

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

In re:

Shell Offshore Inc.
OCS Permit No. R10OCS030000

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OCS Appeal Nos. 11-05 through 11-07

RESPONSE TO PETITIONS FOR REVIEW

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INTRODUCTION AND BACKGROUND¹

Petitioners Mr. Daniel Lum (OCS Appeal No. 11-05)², Resisting Environmental Destruction on Indigenous Lands *et al.* (“REDOIL Petitioners”)³ (OCS Appeal No. 11-06), and Inupiat Community of the Arctic Slope (“ICAS”)⁴ (OCS Appeal Nos. 11-07) (REDOIL and ICAS are referred to collectively as “Petitioners”) ask the Environmental Appeals Board (“EAB” or the “Board”) to review the minor source Title V operating permit issued by Region 10 (the “Region”) of the U.S. Environmental Protection Agency (“EPA”) to Shell Offshore Inc. (“Shell”) for exploratory operations on federal oil and gas leases in the Beaufort Sea on the Outer Continental Shelf (“OCS”) utilizing the drillship *Kulluk* (R10OCS/PSD-AK-2010-01) (“*Kulluk* permit”). The *Kulluk* permit would authorize emissions from exploration operations on specified lease blocks in the Beaufort Sea during the permit’s five-year term, enabling Shell to begin exploration activities with the *Kulluk* in the summer of 2012.⁵

¹ See pages 7-10 of Region 10’s Statement of Basis (“SOB”) for this draft permit for additional background about the *Kulluk* and Shell’s exploration project.

² 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 (available at: http://alaska.boemre.gov/ref/ProjectHistory/Shell_CamdenBF/BF.HTM). 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”).

³ “REDOIL Petitioners” include Alaska Wilderness League, Center for Biological Diversity, Natural Resources Defense Council, Northern Alaska Environmental Center, Oceana, Pacific Environment, Sierra Club, and The Wilderness Society.

⁴ Although the Alaska Eskimo Whaling Commission (“AEWC”) and the North Slope Borough (“NSB”) joined ICAS in comments on the draft permit, neither is a party to ICAS’s Petition For Review.

⁵ Under the terms of the OCS Prevention of Significant Deterioration (“PSD”) permit that Region 10 issued to Shell for exploration in the Beaufort Sea with the *Discoverer*, Shell cannot operate the *Discoverer* simultaneously with the *Kulluk* in the Beaufort Sea. Shell could utilize the *Discoverer* for

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 ("CAA") to this permit. Petitioners fail to show either clear error or an inappropriate exercise of discretion in the Region's issuance of the *Kulluk* permit. 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 allow Shell to continue moving forward with its 2012 plans to explore the Beaufort Sea leases for which, along with the leases in the Chukchi Sea, Shell paid the Federal Government over \$2 billion. As with the pending proceedings on the *Discoverer* permits, Shell respectfully urges the Board to expedite its resolution of the petitions for review of the *Kulluk* permit so that Shell can make the necessary logistical commitments early in 2012 to support drilling during the limited 2012 drilling season.

STANDARD OF REVIEW

The Petitions must be denied unless they demonstrate that the Region committed clear error in its permitting decision. 40 C.F.R. § 124.19. To the extent Petitioners challenge the Agency's interpretations of the Clean Air Act, as codified and implemented in its regulations, those interpretations should not be disturbed unless clearly erroneous and, in that event, only through formal revision of the relevant regulations. *Tondu Energy Co.*, 9 E.A.D. 710, 715-16 (EAB 2001) ("A permit appeal proceeding is not the appropriate forum in which to challenge either the validity of Agency regulations or the policy judgments that underlie them."). To the

drilling in the Chukchi Sea under its companion PSD permit for operations in that Sea. Petitions for review of both permits for the *Discoverer* are pending before the Board. See *Shell Gulf of Mexico Inc.*, OCS Appeal Nos. 11-02 through 11-04.

extent Petitioners challenge the Region’s technical judgments, 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.” *City of Attleboro, MA Wastewater Treatment Plant*, NPDES Appeal No. 08-08 (EAB Sept. 15, 2009), slip op. at 11; *see also Leed Foundry, Inc.*, RCRA Appeal 07-02 (EAB Feb. 20, 2008), slip op. at 19.

ARGUMENT

I. THE PERMIT REQUIREMENTS ARE CONSISTENT WITH CLEAN AIR ACT SECTION 504.

REDOIL Petitioners advance an unprecedented claim that Section 504(e) of the Clean Air Act imposes special, substantive requirements for PSD increment compliance on all temporary sources receiving Title V permits, regardless of whether they are major or minor sources for purposes of New Source Review.⁶ This argument hinges on the interpretation of the word “applicable” in Section 504(e) as it applies to increment requirements. Region 10 interpreted the word to mean “applicable to the source.” Petitioners argue it should mean “applicable to the area.” Region 10’s approach is consistent with the plain language of the section, is faithful to the statutory design of Title V within the context of the Clean Air Act, and complies with the Agency’s regulations. The Board should uphold Region 10’s reasonable interpretation of Section 504(e) and reject REDOIL Petitioners’ novel interpretation.

⁶ New Source Review refers to pre-construction permitting in both attainment and non-attainment (including unclassifiable) areas. Because the areas in which the *Kulluk* is permitted to operate are in attainment (or unclassifiable), this brief refers to the PSD (attainment) regulations.

A. Section 504(e) is Intended Only to Authorize an Alternative Streamlined Permit Process for Temporary Sources.

The plain language of Section 504(e) merely authorizes an optional permitting pathway for temporary sources under Title V. It does not create unique substantive requirements as Petitioners contend. Section 504(e) provides:

The permitting authority *may* issue a single permit authorizing emissions from similar operations at multiple temporary locations. No such permit shall be issued unless it includes conditions that will assure compliance with all the requirements of this chapter at all authorized locations, including, but not limited to, ambient standards and compliance with any applicable increment or visibility requirements under part C of subchapter I of this chapter. Any such permit shall in addition require the owner or operator to notify the permitting authority in advance of each change in location. The permitting authority may require a separate permit fee for operations at each location.

42 U.S.C. § 7661c(e) (emphasis added). Read in the context of the Clean Air Act as a whole, this provision reflects Congress's intent to enable temporary sources to obtain, in one permit, advance authorization for relocations, consistent with their particular permitting requirements, rather than seeking a new preconstruction permit (if otherwise required) at each new location. Section 504(e) does no more than compress this iterative permit process into a single permit.

Without Section 504(e), relocation of a temporary minor source would trigger a requirement for increment analysis at the new location only if the relevant State Implementation Plan ("SIP") required pre-construction increment analysis for minor sources. As Region 10 explained in the Response to Comments, absent Section 504(e):

If a non-PSD Title V source applied for a preconstruction permit at one location and then applied for a new preconstruction permit to move to a new location, the source would have to demonstrate compliance with the NAAQS at each location as a condition of obtaining the permit, but would not have to demonstrate

compliance with the increment at either location absent a similar requirement for minor sources in the applicable implementation plan.⁷

RTC at 108. As the Region further explained, the Clean Air Act imposes two different requirements for preconstruction review: (1) Section 110(a)(2)(C) requires SIPs to include a program to ensure the construction of “any stationary source” maintains compliance with the NAAQS, 42 U.S.C. § 7410(a)(2)(C) (emphasis added) and (2) the PSD program requires major sources to demonstrate compliance with the NAAQS and the increment and visibility standards prior to construction, 42 U.S.C. § 7475(a)(3). *See also* RTC at 103. Under Section 504(e), a temporary source that would otherwise be subject to preconstruction review at each new location can obtain a Title V permit under which the source need not obtain a new preconstruction permit when it moves to a new location. That temporary source, however, would receive a permit that “assure[s] compliance with all the requirements of this chapter at all authorized locations” consistent with Section 504(e).⁸

⁷ Implementation plans play a pivotal role in the Clean Air Act. In its SIP, a state has the discretion to implement permitting requirements *more stringent* than those set by EPA as the national floor; this latitude includes the discretion to impose increment compliance demonstrations on sources that do not qualify for the national PSD program. 42 U.S.C. § 7410(a)(2)(C); 40 C.F.R. §§ 51.160(a)(2) and (b)(2); *see* RTC at 103. As the Region recognized in the Response to Comments, *if* Alaska’s SIP included such a requirement, the requirements “applicable” to the *Kulluk* would have included an increment compliance demonstration. *Id.* Thus, contrary to REDOIL Petitioners’ misreading of that section of the Response to Comments, *see* REDOIL Petition at 27-28, the Region was analyzing whether the Alaska regulations were *more restrictive* than the federal floor, *not* whether they were more lenient.

