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July 19, 2008

VIA OVERNIGHT DELIVERY

Ms. Eurika Durr
Clerk of the Board
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G. Street, N.W. Suite 600
Washington, D.C. 20005

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ENVIR. APPEALS BOARD

Re: Shell Offshore Inc., Kulluk Drilling Unit, Permit No. R10OCS-AK-07-01 (Revised)

Dear Ms. Durr:

Please find enclosed one original and five copies of the Petition for Review filed with respect to the above-referenced permit on behalf of the North Slope Borough, Inupiat Community of the Arctic Slope and the Alaska Eskimo Whaling Commission. If you have any questions regarding these materials, please do not hesitate to contact us. Please direct all future communications regarding this matter to our office. Thank you for your assistance.

Sincerely,

Christopher Winter

Enclosures

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ENVIR. APPEALS BOARD

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

In re:

Shell Offshore, Inc.
Kulluk Drilling Unit (Kulluk)

Permit No. R10OCS-AK-07-01 (Revised)

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PETITION FOR REVIEW

**PETITIONERS NORTH SLOPE BOROUGH,
INUPIAT COMMUNITY OF THE ARCTIC SLOPE
AND ALASKA ESKIMO WHALING COMMISSION**

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I. INTRODUCTION

Pursuant to 40 C.F.R. §§ 55.6(a)(3) and 124.19(a), the North Slope Borough, the Inupiat Community of the Arctic Slope and the Alaska Eskimo Whaling Commission hereby petition for review of Permit No. R10OCS-AK-07-01 (revised), issued to Shell Offshore, Inc. (“Shell”) on June 18, 2008 by the Environmental Protection Agency (“EPA”).

This petition is based on violations of fundamental provisions of the Clean Air Act. The Clean Air Act is intended to protect public health and welfare from the adverse effects of air pollution. Within the Clean Air Act is the Prevention of Significant Deterioration (“PSD”) program, which as its name suggests is intended to prevent existing air quality levels from deteriorating.

One of the aims of the PSD program is to ensure that a single enterprise cannot segment its operations into small enough increments that it then evades the protections afforded to air quality by the PSD program. This aim reflects EPA’s recognition that such a practice would fundamentally frustrate the basic purpose of the Clean Air Act—protecting existing clean air resources and human health.

Shell is planning on drilling exploration wells in the Beaufort Sea of the Arctic Ocean in anticipation of producing oil. Exploration drilling activities, like those proposed by Shell, may contribute considerable air pollution above the Beaufort Sea and adjacent marine and coastal areas. Given the aggressive leasing of the Beaufort Sea and Chukchi Sea in recent years, and the persistently high price of oil, proposals for exploration drilling in the Arctic Ocean are likely to increase dramatically in coming years.

Through the air quality control permits originally granted to Shell for its exploration project, and through the permit appealed here, EPA, at Shell's request, segregated the potentially huge emissions from the many potential wells in Shell's proposed exploration plan into multiple separate sources. Shell requested minor air quality control permits to avoid the thorough and comprehensive procedural and substantive air quality protections of the PSD program.

Just as the Environmental Appeals Board ("the Board") rejected EPA's reasoning for segregating emission sources in the original permits, it should do so here. EPA's reasoning is erroneous that the separate drill sites that make up Shell's exploration plan are not part of the same source; the facts demonstrate that the drill sites should be treated as one source, both because of their relative proximity and interdependence.

For these reasons, the Board should accept this appeal, vacate Shell's permit and remand the permit decision to the EPA.

II. FACTUAL BACKGROUND

The Beaufort Sea off of the north coast of Alaska stretches from the Chukchi Sea boundary at Point Barrow east to the Canadian border. Vast expanses of this area are untouched by industrial activity and provide important habitat for thousands of species of animals, birds, and fish, including endangered and threatened species such as the bowhead whale, polar bear, and spectacled and Steller's eider.

Inupiat peoples have inhabited the coastal region of the Beaufort and Chukchi seas for millennia. Coastal villages in this area include Kaktovik; Nuiqsut; Barrow; Point Hope; Point Lay; and Wainwright. Residents of these villages rely for cultural and subsistence purposes on the resources of the nearby marine environment, and research

suggests that the health of the Inupiat people may be more vulnerable to impacts from certain development activities than other populations in the United States. Letter from Edward Itta, Mayor, North Slope Borough, to Dan Mahar, EPA Region 10, April 1, 2008 (Exh. 1).¹

The eastern portion of the Beaufort Sea, including the area in which Shell plans to conduct some undefined portion of its drilling, provides important subsistence hunting grounds for Inupiat Eskimos. In particular, the area in and around Camden Bay, the proposed location of Shell's exploration wells at Sivulliq, has been used since time immemorial by Inupiat to hunt for bowhead whales, ice seals, seabirds and other important subsistence species. Subsistence activities provide food for Inupiat's families and provide the foundation of their culture and traditions.

Between 1979 and 2002, the federal government held a total of seven oil and gas lease sales for the Beaufort Sea OCS. See Final Environmental Impact Statement, Beaufort Sea Planning Area Oil and Gas Lease Sales 186, 195, and 202 (February 2003) ("Multi-Sale FEIS") at V-13, available at http://www.mms.gov/alaska/ref/EIS%20EA/BeaufortMultiSaleFEIS_186_195_202/2003_001vol1.pdf. While these lease sales led to the issuance of 660 leases, by early 2003 only 42 of these leases, covering 70,019 acres remained active. *Id.*; see also Active Lease Summary Table, available at <http://www.mms.gov/alaska/lease/hlease/ACTLEASE.HTM>. Between 1979 and 2002, roughly 30 exploration wells were drilled in the Beaufort Sea, with 9 wells determined to be producible. See Multi-Sale FEIS at V-13. All of those wells were abandoned for economic reasons. *Id.*

¹ This document, along with other record documents cited below, will be provided to the Board by EPA as part of the Administrative Record supporting this petition. Exhibit citations refer to the Exhibits submitted by petitioners Alaska Wilderness League et al.

The situation on the Alaskan OCS, however, is changing. MMS has significantly accelerated oil and gas leasing in the Beaufort Sea over the past four years. Between September 2003 and April 2007, MMS held three lease sales on the Beaufort, and it plans to hold two more in the coming three years. *See Alaska Lease Sales Schedules available at <http://www.mms.gov/ld/AKsales.htm>; Beaufort Sea - Multiple Sales 186, 195 and 202, available at <http://www.mms.gov/alaska/cproject/beaufortsale/index.htm>. More than 95% of the acreage currently under lease was sold during these lease sales. *See Active Lease Summary Table, available at <http://www.mms.gov/alaska/lease/hlease/ACTLEASE.HTM> (showing that leases totaling 1,275,545 acres have been issued pursuant to Lease Sales 186, 195 and 202). MMS also held a lease sale on the Chukchi Sea OCS in February, 2008, resulting in oil companies bidding a total of over \$2.6 billion on 488 lease tracts, covering a total of over 2.7 million acres. *See Chukchi Lease Sale 193 Sale Day Statistics available at <http://mms.gov/alaska/cproject/Chukchi193/193Saleday/Sale%20193%20Sale%20Day%20Stats.pdf>. MMS plans to hold two more lease sales on the Chukchi Sea OCS over the next four years. *See Alaska Lease Sales Schedules available at <http://www.mms.gov/ld/AKsales.htm>.****

Further, the price of crude oil has increased in the recent past and is projected to remain high. *See Energy Information Administration, Weekly History of the Spot Price of Crude Oil available at <http://tonto.eia.doe.gov/dnav/pet/hist/wtotworldw.htm> (showing that oil prices have remained above \$30/barrel since May 2004, above \$50/barrel since January 2006, above \$80/barrel since October 2007, and recently exceeded \$135/barrel). Given the aggressive leasing of the Beaufort Sea and Chukchi Sea in recent years and the*

persistently high price of oil, proposals for exploration drilling in the Arctic Ocean are likely to increase dramatically in coming years.

