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

In re:	)	
Shell Gulf of Mexico Inc. OCS Permit No. R10OCS/PSD-AK-09-01	)	
&	)	OCS Appeal Nos. 11-02 through 11-04
Shell Offshore Inc. OCS Permit No. R10OCS/PSD-AK-10-01	)	
Noble Discoverer Drillship	)	

RESPONSE TO PETITIONS FOR REVIEW

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INTRODUCTION AND BACKGROUND[1]

For the fourth time in five years, petitioners ask the Environmental Appeals Board ("EAB" or the "Board") to review air permits issued by Region 10 (the "Region") of the U.S. Environmental Protection Agency ("EPA") for exploratory drilling on federal oil and gas leases on the Outer Continental Shelf ("OCS") off the North Slope of Alaska. In this consolidated proceeding, Petitioners Native Village of Point Hope *et al.* ("NVPH Petitioners")[2] (OCS Appeal No. 11-02), and Alaska Eskimo Whaling Commission and Inupiat Community of the Arctic Slope ("AEWC/ICAS")[3] (OCS Appeal Nos. 11-03) (NVPH and AEWC/ICAS are referred to collectively as "Petitioners"),[4] challenge the Region's issuance on September 19, 2011, of major source Prevention of Significant Deterioration ("PSD") permits to Shell for exploratory

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[1] Permit applicants Shell Gulf of Mexico Inc. and Shell Offshore Inc. (collectively, "Shell") respectfully refer the Board to Sections 1.1 and 1.2 of the Region's Supplemental Statement of Basis ("SSOB") for a comprehensive summary of the background to the revised permits and the Region's actions in response to the Board's order remanding the permits for further proceedings on two issues, as well as Region 10's application of the new 1-hour NO_2 standard and PSD requirements for greenhouse gas emissions. SSOB at 7-10. Shell also refers the Board to Section 1.4, which provides a comprehensive list of the changes between the 2010 permits and the re-issued permits, including those changes not before the Board. SSOB at 10-12.

[2] "NVPH Petitioners" include Native Village of Point Hope, Resisting Environmental Destruction on Indigenous Lands, Alaska Wilderness League, Center for Biological Diversity, Natural Resources Defense Council, Northern Alaska Environmental Center, Ocean Conservancy, Oceana, Pacific Environment, Sierra Club, and The Wilderness Society.

[3] Although the North Slope Borough joined with AEWC/ICAS in comments on the draft permits, it is not a party to their Petition For Review.

[4] In addition to AEWC/ICAS and NVPH Petitioners, Mr. Daniel Lum filed a petition for review challenging the Region's issuance of these Chukchi and Beaufort permits (OCS Appeal No. 11-04). Mr. Lum expresses concerns related to Shell's oil spill response capacity and toxins in the Arctic food chain. Shell is actively engaged in coordination efforts with North Slope communities and is committed to conducting its operations so as to prevent unreasonable conflicts between oil and gas activities and subsistence resources and subsistence hunting activities. Those efforts are reflected in the permitting documents supporting Shell's Exploration Plans for the Camden Bay and Chukchi Sea (available at: http://alaska.boemre.gov/ref/ProjectHistory/Shell_CamdenBF/BF.HTM). Nevertheless, Shell respectfully submits that Mr. Lum's petition does not address air permitting issues and the Board should summarily dismiss it. *See* Instruction No. 7 of the Board's Order Governing Petitions for Review of Clean Air Act New Source Review Permits (Apr. 19, 2011) ("Standing Order").

operations utilizing the drillship *Noble Discoverer* on leases in the Chukchi Sea (R10OCS/PSD-AK-09-01, "Chukchi Permit") and for exploratory operations on leases in the Beaufort Sea (R10OCS/PSD-AK-2010-01, "Beaufort Permit").

Petitioners' "come-back" appeals perpetuate the OCS air permitting process that Shell has pursued in consultation with Region 10 since early 2007 in various forms and for two different drillships. Region 10 issued final major source permits for the *Discoverer* in the Chukchi and Beaufort Seas on March 31 and April 9, 2010, and, on December 31, 2010, EAB remanded the permits for consideration of two issues: (1) the Region's definition of when the *Discoverer* will be a regulated OCS source, rather than a vessel, and (2) the Region's failure in its environmental justice analysis to have addressed compliance with the 1-hour NO_2 National Ambient Air Quality Standard ("NAAQS"), which had been finalized but was not effective when the permits were issued in 2010. The Board granted Petitioners a limited right to petition for review of the re-issued permits:

> Any such petitions shall be limited to issues addressed by the Region on remand and to issues otherwise raised in the petitions before the Board in this proceeding but not addressed by the Region on remand. No new issues may be raised that could have been raised, but were not raised, in the present appeals.

Shell Gulf of Mexico and Shell Offshore Inc., OCS Appeal Nos. 10-01 *et al.*, 15 E.A.D. __, slip op. 82 (EAB Dec. 20, 2010) ("Remand Order").

To address the remand issues and other concerns, Shell submitted additional emissions information and an air quality impact analysis incorporating updated EPA-approved modeling with additional meteorological and other data. Shell's changes to the planned operations and the requirement for demonstration of compliance with new air quality standards for NO_2 and SO_2 in the remand proceedings yielded permits that are substantially more stringent than the 2010 permits, with new restrictions on Shell's operations and extensive additional monitoring and

reporting requirements to ensure compliance with applicable NAAQS and PSD increments. As Region 10 explained in the SSOB:

> Overall, emissions of all regulated PSD air pollutants allowed under the 2011 Revised Draft Permits will decrease substantially in comparison to the 2010 Permits, largely as a result of the additional controls on Icebreaker #1 and the shortened operating season. Overall, annual emissions of key pollutants will decrease by more than 50%, with a small increase in ammonia as a result of the installation of SCR [selective catalytic reduction] on Icebreaker #1.

SSOB at 12. In addition, in response to the Board's rejection of the 2010 permits' "all anchors down and ready to drill" standard for determining when the *Discoverer* would be an OCS source, the Region adopted a more conservative standard. Under the new permits, the *Discoverer* is an OCS source when it is (1) "attached to the seabed" by at least one anchor and (2) "erected [on the seabed]" by being attached to the seabed "at the location where the Discoverer may be used for the purpose of 'exploring, developing, or producing resources [from the seabed]," in effect, a permitted drill site. SSOB at 24.

Petitioners' claims of error largely reflect their disagreement with technical judgments that the Region reasonably made and fully explained. Petitioners' other claims, that the Region acted unlawfully, are unpersuasive in the face of the Region's reasonable and well-explained interpretations and application of the Clean Air Act to these permits. Petitioners fail to show either clear error or an inappropriate exercise of discretion in the Region's issuance of the revised Beaufort and Chukchi Permits. The Region carefully considered the issues raised by Petitioners, properly applied the law, prepared a substantial factual record, and provided well-reasoned explanations for its decisions. The Board should deny the Petitions (and do so

expeditiously), allowing Shell finally to proceed in 2012 to explore the leases for which it paid the Federal Government over $2 billion.[5]

STANDARD OF REVIEW

The petitions must be denied unless they demonstrate that the Region committed clear error in its permitting decision.[6] On questions of technical judgment, the Region is entitled to substantial deference: "[A] petitioner seeking review of issues that are technical in nature bears a heavy burden because the Board generally gives substantial deference to the permit issuer on questions of technical judgment." *In re City of Attleboro, MA Wastewater Treatment Plant*, NPDES Appeal No. 08-08 (EAB, September 15, 2009), slip op. at 11; *see also In re Leed Foundry, Inc.*, RCRA (3008) Appeal 07-02 (EAB, Feb. 20, 2008), slip op. at 19. Additionally, a petitioner may not simply reiterate comments made during the public comment period, but must substantively confront the permit issuer's subsequent explanations. *E.g.*, *In re Peabody W. Coal*

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[5] Shell acquired its leases in lease sales held in 2005, 2007, and 2008.

[6] *See, e.g., In re Shell*, OCS Appeal Nos. 10-01 *et al.*, 15 E.A.D. __, 7 (EAB March 14, 2011):

> The Board does not ordinarily review a PSD permit decision unless the decision is based on either a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review. 40 C.F.R. § 124.19(a); *accord In re Power Holdings of Ill., LLC*, PSD Appeal No. 09-04, slip op. at 4 (EAB Aug 13, 2010), 14 E.A.D. ___; *In re Shell Offshore, Inc.*, 13 E.A.D. 357, 369 (EAB 2007); *In re Cardinal FG Co.*, 12 E.A.D. 153, 160 (EAB 2005). The preamble to the part 124 regulations states that the Board's power of review "should be only sparingly exercised" and that "most permit conditions should be finally determined at the [permit issuer's] level." Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980); *accord Shell*, 13 E.A.D. at 369; C*ardinal FG*, 12 E.A.D. at 160. Petitioners bear the burden of demonstrating that review is warranted, and petitioners must raise specific objections to the permit and explain why the permit issuer's previous response to those objections is clearly erroneous or otherwise warrants review. *Power Holdings*, slip op. at 4, 14 E.A.D. at ___; *In re BP Cherry Point*, 12 E.A.D. 209, 217 (EAB 2005); *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 114 (EAB 1997).