⁸ Similarly, “applicable” in Section 504(e) in relation to visibility requirements refers to “applicable to the source.” The visibility requirements of the CAA apply to Class I areas, *see* 42 U.S.C. § 7491(a)(1), but only to a subset of sources in those areas. Preconstruction requirements for visibility apply only to a “major stationary source or major modification.” 40 C.F.R. § 51.307(a); *see also* 42 U.S.C. § 7475(a). Moreover, visibility requirements apply only to the subset of major sources that a Federal Land Manager (“FLM”) determines will have an adverse impact on visibility. 42 U.S.C. § 7475(d)(2)(B). No permit can be issued if the FLM demonstrates to the satisfaction of the state that the emissions from a proposed facility will have an adverse impact on visibility. 42 U.S.C. § 7475(d)(2)(C)(ii); *see Nat’l Parks Conservation Ass’n v. Manson*, 414 F.3d 1, 3 (D.C. Cir. 2005). The determination of what constitutes an “adverse impact on visibility” is made on “a case-by-case basis taking into account the geographic extent, intensity, duration, frequency and time of visibility impairment.” 40 C.F.R. § 52.21(b)(29). Thus, this

Congress's decision to authorize permitting agencies to incorporate NAAQS, increment, and visibility requirements in Title V permits for temporary sources in Section 504(e) is, therefore, best read as creating a one-time permitting process. That process yields a Title V permit that incorporates the location-dependent elements of a preconstruction permit to obviate the need for a temporary source to obtain repetitive preconstruction permits at multiple locations. The legislative history confirms that Section 504(e) creates a streamlined permitting process:

Some sources requiring permits do not operate at fixed locations. These might include asbestos demolition contractors and certain asphalt plants. Subsection (e) *allows* the permittee to receive a permit allowing operations, after notification to the permitting authority, at numerous fixed locations *without requiring a new permit at each site*. Any such permit must assure compliance at all locations of operation with all applicable requirements of the Act, including visibility protection and PSD requirements and ambient standards.

H.R. Rep. No. 101-490, pt. 1, at 350 (1990) (emphasis added). Thus, the references to NAAQS, increment, and visibility in Section 504(e) should be interpreted in the context of the CAA's otherwise applicable preconstruction requirements, rather than viewed as new, substantive requirements for Title V temporary sources. As such, a non-PSD Title V temporary source such as the *Kulluk* is properly subject to NAAQS at subsequent locations because if it sought a preconstruction permit for the new location, it would be required to demonstrate compliance with the NAAQS. By the same token, because a non-major source would not be required to demonstrate increment or visibility requirement in a stand-alone preconstruction permit (absent a specific requirement in the SIP), it is not required to do so in the streamlined Title V temporary source permit.

statutory scheme provides a highly fact- and source-specific scheme that places responsibility on states and Federal Land Manager to assess the visibility impacts of specific major sources.

B. The Region’s Interpretation is Consistent with the Plain Language of Section 504(e).

The Region’s application of Section 504(e) to the *Kulluk* is consistent with the plain language of the statute. As the Region noted in the Response to Comments, the Section imposes NAAQS compliance on all temporary sources using the streamlined permitting process. However, the word “applicable” precedes the imposition of increment and visibility requirements: “including, but not limited to, ambient standards and compliance with *any applicable* increment or visibility requirements under Part C of subchapter I of this chapter.” 42 U.S.C. § 7661c(e) (emphasis added). The Region reasonably interpreted this phrase to mean that Section 504(e) does not “create new permitting requirements for temporary sources with respect to demonstrating compliance with increment beyond what would otherwise be *applicable to such sources* under applicable CAA construction permitting programs.” RTC at 104 (emphasis added).

Because the word “applicable” modifies only the increment and visibility requirements, and not the NAAQS requirement, the Region appropriately determined that Congress intended to treat the requirements differently. It reasonably concluded that Congress intended that NAAQS would be required for all sources obtaining a Section 504(e) temporary permit, but the increment and visibility demonstrations would be required only “when they would be otherwise ‘applicable’ to a new major stationary source or major modification to an existing major stationary source in a permit required under Part C of the Act.” SOB at 26; *see also* RTC at 104. The Region further explained that this approach is proper because “increments themselves are not *directly applicable* as permitting criteria for sources that are not otherwise required to demonstrate compliance with increments to obtain a construction permit.” *Id.* at 105 (emphasis added). The Clean Air Act defers to the states to determine, in fulfilling their obligations under

the PSD program, whether to require increment demonstrations from sources that are not subject to the PSD program. *See id.* at 106. Thus minor sources are subject to increment demonstration *only* when required by the SIP.⁹

Region 10's interpretation gives full meaning to Section 504(e)'s reference to Part C. REDOIL incorrectly asserts that the Section 504(e) reference to Part C establishes an obligation to independently apply Section 163 (establishing increments) even though Section 165 makes the requirements of Part C applicable only to major sources as defined by Section 169. REDOIL Petition at 30-32. This argument improperly segments Part C. Section 504(e) references all of Part C, which, by its terms, applies only to major sources. While other provisions of the CAA make NAAQS directly applicable to sources, for purposes of federal permitting, increments are applicable to sources, if it all, only under Part C. Thus, Petitioners distort the meaning of Section 504(e) by suggesting that Section 163 stands alone.¹⁰

Petitioners' interpretation of Section 504(e) is inconsistent with EPA's recently promulgated Federal Implementation Plan ("FIP") for Indian Country. Consistent with Region 10's conclusion, this FIP requires permitting authorities to ensure that every permit maintains the

⁹ REDOIL Petitioners' citation to *Great Basin Mine Watch v. EPA*, 401 F.3d 1094 (9th Cir. 2005) does not support their argument that a minor source must perform an increment analysis. The case did not even involve permitting, but rather a challenge to an EPA final rule that allowed Nevada to divide one clean air area into two. *Id.* at 1095. In reciting the statutory background, the court explained that both major and minor sources consume increment after a baseline has been triggered. *Id.* at 1096. That point is conceded by all parties, *see* RTC at 102, but the opinion says nothing as to whether a given minor source must perform an increment analysis as a pre-condition to construction or operation.

¹⁰ As EPA explained in the preamble to the final Title V permitting rule, the Agency intended to clarify that "the NAAQS and the *increment and visibility requirements under part C of title I* of the Act are applicable requirements for temporary sources only." 57 Fed. Reg. 32,250, 32,276 (July 21, 1992) (emphasis added). Thus, the applicability of the PSD increment to a temporary source, under these rules, depends on whether increment compliance is required under Part C (42 U.S.C. §§ 160-171), which in turn applies only to major sources. 42 U.S.C. § 7475. Petitioners are seeking to challenge this rule some 20 years too late.

NAAQS. Review of New Sources and Modifications in Indian Country, 76 Fed. Reg. 38,748, 38,760 (July 1, 2011). Also consistent with the Region’s conclusion, and inconsistent with Petitioners’ argument, the FIP provides:

If your reviewing authority has reason to be concerned that the construction of your *minor* source or modification could cause or contribute to a NAAQS or PSD increment violation, your reviewing authority *may* require you to conduct an [Air Quality Impact Analysis] . . . to determine the impacts that will result from your new source or modification.

Id. at 38761 (emphasis added). Thus, in this national rulemaking EPA took the position that increment analysis, as a condition for issuance of a minor source permit, was discretionary for the local permitting authority. Petitioners’ interpretation of Section 504(e) is at odds with the interpretation EPA applied in this rulemaking and, to the extent Petitioners seek to challenge it, they were required to adhere to the CAA’s judicial review provision. *See* 42 U.S.C. § 7607.