Exploration drilling activities, like those proposed by Shell, may contribute considerably to air pollution above the Beaufort Sea and adjacent coastal areas. Congress has noted that “[t]he construction and operation of OCS facilities emit a significant amount of air pollution which adversely impacts coastal air quality in the United States.” S. Rep. No. 101-228 (1989), *as reprinted in* 1990 U.S.C.C.A.N. 3385, 3462. “[D]rilling a single exploratory OCS well can cause emissions in excess of one hundred tons of NO. A major uncontrolled offshore oil project can emit pollution in a year which exceeds pollutants emitted by one hundred thousand automobiles (meeting 1988 California emission standards), each traveling 10,000 miles.” *Id.* Further, Shell estimates that each drill ship and its supporting vessels will burn more than 1.4 million gallons of diesel fuel per year. *See* Outer Continental Shelf Pre-Construction Air Permit Application, Shell Kulluk 2007 – 2009 Beaufort Sea Exploratory Drilling Program (Dec. 29, 2006) (“Kulluk Application”) at 7, Tables 3 & 4; Outer Continental Shelf Pre-Construction Air Permit Application, Frontier Discoverer, 2007 – 2009 Beaufort Sea Exploratory Drilling Program (Dec. 29, 2006) at 7, Table 2. Such operations emit criteria pollutants including nitrogen oxides, sulfur dioxide, carbon monoxide, coarse particulate matter, and volatile organic compounds, as well as the greenhouse gas carbon dioxide. *See* Kulluk Application at 7, Tables 1 & 2.

III. LEGAL BACKGROUND

In response to concerns about air pollution from sources on the OCS, Congress amended the Clean Air Act in 1990 to include a new provision, Section 328, which

mandates “requirements to control air pollution from [OCS] sources.” 42 U.S.C. § 7627(a)(1). This provision defines an OCS source to include equipment and activities that emit any air pollutant, are regulated under the Outer Continental Shelf Lands Act, and are located on waters above the OCS, specifically including drill ship exploration. 42 U.S.C. § 7627(a)(4)(C). Section 328 requires EPA to promulgate regulations to ensure that OCS sources comply with the PSD provisions of the statute. *Id.* § 7627(a)(1) (requiring compliance with “part C of subchapter I” of the Act).

As its name suggests, the PSD program is intended to prevent existing air quality levels from deteriorating. Its provisions, therefore, seek to protect public health and welfare from the adverse effects of air pollution and “to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources.” 42 U.S.C. §§ 7470(1), (3). Motivated by a concern that air pollutants could have serious harmful effects to health even at concentrations below primary ambient air quality standards, *see* H.R. Rep. 95-294, at 105-127 (1978) *reprinted in* 1978 U.S.C.C.A.N. 1077, 1183-1205, Congress adopted the PSD provisions, which embody “a policy of maximum practicable protection of health,” *id.* at 127 *reprinted in* 1978 U.S.C.C.A.N. at 1206. When adopting the PSD provisions, Congress made clear that practices that “squander[] finite air resources, thereby limiting the potential for long-term economic growth” are contrary to the national interest as reflected in the PSD program. *Id.* at 152 *in* 1978 U.S.C.C.A.N. at 1231. Thus, the PSD provisions also “assure that any decision to permit increased air pollution . . . is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.” 42 U.S.C. § 7470(5).

A central provision of the PSD program is the requirement that, prior to constructing any "major emitting facility," an applicant must obtain a permit from EPA. *Id.* § 7475(a)(1). To obtain a PSD permit, the owner or operator of a proposed major emitting facility must demonstrate that emissions from construction or operation of the facility will not cause or contribute to a violation of any National Ambient Air Quality Standard ("NAAQS") or other applicable emission standard and must conduct monitoring as necessary to determine the effect of emissions on air quality. *Id.* §§ 7475(a)(3), (a)(7). The proposed facility also will be "subject to the best available control technology for each pollutant subject to regulation . . . emitted from, or which results from, such facility." *Id.* § 7475(a)(4). EPA has defined "best available control technology" to mean "an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation" 40 C.F.R. § 52.21(b)(12). Thus, effective implementation of the PSD provisions to protect air quality, health and ensure continued opportunities for long-term economic growth hinges on EPA's properly identifying those sources that constitute "major emitting facilities."

As relevant here, a "major emitting facility" includes "any . . . source with the potential to emit two hundred and fifty tons per year or more of any air pollutant." 42 U.S.C. § 7479(1). Pursuant to Section 328 of the Clean Air Act, these provisions are applicable to OCS sources. *Id.* § 7627(a)(1). Thus, an OCS source, such as a drill ship, is a major emitting facility subject to the PSD requirements if it emits more than 250 tons of an air pollutant in one year. To determine whether an OCS source exceeds the 250-ton limit, EPA calculates its "potential to emit," which is defined as "the maximum emissions of a pollutant from an OCS source operating at its design capacity." 40 C.F.R. § 55.2.

Pursuant to Clean Air Act Section 328, “emissions from any vessel servicing or associated with an OCS source, including emissions while at the OCS source or en route to or from the OCS source within 25 miles of the OCS source, shall be considered direct emissions from the OCS source.” 42 U.S.C. § 7627 (a)(4)(C). EPA has interpreted this requirement to mean that those emissions are included in the calculation of an OCS source’s potential to emit. *See* 40 C.F.R. § 55.2.

Under the Alaska PSD program, a stationary source that has the potential to emit more than 250 tons per year may avoid regulation as a major source by requesting the imposition of “Owner Requested Limits” (“ORLs”) on the emissions. 18 AAC § 50.225; 50.508(5).² The owner or operator must submit to the EPA a “statement that the owner or operator of the stationary source will be able to comply with the limit.” *Id.* at § 50.225(b)(7). EPA must then make its own independent determination that “the stationary source is capable of complying with the limit” prior to issuing the minor permit. *Id.* at § 50.542(f)(8)(A). These requirements ensure that major sources do not evade the requirements of the PSD program by requiring a determination, on the record, that the source can comply with the ORL.

Multiple polluting activities that are of a like type and controlled by the same corporation, such as Shell’s exploratory drilling activities, constitute parts of a single “major emitting facility” if they are “located on one or more contiguous or adjacent properties.” *See* 40 C.F.R. § 51.166 (b), (b)(6) (defining “building, structure, facility, or

² EPA regulations subject OCS sources within 25 miles of a state’s seaward boundary to federal requirements as well as the state requirements of the corresponding onshore area. *See* 40 C.F.R. 55.3(b). These requirements include the State of Alaska PSD program. *See id.* § 55.14(e)(2). The Alaska regulations thus apply here. As applied to Shell’s exploration drilling project, the Alaska regulations are substantially similar to the federal PSD regulations. *See* 18 AAC §§ 50.306, 50.040(h).

installation”). In 1980, EPA promulgated the regulatory definition of “building, structure, facility or installation.” 45 Fed. Reg. 52676 (Aug. 7, 1980). EPA stated in the preamble that the holding of the D.C. Circuit in *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979), required the definition of the term “source” for PSD purposes to approximate a “common sense notion of ‘plant.’” 45 Fed. Reg. at 52,694-95. As the Board stated in remanding the original Shell permits, it must “carefully scrutinize any proffered application of the term ‘property’ ... that would not approximate a common sense notion of ‘plant.’” *In Re Shell Offshore Inc.*, 13 E.A.D. Nos. 07-01, 07-02, Slip Op. at 38.

According to EPA, such aggregation of multiple sources involved in a joint enterprise “precludes a large plant from being separated into individual production lines for purposes of determining applicability of the PSD requirements.” 43 Fed. Reg. 26,380, 26403 (June 19, 1978). In this way, the aggregation principle embodied in EPA regulations prevents regulated entities from segmenting an integrated enterprise to elude the more stringent protections for air quality that Congress sought to ensure by enacting the PSD provisions.