Co., 12 E.A.D. 22, 33 (EAB 2005). Finally, of particular relevance to NVPH Petitioners' claims that EPA's PSD regulations do not comply with the Clean Air Act, the Board has recognized the "high degree of deference" to EPA interpretations that were contemporaneous with legislative enactment. *Deseret Power Elec. Coop.*, 14 E.A.D. ___, slip op. at 37-38 (EAB 2008) (deferring to 1978 PSD regulations promulgated soon after 1977 Clean Air Act amendments).

ARGUMENT

I. THE REGION PROVIDED ADEQUATE OPPORTUNITY FOR PUBLIC COMMENT.

AEWC/ICAS argue that the Region unlawfully failed to provide an adequate opportunity for comment on the challenged permits. AEWC/ICAS Pet. at 7-10. The Board should deny review on this issue because the Region met the unambiguous requirements of 40 C.F.R. Part 124 and AEWC/ICAS have not shown that the Region committed clear legal error.[7]

AEWC/ICAS do not dispute that the Region provided 30 days for comment on the Chukchi and Beaufort permits, respectively, as required by 40 C.F.R. § 124.10(b). *See* AEWC/ICAS Pet. at 8. Petitioners complain that, because the Region held comment periods on four different permits in the Arctic between July and September, 2011, these "overlapping comment periods" effectively were less than 30 days because "local communities only have the capacity to comment on one air permit at a time." *Id.* at 8-9. AEWC/ICAS argue that the fact that the two Shell *Discoverer* permits were on remand together from EAB is "irrelevant" because both permits have "changed substantially" and that the similarities between the Chukchi and Beaufort permits do not justify overlapping comment periods. *Id.* at 9. AEWC/ICAS provide no

[7] AEWC/ICAS submitted 29 single-spaced pages of comments on the revised draft permits, addressing all the issues on which they now seek review (and many others). Thus, it is not apparent how they could have been prejudiced by not having longer to comment on the *Discoverer* permits, as they allege.

legal authority to support their theory that the Region must hold non-simultaneous comment periods for permits in the same region, contrary to the express terms of section 124.10(b).[8]

AEWC/ICAS have not shown why the Region's response to procedural objections voiced during the comment period is clearly erroneous. *See In re Peabody W. Coal Co*., 12 E.A.D. 22, 33 (EAB 2005). Before the comment period on these permits opened, AEWC/ICAS requested 45-day non-overlapping comment periods for each *Discoverer* permit. AEWC/ICAS Pet. Exh. 11. The Region properly exercised its discretion to deny this request, stating that short delays in issuing OCS permits can lead to long delays in exploration, that the Region must meet "mandatory deadlines" for permit issuance, and that "only the changes to the permits are open for comment." AEWC/ICAS Pet. Exh. 12; Response to Comments ("RTC") at 11-13. The Region also explained that it was holding three separate informational meetings in Barrow and Kaktovik in June 2011 and one air-modeling meeting in August 2011 in Barrow to facilitate public participation. RTC at 11. The Region explained that the draft permits are for the same drillship and are identical in many respects and, thus, overlapping comment periods would not unreasonably hinder public participation. RTC at 13.

AEWC/ICAS' Petition fails to address EPA's justified concerns about deadlines for issuing PSD permits and only repeats objections raised in their comments. Petitioners are correct that the Chukchi and Beaufort permits have been revised – generally, to significantly reduce air emissions – but they do not explain why any particular changes compelled a comment period in

[8] None of the cases Petitioners cite involved a remand based on inadequate duration of a comment period. *See Russell City Energy Center*, PSD Appeal No. 08-01, slip op. at 22 (EAB July 29, 2008) (remanding permit where permit issuer failed to provide notice of draft permit); *Weber*, 11 E.A.D. 241, 245 (EAB 2003) (remanding permit because permit issuer failed to issue a response to comments document that responded to all significant comments); *Rockgen Energy Center*, 8 E.A.D. 536, 557 (EAB 1999) (same).

excess of the 30-day regulatory requirement. The close relationship between the two permits is evidenced by AEWC/ICAS filing consolidated comments on the 2011 permits (A.R. RRR-29), and identical petitions for review on both permits in 2010,[9] and a consolidated petition for review in 2011.

If adopted, AEWC/ICAS' interpretation could limit the number of PSD permits EPA or a state agency may process and issue in a given period of time. If contemporaneous permits must be queued for non-concurrent comment periods, the resulting delay could severely hamper EPA's compliance with the requirement under Clean Air Act Section 165(c), 42 U.S.C. § 7475(c), for final action on PSD permits within one year of submission of a complete application. Petitioners' effort to read into 40 C.F.R. § 124.19(a) a requirement for non-concurrent comment periods on draft PSD permits must be rejected because it is not legally required and not practical.

AEWC/ICAS argue that they were deprived of a meaningful opportunity to comment because they could not hire an air modeler to review Shell's modeling results. *Id.* at 10. But AEWC/ICAS have not demonstrated that their asserted difficulty is related to a legal error by the Region. Both permits use the same modeling methodology, such that the overlapping comment periods for these two permits did not substantially affect AEWC/ICAS' ability to comment on modeling. RTC at 13. NVPH Petitioners' air-modeling consultant submitted 256 pages of detailed comments on the draft permit. *See* Comments of Alaska Wilderness League, *et al.* on Revised Draft Permits (Aug. 5, 2011), Attachment 1 (A.R. RRR-30). NVPH Petitioners'

[9] *See* Petition for Review of AEWC *et al*., *Shell Gulf of Mexico and Shell Offshore Inc.*, OCS Appeal Nos. 10-01 *et al.*, (EAB, filed May 3, 2010).

technical comments belie AEWC/ICAS' claim that overlapping 30-day comment periods hindered comment regarding modeling.

II. THE REGION'S DETERMINATION OF WHEN THE DISCOVERER IS AN OCS SOURCE IS NOT CLEAR ERROR.

AEWC/ICAS object to the Region's determination that the *Discoverer* becomes an OCS source "at any time the *Discoverer* is attached to the seabed at a drill site by at least one anchor." AEWC/ICAS Pet. at 11-17. Because AEWC/ICAS have failed to demonstrate that the Region's application of the regulatory and statutory definitions of "OCS source" to the proposed project is clear error, the Board should deny review on this issue.

Region 10 fully addressed the concern that led the Board to remand the 2010 permits, *i.e.*, that by using Shell's maritime declaration that the *Discoverer* was "stable and ready to drill," Region 10 may have delegated to Shell inappropriate control over when OCS source status would attach to the *Discoverer*. During the remand proceedings, Shell decided to use a supporting vessel to "pre-lay" the eight anchors for the *Discoverer* before it reaches the drill site. This approach "is operationally preferable to laying the anchors when attached to the Discoverer because the pre-positioned anchors are secured in advance, which eliminates the potential for error in securing and setting the anchors directly from the Discoverer." SSOB at 22. The Region carefully considered the new project design and compared it against the definitions of OCS source in Clean Air Act Section 328, 42 U.S.C. § 7627, in the Outer Continental Shelf Lands Act ("OCSLA"), and in EPA's OCS source regulations. *See* SSOB at 18-19 (analyzing the interplay of the definitions for OCS source provided in those three authorities). It concluded that the *Discoverer* is an OCS source when (1) "attached to the seabed" by at least one anchor and (2) "erected [on the seabed]" by being attached to the seabed "at the location where the

Discoverer may be used for the purpose of 'exploring, developing, or producing resources [from the seabed],'" in effect, a permitted drill site. SSOB at 24.

This is a conservative test that renders the drillship an OCS source immediately upon anchoring by a single anchor at a federally approved drilling location, notwithstanding that drilling cannot occur until all eight anchors are connected and tensioned. *See* Mooring Process for the Noble Discoverer Drillship (A.R. CCC-264). Nevertheless, AEWC/ICAS argue that the regulatory and statutory definitions of OCS source compel the conclusion that the *Discoverer* is a source whenever it is anchored on any lease block for which Shell is the lessee. SSOB at 24.[10] The statutory and regulatory definitions of OCS source, as reasonably applied by the Region to the proposed operation, simply do not extend EPA's stationary source jurisdiction under Section 328 to these mobile source emissions and AEWC/ICAS' petition should therefore be denied on this issue.

A. The Region's Interpretation of the OCS Source Definition is Consistent with Controlling Law.

The Region's position that the phrase "erected thereon" in OCSLA § 4(a)(1), 43 U.S.C. § 1333(a)(1), and 40 C.F.R. § 55.2 requires more than mere attachment is reasonable. The Region interpreted the phrase "erected thereon" to mean, in the context of the *Discoverer*'s exploratory operations, "when that attachment occurs at the location where the Discoverer may be used for the purpose of 'exploring, developing, or producing resources [from the seabed].'" SSOB at 24.