C. Region 10’s Application of Section 504(e) to the *Kulluk* is Consistent With the Structure of Title V.

Section 504(a) specifies the conditions to be included in *all* Title V permits, including emission limitations and other conditions to “assure compliance with applicable requirements of this chapter [*i.e.*, the CAA], including the requirements of the applicable implementation plan.” 42 U.S.C. § 7661c(a). This language makes clear that Title V permits codify but do not create requirements. In particular, Section 504(a) does not require or authorize Title V permits, including those for temporary sources, to require PSD increment compliance review for any source for which such review is not otherwise required under the Clean Air Act or an implementation plan. The legislative history of Title V and interpreting case law confirm that Congress’s intent when enacting Title V was to clarify and simplify the procedures for permitting and compliance under the Clean Air Act. The streamlined permit authorized by

Section 504(e) is consistent with that approach because it maintains the relevant substantive requirements for a source, but eliminates unnecessary duplicative permitting.

EPA recognized the *procedural* nature of Title V in its implementing regulations:

All sources subject to these regulations shall have a permit to operate that assures compliance by the source with all applicable requirements. *While Title V does not impose substantive new requirements*, it does require that fees be imposed on sources and that certain procedural measures be adopted especially with respect to compliance.

40 C.F.R. § 70.1(b) (emphasis added); *see* 57 Fed. Reg. 32,250, 32,251 (July 21, 1992) (EPA notice of regulations implementing Title V) (“While Title V generally does not impose substantive new requirements . . . [t]he program will . . . clarify, in a single document, which requirements apply to a source and, thus, should enhance compliance with the requirements of the Act.”); *see also* *Sierra Club v. Leavitt*, 368 F.3d 1300, 1302 (11th Cir. 2004) (“Title V imposes no new requirements on sources. Rather, it consolidates existing air pollution requirements into a single document, the Title V permit, to facilitate compliance monitoring.”); *Romoland Sch. Dist. v. Inland Empire Energy Ctr., LLC*, 548 F.3d 738, 742 (9th Cir. 2008) (quoting S. Rep. No. 101-228, at 350 (1990)) (“Rather than imposing an additional set of requirements on pollution sources, this permitting scheme was intended to ‘incorporate the requirements of the Act (including SIP requirements) that are [already] applicable to the source.’”); *Peabody Western Coal Co.*, 12 E.A.D. 22, 27 (EAB 2005) (“Title V contemplates a permit program that incorporates and ensures compliance with the substantive emissions limits established under other provisions of the Act, but that does not independently establish its own emission standards.”).

Region 10’s application of Section 504(e) to the *Kulluk*, and its decision not to require an increment analysis for a minor source where one is not otherwise required, is consistent with the

well-established procedural nature of Title V. As the Region cogently explained in the Response to Comments:

Section 504(e) of the Clean Air Act [was not intended] to change the basic premise of the Clean Air Act permitting scheme for PSD sources versus non-PSD sources, namely, that PSD sources are directly subject to NAAQS and increment requirements, whereas non-PSD sources are not required to show they will not cause a violation of the increment unless the applicable implementation plan otherwise requires it for such sources. . . . EPA believes the intent of the Title V temporary source provisions is to relieve sources of the burden of applying for Title V permits for each new location, while at the same time, assuring compliance with all requirements to which the source would be subject if it were a new source at each such new location.

RTC at 108. REDOIL Petitioners' position makes little sense, as it would have Congress, in the middle of major legislation intended to streamline procedures, imposing anomalous new substantive requirements on a small subset of sources, *i.e.*, non-PSD Title V temporary sources. Region 10's interpretation is much more reasonable: that Congress merely intended to "relieve sources of the burden" of applying for a new permit at each location while still ensuring that location-specific analyses, as applicable to the source, were performed to assure compliance with air quality standards, with increment analysis required only if otherwise required for that source. The Board should uphold the Region's reasonable interpretation of the statute.

D. The Region's Interpretation of Section 504(e) is Consistent with EPA Regulations.

Region 10's interpretation of the phrase "applicable increment requirements" in Section 504(e) to mean "applicable to the source" as opposed to "applicable to the area" is consistent with the agency's regulations. A Title V permit for a temporary source to operate at multiple locations must include, *inter alia*, "Conditions that will assure compliance with all applicable requirements at all authorized locations." 40 C.F.R. § 71.6(e)(1). The Board has recognized that "[a]pplicable requirement" is a term of art in the Title V program that, in general, refers to any substantive requirement *that applies to an emissions source* under any CAA regulatory

provisions.” *Peabody Western Coal Company*, 12 E.A.D. 22, 28, n.14 (EAB 2005) (citing 40 C.F.R. § 71.2) (emphasis added). The regulations implementing the federal Title V program provide that “[a]pplicable requirement means all of the following *as they apply to emissions units in a part 71 source . . .*” 40 C.F.R. § 71.2. In turn, the term “emissions unit” is defined to mean “any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant . . .” *Id.* Thus, the Region’s interpretation of the word “applicable” as meaning “applicable to the source” is consistent with the agency’s Title V regulations in which applicability is determined by reference to the *source* not the *area*.

Even though the definition of “applicable requirements” in section 71.2 is source-specific, REDOIL Petitioners say that Region 10’s interpretation does not give full meaning to the definition. They argue that there would be no need to “separately enumerate increments [in subsection 13] and preconstruction requirements [in subsection 2]” if the phrase “increment requirements” in Section 504(e) (incorporated by reference into subsection (13)) “mean[s] nothing more than PSD preconstruction requirements” that are imposed on major sources under Title 1, as already identified in subsection (2). REDOIL Petition at 34.¹¹ The Region’s interpretation does not render subsection (13) redundant of subsection (2) as suggested by

¹¹ 40 C.F.R. § 71.2 provides in pertinent part:

Applicable requirement means all of the following as they apply to emissions units in a part 71 source : . . .

(2) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act;

. . . .

(13) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act.

Petitioners. Rather, as the Region stated in the Response to Comments, its interpretation gives full meaning to both of these elements of the regulatory definition of “applicable requirements” because the reference to Section 504(e) in subsection (13) covers requirements for changes in location that do not otherwise arise under subsection (2). *See* RTC at 107. As Region 10 explained:

So while EPA’s interpretation is that Title V temporary sources that are not PSD sources do not need to demonstrate compliance with PSD increments and visibility requirements unless otherwise required by the applicable implementation plan, Region 10’s interpretation does result in the imposition through the Title V permit of additional requirements on PSD sources beyond the conditions that would be included in a PSD preconstruction permit under 40 CFR § 52.21. Region 10’s interpretation thus maintains the basic premise of the CAA preconstruction programs – that PSD major sources are subject to NAAQS and increment in the permitting process, where as non-PSD sources are subject only to the NAAQS unless the applicable minor source program also includes the increment – yet still has meaning by imposing on Title V temporary sources the requirement to demonstrate at subsequent locations that they continue to comply with those underlying applicable preconstruction requirements at each subsequent location.

RTC at 107. The Region’s rationale is consistent with the both the statute and the regulations, giving full and proper meaning to both.¹²

II. THE PERMIT CONTAINS ENFORCEABLE EMISSIONS LIMITS THAT ENSURE THE *KULLUK* WILL REMAIN A MINOR SOURCE.

A. The Permit Limits on Potential to Emit Regulated Pollutants Are Reasonable and Technically Appropriate.

REDOIL and ICAS contend that the permit does not include practically enforceable emissions limitations adequate to ensure that the *Kulluk*’s potential to emit (“PTE”) regulated pollutants, including NO_x, CO, and SO₂, will not exceed 250 tons per

¹² REDOIL Petitioners cite 40 C.F.R. § 71.7(e)(1)(A)(3), the provisions governing minor permit modification procedures, as evidence that the regulations contemplate that non-PSD temporary sources will be subject to increment analysis. REDOIL Petition at 34. This fundamentally misreads the regulation. The cited regulation describes procedures that may be used if the modification is minor, not if the source is minor.

year (“tpy”). Similarly, they contend that the permit does not include practically enforceable limits that will ensure the *Kulluk*, with its associated vessels, emits less than 100,000 tpy CO₂e of greenhouse gases and remains a minor source of such emissions. Both Petitioners assert that the permit’s requirements that emissions of NO_x and CO shall not exceed 240 tpy and 200 tpy, respectively, based on a daily calculation of emissions over a rolling 365-day period, and that SO₂ and GHG emissions shall not exceed 10 tpy and 80,000 tpy, respectively, based on a monthly calculation of emissions over a rolling 12-month period, are improper “blanket emissions limitations” that do not effectively limit PTE and are not enforceable.