While the decision whether to aggregate emissions into one source for PSD purposes is made on a case-by-case basis, EPA’s past practice is relevant to deciding when emissions are “located on one or more contiguous or adjacent properties” and therefore warrant treatment as a single source. 40 C.F.R. § 51.166(b)(6). EPA Region 10 has previously recognized that the common meaning of “adjacent” is “near or close,” Letter from Joan Cabreza, EPA Region 10, to Andy Ginsberg, Oregon Dep’t of Env’tl. Quality (August 7, 1997) at 1 (Exh. 4 at 1). Consistent with this basic connotation of

“adjacent,” EPA has also recognized that proximity alone can render multiple sources contiguous or adjacent, regardless of the inter-relatedness of operations at those sources. *See* Letter from R. Douglas Neely, EPA Region 4, to C.H. Fancy, Florida Department of Environmental Protection (January 28, 2000) (Exh. 7) (noting that separate facilities can be considered a single source under the PSD program “strictly on the basis of proximity without regard to whether the facilities are dependent on each other or physically connected in some way”); *see also* Letter from Douglas M. Skie, EPA Region 6, to Cathy Rhodes, Air Pollution Control Division (Aug. 22, 1991) (Exh. 3) (same).

Moreover, EPA’s past practice counsels that when two sources have a symbiotic relationship as part of a larger coordinated enterprise, such a relationship can expand the distance at which EPA would otherwise deem them contiguous or adjacent, sometimes by considerable distances. *See* Letter from Richard Long, EPA Region 8, to Dennis Myers, Colorado Dept. of Public Health and Environment (April 20, 1999) (Exh. 6) (mine and processing facility separated by 35-40 miles “need to be considered as a single stationary source” given the “integral connectedness” between the two facilities in producing an end product); Letter from Judith Katz, EPA Region 3, to James Salvaggio, Pennsylvania Dept. of Environmental Protection (Exh. 9) (finding that mining operations and salt plant separated by three miles should be considered a single facility for purposes of PSD applicability); Letter from Steven C. Riva, EPA Region 2, to John T. Higgins, New York State Dept. of Environmental Conservation (October 11, 2000) at 3-4 (Exh. 8 at 3-4) (noting that EPA has made single source determinations in situations involving facilities separated by upwards of 6 miles where there is a “clear physical connection” between the two sources); *see also* Letter from Richard R. Long, EPA Region 8, to Lynne Menlove,

Utah Division of Air Quality (May 21, 1998) at 3 (Exh. 5 at 3) (discussing the finding of EPA Region 5 that two facilities separated by 3.7 miles, an interstate highway, a lake and a river, constitute a single source because they are jointly engaged in the enterprise of producing steel).

Finally, when evaluating the inter-relationship between multiple facilities or operations of a larger coordinated enterprise, EPA's guidance focuses on whether the activities at the various facilities contribute a necessary element of the end product created by the overall enterprise. *See* Letter from Joan Cabreza, EPA Region 10, to Andy Ginsberg, Oregon Dep't of Env'tl. Quality (August 7, 1997) (Exh. 4) (even though the activities carried out at the Main Plant and Plant 3 may function independently of one another, the two plants should be considered a single source because Plant 3 produces only intermediate products, so activities at both plants are needed to complete the company's finished products); Letter from Richard R. Long, EPA Region 8, to Lynne Menlove, Utah Division of Air Quality (May 21, 1998) at 3 (Exh. 5 at 3) (focusing on the coordinated enterprise that produces steel at two locations separated by more than 3 miles); Letter from Richard Long, EPA Region 8, to Dennis Myers, Colorado Dept. of Public Health and Environment (April 20, 1999) (Exh. 6) (focusing on fact that intermediate product produced by a mine facility must undergo processing at another facility to create a marketable end product); Letter from Judith Katz, EPA Region 3, to James Salvaggio, Pennsylvania Dept. of Environmental Protection at 3 (Exh. 9 at 3) (salt producer "would not have a viable operation at this location but for the existence of [a nearby facility to provide it with brine from which to produce salt]"); Memo from Douglas E. Hardesty, EPA Region 10, to Robert R. Robichaud, NPDES Permits Unit

(Aug 21, 2001) at 6 (Exh. 10 at 6) (focusing on “marketable oil and gas” as the end product produced by activities of a joint enterprise at multiple locations).

Each of these principles aims to ensure that a single enterprise cannot segment its operations to evade the PSD program. These principles reflect EPA’s recognition that such a practice would fundamentally frustrate the basic purpose of the PSD provisions—protecting existing clean air resources and human health.

IV. PROCEDURAL HISTORY

Shell has plans to drill an undetermined number of wells in various locations in the Beaufort Sea, both in Camden Bay and further to the west in the Central Alaska Beaufort Sea. *See e.g.* Environmental Assessment and Finding of No Significant Impact (February 15, 2007) for Shell Offshore, Inc.’s Beaufort Sea Exploration Plan (OCS EIS/EA, MMS 2007-009, February 2007) at 2, *available at* http://www.mms.gov/alaska/ref/EIS%20EA/ShellOffshoreInc_EA/SOI_ea.pdf. In its initial year, Shell planned to drill four wells at the Sivulliq prospect in Camden Bay, an important location for subsistence hunting activities of Inupiat Eskimos. *Id.*

To conduct these exploration activities, Shell first planned to use two drilling vessels, the *Kulluk* and *Frontier Discoverer*, two large icebreakers, and “several ice-strengthened supply boats,” including at least three vessels for “ice management, anchor handling, and supplies.” *Id.* at 2-3. All of these vessels would travel by sea to the Beaufort drilling locations.

On June 12, 2007, EPA issued two minor source air pollution permits to authorize Shell’s two drill ships to mobilize, operate and demobilize for exploratory drilling operations in the Beaufort Sea. *See* Alaska Outer Continental Shelf Air Quality Control

Minor Permit, Approval to Construct, Kulluk Drilling Unit (No. R10OCS-AK-07-01) (June 12, 2007); Alaska Outer Continental Shelf Air Quality Control Minor Permit, Approval to Construct, Frontier Discoverer Drilling Unit (No. R10OCS-AK-07-02) (June 12, 2007). In issuing those permits, EPA determined that under Section 328 of the Clean Air Act, the “OCS Source” consists of a drill ship when it is attached to the seabed at a particular drill site, and that each time the drill ship detaches and moves to a new drill site, it becomes a new “OCS source.” *See* 42 U.S.C. § 7627(a)(4)(C) (defining OCS Source). EPA further determined that it would consider two OCS sources to be contiguous or adjacent when the drill sites are separated by 500 meters or less. *See* 40 C.F.R. §§ 51.166(b)(5), (6) (instructing that a stationary source includes all pollution emitting activities that are under common control, share the same industrial code, and are “located on one or more contiguous or adjacent properties”); 18 AAC 50.040(h)(4)(B)(iii) (same); Statement of Basis For Air Quality Control Minor Permit No. R10OCS-AK-07-01 Approval to Construct, Shell Offshore Inc., The Kulluk Drilling Unit (March 30, 2007) (“Kulluk Statement of Basis”) at 10. At Shell’s request, EPA issued minor source permits that imposed permit conditions that purported to limit NO_x emissions from the OCS source at each drill site to 245 tons per year.

The North Slope Borough and conservation groups appealed those permits to the Environmental Appeals Board, arguing among other things that EPA arbitrarily determined that 500 meters separation was adequate to ensure that two OCS sources are not “located on one or more contiguous or adjacent properties,” 40 C.F.R. § 51.166(b)(6), and therefore do not constitute a single stationary source. The Board remanded the permits to EPA, finding that EPA “provided no record foundation for this determination

other than a brief statement in the Response to Comments that is unsupported by facts or analysis in the record.” *In re Shell*, Slip Op. at 42. The Board explained that:

[W]e do not have the benefit of the Region’s reasoning for its apparent conclusion that a single drill ship and its support vessels located at one drill site does not share a physical connection with itself, or support itself, at a subsequent drill site, which could be in proximity to the original site. A single drill ship moving from site-to-site apparently does rely upon the same crew and may otherwise share common connections similar to those analyzed in previous PSD determinations.

In re Shell, Slip Op. at 45.

Finally, The Board stated that any party with standing may appeal the Region’s determination to the Board and that any appeal “shall be limited to the issue being remanded and issues arising as a result of any modification the Region makes to its permitting decisions on remand.” *In re Shell*, Slip Op. at 69.