[10] AEWC/ICAS admit the true purpose of their argument is to "capture[]" the emissions from "Icebreaker No. 2" in the pre-laying of the anchors. *Id*. at 12. In fact, the pre-laying of anchors for the *Discoverer* will be done by an anchor handling supply tug (AHST) vessel. Mooring Process Guideline at 4 (A.R. CCC-264). Moreover, the procedure for laying the anchors and then attaching the *Discoverer* to them at the drilling location does not contemplate that the drillship would necessarily be anchored anywhere or at any time until its ship's anchor is dropped for the first time at the drill site so the vessel can be attached to the anchors, in which case the standard that Petitioners propose would be functionally the same as the one Region 10 adopted. *Id*. at 12-13.

The Region supported its interpretation with a common sense, plain language interpretation: "'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." *Id*. The Region concluded that requiring that attachment occur at the drill site would ensure that the permit captures only emissions related to exploration and not non-exploration activities where the *Discoverer* may drop an anchor, such as waiting out a storm.

AEWC/ICAS object to this interpretation, claiming that (i) the Region's interpretation of "erected thereon" is internally inconsistent; (ii) the Region's conclusion that "erected thereon" requires "more than attachment," *i.e.*, attachment at a drill site, is not supported; and (iii) the OCS provisions at issue are unworkable for activities beyond drillship exploration. None of these objections withstands scrutiny.

1. The Region's interpretation of "erected thereon" is consistent and logical.

AEWC/ICAS' claim that the Region's interpretation of "erected thereon" in OCSLA 4(a)(1) and 40 C.F.R. § 55.2 is internally inconsistent ignores an important distinction between how "used" is interpreted in the SSOB. The Region interpreted the regulatory phrase "erected thereon" as "intended to reflect the process by which a vessel becomes attached to the seabed and ***used thereafter*** for the purpose of exploring, developing, or producing resources from the seabed." SSOB at 23 (emphasis added). The Region explained that:

> Requiring that the attachment to the seabed occur at the location where the OCS activity will (or is reasonably expected to) be conducted ensures that the attachment to the seabed is related to and for the purpose of, engaging in a systematic, planned activity as an OCS source, and not, for example, for the purpose of waiting out a storm or anchoring in a harbor to get supplies.

Id. at 24. In other words, the Region was using the drill site requirement, where the *Discoverer* will be "used thereafter," to ensure that its application of the term "erected thereon" to the

Discoverer was consistent with its interpretation of the regulatory requirement of intentional and purposeful action.

Separately, the Region rejected a requirement that a drillship actually be in use in order to meet the independent "***used for*** purpose of exploring, developing, or producing resources" element of the section 55.2 OCS source definition. *Id*. Instead, the Region adopted a more conservative interpretation that the "used for" element is met in this case by the nature of the equipment used – the drillship is "used for exploration" in the way that a hammer is "used for" hammering. *Id*.

The Region's use of the words "attached and used ***thereafter***" to describe what renders the drillship "erected thereon" is a crucial point overlooked by Petitioners, and fully consistent with the process of attachment-followed-by-use contemplated by 40 C.F.R. § 55.2's reference to "erected thereon." When establishing the interpretation of "erected thereon" as attachment at a drill site (where use can occur) the Region was clarifying the intent of the "construction" or "building" (activity with a purpose to, thereafter, explore for hydrocarbons), whereas in equating a drillship to a hammer the Region was evaluating the "used for" element of the definition.[11]

Similarly, the Region's statement that the phrase "which may be erected thereon" is used "more as an explanatory phrase than as a separate requirement for attachment" is a reference to the use of the phrase in OCSLA's definition of OCS source. *Id*. The Region therefore has explained rigorously and in detail how its interpretations of "attachment" and "erected" best

[11] Although the "one-anchor down" approach in these permit is consistent with Section 328 of the Clean Air Act and 40 C.F.R. Part 55, the "stable and ready to drill" standard in the 2010 permits was no less valid.

harmonize the Clean Air Act and OCSLA definitions of OCS source for purposes of determining when this particular type of vessel will be considered a stationary source.[12]

2. The Region's interpretation of "erected thereon" as requiring "more than mere attachment" is consistent with applicable authorities.

AEWC/ICAS claim that the Region's approach to the "erected thereon" requirement as requiring "more than attachment" is inconsistent with the preamble to EPA's OCS regulations, the legislative history of Section 328, and with a case from the First Circuit, all of which, they argue, require only attachment to the seabed at no particular location. But the Region explained that both EPA's regulatory definition and OCSLA's statutory definition of OCS source "discuss more than attachment to the seabed." RTC at 18. The Region stated that these "additional elements" "make clear that attachment to the seabed at any location is not sufficient to render the Discoverer an OCS source." *Id.* AEWC/ICAS' reiteration of their belief that mere attachment at any location makes the drillship an OCS source amounts to mere disagreement with the Region without providing any reasoned analysis to support its claim.[13] Mere disagreement with the decision does not constitute legal error.

3. The Region's fact-specific application of the OCS source definition to this project does not preclude fact-specific applications to different projects.

AEWC/ICAS express concern that the Region's interpretation of "erected thereon" in this case would create a loophole for future OCS activities that require different Department of the

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[12] Region 10 emphasized that its determination did "not necessarily resolve when other types of vessels or drill rigs become OCS sources, an issue that will vary to some extent depending on the factual differences in the equipment used to carry out the OCS activity and the particular project." SSOB at 25.

[13] The Region found the citation to *Alliance to Protect Nantucket Sound v. U.S. Army*, 398 F.3d 105 (1st Cir. 2005) to be non-persuasive, explaining that the case does not support the geographical element that AEWC/ICAS attributes to it. RTC at 18 n.6. AEWC/ICAS have done nothing to explain how the case could be read to support the geographical interpretation it claims.

Interior ("DOI") authorizations, such as offshore pipelines. However, these air permits cover only exploratory activities by a drillship and are tailored to capture emissions related to those activities. Future OCS activities, as AEWC/ICAS note, would have different emissions profiles. For such activities, Shell, or any other permittee, would need to seek an air permit from EPA, which EPA would tailor to the proposed activity. In such a case, EPA would analyze the definition of OCS source and apply it to the proposed activity, applying the definition of "erected thereon" as appropriate, as it has done here. While in this case, the Exploration Plan for each Sea, and site-specific permits approved by the DOI, will clearly identify the specific locations at which the *Discoverer* will be put to its use of exploring for hydrocarbons, for other OCS activities, EPA could reasonably find that other indicia are more appropriate.

B. The Region's Interpretation Does Not Lead to Irrational Results.

AEWC/ICAS claim that the Region's interpretation will lead to "irrational results" on the theory that "[i]t is not rational for Region 10 to authorize Shell to operate on many lease blocks . . . but to limit where Shell can be a source to only those few locations where it has a permit to drill." AEWC/ICAS Pet. at 15. They claim that the Region's approach is "inconsistent" with the Clean Air Act's treatment of temporary sources onshore, such as asphalt batch plants for which a "'permittee . . . receive[s] a permit allowing operations, after notification to the permitting authority, at numerous fixed locations without receiving a new permit at each site."' *Id.* (quoting H.R. Rep. 101-490, 101st Congress, 2d Session (May 17, 1990), 1990 CAA Leg. Hist. 3021, 3374).

In fact, there is nothing inconsistent between the treatment of onshore temporary sources and Shell's offshore project, nor is this approach "irrational." Like an asphalt batch plant, Shell

has received authorization to operate in a geographic area.[14] In each case, the emissions-emitting equipment is considered a source only at the location in which it is operation, not in transit between locations. For example, AEWC/ICAS do not contend that asphalt batch plants are considered sources when they are moving between sites, even when temporarily stopped. More specific to this project, AEWC/ICAS do not allege, nor could they, that the *Discoverer* will actually be "used" for exploration at any lease block where it anchors but does not have a permit to drill.

Further, AEWC/ICAS' argument proves too much. If the authorities they cite are interpreted as they suggest, there is no principled reason to limit attachment only to Shell's lease blocks. If mere "attachment" to the seabed by a drillship – whose purpose is to drill wells *somewhere* – makes the vessel an OCS source, then location is irrelevant and such attachment could occur anywhere. AEWC/ICAS concede that such an approach is not appropriate by requesting that the *Discoverer* be considered an OCS source only when it is attached to the seabed on a lease block owned by Shell. But, as the Region explains in its RTC, unless the anchored vessel is authorized to drill at that location, it might as well be anchored anywhere in the world. RTC at 18-19. AEWC/ICAS fail to address the Region's well-reasoned and self-evident argument that it is DOI's authorization for permit to drill at a given location, not the lease itself, that authorizes the exploratory activities Congress sought to regulate in Section 328.