Petitioners do not dispute that the permit establishes a highly detailed and reliable method for monitoring the *Kulluk*’s and the fleet’s consumption of diesel fuel (and thus the cumulative emissions of all four pollutants) when the *Kulluk* is an OCS source. As explained in the Response to Comments:

[For most combustion units,] fuel usage is monitored continuously using a fuel flow meter. For the units where a fuel flow meter is not required (*Kulluk* emergency generator, seldom used sources, and OSRV work boats) the permit requires that fuel usage be measured using a fuel sight glass, tank gauge, or graduated dip stick. Under Permit Condition F.2.2.2. Shell is required to record fuel usage for each emission unit on an hourly, daily, and monthly basis.

RTC at 28. These operational parameters, which are linked to the emissions of all four criteria pollutants, are continuously tracked to determine compliance. *Id.* at 30.

Petitioners also do not dispute that Region 10 explained in great detail the basis for its technical determination that the permit limits are federally enforceable and enforceable as a practical matter. The Region correctly determined that, due to the variability and number of sources covered by the permit, combined with the unique activities and operational environment, “the most effective and reliable way to limit potential to emit was through a combination of

emission limits and specified emission factors, supported by stringent monitoring, frequent emission calculations, recordkeeping requirements, and operating limitations.” *Id.* at 27-28.¹³

For the 10 tpy permit limit on SO₂ and the 80,000 tpy permit limit on GHGs, the Region explained that it has a high degree of confidence that monthly calculations, based on a rolling 12-month limit, will reliably control these emissions at minor source levels. *Id.* at 28. With respect to NO_x and CO, the Region explained that, out of conservatism, it is requiring daily calculation of total emissions over a rolling 365-day period, enabling Shell to “frequently assess compliance and to determine whether it is approaching the emission limits established to limit its potential to emit and to adjust its operations accordingly.” *Id.* at 29.

Finally, the Region noted that the *Kulluk* is subject to other operational limits. These limits include hourly limits on mud line cellar (“MLC”) drilling and overall drilling activity, and requirements for add-on controls (selective catalytic reduction) for larger engines, *i.e.*, the generators on the *Kulluk* and main engines on icebreakers – as well as continuous monitoring on those units. Further, emissions from *Kulluk* generators, hydraulic power units engines, MLC air compressors, deck cranes and icebreaker main and generator engines are all controlled by

¹³ As the Region explained:

The proposed exploratory drilling operations will involve variable operations from well-to-well and season-to-season due to factors such as weather, sea state, remoteness of the drilling site, and the exploratory nature of the operations (*i.e.* the speculative nature of exploratory drilling). Emissions from many units will also vary depending on the activity being conducted. For example, emissions from drilling equipment on the *Kulluk* will depend on the stage of drilling activity (*e.g.*, drilling mud cellar lines versus other drilling activities), and emissions from the propulsion engines on the icebreakers will depend on the frequency, thickness, and location of ice. Such considerations require a level of operational flexibility that makes it impractical to establish unit-specific limits or operating parameters for some pollutants that might typically be applied to limit a stationary source’s potential to emit.

RTC at 27.

oxidation catalysts (“oxycats”) that control combustible emissions such as CO and PM and are likewise continuously monitored. *Id.*

Despite all these restrictions, Petitioners nevertheless contend that the permit’s limitations on emissions are not sufficient to render the *Kulluk* a synthetic minor source. None of Petitioner’s arguments are persuasive.

B. The Permit Limits On Annual Emissions of CO, NO_x, SO₂, and GHGs Are Not Unenforceable “Blanket Emissions Limits.”

Petitioners’ first claim is that these overall limits on emissions to minor source levels, though carefully and precisely enforced by measuring fuel combustion, are “blanket emissions limits” that are contrary to EPA’s regulations and are disfavored under some EPA guidance documents, principally, the 1989 Guidance on Limiting Potential to Emit in New Source Permitting (“1989 Guidance”) (A.R. B-4).

This claim is incorrect because the permit includes multiple types of operational limitations that, under 40 C.F.R. § 52.21(b)(4), are properly treated as part of the “operational design” of a source and thus properly limit its PTE. Under the regulation, such operational limits can include “air pollution control equipment and restrictions on hours of operation or on the type or amount of fuel combusted,” provided they are federally enforceable (as they clearly are here as part of the Title V permit). Shell’s permit includes air pollution control equipment (selective catalytic reduction and oxycats for engines that drive generators on the *Kulluk* and for the main engines on icebreakers and oxycats on numerous smaller sources). It also includes restrictions on days (120 days) and hours of operation (1,632 hours for drilling activity, of which no more than 480 can be devoted to MLC drilling) (Permit Conditions D.3.2-3.4) and limits on amount of fuel combusted (including an overall limit that is effectively the lesser of 7,004,428 gallons per

year or the amount that, based upon daily tracking and weekly computation, yields emissions in excess of the emissions limits).¹⁴

As the Region noted, *see* RTC at 30, there is no practical difference between (1) an *a priori* limit on the quantity of fuel that may be combusted during a given time period in a stationary source (which Petitioners would deem acceptable) and (2) the requirements imposed in the *Kulluk* permit under which the fuel budget is determined in real time and is keyed to the required limits on emissions. Assuming accurate emissions factors – a separate issue discussed below – for converting a volume of combusted fuel to a mass of resulting emissions of CO, NO_x, SO₂ or other constituents from the fuel, both approaches are equally a part of the operational design of a combustion unit. In the classic case of an overall fuel combustion limit for a synthetic minor source, the permit writer makes a reasoned judgment that, if a given volume of a known fuel is burned in a given unit over a relevant time period, the resulting emissions will remain below 250 tpy. Under the *Kulluk* permit, the Region established such an overall limit on the amount of fuel that can be combusted to limit CO₂e emissions. Permit at 41-42; SOB at 37-38. Because the *Kulluk* and associated vessels have numerous combustion units with different emissions factors, the Region also required that the volume burned in specific units be tracked and emissions attributed to every emissions unit's fuel consumption every day, with a requirement for NO_x and CO that no more fuel be combusted if total emissions exceed 240 or 200 tons, respectively, over the previous 365 days.¹⁵ Both operational limits require a fuel-to-

¹⁴ “The permit also establishes an aggregate fuel limit for all emission sources that limits the total amount of fuel combusted during any 12-month rolling period to 7,004,428 gallons. Permit Condition D.4.6. Compliance with the fuel limit is determined through stringent fuel monitoring requirements.” RTC at 28. REDOIL Petitioners concede that “fuel use and operational duration are straightforward operating parameters.” REDOIL Petition at 14.

¹⁵ As the Region explained:

emissions conversion, and the second method is just as accurate, precise, and reliable as a pre-set overall fuel consumption limit in keeping emissions below 250 tpy.

Contrary to Petitioner's assertions, these limitations on Shell's operation of the *Kulluk* and its associated vessels are not inconsistent with the 1989 Guidance, which recognizes – like the regulations – that restrictions on operation that properly limit PTE include limitations on, *inter alia*, “quantities of raw material consumed [or] fuel combusted.” 1989 Guidance at 6. Either type of limit requires conversion of units of one parameter (fuel or raw materials) into units of emissions, by application of an emissions factor, *e.g.*, X pounds of raw material times Y emission rate per pound equals Z pounds of pollutant.