Following the remand, Shell requested that EPA issue a permit for only one drill ship—the *Kulluk*—for operations during 2008 and beyond. On February 20, 2008, EPA issued a proposed revised minor source air permit for the *Kulluk*, along with a supplemental statement of basis, and provided an opportunity for public comment. Alaska Outer Continental Shelf Air Quality Control Minor Permit, Approval to Construct, Kulluk Drilling Unit, R10OCS-AK-07-01 (Revised) (Feb. 20, 2008) (“Proposed Permit”); Supplemental Statement of Basis For Air Quality Control Minor Permit No. R10OCS-AK-07-01 (Revised), Approval to Construct, Kulluk Drilling Unit (Feb. 20, 2008) (“Supplemental Statement of Basis”).

The proposed permit embodied EPA’s earlier fundamental determination that the *Kulluk* constitutes a separate OCS source at each well site, and that no two well sites are contiguous or adjacent, although it recognized narrowly limited exceptions to this

categorical rule.³ If there is a blowout of a well and Shell must drill an emergency “relief well” to regain control of that well and stem the flow of oil, such a “relief well” will be deemed adjacent to its associated planned well. *Id.* Nevertheless, EPA did not require Shell to demonstrate that it could complete such a relief well before the single source time limits in the permit expire, or require Shell to present data on emissions from that well. *See Shell Kulluk Drilling Unit OCS Minor Permit No. R10OCS-AK-07-01 (Revised), Response to Public Comments (June 18, 2008) (“Response to Comments”)* at 45.

The proposed permit also included a new condition prohibiting Shell from locating well sites within 1,000 meters of one another in a calendar year. *See Supplemental Statement of Basis at 15; Kulluk Revised Proposed Permit at 22 (Condition 16.1).* EPA explained that if operations occurred closer to one another, there could be a violation of air quality standards. Supplemental Statement of Basis at 15 note 13. The agency stated that this potential violation of air quality standards “is not a basis for setting a geographic limitation for the proximity determination.” *Id.*

The North Slope Borough and Inupiat Community of the Arctic Slope submitted comments that raised the issues presented in this petition. *See Exhibits 1 and 2.*

On June 18, 2008, EPA issued a minor source permit for the *Kulluk* and released the agency’s response to public comments. Alaska Outer Continental Shelf Air Quality Control Permit, Approval to Construct, Kulluk Drilling Unit, R10OCS-AK-07-01 (Revised) (June 18, 2008); Response to Comments. The permit contains the same basic

³ If Shell is unable to complete a planned well in a given location, which can happen for a variety of reasons, Shell would then drill a “replacement” well, although it is under no time pressure to do so. In that circumstance EPA deems the replacement well adjacent to the original planned well that it replaces. Supplemental Statement of Basis at 10-11.

source determination as was included in the proposed revised permit, albeit using different rationale than applied in the first permitting process, and changing its rationale as it proceeded through the revised permit process.

For example, in its Supplemental Statement of Basis issued with the draft permit, to support its conclusion EPA focused primarily on the interdependence of drill sites and whether the locations of the planned wells and the information collected from those wells are interrelated. Supplemental Statement of Basis at 13-14 (“EPA has historically stressed the significance of interdependence ... in which seemingly nearby activities operating simultaneously were deemed to be separate sources”). Faced with a refutation of its analysis in the comments, EPA shifted course in its final decision. In its response to comments, issued with its final action, EPA indicated that it evaluated proximity “as the most informative factor” in determining that planned well sites would not be contiguous or adjacent. Response to Comments at 59. EPA concluded that two planned wells would not be proximate because they must be separated by 1,000 meters or more and because of Shell’s purported need to separate such wells by some unspecified distance so that they are “far enough apart to have distinct information gathering value.” Response to Comments at 60-61.

Though EPA used interdependence as a back-up rationale in its final decision, it was unable to avoid the flaws in its first analysis and responded by shifting the question to whether planned wells are “operationally dependent,” and therefore are not adjacent or contiguous. *Id.* at 62. In reaching the conclusion that the wells were not interdependent, EPA focused narrowly on the operations at each site, rather than Shell’s overall exploratory enterprise. EPA recognized that Shell will use information obtained at one

well site to select among other prospective well sites for its subsequent wells and to refine its drilling plan for those later wells. *Id.* However, EPA concludes that no two planned wells are “operationally dependent” because Shell *could* drill the latter well even if it does not first “receive[] information shared from another site.” *Id.* EPA had earlier noted that exploratory drilling involves different types of wells such as true wildcat exploratory wells (i.e., the first well drilled in a prospect) and delineation or step-out wells intended to test the boundaries of a known reservoir. *See Revised Supplemental Statement of Basis at 6 (quoting A Nontechnical Guide to Petroleum Geology at 241).* In reaching its conclusion that planned wells can never be operationally dependent, EPA did not distinguish between these different types of exploratory wells.

The permit does not limit the number of distinct OCS Sources that Shell may construct with the *Kulluk* in a given year. The permit only expires if Shell goes a period of 18 consecutive months without engaging in drilling operations with the *Kulluk*, and EPA does not grant Shell an extension. Permit at 24 (Condition 25).

A few days after EPA issued the revised permit allowing Shell to operate the *Kulluk*, Shell publicly announced that it had decided to forego its planned drilling operations during the summer of 2008, which in any event remain under injunction by the United States Court of Appeals of the Ninth Circuit in a lawsuit challenging the adequacy of federal Minerals Management Service permitting of Shell’s exploration plan. *See Alaska Wilderness League v. Kempthorne*, No. 07-71457 (9th Cir., filed April 16, 2007) (stay pending appeal granted July 15, 2007 and extended August 15, 2007).

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V. ARGUMENT

EPA stretched the Clean Air Act PSD program beyond its limits in its attempt to assist Shell in avoiding PSD review for its Beaufort Sea exploration project. The revised permit should be vacated because EPA offers no consistent or permissible rationale for its decision that the drill sites that make up Shell's exploration program are not one "major emitting facility" because they do not occur on "contiguous or adjacent properties" due to a lack of proximity or interdependence. Furthermore, EPA failed to demonstrate that Shell could drill a relief well in compliance with the ORLs.

A. Standard of Review

The Board reviews a permitting authority's final permit decision if the decision is based on "either a clearly erroneous finding of fact or conclusion of law, or involves an important matter of public policy or exercise of discretion that warrants review." *In re Shell*, Slip Op. at 17 (citing 40 C.F.R. § 124.19(a)). As part of its review, the Board is to determine "whether the permit issuer 'duly considered the issues raised in the comments and whether the approach ultimately adopted by the [permit issuer] is rational in light of all information in the record.'" *In re Shell*, Slip Op. at 41 (quoting *In Re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002)). The rationale for the decision must be "adequately explained and supported in the record." *In re Shell*, Slip Op. at 41 (citing *In re City of Moscow, Idaho*, 10 E.A.D. 135, 142 (EAB 2001); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567-68 (EAB 1998)). Furthermore, "two differing explanations" render the rationale for the permit determination unclear and subject to remand. *In re Austin Powder Co.*, 6 E.A.D. 713, 719-20 (EAB 1997) (citing *In re GSX Servs. of S.C., Inc.*, 4 E.A.D. 451, 454 (EAB 1992) (holding that the administrative record

must reflect the “considered judgment” necessary to the support the permit determination)).

B. EPA’s conclusion that each drill site is a separate source is erroneous

In some situations EPA considers multiple sources as part of the same “major emitting facility.” *See* 40 C.F.R. § 51.166(b) (defining “building, structure, facility, or installation” as “all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control)”). As noted above, in this instance, EPA found that Shell’s exploration drilling program meets two of the three requirements: the activities belong to the same industrial grouping and the entire project is under the control of the same person. Supplemental Statement of Basis at 5.

EPA concludes, however, that Shell’s exploration drilling activities are not located on contiguous or adjacent properties, and thus it declines to aggregate the sources. Response to Comments at 59-63. It relies on two factors to support this conclusion: proximity and interdependence. Supplemental Statement of Basis at 13-14; Response to Comments at 60-63.