[14] In Alaska, portable asphalt batch plants usually operate using general permits that authorize operation statewide, subject to certain location restrictions. *See, e.g.*, Alaska GP3 Permit Condition 19 (General Permit for Major Asphalt Plants, which restricts operating locations to ensure compliance with air quality standards), available at http://www.dec.state.ak.us/air/ap/genperm.htm; *see also* AS 46.14.215 (authorizing the Alaska Department of Environmental Conservation to "issue a single operating permit . . . authorizing a stationary source to operate at specific multiple locations in the state for temporary periods of time").

AEWC/ICAS have failed to demonstrate that the Region's application of the statutory and regulatory definitions of OCS source to the proposed project is clear error.

III. THE REGION'S DETERMINATION OF THE AMBIENT AIR BOUNDARY IS NOT CLEAR ERROR.

NVPH Petitioners argue that the Region clearly erred in determining that a Coast Guard safety zone[15] would establish the ambient air boundary for emissions. All parties agree that ambient air excludes air (1) "over land owned or controlled by the source" and (2) "to which the public access is precluded by a fence or physical barrier."[16] The Region took a reasonable approach to adapting these undisputed principles to the unusual circumstance of an operation on open water, which approach is entitled to deference. *See* RTC at 39-40. As Region 2 noted when evaluating a similar operation, "EPA's definition of ambient air ***does not specifically address this type of situation*** (*i.e.*, offshore LNG [liquefied natural gas] facilities) where the source does not own the area (*i.e.*, there is no real "property" except for the physical structure itself) nor does it have a fence or a physical barrier." Letter from Steven C. Riva, EPA Region 2, to Leon Sedefian, New York State Department of Conservation, re: Ambient Air for Offshore LNG Broadwater Project (October 9, 2007) ("Broadwater Letter"), at 1 (emphasis added) (A.R. BBB-25). When evaluating whether the perimeter of a Coast Guard safety and security zone[17]

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[15] The "Approval Conditions" in each Permit require that Shell have in place at all times of operation a "currently effective safety zone established by the United States Coast Guard (USCG) which encompasses an area within at least 500 meters from the center point of the *Discoverer* and which prohibits members of the public from entering this area except for attending vessels or vessels authorized by the USCG (such area shall be referred to as the 'Safety Zone')." Chukchi Permit at 10; Beaufort Permit at 12.

[16] RTC at 39, quoting Letter from Administrator Douglas M. Costle, EPA, to Senator Jennings Randolf [sic] (Dec. 19, 1980) (NVPH Exh. 21).

[17] The statutory and regulatory authority for safety zones on the OCS differs from those in the navigable waters. *See* 43 U.S.C. § 1333 (OCS safety zones); 33 C.F.R. Part 147 (same); 33 U.S.C. § 1231 (navigable water regulations); 33 C.F.R. Part 165 (same). However, both empower the Coast Guard to

around an offshore LNG terminal was an appropriate ambient air boundary, Region 2 consulted with EPA's Office of Air Quality Planning and Standards ("OAQPS"), which concurred that the Coast Guard safety and security zone in that circumstance "acts like a fence by precluding public access." Broadwater Letter at 1.[18]

The Region decided that a Coast Guard safety zone around the *Discoverer* would meet the first criterion, ownership or control, citing Region 2's determination that "a safety zone established by the Coast Guard [was] evidence of sufficient ownership or control by a source over areas over water so as to qualify as a boundary for defining ambient air where that safety zone is monitored to pose a barrier to public access." RTC at 40. The Region concluded that the safety zone would meet the second criterion, preclusion of public access, because the steps undertaken by Shell and the Coast Guard to develop a public access control program would be sufficient to preclude public access for "overwater locations in the arctic environment at issue" and would be "sufficiently similar to a fence or physical barrier on land such that the area within the Coast Guard safety zone qualifies for exclusion from ambient air."[19]

The NVPH Petitioners do not address the OAQPS/Region 2 precedent upon which Region 10 relied. Nor do they challenge Region 10's premise that the onshore guidance for the ambient air boundary must be reasonably adapted to the offshore environment. Instead, they

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exclude the general public and to admit only certain persons. *Compare* 33 C.F.R. §§ 147.1 with 33 C.F.R. §§ 165.20, 165.23. *See also* 33 C.F.R. § 147.T001 (temporary safety zone regulations promulgated for the *Discoverer* in anticipation of the 2010 drilling season).

[18] The Broadwater determination post-dates the issuance of EPA's Leased Land Guidance, and the Letter from Nancy Helm, EPA, to John Kuterbach (Sept. 11, 2007) ("Kuterbach Letter") (NVPH Exh. 22), upon which NVPH Petitioners rely.

[19] RTC at 40. Here Region 10 reasonably followed Region 2's example. There, as in this case, the permittee and the Coast Guard worked together to create a collaborative approach to restrict public access. *Compare* Broadwater Letter at 1-2, with 33 C.F.R § 147.T001 (temporary safety zone regulations promulgated for the *Discoverer* in anticipation of the 2010 drilling season) *and* SSOB at 26.

further develop their claim that Shell will lack sufficient ownership or control by invoking recent EPA leased land guidance: where a lessee "must rely on a third party to limit public access, the leased area must be considered ambient air." [20] NVPH Petitioners' continued, fixed focus on the application of onshore leased land precedent misses the point, noted by the Region, that strict adherence to guidance for onshore sources is not completely appropriate for offshore sources.

IV. THE REGION DID NOT COMMIT LEGAL ERROR IN NOT REQUIRING SHELL TO DEMONSTRATE COMPLIANCE WITH A PURPORTED "MAXIMUM ALLOWABLE CONCENTRATION" STANDARD THAT IS MORE STRINGENT THAN THE NO_2 NAAQS.

It is undisputed that Shell demonstrated that emissions from the project will not cause or contribute to a violation of the new 1-hour NAAQS for NO_2, which is a probabilistic standard that requires modeled hourly ambient concentrations not to exceed 100 ppb for 98 percent of the 1-hour periods.[21] However, because the standard is expressed in this way, it allows for hourly NO_2 concentrations occasionally to be higher than 100 ppb. NVPH Petitioners contend that, under Clean Air Act Section 165, Shell should have been required to show that project emissions would never cause hourly NO_2 concentrations in ambient air to exceed 100 ppb. This argument finds no support in the statute and is contrary to EPA's regulations for both federal and state PSD programs, not to mention over thirty years of PSD permitting under those programs.

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[20] NVPH Pet. at 29, citing Kuterbach Letter. The Kuterbach Letter relies on EPA's Leased Land Guidance, which provides instruction on determining the ambient air boundary for *onshore* projects where *both* the landlord and tenant are engaged in emissions-generating activities, but that precedent provides little guidance for offshore activities on federal oil and gas leases.

[21] Under 40 C.F.R. § 50.11(f): "The 1-hour primary standard is met when the three-year average of the annual 98th percentile of the daily maximum 1-hour average concentration is less than or equal to 100 ppb, as determined in accordance with Appendix S of this part for the 1-hour standard."

As explained in OAQPS' March 1, 2011, guidance memorandum: "Compliance with the 1-hour NO_2 NAAQS is based on the multiyear average of the 98th percentile of the annual distribution of daily maximum 1-hour values not exceeding 100 ppb. The 8th highest of the daily maximum 1-hour values across a year is an unbiased surrogate for the 98th percentile." Memo from Tyler Fox to Regional Air Division Directors (March 1, 2011) ("Fox Memorandum") (A.R. BBB-80 at 2).

EPA's PSD regulations, at 40 C.F.R. § 52.21(k), require a permit applicant to perform an air quality impacts analysis that demonstrates compliance with two criteria: (1) applicable NAAQS, which in the case of the NO_2 standard is the 98th percentile standard, and (2) allowable increment consumption. While Section 165(a)(3)(B) requires, as embodied in section 52.21(k), that the applicant show that emissions from the proposed source will not cause or contribute pollution in excess of a NAAQS, NVPH Petitioners argue that Section 165(a)(3)(A) requires the applicant to show that the emissions will not cause or contribute to any exceedance of "the maximum allowable concentration" for the pollutant in question. This, NVPH Petitioners contend, is a "separate, stricter standard" than the NAAQS, one that has been overlooked for the past 33 years. Petitioners assert that the 100 ppb component of the 1-hour NO_2 NAAQS sets a "maximum allowable concentration" for hourly NO_2 concentrations in ambient air, independent of the standard in which this number appears. Petitioners are incorrect.

A. The Region's Interpretation of "Maximum Allowable Concentration" Is Reasonable.

"Maximum allowable concentration" is not defined in the Act, but its meaning can be gleaned from Clean Air Act Section 163(b)(4), which is the operative requirement that Section 165(a)(3)(A) implements:

> The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to –
> (A) the concentration permitted under the national secondary ambient air quality standard, or
> (B) the concentration permitted under the national primary ambient air quality standard,
> whichever concentration is lowest for such pollutant for such period of exposure.