This approach to limiting PTE also does not run afoul of the concerns that led the court in *Louisiana-Pacific* to criticize “blanket emissions limits.” *See United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1122, 1131-34 (D. Colo. 1987). The “fundamental distinction” with which the court was concerned is that blanket emissions limits may be harder to federally enforce, whereas restrictions on permitted hours of operation or the amount of fuel that may be combusted “could be easily verified through the testimony of officers, all manner of internal

In response to comments, Region 10 has revised the fuel monitoring requirements so that Shell is now required to use a fuel flow meter to measure fuel combusted by heaters and boilers. The remaining excepted sources are expected to generate less than 10% of NO_x emissions. For the combustion sources not equipped with fuel flow meters, the permit requires Shell to quantify fuel combusted by other means as specified in Permit Condition F.2.2.2. Specifically, Shell must measure the fuel combusted using the fuel tank sight glass, by manually measuring the amount of fuel in the tank using a graduated dip stick, or by measuring the fuel combusted using a fuel tank gauge. Shell is also required to make note of the start and end times of the activity during which the fuel is consumed (Permit Condition F.2.2.3) so that a fuel consumption rate (gal/hr) can be calculated (Permit Condition F.2.2.4). The alternative methods for measuring fuel use by the small and seldom used emission units in this case are reliable and the commenters have provided no information to indicate that the required techniques for monitoring fuel usage will not be sufficiently accurate to ensure compliance with permit requirements.

RTC at 43.

correspondence, and accounting, purchasing and production records.” 682 F. Supp. at 1133.

The *Kulluk* permit’s requirement for daily calculation of cumulative fuel combustion will satisfy the *Louisiana-Pacific* test because this requirement is straightforward to enforce, sufficiently real-time to ensure compliance, and easily verified by summing the total fuel consumed in all units over the relevant time period.¹⁶

ICAS further contends that the Region erred because the “annual” limits on emissions of NO_x, CO, SO₂ and GHGs represent impermissibly long compliance periods. However, as the Region explained in detail, these limits are appropriate for the *Kulluk* permit. Citing the 1989 Guidance, the Region observed: “[L]onger rolling limits are appropriate for sources with substantial and unpredictable annual variations in emissions, as well as for those sources that curtail operations during part of a year on a regular seasonal cycle.” RTC at 26. Noting the atypicality of Shell’s planned exploratory drilling, the Region concluded that “[g]iven the variability in operations, and thus emissions expected from this source, and after considering a full range of options for limiting the source’s potential to emit, Region 10 determined that it was appropriate [and consistent with the 1989 Guidance] to establish longer-term rolling limits.” *Id.*

The rolling 365-day limits for NO_x and CO provide current and timely information, with daily data and at least weekly calculation of total emissions that will enable Shell to track closely its compliance, especially if and as Shell approaches the 365-day total for either NO_x or CO.¹⁷

¹⁶ The court’s concern about a non-PSD source that receives a state permit escaping enforcement under the PSD provisions of the Clean Air Act if it actually exceeds the minor source threshold is not applicable to the *Kulluk* permit, which is enforceable under Section 328 and Title V of the Act (which both post-date *Louisiana-Pacific*). See 682 F. Supp. at 1133.

¹⁷ ICAS contends that “weekly calculations are a critical flaw to enforceability of the permit because it means that Shell will only know where it stands vis-à-vis its NO_x and CO permit limits once each week. If the operations are approaching these limits, it may be days before Shell is aware of that fact.” ICAS Petition at 14. However, if Shell’s weekly calculations indicate that, *e.g.*, total NO_x emissions are approaching 240 tpy, Shell will certainly utilize its daily data to calculate the rolling total every day. In

Thus, contrary to ICAS's claim, the "annual" limits are practically enforceable on a short-term basis.¹⁸

C. The Emissions Factors Prescribed In the Permit Are Reliable and Support Enforceable Limits on PTE.

At base, Petitioners' argument is that the emissions factors that will be used to calculate compliance will not reliably or effectively limit emissions. ICAS contends that:

The emissions factors set forth for Shell's NOx and CO PTE limits are in error because they do not represent the anticipated pollution from Shell's operations. They are based on inadequate stack tests or vast underestimates of the amount of pollution that Shell will emit.

ICAS Petition at 15-16.

ICAS does not dispute that almost all of the emissions sources on the *Kulluk* and associated vessels will be stack tested before operations, with the resulting emissions factors replacing the provisional emissions factors in the permit. However, ICAS contends that annual stack testing of the subject units is not sufficient and that the results may be less than 100%

this way, if necessary, Shell will have ample advance warning that it needs to manage and, if necessary, curtail operations and emissions. Contrary to ICAS's claims, EPA enforcement personnel could readily use the daily data to calculate compliance on any given day, if desired. Thus, the daily fuel use data ensure that the NOx and CO limits are practicably enforceable.

¹⁸ Region 10 properly analogized its approach to establishing enforceable limitations on PTE under the *Kulluk* permit to the kind of emissions limitations that the 1989 Guidance found appropriate for VOC coating operations. RTC at 30. The 1989 Guidance was limited to such coating operations, but its logic is applicable to the *Kulluk* and its associated vessels: "If the permitting agency determines for a particular surface coating operation that operating and production parameters (e.g. gallons of coating, quantities produced) are not readily limited due to the wide variety of coatings and products and due to the unpredictable nature of the operation, emission limits coupled with a requirement to calculate daily emissions may be used to restrict potential to emit." 1989 Guidance at 8. The Guidance goes on to specify that the source "must be required to keep the records necessary for this calculation, including daily quantities and the VOC content of each coating used." *Id.* The rationale for this approach to coating operations is the same as that which underlies the limits on the *Kulluk*'s PTE: "Emission limits may be used in this limited circumstance to restrict potential to emit since, in this case, emission limits are more easily enforceable than operating or production limits." *Id.* The *Kulluk* permit additionally includes operating limits on fuel burned, wastes combusted, days of operation, etc.

accurate. ICAS Petition at 16-17. But as the Region explained in addressing comments on supposed inaccuracy of the emissions tests:

For those emission units that together constitute 91 percent of the NO_x emissions, the Region is requiring Shell to employ a stack test-derived emission factor to determine NO_x emission. The emission factor is based upon worst-case emissions observed across three load conditions.

RTC at 45. Thus, any inherent variability in emissions-to-fuel ratios derived from stack testing is mitigated by use of worst-case emissions observed under three load conditions. And, when commenters questioned the sufficiency of proposed requirements for stack testing of the *Kulluk*'s and associated vessels' incinerators, the Region improved the accuracy of the testing by revising the permit to require Shell to stack test these units at maximum capacity to determine PM, CO, and NO_x emissions factors. *Id.*¹⁹ In support of its claim of "vast underestimates," ICAS also argues that the emissions factors for the small percentages of emissions in the permit that will not be source-tested are unreliable.

The Region fully responded to ICAS's comments on this point and reasonably explained the basis for this highly technical determination. After noting that the permit will require testing to establish emissions factors for units that constitute 91% of the total NO_x emissions and 97% of the total CO emissions, the Region explained its approach to the non-tested units. The Region noted that for the sources for which the Region adapted test data from analogous units on the *Discoverer*, those levels were conservatively set at the 90th percentile of those test results. Thus, only the remaining one percent of NO_x and three percent of CO emissions, from heaters and

¹⁹ ICAS claims that the uncertainty in stack test data will be upwards of 15 percent. ICAS Petition at 17. However, in its comments ICAS raised this particular uncertainty factor only in the context of Shell demonstrating compliance with the PM_{2.5} NAAQS, not as a defect in the stack testing required under the permit. See NSB/AEWC/ICAS Comments at 22-23, 29 (A.R. I-54). Under the Board's Standing Order of April 19, 2011, because ICAS has not demonstrated that it raised this issue during the comment period, it may not now do so in its Petition. Standing Order on NSR Review at 4.

boilers, are subject to AP-42 emissions factors (which, based on data from the *Discoverer*, likely will overstate the *Kulluk*'s emissions). RTC at 32-33. For all these reasons, the Region reasonably concluded that “the permit strikes an appropriate balance between the need for accurate emission factors to reliably calculate emissions for comparison to permit limits and the complexity of testing numerous emission units in a short period of time.” *Id.* at 33.