There are three problems with EPA’s conclusion that each drill site is a separate emissions source. First, EPA’s rationale impermissibly changed over the course of the permitting process, undercutting its rationality and impermissibly barring the public from providing input on its final reasoning. Second, the EPA does not provide a rational and permissible justification for its conclusion that the wells are not proximate in location. Third, EPA’s conclusion that each drill site is a separate source is based on an erroneous determination that each drilling effort is disconnected from other drilling efforts.

These issues are discussed, in turn, below, preceded by a discussion of threshold requirements to the Board's consideration of these issues on appeal.

1. Preservation of Error

Petitioners preserved this issue for appeal through their comments of April 1, 2008. *See e.g.*, Letter from North Slope Borough to Dan Mahar, EPA Region 10, at 3-12 (Exh. 1).

2. Subject to Appeal

This issue is properly subject to appeal because the issue of whether the separate drill sites that are part of Shell's one exploration project can be considered separate facilities is within the scope of the issues remanded to EPA. *In re Shell*, Slip Op. at 40-48, 69.

3. EPA's shifting rationale renders its conclusion unclear, arbitrary and subject to remand.

In its Supplemental Statement of Basis issued with the draft permit for public comment, EPA noted that it "historically stressed the significance of interdependence" in making its decision on whether different emission sources are part of the same facility. Supplemental Statement of Basis at 13-14; *see also id.* at 15 (EPA favorably citing EPA document stating that "[i]n most of the [cases] we reviewed, the *key factor* in deciding that separate facilities should be considered as one source was that the facilities were interdependent or linked in some sense") (emphasis added). It then focused in analyzing interdependence on whether the locations of the planned wells and the information collected from those wells are interrelated. *Id.* at 13-16.

In particular, EPA focused initially on the information collected from the well as the "product." Supplemental Statement of Basis at 14. EPA concluded that "each

location at which drilling will occur during a single season . . . is picked for its independent value as a potential source of information on what is thought to be an independent accumulation of oil.” *Id.* at 13. EPA also stated that “because each well site provides a unique ‘product,’ each has independent utility. Here, the record shows that each drill site is a separate project that produces a unique product – information about the specific and unique potential for oil in a given location – and does so independently at each location regardless of the outcome at a prior location.” *Id.* at 14. “Thus, these well sites will not share any interdependence in the manufacture of a given ‘product.’” *Id.*

As will be discussed, information provided during the public comment period proved each of these conclusions to be incorrect and unsupported by the record. *See supra* at 31-34. After the public comment period, EPA shifted its focus and identified proximity as the “*key factor*” in its analysis. Response to Comments at 60 (emphasis added). EPA did not explain why it changed its focus to emphasize on proximity instead of interrelatedness, which was the primary criteria as set forth in the Supplemental Statement of Basis.

Although EPA did include an interdependency analysis in its Response to Comments accompanying its final decision, its analytical criteria underwent significant change in the process. EPA abandoned its approach of considering the information produced by exploration to be the “product” for purposes of determining interdependence. Instead, EPA announced for the first time that it defined interdependence as “when each activity relies on the other for its operation – i.e., the activities at one facility are required to support the operation at the other.” Response to

Comments at 61. EPA for the first time set forth three criteria used to make this determination:

First, there is no tangible product produced by one well and then used by another. Second, the planned drill sites are sequential Third, there is no physical connection between the two exploratory well sites (such as a railroad or a pipeline).”

Id. at 62.

EPA never provided the public an opportunity to provide input to the agency regarding these proposed criteria, because EPA did not set forth this analysis in the Supplemental Statement of Basis. *See, e.g.*, 40 C.F.R. § 124.7 (requiring EPA to set forth “the derivation of the conditions of the draft permit and the reasons for them” in the Statement of Basis). EPA’s shift in rationale is especially confusing with respect to the first factor noted above, as it reflected an unexplained shift between information from wells as the product on which the analysis is to focus to one where interdependence would not exist without a “*tangible product*” exchanged between locations. *Compare* Supplemental Statement of Basis at 13-14 *with* Response to Comments at 62 (emphasis added). Importantly, public comments established that the wells are interrelated for purposes of gathering information. *See supra* at 31-34. EPA, once presented with that unrebutted evidence, changed its criteria instead of changing the outcome of its analysis. EPA’s action is therefore arbitrary.

Furthermore, EPA cannot rely upon the fact that planned drill sites are sequential as a rationale for its aggregation decision, because at other places in the record EPA has already discounted this factor in making its aggregation determination. Supplemental Statement of Basis at 10. EPA determined that a relief well is adjacent to its associated planned well. In reaching this conclusion, EPA discounted the fact that the two wells

would be drilled sequentially in determining adjacency because “they must necessarily occur sequentially and not simultaneously, given that the Kulluk can’t be at two places at the same time.” *Id.* The same rationale holds true for two planned wells. EPA has arbitrarily relied on this factor only with respect to planned wells and discounted this criteria with respect to relief wells.

Finally, EPA may not rely solely upon the lack of a physical connection in determining that well sites are not adjacent. EPA has previously determined that separate facilities can be considered a single source “without regard to whether the facilities are dependent on each other or physically connected in some way.” Exh. 7. The lack of a physical connection, alone, is not an adequate reason to find that a single drill ship is not the same source when it operates at multiple sites, planned in a coordinated fashion, using the same crew and the same support vessels. Furthermore, EPA has failed to demonstrate how it determined that the *Kulluk* does not share a physical connection with itself at different drill sites.

This shifting and contradictory rationale renders EPA’s decision unclear, and thus subject to remand. *In re Austin Powder Co.*, 6 E.A.D. 713, 719-20 (EAB 1997) (citing *In re GSX Servs. Of S.C., Inc.*, 4 E.A.D. 451, 454 (EAB 1992)).

4. EPA’s proximity analysis is erroneous.

According to its final decision, the “key factor” in EPA’s conclusion that the Shell drill sites are not contiguous or adjacent is the proximity of each site to the others. Response to Comments at 60. EPA supported its conclusion that there was a lack of proximity between drill sites on two factors: “the required separation of at least 1000 meters of open water between drill sites associated with different exploratory operations

and the need to locate[] sites far enough apart to have distinct information gathering value” Response to Comments at 60-61. EPA’s analysis of these factors is erroneous, and thus its conclusion is also erroneous.

i. Condition 16.1 – 1,000 meter separation

EPA modified the original permit to include Condition 16.1, which requires a 1,000 meter separation between drill sites in a 52-week rolling period.⁴ EPA states that locating drill sites closer than this is prohibited “due to air quality concerns.” Response to Comments at 59; *see also* Supplemental Statement of Basis at 15, note 13 (“If the operations were to occur in closer proximity there could be a NAAQS exceedence.”). EPA indicates that this separation serves as a “starting point” for EPA to determine if drilling sites beyond 1,000 meters should be aggregated into one source. Response to Comments at 59. It goes on to state that the facts of Shell’s drilling operations, “including ... the separation of at least 1,000 meters” support its finding that individual well sites are not “proximate” and thus should not be aggregated. *Id.* at 60-61; *see also id.* at 61 (“EPA’s decision was ... informed by the 1000 meter distance requirement placed in the permit for air quality concerns”); *id.* at 60-61 (same). At the same time, however, EPA also states that the “NAAQS issue is not a basis for setting a geographic limitation for the proximity determination.” Supplemental Statement of Basis at 15, note 13.

Remarkably, this is essentially the same argument that EPA made and the Board rejected in the first appeal with respect to the 500 meter separation condition. *See In re*

⁴ In the draft permit, EPA allowed Drill Sites to be located within 1,000 meters of each other if the “previously occupied drill site was last occupied in a different calendar year.” In the final permit, EPA amended this condition, and the condition now requires that a Shell “shall not have the Kulluk occupy a Drill Site within 1,000 meters of another Drill Site occupied less than 52 weeks prior” Condition 16.1; *see also* Response to Comments at 63-64.