42 U.S.C. § 7473(b)(4). This statutory language demonstrates that the purpose of Section 163(b)(4) is limited. It establishes that, despite the increments of permissible deterioration set out in the immediately preceding Sections 163(b)(1-3), the NAAQS imposes a ceiling on air

quality degradation. It also provides that, as between the primary and secondary NAAQS, the more stringent standard for any given period of time is the ceiling.[22] The purpose of the prohibition in Section 163 is to prevent otherwise permissible air quality degradation that would cause a NAAQS violation. Similarly, it is clear that the purpose of Section 165(a)(3) is to require the PSD permit applicant to show that the proposed source will not cause air pollution in excess of either an increment or a NAAQS. Section 165(a)(3)(A) is designed to clarify that both the applicable increment and the NAAQS (primary and secondary) must be met, with the NAAQS serving as a ceiling on degradation. Section 165(a)(3)(B) goes on to specifically require NAAQS compliance.

Thus, "maximum allowable concentration" as used in Sections 163 and 165 does not have a meaning independent of a NAAQS. Rather, it is the concentration of a pollutant in the air that is permitted by the NAAQS. That is the meaning and purpose of the "maximum allowable concentration" in PSD review. This is borne out by the terms of Section 165(a)(3), under which a proposed source's emissions may not cause or contribute to "air pollution" in excess of a NAAQS. Congress did not use the words "concentration of an air pollutant," which might exceed a raw number in a NAAQS, but rather "air pollution," a condition that, under the 1-hour NO_2 standard, is defined by variability and which EPA has concluded requires a probabilistic standard, set at the 98th percentile of hourly concentrations.

Finally, nothing in the language of Section 163 indicates that the "maximum allowable concentration" must be a unique number. Under the NO_2 standard, "the maximum allowable concentration" is a distribution of predicted concentrations, which must meet the 100 ppb

[22] While primary air quality standards normally are more stringent than secondary standards, that is not true for every NSR pollutant. For example, there is a 3-hour secondary standard for SO_2, but no 3-hour primary standard for that pollutant. 40 C.F.R. §§ 50.4, 50.5, 50.17.

standard 98 percent of the time. In other words, the "form" of the one-hour NO_2 standard *is* the standard, and the 100 ppb number has no relevance apart from the standard itself.[23]

EPA's PSD regulations recognize this interpretation and have done so since they were adopted in 1978 to implement the Clean Air Act amendments of 1977, including Sections 165 and 163 of the Act. First, with substitution of "ambient air ceilings" for "maximum allowable concentration," 40 C.F.R. § 52.21(d) mirrors Section 163(b)(4). It provides:

> *Ambient air ceilings*. No concentration of a pollutant shall exceed:
> (1) The concentration permitted under the national secondary ambient air quality standard, or
> (2) The concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.[24]

Then, section 52.21(k) requires only a demonstration of NAAQS compliance (along with permissible air quality degradation):

> (k) *Source impact analysis* – (1) *Required demonstration*. The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:
>
> (i) Any national ambient air quality standard in any air quality control region; or
> (ii) Any applicable maximum allowable increase over the baseline concentration in any area.[25]

Thus, as the Region noted in its Response to Comments, "the PSD regulation . . . plainly states that a source must demonstrate that it will not cause or contribute to 'a violation of' any NAAQS, and does not refer to 'an exceedance.' *See* 40 C.F.R. § 52.21(k)(1)." RTC at 69.[26]

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[23] All NAAQS are based on averaging of predicted pollutant concentrations over some time period. As such, none of them contemplates that pollutant concentrations will never exceed that average value.

[24] EPA's requirements for states' PSD programs are identical. *See* 40 C.F.R. § 51.166.

[25] Again, EPA's requirements for State Implementation Plans are identical. *See* 40 C.F.R. § 51.166(k).

B. The 1-Hour NO_2 Standard Was Designed to Be Applied as The Region Did.

In the rulemaking for the new 1-hour standard, EPA made the same point – that PSD regulations require a demonstration that a source will not cause or contribute to "a violation," not an "exceedance:" "major new and modified sources applying for NSR/PSD permits will be required to demonstrate that their proposed emissions increases of NOx 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. 6,474, 6,525 (Feb. 9, 2010) (emphasis added). This is consistent with section 52.21(k)(1) and recognizes that there is no "concentration" apart from how that term is implemented in the NAAQS for a given pollutant. Once again, EPA interpreted "maximum allowable concentration" in Section 165(a)(3) as having a meaning identical to the NAAQS, *i.e.*, as an ambient air quality ceiling above which degradation cannot occur.

EPA recognized when it adopted the one-hour standard for NO_2 that allowing a handful of exceedances under a 98th percentile standard is appropriate to account for variability in the annual distribution and is fully protective of human health. EPA explained that the elements of a primary air quality standard include "indicator, averaging time, form, and level," which "together serve to define each standard" and which "must be considered collectively in evaluating the health protection afforded [by a standard]. *Id*. at 6477. In setting the 1-hour NO_2 standard, the Administrator, after extensive review of scientific literature and input from the Clean Air Science Advisory Committee, concluded that the 98th percentile standard was fully protective:

[26] Congress did not disturb EPA's 1978 interpretation when it enacted the Clean Air Act Amendments of 1990.

> [B]ased on the entire body of evidence and information available in this review, and the related uncertainties, is that a standard level of 100 ppb (for a standard that reflects the maximum allowable NO_2 concentration anywhere in an area . . . *with the averaging time and form discussed above*, will provide a significant increase in public health protection compared to that provided by the current annual standard *and would be expected to protect against the respiratory effects that have been linked with NO_2 exposures in both controlled human exposure and epidemiologic studies*.

Id. at 6501 (emphasis added). Thus, the level and form of the 1-hour standard are inextricably linked in the standard.[27] That statistical standard defines the "maximum allowable concentration" under CAA Section 165 (and the "ambient air ceiling" under section 52.21(d)) for short-term exposures to NO_2.[28]

EPA's 98th percentile 1-hour standard is consistent with EPA's approach to setting national standards for short-term exposures. As promulgated almost seven years ago,[29] the 24-hour standard for $PM_{2.5}$ is that the "3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 $\mu g/m^3$." 40 C.F.R. § 50.7(c). Similarly, the 1-hour standard for SO_2, promulgated June 2, 2010, is that

[27] EPA noted: "The 'form' of a standard defines the air quality statistic that is to be compared to the level of the standard in determining whether an area attains the standard." *Id.* at 6477, n.5. Implicitly, EPA determined that the question of whether an area is attaining the distribution of 1-hour NO_2 concentrations that represents compliance and, thus, is protecting human health must be judged using the statistical method in the standard. A handful of exceedances constitutes neither non-compliance nor a health risk. Thus, the "form" of the 1-hour standard is more than a "data handling convention." It is an essential element of the standard.

[28] None of the NVPH Petitioners evidently provided comment to EPA during this rulemaking on the 1-hour NO_2 standard or, if they did so, they failed to seek judicial review. They should not be allowed now to collaterally attack the form of the new 1-hour standard, or contend that the standard should have adopted – in lieu of a statistical standard already followed in the $PM_{2.5}$ and SO_2 standards – a unique "level" which could never be exceeded.

[29] 69 Fed. Reg. 45,595 (July 30, 2004).

the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb. 40 C.F.R. § 50.17.

C. Region 10 Properly Applied the NO_2 Probabilistic Standard to this Permit.

NVPH Petitioners do not contend that the Region's approach to determining Shell's compliance with the 1-hour NO_2 standard failed in any way to conform to the extensive guidance that the OAQPS issued to the Regions on how to implement the new 98th percentile standard in, *inter alia*, new source review and PSD permitting. *See* Memorandum from Stephen D. Page, Director, OAQPS, "Guidance Concerning the implementation of the 1-hour NO_2 NAAQS for the Prevention of Significant Deterioration Program" (June 29, 2010) ("Page Memorandum"), (A.R. BBB-153); Fox Memorandum, (A.R. BBB-80). Fundamental to these guidance documents is the principle that "EPA policy provides that any federal Prevention of Significant Deterioration (PSD) permit issued under 40 C.F.R. § 52.21 on or after [the effective date of the 1-hour NO_2 standard] must contain a demonstration of source compliance with the new 1-hour standard." Page Memorandum at 1. Both guidance memoranda are based on the precept that a new source must demonstrate compliance by showing that modeled impacts of concentrations of NO_2 in ambient air will not exceed 100 ppb at the 98th percentile, not that they will never exceed 100 ppb.