D. PTE for GHGs Is Further Limited by an Overall Limit on the Volume of Combusted Fuel.

ICAS contends that the *Kulluk* permit does not include practically enforceable emissions limits for GHG emissions. ICAS argues, first, that the permit's overall limitation on GHG emissions to 80,000 tons in any rolling 12-month period, is a “blanket emissions level,” even though it is based on an overall fuel use limit and on reasonable assumptions about the PTE of incinerators and of mud de-gassing. ICAS Petition at 21. These limits are clearly among the recognized operational limits under the 1989 Guidance, thus the only issue is whether monthly calculations are too infrequent.

As the Region noted, the 1989 Guidance specifically recognizes that a rolling 12-month operational limit will be appropriate for sources, such as the *Kulluk*, with “substantial and unpredictable annual variations in emissions, as well as for those sources that curtail operations during part of a year on a regular seasonal cycle.” RTC at 26. Moreover, while Shell will only be required to calculate CO₂e emissions from these sources by the tenth day of each month, both Shell and EPA can easily track and calculate at any time during a given month whether the *Kulluk* is approaching this limit. Shell intends to monitor and record daily the fuel usage *to the gallon* on the *Kulluk* and the associated vessels. Shell will determine incinerator emissions by assuming the *Kulluk*'s incinerator operates the maximum of 12 hours per day allowed under the permit, and the icebreakers' incinerator a full 24 hours per day, always at maximum capacity and

generating a worst-case weight of GHGs from these units each day, which will be added to the total. Permit Condition D.4.4. Thus, Shell will have data sufficient at any time to calculate cumulative CO₂e emissions over any time period, with not more than a day's lag time. If, based on a calculation on the tenth day of a month, the rolling 12-month emissions are approaching the total, Shell will have ample incentive to calculate emissions on a daily basis thereafter in order to avoid exceeding the permit limit on greenhouse gas emissions. These daily records also would enable EPA to calculate total emissions at any time it chooses to do so. Thus, the emissions limit for CO₂e is practically enforceable and consistent with EPA guidance.

With regard to the other component of GHG emissions, ICAS contends that Region 10 committed clear legal error in determining a PTE for fugitive methane emissions from drilling muds based on a reasonable maximum monthly emissions rate with no controls, multiplied by the operational limits on the number of months Shell is allowed to operate. As the Region observed, such inherent limitations on emissions can form the basis of a source's PTE. RTC at 34. Operational limits, *e.g.*, on months of operation, are squarely within the 1989 Guidance. This leaves as the only real issue whether the Region clearly erred in finding that a reasonable maximum monthly emissions rate is 1,596 pounds per month of methane, or 17 tons per month of CO₂e.

ICAS points to nothing in the record that calls this emissions rate into question, except the fact that ConocoPhillips cited a higher rate in a subsequently withdrawn permit application.²⁰

²⁰ ConocoPhillips' application is not in the record of the *Kulluk* permitting decision, and the Board should disregard it for that reason alone. Furthermore, ConocoPhillips withdrew its permit application on September 26, 2011. *See* Shell Ex. 1. Thus, with ConocoPhillips' application withdrawn, no statement or representation in it can be relied on for any purpose.

The Region undertook to resolve the discrepancy²¹ and, having confirmed that Shell’s methane emissions projection was based on “actual well pressure, temperature, porosity and depth of the hydrocarbon bearing zone from past Arctic exploration projects,” the Region concluded that Shell’s projection of the maximum methane emissions is accurate (but still increased the projection by 400 percent to be conservative). *See* RTC at 34.²²

The Region reasonably concluded that “even with these conservative assumptions, the GHG emissions (85 tons per year CO₂e) from the drilling mud system represent only 0.11% of the total GHG emissions (80,000 tons per year CO₂e) allowed under the permit.” *Id.* at 35. Given the inherently small contribution of GHGs from the drilling mud system, it was not unreasonable for Region 10 to conclude that direct monitoring of these emissions is unnecessary. *Id.* And, when added to the enforceable and closely monitored limitations on how much fuel and solid waste is burned, and resulting GHG emissions, the Region reasonably concluded that the *Kulluk* and associated vessel emissions do not have the potential to emit more than 80,000 tons of CO₂e per year. This is well under the 100,000 ton significance standard for new source review for a source that, like this one, is not otherwise subject to PSD.

²¹ 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. C-575) (email string includes Shell’s submission in response to Region 10 request).

²² “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 35.

While ICAS correctly notes that the Region did not have five years of data regarding mud throughput analogous to five years of grain elevator throughput, the Region could reasonably find Shell’s calculations provide similarly reliable data from which to estimate the potential emissions from mud degassing. This technical judgment is entitled to deference.

E. PTE for SO₂ Is Further Limited by an Overall Limit on the Volume and Sulfur Content of Combusted Fuel.

ICAS similarly contends that the Region erred by determining that the operational limitation on total fuel use of 7,004,428 gallons during any rolling 12-month period, coupled with an operational limitation on the sulfur content of the diesel fuel burned in any emissions source on the *Kulluk* or an associated vessel, limit the source's PTE for SO₂. By multiplying the known maximum sulfur content per gallon of diesel fuel by the known volume of fuel burned during the preceding 12 months, Shell and EPA can definitively determine at any given time the total weight of sulfur emitted from all combustion sources during that time period. These two limits – fuel use and sulfur content – are exactly what the 1989 Guidance contemplates as appropriate operational limits. *See supra* Section II.B.²³

F. Region 10 Reasonably Concluded That This is Not a “Sham Permit.”

Finally, ICAS asserts that the *Kulluk* permit is a sham minor source permit because it contends Shell intends to violate the terms and conditions of the permit and disregard the permit's synthetic minor limits on PTE. ICAS argues that the air permit is “not congruent” with Shell's planned operations. For this proposition, ICAS cites what it claims is a disparity between the number of days of drilling allowed under the permit and the number of days of drilling activity that would be covered by the Incidental Harassment Authorization (“IHA”) under the Marine Mammal Protection Act that Shell is seeking from the National Marine Fisheries Service. ICAS misleadingly claims the air permit authorizes only 68 days of drilling, whereas the IHA indicates that Shell plans 78 days of drilling. In fact, the Title V *Kulluk* permit limits “drilling

²³ Compliance with the annual fuel-use limit will ensure compliance with the permit's limit of 10 tpy, as the 0.01 percent by weight limit on sulfur in the fuel burned on the *Kulluk* and associated vessels can yield sulfur emissions of, at most, 4.9 tpy. *See RTC* at 18.

activity” – defined as those times when the drill bit is turning or an MLC engine is operating – to a total of 1,632 hours. ICAS’s suggestion that this equates to 68 days of drilling would be true only if drilling activity were continuous for 24 hours during each of those 68 days. By contrast, Shell’s IHA application indicates that Shell’s “exploration drilling program will require approximately 78 drilling days,” but does not suggest that drilling would be continuous during these 78 days. *See* IHA Application at 17-18.²⁴ ICAS is comparing apples to oranges. The *Kulluk* permit’s limitation on hours of drilling activity is not inconsistent with the IHA application’s statement that drilling will occur on approximately 78 days.²⁵ This does not indicate a discrepancy or clear error by Region 10.

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

REDOIL Petitioners contend that the Region erred in determining that a Coast Guard safety zone²⁶ around the *Kulluk* would establish the ambient air boundary for emissions. There is no dispute that ambient air excludes air (1) “over land owned or controlled by the source” and

²⁴ Shell’s IHA application is available at: http://www.nmfs.noaa.gov/pr/permits/incidental.htm#shell_chukchi2012.

²⁵ The IHA application states at 17-18:

In total, it is anticipated by Shell that the exploration drilling program will require approximately 78 drilling days, excluding weather, whaling shut-down or other operational delays. Shell assumes approximately 11 additional days will be needed for drilling vessel mobilization, drilling vessel moves between locations, and drilling vessel demobilization.