Shell, Slip Op. at 46-48. In EPA's original permits for Shell's exploration drilling, EPA had included a 500 meter separation between drill sites, using an apparent air quality justification for doing so. *In re Shell*, Slip Op. at 46 (citing original permit Response to Comments at 60). Yet EPA changed its justification before the Board, arguing *post-hoc* that it was "an additional precautionary measure." *Id.* EPA distanced itself from its original air quality justification for the 500 meter separation in the original appeal because, as EPA stated:

We have traditionally not considered emission impacts in doing the [proximity] analysis. It would be a departure from past agency practice on this issue to do so and would not necessarily comport with the intent of the regulatory definition of connoting what the common sense notion of a plant is.

In re Shell, Slip Op. at 47 (quoting oral argument transcript at 77-78).⁵

The Board in that appeal found no rational or permissible explanation in the record for the 500 meter separation as a basis for EPA's source determination. *In re Shell*, Slip Op. at 46-48. It thus remanded the permit to EPA "to provide an explanation of its rationale, supported by record evidence, for establishing the 500-meter perimeter as defining the 'stationary source.'" *In re Shell*, Slip Op. at 48.

As it ultimately did during the first appeal, EPA is correct now to distance itself from an air quality justification for its consideration of the 1,000 meter separation in its proximity analysis. EPA states more clearly now, as noted above, that a 1,000 meter separation based on air quality provides no basis for the proximity analysis. EPA's only further justification, however, is that the 1,000 meter separation condition "acts as a

⁵ Considering the relative air quality impacts of two wells in close proximity is akin to looking at the cumulative impacts of these wells to air quality. EPA also stated to the Board in the original appeal that "relying on a cumulative impacts analysis has not traditionally been one of the factors considered in making the contiguity or adjacency determination. *In re Shell*, Slip Op. at 47 (citing oral argument transcript at 74-75).

practical constraint” to the siting of the wells. Supplemental Statement of Basis at 15, note 13. This vague statement offers no explanation why, separate and apart from air quality issues, the 1,000 meter separation is sufficient to support a break in the proximate link between well sites. EPA has provided no better explanation on this factor than it did in the previous permit decision already rejected by the Board.⁶

Without an analysis providing a permissible and rational justification for the 1,000 meter separation, this conclusion is not supported and is thus erroneous, and cannot be relied upon to support a determination that separate drill sites farther than 1,000 meters from each other are not proximate in location. *In Re Shell*, Slip Op. at 17 (citing *In re City of Moscow, Idaho*, 10 E.A.D. 135, 142 (EAB 2001); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567-68 (EAB 1998)).

ii. Inherent distance between drill sites

EPA also based its conclusion that drill sites are not proximate on the argument that each well is intentionally located “far enough apart to have distinct information gathering value.” Response to Comments at 61. That wells will be separated enough to provide distinct information does not however, support a conclusion that the wells are not proximate. Indeed, the evidence in the record demonstrates the contrary.

To be sure, exploration wells are intended to gather information. That said, this fact alone does not support a conclusion that all drill sites will be located at a great distance from other drill sites. For example, “EPA’s ‘stationary source’ determination does not hinge upon each Planned Well being associated with a separate oil

⁶ Congress itself required that emissions from vessels up to 25 miles from the drill ship be included as emissions from the OCS source. 42 U.S.C. § 7627(a)(4)(C). Though this statement may not directly inform whether two sources are “contiguous or adjacent,” it does evidence congressional intent that EPA should at least consider emissions from significantly farther apart than 1,000 meters. EPA has failed to explain why it has not here.

accumulation.” Response to Comments at 65. Rather, wells can also be drilled to delineate an oil reservoir. Such wells are, by necessity, clustered around the original discovery well:

As soon as possible after a discovery, the size of the field must be determined. ... If this is an offshore field or in a remote area ... the size of the field needs to be established to compute the amount of oil and gas that can be produced. This will determine if the field is large enough to economically justify further development. **Field size is determined by step out, delineation, or appraisal wells that are drilled to the sides of the discovery well. If the oil-water or gas-water contact can be located on all four sides of the discovery well, the area of the field can be determined.**

Statement of Basis at 6 (bold emphasis added) (quoting Nontechnical Guide to Petroleum Geology, Exploration, Drilling and Production at 241). Shell itself admits that it “[t]ypically need[s] several delineation (appraisal) wells to determine if an accumulation is large enough and has suitable properties to be economically produced.” Supplemental Statement of Basis at 7 (quoting Att. 11 at 2).

There is no stated minimum separation distance between these delineation wells – indeed, the record demonstrates that they are “step[ped] out” from the discovery well, on all four sides, until the edges of the reservoir are determined. Supplemental Statement of Basis at 6. EPA acknowledges that the distance between wells drilled on the same prospect is “likely to be much smaller” than the distance between wells drilled to target different prospects. Supplemental Statement of Basis at 12.⁷

⁷ EPA also states that previous delineation wells in the Beaufort Sea were no closer than .8 miles. Supplemental Statement of Basis at 12, referencing Table 1, *id.* at 9. Table 1 lists the proximate locations of five wells on two prospects, neither of which resulted in the production of oil. Five wells drilled on two prospects is not a meaningful sampling, and its relevance is further undercut by the fact that, as EPA emphasizes, the extent of a discovered reservoir must be determined on all four sides before its characteristics and economics can fully be understood. Supplemental Statement of Basis at 6. This clearly did not occur with the previous drilling efforts. Furthermore, EPA’s Table 1 appears to be incomplete as EPA selected only five of approximately 30 wells drilled in the Beaufort Sea. *See* Multi-Sale FEIS at V-13.

Consequently, it is arbitrary for EPA to conclude that some separate “information gathering” nature of the wells necessitates a great distance in space between the wells, and thus that they are not on contiguous or adjacent properties. Supplemental Statement of Basis at 5-8. Indeed, common sense would seem to dictate that these “step[ped] out” wells on all four sides of a discovery well, drilled to determine the parameters and extent of a discovered reservoir and whether it is economically feasible to develop, are part of the same source. *See* *Alabama Power Co. v. Costle*, 636 F.2d 323, 397 (D.C. Cir. 1979) (“source” definition should be guided by common sense); 45 Fed. Reg. 52695 (August 7, 1980) (same); *see also* Letter from Joan Cabreza, EPA Region 10, to Andy Ginsberg, Oregon Dep’t of Env’tl. Quality, re: ESCO Corp. plants (August 7, 1997) at 1 (Exh. 4 at 1) (common meaning of “adjacent” is “near or close”). It would seem to offer the “substantial connectedness, proximity, or continuity,” *In re Shell*, Slip Op. at 39-40, that would dictate a conclusion opposite to that of EPA; that at least some of the drill sites are on contiguous or adjacent properties.⁸

EPA relied heavily on an EPA memorandum entitled Source Determinations for Oil and Gas Industries to support its conclusion that separate drill sites need not be treated collectively as one source. Supplemental Statement of Basis at 15, referring to Att. 23. This memo contains the sweeping generalization that “permitting authorities can consider oil and gas exploration and production activity located on a single surface site to be an individual stationary source,” and notes that some states have a general rule that

⁸ EPA also alludes to two other factors as possibly relevant to its proximity analysis: 1) the fact that Shell does not control the open water between drill sites; and 2) that there is no physical connection between drill sites. Response to Comments at 59. EPA offers no analysis supporting these factors, and they appear for the first time in the Response to Comments. The bald and tardy references to these factors violates the principle that the rationale for EPA’s decision must be “adequately explained and supported in the record.” *In re Shell*, Slip Op. at 41 (citing *In re City of Moscow, Idaho*, 10 E.A.D. 135, 142 (EAB 2001); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567-68 (EAB 1998)). Thus, they offer no support for EPA’s position.

separates activities outside of a ¼ mile radius. Supplemental Statement of Basis, Att. 23 at 5, note 16.