NVPH Petitioners would have the Board interpret Section 165(a)(3(A) in a way that would reverse decades of Agency policy, conflict with and undermine any State Implementation Plan that incorporates EPA's requirements in 40 C.F.R. § 51.166,[30] and create a cloud of

[30] Not surprisingly, many states require PSD permit applicants to perform an air quality impacts analysis that demonstrates compliance with the same two criteria as required under EPA's regulation. *E.g.*, 30 Tex. Admin. Code § 116.160 (2011); N.Y. Comp. Codes R. & Regs. Tit. 6 § 231-7.3 (2011); Fla. Admin. Code § 62-212.400(5) (2011); Ohio Admin. Code § 3745-31-16 (2011); Mich. Admin. Code R.

uncertainty over federal or state PSD permits issued under the recent SO_2 and NO_2 standards. NVPH Petitioners' reading of the "maximum allowable concentration" language in Section 165(a)(3) is not plausible. The correct reading is that the statutory language was intended to ensure that, in assessing compliance with the NAAQS, the permitting authority requires compliance with either the primary or secondary standard, whichever is more stringent for a given time period, in this case the 1-hour NO_2 standard at the 98th percentile. The Board should not overturn EPA's reasonable interpretation of the meaning of "maximum allowable concentration" in Clean Air Act Section 165(a)(3)(A), reflected in the PSD regulations.

V. THE REGION'S DECISION TO FOLLOW OAQPS GUIDANCE FOR DEMONSTRATING COMPLIANCE WITH THE NO_X NAAQS WAS NOT ERRONEOUS.

NVPH Petitioners contend that Shell "altered the cumulative impacts from which it selected the 98th percentile 1-hour daily maximum" by using "background values that were already adjusted to the 98th percentile, instead of basing its calculations on the full distribution of background values." NVPH Pet. at 24. Shell rejects NVPH Petitioners' inflammatory suggestion that Shell "altered" impacts or "selected" data. NVPH Petitioners are well aware that Shell followed guidance on analyzing 1-hour NO_2 impacts issued by OAQPS in 2011. What NVPH Petitioners complain about is that this refined OAQPS guidance differed from the Page Memorandum dated June 29, 2010.

336.2811(2011); 9 Va. Admin. Code § 5-80-1715 (2011); Wis. Admin. Code Dep't of Natural Res. Code § 405.09 (2011); 5 Colo. Code Regs. § 1001-5:3D.VI (2011).

A determination that EPA's PSD regulations do not comply with Section 165(a)(3) would particularly create conflicts and uncertainty in OCS permitting under 40 C.F.R. Part 55. For OCS sources located within 25 miles offshore from state waters, EPA applies the regulations of the "corresponding onshore area." Alaska's PSD rules incorporate current 40 C.F.R. §§ 55.166(k) and 52.21(k), and thus require a PSD permit applicant to demonstrate compliance only with the NAAQS and the applicable increment. *See* 18 AAC §§ 50.306(b), 50.040(h)(9).

NVPH Petitioners cite the Page Memorandum as requiring that the highest monitored background levels be added to the 98th percentile modeled impacts to determine whether the resulting combined emissions exceed the 100 ppb standard at the 98th percentile of the resulting values. As that guidance explained:

> 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.

Page Memorandum at 18.

OAQPS issued additional guidance on March 1, 2011, after an intervening 10 months during which EPA and the states wrestled with the new standard, addressing the issue of what background air quality values to use in assessing compliance with the 98th percentile standard. The 2011 guidance stated that "the monitored NO_2 design value, *i.e.*, the 98th percentile of the annual distribution of daily maximum 1-hour values averaged across the most recent three years of monitored data, should be used." Fox Memorandum at 17. This was a change from the "first tier" assumption from June 2010 but, contrary to Petitioners' assertions, OAQPS offered extensive explanation for this determination. OAQPS observed that "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 advice on this guidance;" noted that this revised "first tier" assumption would be "relatively easy to implement;" and went on to provide a detailed explanation of why "an appropriate methodology for incorporating background concentrations in the cumulative impact assessment for the 1-hour NO_2 standard would be to use multiyear averages of the 98th percentile of the available background concentrations by season and hour-of-day, excluding periods when the source in question is expected to impact the monitored concentration . . . ." *Id.* at 19.

It is incorrect to suggest that, in this national guidance, EPA failed to explain why and how it was modifying its recommendations for a brand new program that was barely 10 months old and, during that short time, had presented major interpretation and implementation challenges nationwide. If NVPH Petitioners want to challenge OAQPS's March 2011 NAAQS implementation guidance as an improper modification of the June 2010 guidance, that is a matter of administrative law for which relief may be sought elsewhere. But precisely because NVPH Petitioners challenge only OAQPS' March 2011 national guidance, and do not contend that Region 10 did not properly follow that guidance, the Board must reject their claim that Region 10 improperly found that Shell's project will meet the 1-hour NO_2 standard.

VI. THE REGION'S IMPLEMENTATION OF GREENHOUSE GAS CONTROLS IN THESE PERMITS IS NOT CLEAR ERROR.

A. The Region Reasonably Relied on Shell's Calculation of Potential GHG Emissions from Mud Degassing.

AEWC/ICAS contend Region 10 committed clear legal error in accepting Shell's owner-requested limits ("ORL") to determine that the *Discoverer* project will not be a major source for purposes of greenhouse gas emissions ("GHGs"). Petitioners argue that Region 10 could not reasonably rely on Shell's estimate of the potential for fugitive methane emissions released from drilling muds on the *Discoverer* as they are recycled from downhole for removal of drill cuttings and recirculation to the well. AEWC/ICAS claim it was clear error for Region 10 to accept a limitation of these emissions by means of a limit on the time that the *Discoverer* can drill, based on an assumption that monthly methane emissions will not exceed 0.798 tons/month.[31]

[31] At Region 10's request, Shell provided for the permitting record a detailed explanation of the technical basis for its calculation. *See* Email from Doug Hardesty, EPA, to Susan Childs, Shell (A.R. CCC-438) (email string includes Shell's submission in response to Region 10 request).

AEWC/ICAS say this point is "critical" because "ConocoPhillips and Shell provided different estimates of methane emissions from drilling muds with their permit applications." AEWC/ICAS Pet. at 18. Petitioners cite ConocoPhillips' application for a Title V permit for a drilling rig in the Chukchi Sea as estimating 8.7 tons per month of methane from its proposed operation, about 10 times Shell's estimate. However, ConocoPhillips' application is not in the record of the *Discoverer* permit decisions, and the Board should disregard it for that reason alone. Furthermore, according to an e-mail dated October 3, 2011 from EPA to Shell and other members of the public who had commented on the draft ConocoPhillips permit, ConocoPhillips withdrew its permit application on September 26, 2011. *See* Shell Exh. 1. Thus, with ConocoPhillips' application withdrawn, no statement or representation in it can be relied on for any purpose.

Moreover, it is clear from Shell's September 20, 2011 comments on ConocoPhillips' draft permit, set forth in the e-mail string in EPA's October 3, 2011 e-mail to Shell, that Shell's estimates were far more reliable than ConocoPhillips'. *Id*. As Shell explained in its comments:

> The major difference between Shell's estimate and Conoco-Phillips' estimate is that Shell took into account the fact that it is limited by its permit to drill no more than 4 holes in a single drilling season. Shell, therefore based its single season estimate assuming a total of 600 feet of aggregate hydrocarbon-bearing zone drilling (4 wells, so 4 hydrocarbon-bearing zones, each with an assumed thickness of 150 feet).
>
> Conoco-Phillips, on the other hand, assumed it would drill through 400-feet thick hydrocarbon-bearing zones every day of its 100 day drilling season – essentially assuming that 40,000 feet of hydrocarbon-bearing zone drilling would occur during a single drilling season. This resulted in Conoco-Phillips calculating an emission estimate that was more than 50 times higher than Shell's.

This confirmed that the Region had reasonably concluded in issuing the *Discoverer* permits that Shell's estimates of methane emissions from drilling muds were based on actual Arctic well data. Even so, the Region made a highly conservative adjustment when it "assumed

that what Shell estimated as its emissions over the five month drilling season would occur during *each* of the five months (thus increasing the potential to emit from this source by a factor of five) to provide a wide margin of safety in the estimate of potential to emit for the drilling mud system." RTC at 28 (emphasis in original).[32] The Region reasonably concluded that "even with these conservative assumptions, the GHG emissions (85 tons per year CO_2e) from the drilling mud system represent only 0.12% of the total GHG emissions (70,000 tons per year CO_2e) allowed under each permit." RTC at 29.[33] Given the inherently small contribution of GHGs from the drilling mud system, it was not unreasonable for Region 10 to conclude that no direct monitoring of these emissions is necessary. RTC at 29. And, when added to the other ORL-controlled sources of GHGs – discussed below – the Region reasonably concluded that, with the ORLs, the *Discoverer* and associated vessel emissions do not have the potential to emit more than 70,000 tons CO_2e per year, well under the 75,000 ton significance standard for new source review.

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[32] "For comparison purposes, EPA recommends grain terminals apply a safety factor of 1.2 to the highest of the previous five years of throughput to constitute a realistic upper-bound potential to emit. See Memorandum from John Seitz, EPA, re: Calculating Potential to Emit (PTE) and Other Guidance for Grain Handling Terminals, dated November 14, 1995, at 5." RTC at 28-29.