²⁶ The “Operational Restrictions to Protect the NAAQS” in the *Kulluk* permit authorize operation on the OCS source only if the *Kulluk* is subject to a “currently effective safety zone established by the United States Coast Guard (USCG) which encompasses an area within at least 500 meters from the hull of the *Kulluk* 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’).” Permit at 42-43. Shell also must have in place a written “public access control program to . . . Locate, identify, and intercept the general public by radio, physical contact, or other reasonable measures to inform the public that they are prohibited by Coast Guard regulations from entering the Safety Zone.” *Id.* at 43; *see* SOB at 40.

(2) “to which the public access is precluded by a fence or physical barrier.”²⁷ The Region took a reasonable approach to adapting these undisputed principles to the unusual circumstance of an operation on open water. The Region’s judgment in this instance is entitled to deference. See RTC at 51-52; SOB at 40. As EPA Region 2 noted when evaluating another offshore 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 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. BB-19). When evaluating whether the perimeter of a Coast Guard safety and security zone²⁸ 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 1.²⁹

Region 10 decided that a Coast Guard safety zone around the *Kulluk* 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

²⁷ RTC at 51, quoting Letter from Administrator Douglas M. Costle, EPA, to Senator Jennings Randolph (Dec. 19, 1980) (A.R. BB-1).

²⁸ 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 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).

²⁹ 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”) (REDOIL Ex. 20), upon which REDOIL Petitioners rely. See REDOIL Petition at 17 n.52.

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 52. Region 10 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.” *Id.*

The REDOIL Petitioners do not address the OAQPS/Region 2 precedent upon which Region 10 relied, other than to simply suggest that it was unlawful. REDOIL Petition at 18, n.57. 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 take the overly narrow view that, because Shell does not own the area within the safety zone, the area must be considered open to access by the general public. However, given that federal law bars such entry and the public will be apprised that unauthorized entry into the safety zone is a violation of federal law, it is difficult to conceive that the safety zone would fail to preclude access. It was not unreasonable, let alone clearly erroneous, for the Region to conclude that the Coast Guard’s safety zone perimeter properly defines the area of public access.

In addition, REDOIL Petitioners appear to misunderstand the “control” an onshore property owner has over how to exclude persons from its property. The owner of a stationary source onshore, when faced with an intruder on its property, can ask the intruder to leave. If the intruder ignores the request, the property owner can then call a law enforcement agency to have the person removed. Shell is in the same position. The *Kulluk* permit requires Shell “to inform the public that they are prohibited by Coast Guard regulations from entering the Safety Zone.”

Permit at 43. If a member of the public chooses to ignore this command, it is for the Coast Guard to enforce the restriction. In each case, regardless of who owns or leases the property, actual control of access is ultimately exercised by a law enforcement agency that can remove and prosecute trespassers.

Finally, REDOIL Petitioners claim that, if the Region were to cite to the Arctic offshore environment as a deterrent to general public access into the Coast Guard safety zone, such argument would be a *post hoc* rationalization. REDOIL Petition at 19. This argument fails because it ignores statements that the Region actually made in the Response to Comments, namely, that in the context of the “overwater locations in the arctic environment at issue,” the *Kulluk* permit’s program of monitoring for approaching vessels and notifying the Coast Guard “is 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.” RTC at 52. Accordingly, any support the Region were to provide for a “natural physical feature” argument would be a permissible additional explanation or amplification of a previously articulated rationale.

IV. THE REGION’S DECISION TO FOLLOW OAQPS GUIDANCE FOR DEMONSTRATING COMPLIANCE WITH THE NO_x NAAQS WAS NOT ERRONEOUS.

REDOIL Petitioners contend that the Region clearly erred by accepting air modeling from Shell that understates the project’s impacts on 1-hour NO_x concentrations. They allege that the Region unlawfully allowed Shell to utilize a modeling approach that combines projected source impacts and monitored background levels to determine the cumulative impacts from which it selected the 98th percentile 1-hour daily maximum for comparison to the NAAQS. REDOIL Petitioners claim it was legal error to allow Shell to use “background values that were already adjusted to the 98th percentile, instead of basing its calculations on the full distribution of background values.” REDOIL Petition at 37-38. Petitioners do not dispute that Shell followed

OAQPS's 2011 guidance on how to analyze 1-hour NO₂ impacts. REDOIL Petitioners complain that this refined OAQPS guidance differed from the Page Memorandum dated June 29, 2010.

See Memorandum from Stephen D. Page, Director, OAQPS, "Guidance Concerning the implementation of the 1-hour NO₂ NAAQS for the Prevention of Significant Deterioration Program," (June 29, 2010) ("Page Memorandum") (A.R. B-35).

REDOIL 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 NO₂ 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 NO₂ 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." Memo from Tyler Fox to Regional Air Division Directors (March 1, 2011) ("Fox Memorandum"), at 17 (A.R. B-83). 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 NO₂ 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 program that was barely 10 months old and, during that short time, had presented major interpretation and implementation challenges nationwide. If REDOIL 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 REDOIL Petitioners challenge only OAQPS’s 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 NO₂ standard.

V. THE REGION PROVIDED ADEQUATE OPPORTUNITY FOR PUBLIC COMMENT.

ICAS argues that the Region unlawfully failed to provide an adequate opportunity for comment on the challenged permits. ICAS Petition at 6-9. The Board should deny review on this issue because the Region met the unambiguous public-comment requirements of 40 C.F.R. Parts 71 and 124, and ICAS has not shown that the Region committed clear legal error.

ICAS asserts that, while the Region provided 46 days for comment on the *Kulluk* permit, rather than the 30 days required by 40 C.F.R. § 71.11(d)(2) and 40 C.F.R. § 124.10(b), this amount of time was inadequate because the *Kulluk* permit comment period coincided with the comment period on a draft permit for ConocoPhillips’ proposed Chukchi Sea exploration

program (as well as overlapping for a few days with the comment period on the *Discoverer's* permits). See ICAS Petition at 7-8. ICAS provides no legal authority to support its theory that the Region must hold non-simultaneous comment periods for permits in the same region, contrary to the express terms of sections 71.11(d)(2) and 124.10(b).³⁰

Despite having joined forces with the AEWC and the NSB to submit comments on the *Kulluk* permit comprising 39 pages of single-spaced text, ICAS now contends that the 46-day comment period “deprived [ICAS] of a meaningful opportunity to comment on Shell’s new air modeling results.” ICAS Petition at 8. ICAS asserts it was “unable to hire an air modeler to help review Shell’s new modeling results generated by the AERMOD model within the limited time provided for comment.” *Id.* It is difficult to credit this claim, given the same AERMOD model was used in the air quality analysis for the *Discoverer* permits and was available during the comment period on those permits which opened on July 6, 2011, as well as during the comment period on the *Kulluk* permit, which did not end until September 6, 2011 – a period of over 60 days. RTC at 8.³¹

ICAS contends that the Region violated 40 C.F.R. § 71.1(g) because ICAS (together with NSB and AEWC) requested that the Region not hold overlapping comment periods on the pending Arctic air permits. ICAS asserts that this request demonstrated a need for more time

³⁰ ICAS cites *Russell City Energy Center*, PSD Appeal No. 08-01, slip op. at 22 (EAB July 29, 2008), but in that case the Board remanded the permit because the permit issuer completely failed to provide notice of the draft permit.