The overriding factor, however, as even this EPA memo acknowledges, is that source determinations are to be made on a case-by-case basis and must “approximate a common sense notion of a ‘plant’” *Id.* at 2 (“the unique geographical attributes of the oil and gas industry necessitate a detailed evaluation of whether the activities are contiguous or adjacent”); *see also* Letter from Richard Long, Director, EPA Region 8, to Lyn Menlove, Utah Div. of Air Quality at 1 (Exh. 6 at 1) (May 21, 1998) (Exh. 5), Supplemental Statement of Basis, Attachment 19 at 1 (“EPA is unable to say precisely at this point how far apart activities must be in order to be treated separately. The Agency can answer that question only through case-by-case determinations”) (citing 45 Fed. Reg. 52695 (August 7, 1980), preamble to promulgation of original PSD rules); Letter from Director, EPA Air, Pesticides & Toxics Division, to Allen Bell, Texas Air Control Board (Nov. 13, 1986) Supplemental Statement of Basis, Attachment 21 (same); Letter from Winston A. Smith, EPA Region 4, to Randy Poole, Mecklenburg County Department of Environmental Protection (May 19, 1999) (Exh. 11).

EPA tips its hat to the need to look factually at each situation by quoting favorably one of the EPA memo’s few factual statements:

We do not believe it is reasonable to aggregate well site activities, and other production field activities that occur over large geographic distances, with the downstream processing plant into a single major stationary source.

Supplemental Statement of Basis at 15 (quoting Att. 23 at 3). Yet EPA’s reliance on this factual quote to support its position is misplaced. By its own terms this example applies to the aggregation of production well sites with downstream plants. *See id.* This is not at

all the situation present here, where for example, the single exploration project includes delineation well sites “step[ped] out” from the site of a discovery well. Supplemental Statement of Basis at 6. EPA's reliance on this memo is misplaced; its analysis simply does not address activities like delineation well drilling, which, of necessity, are located in a given area only because of their proximity to another of the activities, i.e. discovery well drilling.

There is no question that delineation wells are one type of well that Shell would be allowed to drill as part of its exploration program. See Response to Comments at 61-62. Consequently, EPA has articulated no “rational connection between the facts found and the choice made.” *Sierra Club v. EPA*, 346 F.3d 955, 961 (9th Cir. 2003); see also *In re City of Moscow, Idaho*, 10 E.A.D. 135, 142 (EAB 2001) (rationale for conclusions must be adequately explained and supported in the record”); *In re Shell*, Slip Op. at 41 (citing *In re Dominion Energy Brayton Point, L.L.C.*, NPDES Appeal No. 03-12, slip op. at 133-34 (EAB Feb. 1, 2006), 12 E.A.D. ___ (remanding for failure to explain in the record why five days, rather than some other number of days, was selected as a permissible temperature exceedence frequency)). Thus, EPA's reliance on this factor to establish lack of proximity is erroneous.

5. EPA's “operational dependence” conclusion is erroneous.

The other factor that EPA relied on to support its conclusion that separate drill sites are contiguous or adjacent is whether the wells are interdependent. See, e.g., Response to Comments at 61-63. In contrast to its original approach, in its final action EPA defines the interdependence question to turn on operational links, rather than on products: “[o]perational dependence is found when each activity relies on the other for its

operation – i.e., the activities at one facility are required to support the operation at the other.” *Id.* at 61. EPA found no operational dependence between the drill sites because 1) there is no “tangible product” produced by one well that is then used at another; 2) the planned wells are sequential and not concurrent; and 3) there is no physical connection between the drill sites. *Id.* at 62. EPA rejected the view that wells designed to delineate “the extent of a hydrocarbon reservoir so that a production platform can be properly constructed” necessarily leads to a conclusion that the wells are operationally reliant. *Id.*

EPA’s conclusion is erroneous and because: 1) the record establishes that delineation wells are, in fact, intimately interrelated and planned in a coordinated fashion to provide information for a single production scenario; and 2) EPA has placed no limits on the number or type of planned wells Shell can drill under the permit.

Un-rebutted evidence in the record demonstrates that delineation wells are interrelated and that the operations of the *Kulluk* at different well sites should be considered within a “common sense notion of a ‘plant.’” The Borough provided to EPA the declaration of Ms. Susan Harvey, an engineer with twenty years of experience in the Alaska Oil and Gas Industry. Ms. Harvey specifically discusses Shell’s planned operations at Sivulliq Prospect and stated that “Shell is proposing to drill three exploration wells into the Sivulliq Prospect to further delineate the lateral and horizontal extent of the hydrocarbons reservoir(s) to approximately size an offshore production platform and pipeline system.” Harvey Dec. at 4. As she states, “these are not distant, unrelated wildcat wells, where data sharing would be much less likely. They are delineation wells that will be used to assess whether a single oil field can be economically developed.” *Id.* Moreover, she states that the locations of the wells were

“selected for drilling based on the results of previous seismic exploration and exploratory drilling on the Sivulliq prospect.” Shell therefore planned the location of the delineation wells to provide comprehensive information on the size and location of the reserve.

Furthermore, Ms. Harvey emphasized that Shell would likely use data from one well in planning operations at subsequent wells **in the same season and on the same prospect.** *Id.*

Data collected in the first of the three Sivulliq delineation wells may provide important information to the Shell exploration team to determine how to proceed with the next two wells into that same prospect area. For example, if the first well is dry, or has unexpected stratigraphy, this could result in changes to the subsequent well plans. The second well may not be drilled if the risk level increases based on data obtained from the first well. The well route may be altered, the well may be drilled deeper, or additional data may be obtained

EPA, as it must, even acknowledged in the Response to Comments that “Shell will most likely use information collected at one well to refine its exploratory drill plans for other locations” Response to Comments at 62.

Shell subsequently submitted follow-up information to EPA responding to the comments of Ms. Harvey and the Borough. Shell Offshore Inc. Letter Re: Proposed Alaska Outer Continental Shelf Air Quality Control Minor Permit Approval to Construct R10OCS-AK-07-01 (Revised). In an attached memo from Mr. Paul Smith (“Smith Memo”), Shell purports to rebut this information by arguing that the wells at Sivulliq target reservoirs “that are the same geologic age but are separated by a major fault.” Smith Memo at 3. Mr. Smith therefore suggests that each well is being drilled into a “separate hydrocarbon accumulation.” *Id.* Mr. Smith, however, noticeably failed to respond to Ms. Harvey’s statement that the locations of the delineation wells are planned in a coordinated fashion to develop a single or unified production scenario.

Ms. Harvey then provided a second declaration to assist EPA in assessing this information. North Slope Borough Letter Re: Shell Offshore Inc. OCS Air Permit – Kulluk Drilling Operations EPA Permit No: R10OCSAK-07-01 (Revised) and Supplemental Affidavit of Susan Harvey in Support of North Slope Borough’s Response to Shell Offshore Inc.’s May 6, 2008 Letter (“Second Harvey Dec.”) (June 6, 2008).

As Ms. Harvey explained, the simple fact that wells target areas separated by a fault has no bearing on whether the wells are related for purposes of delineating a prospect or developing a production scenario. Second Harvey Dec. at 1-2. “Most oil fields developed from hydrocarbon reservoirs contain multiple faults.” *Id.* at 1.

The number and type of faults may impede or enhance flow or may cause pressure isolation. The number and type of faults in a prospect will have some bearing on the number of wells needed to prove the size and productivity of a prospect. But the presence of a fault does not by definition constitute a separate and distinct accumulation of oil. Rather, a fault merely contributes some uncertainty as to the sizes, contiguity and characteristics of the prospect’s reservoir(s), and as a result requires the drilling of additional wells to prove the extent and move forward with production.

Id. Furthermore, Ms. Harvey documented that “a single production facility can target hydrocarbon reserves separated by faults.” *Id.* at 3. “Production facilities frequently target reserves that are separated by faults, and Shell will almost certainly use the information gathered from all exploration wells at Sivulliq in a unified and interrelated manner to develop a production scenario.” *Id.* at 4.

Shell even admits in its own documents that the operations at subsequent delineation wells are interdependent. Shell Offshore Inc. Letter from Keith Craik to Daniel Meyer Re: Phone Conversation of January 18, 2008 (February 6, 2008) at 3. Mr. Craik specifically stated that Shell plans the location of delineation wells to “determine reservoir extent and reservoir continuity.” *Id.* at 2. He also goes on to state that the

“locations to be drilled during the season are determined in advance of a given season” and that the “results of the season’s drilling activity are analyzed and then any follow-up delineation wells are drilled in subsequent seasons.” *Id.* at 3. Thus, delineation wells in subsequent seasons are planned together to provide follow-up information on the “reservoir extent and reservoir continuity.” *Id.* at 2.

