 80,000 tons carbon dioxide equivalent (CO_2e) as determined on a rolling 12-month basis by calculating the emissions (tons) for each month and adding the emissions (tons) calculated for the previous 11 months.

4.4.1. For each emission unit or group of emission units, monthly carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) emissions (tons) shall be determined by multiplying the appropriate emission factors (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E. 2) by the recorded monthly operation rate (units/month) and dividing by 2000 lb/ton.

4.4.2. To account for mud off-gassing from the drilling mud system (Unit K-10), monthly CH_4 emissions from the drilling mud shall be assumed to be the emission rate specified in Table D.2.1.

4.4.3. For the Kulluk incinerator (Unit K-8), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12 in place of the recorded daily operation rate when calculating emissions pursuant to Condition D.4.4.1.

4.4.4. For the icebreaker and OSRV incinerators (Units IB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 24 in place of the recorded daily operation rate when calculating emission pursuant to Condition D.4.4.1.

4.4.5. Monthly CO_2e emissions (tons) shall be determined by multiplying the calculated monthly emissions for CO_2, CH_4, and N_2O from all emission units or group of emission units and activities by the applicable global warming potential factors from 40 CFR Part 98, Subpart A, Table A-1, and summing the products.

4.5. The permittee shall not combust any liquid fuel with sulfur content greater than 0.01 percent by weight, as determined by Condition F.2.3, in any emission unit on the Kulluk or the Associated Fleet.

4.6. The total amount of fuel combusted in engines and boilers on the Kulluk and Associated Fleet shall not exceed 7,004,428 gallons during any rolling 12-month period.

4.7. The total capacity of incinerators on the Kulluk and Associated Fleet, considering enforceable conditions on hours of operation, to incinerate waste shall not exceed 13,704 pounds per day.

4.8. The permittee shall not operate the Kulluk in the Beaufort Sea within the same drilling season as the Noble Discoverer drillship.

4.9. All fuel purchased for use in the Kulluk and Associated Fleet shall have amaximum sulfur content of 0.0015 percent by weight for all emission units on the Kulluk and Associated Fleet.

4.9.1. Compliance with Condition D.4.9 shall be determined for each diesel fuel purchase based upon recordkeeping required by Condition D.4.9.2.

4.9.2. Keep diesel fuel purchase records for each batch of fuel that documents sulfur content.

[40 CFR §§ 52.21, 71.6(a)(1) and 71.6(b), 18 AAC 50.326(a), 18 AAC 50.225, 18 AAC 50.508]

5. Operational Restrictions to Protect the NAAQS. The permittee shall comply with the following:

5.1. The permit does not authorize operation unless:

5.1.1. The Kulluk is subject to a currently effective safety zone established by the United Sates Coast Guard (USCG) which encompasses an area within

CERTIFICATE OF SERVICE AND CERTIFICATE FOR PETITION FOR REVIEW IN PAPER FORMAT

I hereby certify I caused a copy of the above Region 10's Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-03 & 11-04, with accompanying Attachments, to be filed with the Clerk of the Environmental Appeals Board electronically through CDX, and an identical copy of the Response and Attachments to be delivered to the Board at the hand delivery address below.

I further certify that an electronic copy of the Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-03 & 11-04, with accompanying Attachments, was sent to each of the persons identified below via email.

I further certify that copies of all of the documents in the Administrative Record, which include the Exhibits cited in Region 10's Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-03 & 11-04, were previously caused to be delivered to the Board (four sets of two DVDs) and mailed to the persons identified below on November 7 or 8, 2011 (one set of two DVDs to each address).

I further certify that I have caused to be delivered to the Board at the hand delivery address Below four copies[1] of the Exhibits in the Administrative Record that are cited in Region 10's Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-03 & 11-04.

Pursuant to the Environmental Appeals Board Order Authorizing Electronic Filing in Proceedings before the Environmental Appeals Board not Governed by 40 C.F.R. Part 22, dated January 28, 2010, I further certify that the paper copies of Region 10's Response to Petitions for Review, OCS Appeal Nos. 11-2, 11-03& 11-04, with accompanying Attachments, are identical copies of the documents electronically filed with the Board on November 16, 2011, and that the paper copies of the Exhibits are identical copies of the exhibits included on the DVDs previously delivered to the Board and the persons listed below except that, in the case of certain lengthy Exhibits, only excerpts of the Exhibits are provided in hard copy in order to conserve paper.

U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board
Colorado Building
1341 G Street, N.W., Sixth Floor
Washington, D.C. 20005

[1] Region 10 has provided four copies of the Exhibits because the Clerk of the Board, in response to an inquiry from Region 10, requested that Region 10 provide four copies of the discs containing the Administrative Record.

Counsel	**Service e-mail**
Tanya Sanerib Christopher Winter Crag Law Center 917 SW Oak Street, Suite 417 Portland, OR 97205	tanya@crag.org chris@crag.org
Colin O'Brien Eric Jorgensen Earthjustice 325 Fourth Street Juneau, AK 99801	cobrien@earthjustice.org ejorgensen@earthjustice.org
David Hobstetter Eric Grafe Earthjustice 441 W 5th Avenue, Suite 301 Anchorage, AK 99501	dhobstetter@earthjustice.org egrafe@earthjustice.com
Duane A. Siler Sarah C. Bordelon Tony G. Mendoza Crowell & Moring LLP 1001 Pennsylvania Ave. N.W. Washington, DC 20004	dsiler@crowell.com sbordelon@crowell.com tmendoza@crowell.com
Daniel Lum P.O. Box 70169 Fairbanks, AK 99707	eskimo.whaler@yahoo.com

Dated: November 16, 2011

Julie A. Vergeront
Assistant Regional Counsel
U.S. EPA Region 10
1200 6th Avenue, Suite 900
Seattle, WA 98101
Telephone: (206) 553-1497
Fax: (206) 553- 1762
Vergeront.julie@epa.gov