³¹ Moreover, when the REDOIL Petitioners submitted comments on the *Discoverer* permits on August 5, 2011, they included 256 pages of detailed comments prepared by an air modeling consultant on Shell’s air quality impact analysis, addressing the same AERMOD model used to evaluate the *Kulluk’s* impacts. See Comments of Alaska Wilderness League, *et al.* on Revised Draft Permits (Aug. 5, 2011), Attachment 1 (*Discoverer* permits A.R. RRR-30). Thus, as of August 5, 2011 – a full month before the comment period closed – ICAS had at its disposal the comments of REDOIL’s consultant on the AERMOD model and could have submitted those or similar comments regarding the *Kulluk* permit.

under the regulation. ICAS Petition at 8. However, the request offered only conclusory statements that commenting on the permits would take significant amounts of time, and offered no specific reason why a separate 46-day period would be necessary. By contrast, in denying this request in its July 21, 2011 letter, the Region explained in detail why it had determined that a 46-day comment period for the *Kulluk* permit, with minimal overlap with the *Discoverer* comment period, would balance stakeholder needs, and described the efforts that the Region was making to facilitate comment on the permit, including increased outreach to North Slope communities. A.R. C-532; *see* RTC at 5-8. This carefully considered determination was not unreasonable or clear legal error. In fact, ICAS was able to submit extensive comments on the *Kulluk* permit (as well as on the *Discoverer* permits).

VI. THE REGION’S ENVIRONMENTAL JUSTICE ANALYSIS IS NOT CLEARLY ERRONEOUS.

A. The Region Appropriately Addressed Compliance With the Ozone NAAQS.

ICAS contends that Region 10 committed error by relying on Shell’s demonstrated compliance with the existing 8-hour ozone NAAQS to determine that, with respect to ozone formation, the permit will not have a disproportionately high and adverse human health or environmental effect on minority and low-income populations. From its perspective as an entity that has diligently sought OCS air permits for exploration drilling on its Arctic leases for over five years, Shell urges the Board to reject ICAS’s suggestion that the Executive Order mandates that the Region impose unspecified ozone control requirements on Shell’s project, based on nothing more than 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.

The Board's remand of the 2010 *Discoverer* permits for further evaluation of compliance with the 1-hour NO₂ standard provides no support for ICAS's claims as they relate to ozone. That remand was based on EPA's formal finding, which occurred during the permitting process, that the existing 1-hour NO₂ NAAQS did not protect sensitive populations – such as those on the North Slope – as a basis for finalizing the new standard. ICAS now suggests 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. ICAS is 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 and an operating permit under 40 C.F.R. Parts 70 and 71 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.” *Shell Gulf of Mexico Inc. and Shell Offshore Inc.*, OCS Appeal Nos. 10-01 *et al.*, slip op. at 74 (EAB Dec. 30, 2010) (“*Discoverer* Remand 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 NO₂ 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 NO₂ NAAQS alone did not provide requisite protection of the public health.

Discoverer 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 Ex. 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.*

ICAS cites, as ostensible evidence that EPA "found that 'children and adults with asthma and other preexisting pulmonary diseases are at increased risk to the effects of O₃ exposures,'" a draft final rule that would have established a revised standard of 0.070 ppm.³² 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:

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³² ICAS Petition at 31. *See* Draft National Ambient Air Quality Standard Preamble for Ozone at 35, available at: http://www.epa.gov/glo/pdfs/201107_OMBdraft.

Region 10 could not reasonably have concluded from a draft document with these disclaimers that the Administrator had, as the Board observed in remanding the *Discoverer* permits, “concluded, prior to the issuance of the Permits, that the . . . [ozone NAAQS] did not provide requisite protection of the public health.” *Cf. Discoverer* 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.*

B. The Region Appropriately Considered NO₂ Emissions and Impacts.

ICAS contends that, while the emissions covered by the *Kulluk* permit will not cause an exceedance of the 1-hour NAAQS for NO₂, the Region committed error by not considering cumulative impacts of those emissions together with NO₂ emissions from associated vessels and other vessels when they operate outside the 25-mile zone, and that this makes the Region’s environmental justice analysis inadequate. ICAS Petition at 34-38.³³ It is undisputed that emissions from associated vessels operating more than 25 miles from the *Kulluk* when it is an OCS source are not regulated under the *Kulluk* permit.³⁴ Region 10 noted its lack of authority to

³³ Petitioners do not challenge Region 10’s conclusion that “All of the total impacts [including NO₂] are less than the NAAQS at all locations that constitute ambient air,” and will be well below the 1-hour NO₂ standard in the North Slope communities. SOB at 48-49.

³⁴ The Board has confirmed that when project-related vessels are outside the 25-mile zone within which their emissions are considered 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

regulate these emissions as part of the *Kulluk* OCS source, and explained why it was not considering the impacts of emissions from these vessels. RTC at 114. One reason is that the *Kulluk* will be moving under tow when it is not an OCS source, “which will reduce the impact of the emissions at any one location.” *Id.* at 115. Further, Region 10 does not expect emissions from associated vessels outside 25 miles to cause or contribute to a NAAQS violation:

[B]ecause these vessels are expected to be moving during the activities in question, the impact of emissions from these vessels during these activities would be dispersed during transit and the impact at any one location would not be as great as would be the same level of emissions from a stationary source. To the extent any of these vessels would be stationary for any extended period of time, Region 10 expects that such vessels would be anchored and not using their propulsion engines, the emission units that would be expected to have the highest emissions on these vessels.

Id. ICAS argues that, because – after the record for the *Kulluk* permit had closed – Shell provided information to the Department of Interior about emissions from vessels associated with the *Kulluk* at locations beyond 25 miles from the *Kulluk*, the permit should be remanded for the Region to consider further its conclusion. ICAS Petition at 35. However, Shell’s submission *confirmed* Region 10’s conclusions about the relative insignificance of these non-OCS source emissions. Shell provided estimated emissions factors, but cautioned:

When utilizing the emissions data provided . . . , it is important to note that the emissions from vessels operating more than 25 miles from the [drillship] during drilling operations will be dispersed over a large area because the vessels are expected to be moving during the activities in question, with the result that the impact of these emissions at any one location would be negligible. To the extent

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.

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

that any of the vessels would be stationary for any extended period of time outside the 25 mile area, they would be anchored and not using their propulsion engines, minimizing emissions and emissions impacts.

See Letter from Shell to U.S. Department of the Interior Bureau of Ocean Energy Management (Nov. 14, 2011) (ICAS Ex. 15). It was not clear error on the part of the Region to conclude that the emissions from vessels more than 25 miles away from the *Kulluk* could have little cumulative effect in conjunction with the *Kulluk* emissions because they would be widely dispersed and minimal. The information Shell submitted to the Interior Department in July 2011, on its face, would not have provided a basis for Region 10 to change its conclusion that there is no reason to find that these emissions could cause an air quality violation or impose any disproportionate impact on the environmental justice community.

More fundamentally, ICAS does not claim that vessels that are operating beyond 25 miles of the *Kulluk* can be regulated directly under this Title V permit. Rather, ICAS advocates 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 intent of the Executive 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. 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”). However, federal agencies are required to implement this order “consistent with, and to the extent permitted by, existing law.” *Id.* at 7,632. ICAS’s effort to seek, under the guise of environmental justice, potential new regulation of mobile sources in Shell’s permit, *i.e.*, vessels more than 25 miles from the *Kulluk*, is clearly contrary to CAA 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 an existing statute provides to the contrary.

C. The Region’s Environmental Justice Analysis Was Based On Sufficient Public Participation Under Applicable Regulations.

Again, ICAS suggests that, regardless of whether the Region acted lawfully under 40 C.F.R. Parts 71 and 124 by providing a 46-day comment period on the draft *Kulluk* permit, 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 alike. Shell respectfully urges the Board not to grant review on this issue and to find that, because the 46-day comment period for these permits met requirements of 40 C.F.R. § 71.11(d)(2) and 40 C.F.R. § 124.10(b), it was therefore sufficient for environmental justice purposes.

CONCLUSION

Petitioners have failed to meet their burden to show that the Region’s decision to issue the *Kulluk* permit 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: December 21, 2011

STATEMENT OF COMPLIANCE WITH WORD LIMIT

Pursuant to EAB's Order Governing Petitions for Review of Clean Air Act New Source Review Permits, dated April 19, 2011, I hereby 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 13,754 words, excluding the parts exempted by the Board's Order.

/s/ Tony G. Mendoza
Tony G. Mendoza

DATED: December 21, 2011

CERTIFICATE OF SERVICE

I herby certify that I have caused a copy of the foregoing Response to Petitioners for

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