While AEWC/ICAS correctly note that the Region did not have five years of data regarding mud throughput analogous to five years of grain elevator throughput, it could reasonably find Shell's calculations provide similarly reliable data from which to estimate the potential emissions from mud degassing. It was entirely reasonable for Region 10 to conclude that these emissions could not exceed this level and this technical judgment is entitled to deference.

[33] *Steel Dynamics, Inc.* does not support AEWC/ICAS' argument that the Region's reliance on Shell's analysis of methane emissions is unreasonable or leads to unenforceable emission limits. 9 E.A.D. 165, 174-181 (EAB 2000). In *Steel Dynamics* the Board remanded the permit because the lead emission estimates on which the permitting authority relied were not supported by *any* data in the record and the permit issuer had not responded to petitioners' comments on this issue at all. *Id*. at 179-81. Shell's estimates are supported by detailed record evidence. *See* RTC at 29.

B. Shell's GHG Emissions are Strictly Controlled.

AEWC/ICAS are wrong in contending that the *Discoverer* permits are subject only to an overall emissions limitation of 70,000 tons per year of CO_2e and that this is ineffective as an ORL. The permits include strict limits on the total amount of combusted fuel and incinerated waste, which with drilling muds are the only sources of GHGs. Shell respectfully refers the Board to Sections 6.1-6.4 of the Chukchi and the Beaufort Permits. The permit terms and conditions specify in great detail the total amount of fuel that can be combusted in any unit on the *Discoverer* or any associated vessel within 25 miles of the OCS source (6,346,493 gallons per rolling 12-month period); the total amount of waste that can be incinerated on the *Discoverer* and associated vessels (1,657,440 pounds per rolling 12-month period) and the monitoring and reporting requirements by which these limits are enforced. *Id*. For example, every regularly used combustion unit on the *Discoverer* or an associated vessel must be equipped with a self-totalizing, continuously monitoring, non-resettable fuel flow meter that is at least 98% accurate. The incinerators on the *Discoverer* and associated vessels must have scales capable of weighing waste with accuracy to ½ pound. All of these data must be recorded and reported. In light of these extremely detailed and strict requirements on combustion of any material that generates GHGs, AEWC/ICAS' claim that the overall 70,000 ton per year limit is not enforceable does not even approach proof of the clear error they assert.

VII. THE REGION'S ENVIRONMENTAL JUSTICE ANALYSIS IS NOT CLEARLY ERRONEOUS.

A. The Region Appropriately Addressed Shell's Emissions of Ozone Precursors.

Shell respects the Region's obligations under the Executive Order on Environmental Justice to identify and address disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations. Shell is confident

that Region 10 will show that the Agency has complied fully with this mandate in issuing OCS air permits for the *Discoverer*. However, from its perspective as an entity that has diligently sought OCS air permits for exploration drilling for over five years, Shell urges the Board to reject AEWC/ICAS' suggestion that the Executive Order mandates that the Region impose unspecified ozone control requirements on Shell's project, based on preliminary EPA action potentially to revise the NAAQS. A requirement that Regions consider not only current NAAQS compliance, but any potential new NAAQS that could be "in the pipeline," no matter where in the process, would create tremendous uncertainty in the Clean Air Act permitting process.

By contrast, the Board's remand of the 2010 permits for further evaluation of compliance with the 1-hour NO_2 standard was based on EPA's formal finding during the permitting process that the existing NAAQS did not protect sensitive populations – such as those on the North Slope – as a basis for finalizing the new standard. AEWC/ICAS now suggest that even the Agency's preliminary discussion of the protectiveness of the existing NAAQS for ozone triggered imposition of a more stringent standard on Shell's project in order to meet environmental justice concerns. AEWC/ICAS are essentially asking the Board to conclude that the norms and standards that govern issuance of an OCS permit under 40 C.F.R. Part 55, including in this case major source review under EPA's PSD regulations, 40 C.F.R. § 52.21, are merely advisory and that the Region must undertake an *ad hoc* inquiry every time it issues a permit into the sufficiency of any and all of EPA's formally promulgated health-based air quality standards to protect minority and low-income populations.

In remanding for further analysis on the environmental justice issue in 2010, the Board emphasized "the unusual context of this case, as well as the reasons that underlie the Board's

precedent of looking in part to NAAQS compliance to satisfy the Executive Order." The Board summarized its view as follows:

> In the context of an environmental justice analysis, compliance with the NAAQS is emblematic of achieving a level of public health protection that, based on the level of protection afforded by a primary NAAQS, 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. The Board's concerns in this case lie with the Region's stated reliance on its demonstration of compliance with the NAAQS in effect at the time of the Permits' issuance despite the fact that the Administrator had finalized the new 1-hour NO_2 NAAQS prior to the issuance of the Permits, and thus the Administrator had already concluded, prior to the issuance of the Permits, that the annual NO_2 NAAQS alone did not provide requisite protection of the public health.

Remand Order at 74. In sharp contrast, EPA has not made a final decision to revise the 2008 NAAQS for ozone, nor made any findings that the current standard is not protective of human health. EPA withdrew the proposed rulemaking and will proceed with an evaluation of the 8-hour standard, using updated scientific data, for action in 2013, in accordance with the five-year cycle prescribed by the Clean Air Act. As the Office of Management and Budget explained in conveying the President's decision to withdraw consideration of the standard:

> The draft reconsideration necessarily depends on the most recent recommendations of the Clean Air Scientific Advisory Committee (CASAC) which in turn rely on a review of the scientific literature as of 2006. Executive Order 13563 explicitly states that our regulatory system 'must be based on the best available science.' As you are aware, work has already begun on a new and forthcoming scientific review, "based on the best available science."

Letter from Cass R. Sunstein, Office of Management and Budget, to Lisa P. Jackson, EPA, dated Sept. 2, 2011 at 1 (Shell Exh. 2). As the OMB noted, had a final rule been issued at this time, it would be "based on evidence that is no longer the most current, when a new scientific assessment is underway." *Id*.

AEWC/ICAS cite, as ostensible evidence of EPA's "final decision" that the current 8-hour standard of 0.075 ppm does not meet the standard for health protection, a "draft final rule"

that would have established a revised standard of 0.070 ppm.[34] The rule, which can be found online but is not referenced on or linked to any of EPA's webpages relating to NAAQS, is prominently captioned on every page:

"*E.O. 12866 Review – Draft – Do Not Cite, Quote, or Release During Review***"**

Region 10 could not reasonably have concluded from a draft document with these disclaimers that the Administrator had "concluded, prior to the issuance of the Permits, that the . . . [ozone NAAQS] did not provide requisite protection of the public health." *Cf.* Remand Order at 74.

No special circumstances here suggest a departure from the Board's rule that "compliance with the NAAQS is emblematic of achieving a level of public health protection that, based on the level of protection afforded by a primary NAAQS, demonstrates that minority or low-income populations will not experience disproportionately high and adverse human health or environmental effects." *Id.* Moreover, as the Region explained in the RTC, Shell's emissions will not cause or contribute to any area of ambient air exceeding 0.070 ppm. RTC at 108. As Region 10 explains at length, it concluded in 2010 on a qualitative basis that modeling was not necessary in order to determine that project emissions of ozone precursors would not affect ambient ozone concentrations in any area, or increase the current levels that are well below the 0.070 ppm standard for which AEWC/ICAS contend. RTC at 91-92. And, as noted in the RTC, Shell reduced emissions even further, bolstering the Region's conclusions from 2010 that project

[34] AEWC/ICAS Pet. at 22-23. *See* Draft National Ambient Air Quality Standard Preamble for Ozone at 35, *available at*: http://www.epa.gov/glo/actions.html.

emissions of VOCs and NOx will not increase the current relatively low ambient concentrations of ozone on the North Slope.[35]

B. The Region Appropriately Considered NO_2 Emissions and Impacts.

AEWC/ICAS contend that the Region failed to consider cumulative impacts of NO_2 emissions from Shell's vessels when they operate outside the 25-mile zone and that this makes the Region's environmental justice analysis inadequate. AEWC/ICAS Pet. at 28-30.[36] AEWC/ICAS' contention is clearly outside the scope of the issues on which the Board remanded the *Discoverer* permits and authorized petitions for review. In its Remand Order, the Board found that Region 10 had clearly erred in the environmental justice analysis with respect to short-term NO_2 emissions, but only because the Region did not consider in the light of the new 1-hour NAAQS those emissions that would have been (and now are) subject to that standard, *i.e.*, emissions from the *Discoverer* when it is an OCS source and from associated vessels operating within 25-miles of the *Discoverer*, as required under Section 328 of the Clean Air Act. As discussed in Section V above, Shell has demonstrated compliance with the new standard, and Region 10 concluded that further inquiry is not required in order to conclude that minority or low-income populations will not experience disproportionately high and adverse human health or environmental effects.

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[35] As noted in the RTC, in 2010 commenters objected to the Region's conclusion that modeling is not needed in order to reasonably conclude that Shell's emissions will not cause an increase in current ambient ozone concentrations, but no one petitioned for EAB review of that conclusion. Accordingly, under the terms of the remand order, AEWC/ICAS cannot raise that issue for the first time in the current petition. Shell respectfully submits that the Board should summarily reject this out-of-time challenge to the Region's technical determination on this issue under the rubric of environmental justice.

[36] Petitioners do not challenge Region 10's conclusion that "the 1-hour NO_2 standard will be attained at all locations beyond the 500 meter boundary and will be well below the standard in the North Slope communities and in the areas where the communities conduct subsistence activities." SSOB at 67-68.

The Board's remand implicated only emissions regulated under Section 328 and Shell's permits – not mobile source emissions from vessels. The key question was whether the Region should have considered whether compliance by the OCS source, including associated vessel emissions as included under Section 328, with the older NAAQS would unacceptably expose North Slope residents to emissions that would be controlled under the new standard that EPA had formally and finally found to be protective. In its remand decision, the Board said that its discussion and holding "address only the NO_2 NAAQS and its intersection with the Region's environmental justice obligations." Remand Order at 67, n.76. The Board's rationale for remanding the permits for further assessment of their impacts was clearly based on Region 10 needing to consider whether OCS source emissions under the permit would cause a violation of the new NAAQS and thus be harmful:

> The Region's sole reliance on attainment of the NO_2 NAAQS in effect prior to April 12, 2010, to demonstrate that the Permits sufficiently complied with the Executive Order is clearly erroneous in light of the fact that the Administrator had already both proposed, and later finalized, a new, more stringent standard prior to the issuance of the Chukchi and Beaufort Permits in which the Administrator determined that the body of evidence supporting the existing annual NO_2 NAAQS was outdated and that the newer data indicated that the standard was no longer adequate to protect public health.

Id. at 81-82.[37] The Board did not remand the permits for a determination of whether emissions from unregulated mobile sources had been adequately addressed in the Region's environmental

[37] In their 2010 petition for review AEWC/ICAS only complained about Region 10's failure to consider the new NO_2 air quality standard and whether permitted emissions would cause a violation of that new and protective standard. Nowhere in their petition or reply did AEWC/ICAS suggest that they sought relief beyond compelling Region 10 to apply the new NAAQS to Shell's permitted emissions – which has now been done – or that emissions from vessels that are not covered by the permit also should somehow be considered for potential control under the permit, contrary to Section 328 of the Act. AEWC/ICAS never mentioned "cumulative impacts" of NO_2 or other non-OCS source-related emissions in their briefs, or suggested that requiring Shell to limit emissions from the *Discoverer* and associated vessels so as to not cause or contribute to a violation of the NAAQS would not thereby properly address the Agency's environmental justice mandates. *See* Petition for Review at 69-71; Reply at 37-40. As this issue was

justice analysis, but rather whether NO_2 emissions from the sources regulated under the permit could be harmful if not controlled under the new 1-hour standard. Thus, the "cumulative impacts" issue that AEWC/ICAS seek to raise is barred in this come-back proceeding.

Even if the Board does not agree that AEWC/ICAS seek review of an issue beyond the scope of the remand proceedings, review should be denied. It is undisputed that, as Region 10 explained in detail in its Statement of Basis, emissions from vessels operating more than 25 miles from the *Discoverer* when it is an OCS source are not regulated under the *Discoverer's* permits. The Board has confirmed that when project-related vessels are outside the 25-mile zone within which their emissions are controlled as part of the OCS stationary source, those vessels are mobile sources not subject to regulation under Section 328 of the Clean Air Act:

> Section 328's distinction between the OCS source and vessels servicing the OCS source is consistent with the CAA's general distinction between stationary and mobile sources. Viewed in this light, the OCS source is a stationary source that is located on the outer continental shelf, and the support vessels, including vessels servicing or associated with the OCS source, ordinarily are mobile sources. In this respect, the Region's proffered interpretation that section 328's distinction is intended to require "different treatment of the two categories of emission units," – *i.e.*, different treatment of the OCS source and Associated Fleet – is consistent with the CAA's general distinction that stationary sources are treated under CAA title I and mobile sources are treated separately under CAA title II.

Remand Order at 28. This distinction between stationary and mobile sources is "fundamental." *Id*. at 28 n.34.

AEWC/ICAS do not dispute that vessels that are not operating within 25 miles of the *Discoverer* cannot be regulated directly under the *Discoverer's* PSD permit. Rather, AEWC/ICAS advocate for the creation of a parallel system of regulation of these emissions under the rubric of "environmental justice." Shell respectfully submits that this exceeds the

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reasonably ascertainable in the briefing on the original permits, this claim should be summarily dismissed. *See* Standing Order, Instruction No. 7.

intent of the President's Order, is not required by Agency policy, and if adopted would establish *ad hoc* criteria for air permitting (and other permitting) that would drain predictability and certainty from the permitting process. Shell has faced and met changed regulatory requirements as it has moved through this five-year OCS air permitting process, including changes in the NO_2 standard and application of PSD permitting to greenhouse gases, but those have been formal regulatory requirements that provided relatively clear and fixed targets. If the Board were to grant review on this issue, it would mean that the Regions must henceforth try to divine in every permit proceeding what extra-legal requirements might or should be imposed on the permit in order to prevent adverse effects on an environmental justice community.

Under the President's Order, agencies are required to "identify[] and address[], as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." Exec. Order 12898, 59 Fed. Reg. 7,629, 7,629 (Feb. 11, 1994) ("Executive Order") (A.R. F-1). However, federal agencies are required to implement this order "consistent with, and to the extent permitted by, existing law." *Id.* AEWC/ICAS' effort to seek, under the guise of environmental justice, potential "back door" regulation of mobile sources in Shell's permit, *i.e.*, vessels more than 25 miles from the *Discoverer*, is clearly contrary to Section 328. As the Executive Order makes clear, the mandate for agencies to identify and address adverse effects on the environmental justice populations does not authorize agencies to devise new legal requirements on an *ad hoc* basis, particularly where a statute provides to the contrary.

Finally, the introduction of novel legal requirements into OCS air permits for environmental justice reasons should be done, if at all, only after considered policy-making. EPA is currently working on a multi-year plan – called Plan EJ 2014 – for incorporating

environmental justice concerns in permitting. "Plan EJ 2014," EPA Office of Environmental Justice (Sept. 2011).[38]

This plan will not be completed until 2014 and includes consultation with stakeholders at several points in the process after 2011. *Id.* Shell submits that, if the Agency is going to consider establishing PSD permit terms and conditions based not on the Clean Air Act's requirements, but on more stringent environmental justice-based concerns, that policy decision should, at a minimum, be reserved for the Agency's current deliberative process under the Plan EJ 2014. In the meantime, where it has been demonstrated consistent with 40 C.F.R. § 52.21(k) that the emissions from Shell's project that *are* regulated under Section 328 will not cause or contribute to a violation of the new 1-hour NO_2 standard, that showing must be deemed to meet the Board's specific mandate on remand to consider that standard in the environmental justice analysis for the permit. Otherwise, Shell would respectfully emphasize to the Board that the *ad hoc* approach that AEWC/ICAS are advocating would create great uncertainty, confusion, and delay for this and many other permitting actions.

C. The Region's Environmental Justice Analysis Was Based On Sufficient Public Participation Under 40 C.F.R. § 124.19.

Again, AEWC/ICAS suggest that, regardless of whether the Region acted lawfully under 40 C.F.R. § 124.19 by providing a 30-day comment period on the draft *Discoverer* permits, this was not sufficient to provide for "public involvement" in the permitting process under the Executive Order. If, in the name of environmental justice, established regulatory time periods are deemed inapplicable, then it is unclear where new norms and standards are to be found, leading to uncertainty, delay, and additional burdens for EPA Regions and permit applicants

[38] *Available at*: http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-2011-09.pdf.

alike. Shell respectfully urges the Board not to grant review on this issue and to find that, because the 30-day comment period for these permits met the requirements of section 124.19, it was therefore sufficient for environmental justice purposes.

CONCLUSION

In these "come-back" appeals, Petitioners have failed to meet their burden to show that the Region's decision to issue these permits following remand consideration was clear error or an exercise of discretion warranting Board review. Therefore, the Board should deny the Petitions for Review.

Respectfully submitted,

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Dated: November 16, 2011

STATEMENT OF COMPLIANCE WITH WORD LIMIT

Pursuant to EAB's Order Governing Petitioners for Review of Clean Air Act New Source Review Permits, dated April 19, 2011, I herby certify that the foregoing Response to Petitions for Review does not exceed 14,000 words. As calculated by word processing software, this Response to Petitions for Review contains 12,842 words, excluding the parts exempted by the Board's Order.

/s/ Duane A. Siler
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DATED: November 16, 2011

CERTIFICATE OF SERVICE

I herby certify that I have caused a copy of the foregoing Response to Petitioners For Review to be served by electronic mail upon:

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