The Kulluk therefore comports with a “common sense notion of ‘plant’” when operating at delineation wells at the same prospect. The same equipment, crew and support vessels are moved from one location to a related location in the same season to provide information in developing a production scenario. Particularly for delineation wells, each location is intricately related to the previous location so that the “product” or the information can be used to delineate the extent of the reservoir for purposes of determining whether and how to produce oil. Shell plans the locations ahead of time to produce information in a unified and coordinated fashion. The information from one location can and often does influence operations of the same equipment and personnel at the next location in the same season.

Finally, it is important to note that all the specific information relates only to the Sivulliq prospect. The permit, however, does not place any limitations on how many wells can be drilled over what time frame or targeting which prospects. EPA, therefore, has inadequate information with respect to all other possible well locations to determine whether the operations are interdependent based on the coordinated nature of the information gathering activities.

The un rebutted evidence in the record establishes that operations of delineation wells are interrelated pursuant to the criteria EPA set forth in the Supplemental Statement

of Basis. EPA initially considered the information from each well to be the “product” but concluded erroneously that “these well sites will not share *any* interdependence in the manufacture of a given ‘product.’” Supplemental Statement of Basis at 14 (emphasis in original). These conclusions proved to be incorrect as a result of the public comments by the Borough. Shell coordinates the drilling of delineation wells by the Kulluk in order to ensure that the information from those wells can be used in a coordinated manner.

Instead of concluding based on the record that well sites are in fact interdependent, EPA instead changed the applicable criteria. EPA discounted all the information provided by the public that spoke directly to the criteria initially set forth, explaining that “[h]aving a common operational goal, such as delineating the extent of the hydrocarbon reservoir, is not the same as” being interdependent. *Id.*

EPA then fundamentally changed its criteria and decided a well site must produce a “tangible” product used by another in order to be operationally dependent. *Id.* Exploration wells, by their very nature, do not produce a “tangible product” but rather information. EPA’s new criteria, set forth the first time in the Response to Comments, would necessarily result in a determination that no two exploration wells would ever be interdependent, which would eviscerate the operation of the criteria altogether and leave proximity as the sole factor. This new analysis, developed to ignore the true interdependence reflected in the record, must be rejected as inconsistent with the facts and governing standards for this factor.⁹

⁹ EPA also argued in the Response to Comments that “this type of information sharing occurs in the course of normal operations for any business venture serving or operating in multiple locations. We decline to make interlinked computer systems and information sharing a basis for making a source determination, because such criteria could be applied broadly to find operational dependence in virtually any business operation.” In making this argument, EPA has again ignored the proper standard, one that it came closer to in its initial criteria set forth in the Supplemental Statement of Basis. The question is not simply whether information is shared but whether the purpose of the activity was to produce interrelated

EPA's past practice also strongly suggests that interdependence exists when separate drill sites produce information used together to develop a possible production scenario and therefore those sites should be considered as one source. *See, e.g.*, Letter from Judith Katz, EPA Region 3, to James Salvaggio, Pa. Dept. of Env'tl Prot. at 3 (Exh. 9 at 3) (salt producer "would not have a viable operation at this location but for the existence of" a nearby facility to provide it with brine from which to produce salt); Memo from Douglas E. Hardesty, EPA Region 10, to Robert R. Robichaud, EPA Region 10 (Aug 21, 2001) at 7 (Exh. 10 at 7) (focusing on "marketable oil and gas" as the end product produced by activities of a joint enterprise at multiple locations); Letter from Richard Long, EPA Region 8, to Dennis Myers, Colorado Dept. of Public Health and Environment (April 20, 1999) at 1-2 (Exh. 6 at 1-2) (mine and processing facility separated by 35-40 miles "need to be considered as a single stationary source" given the "integral connectedness" between the two facilities in producing an end product). Wells used to assist in crafting a production scenario are related, and an EPA conclusion otherwise is erroneous.

To reach its contrary conclusion, EPA looked for guidance to previous PSD determinations and policy documents cited by the Board in its decision on the original permits. Supplemental Statement of Basis at 12-16, *In re Shell, Slip Op.* at 40, note 37. These sources do not, however, support EPA's position.

One of these documents includes questions that EPA applies to this case. This EPA Region 8 letter identifies several types of questions that might be posed to answer the question whether the utility trailers analyzed in that memo are "adjacent" and should

information as the "product." The issue is not whether the information would be shared by a linked computer system but whether Shell coordinates the activities of a single drill ship to collect interrelated information as the "product" of its operations.

thus be treated as one "source." See Supplemental Statement of Basis, Att. 19. EPA found that the answers to these questions, not all of which must be answered in the affirmative to conclude that separate activities should be considered one source, support its conclusion. Supplemental Statement of Basis at 13-14.

One question is as follows:

Was the location of the new facility chosen primarily because of its proximity to the existing facility, to enable the operation of the two facilities to be integrated? In other words, if the two facilities were sited much further apart, would that significantly affect the degree to which they may be dependent on each other?

Supplemental Statement of Basis, Att. 19 at 2. EPA answers this question in the negative based on its statement that each drill site here is picked "for its independent value as a potential source of information." Supplemental Statement of Basis at 13. What EPA ignores in its answer is that drill sites intended to delineate a discovery are chosen precisely because of their proximity to the original discovery well. Furthermore, the locations of multiple delineation wells are coordinated so as to determine the extent of a single reservoir. EPA's answer is therefore unsupported by the record.

Another question is whether

managers or other workers frequently shuttle back and forth to be involved actively in both facilities? Besides production line staff, this might include maintenance and repair crews, or security or administrative personnel.

Supplemental Statement of Basis, Att. 19 at 2. EPA acknowledges that here, "the same crew and equipment perform[] identical functions," yet discounts that because "the operations themselves at each location are not dependent on each other." Supplemental Statement of Basis at 14. Again, EPA ignores the fact that this same crew, equipment and function are aimed at the same goals: discovering or delineating an oil reservoir as

part of a plan to develop a possible production scenario. *See e.g.*, Statement of Basis at 6; Second Harvey Dec. at 4.

C. EPA failed to conclude that Shell is capable of complying with Permit Condition 15.1 as required by 18 AAC 50.542(f)(8)(A).

Permit Condition 15.1 prohibits Shell from having the Kulluk occupy “Drill Sites associated with the same Exploratory Operation for more than 80 calendar days, in aggregate, during a rolling 53-week period.” Permit at 22 (Condition 15.1). Pursuant to 18 AAC 50.542(f)(8)(A), EPA was required to determine whether the “stationary source is capable of complying with the limit.” EPA failed to conclude that Shell is capable of drilling both a planned well and relief well in compliance with the requirements of Permit Condition 15.1, and the record would not support such a determination.

1. Preservation of Error

The North Slope Borough preserved this issue in its comments of April 1, 2008. Ex. 1 at 13-14 (Section C). Specifically, the Borough’s comments stated that the “proposed permit assumes that an exploration well, replacement well and relief well can all be drilled one after another within a period of 80 days, using the same drilling rig (the Kulluk). Neither EPA nor Shell has provided any information to show how this could physically or technically be accomplished.” *Id.*

Ms. Harvey provided additional comments in her supporting declaration. Harvey Dec. at 5. As Ms. Harvey stated, Shell’s exploration plan “called for 60 days per well.” “Using an upper limit of 60 days per well ... would leave little time to drill a replacement well or a relief well.” *Id.* “If 60 days are used, only 20 days would be left to complete a relief well. There is no information in the EPA or Shell records to show that a relief well

could be drilled in 20 days to control these types of wells, at the depths planned.” *Id.* at 5-6.

2. Subject to Appeal

This issue is properly subject to appeal to the Board, because EPA amended the Permit on remand to include:

1. A definition of a Relief Well as “a well drilled near and deflected into a Planned Well that is out of control, making it possible to bring the wild well under control” (Condition 1.2);
2. A definition of Exploratory Operation as “the collection of all OCS Source Activities undertaken to construct a single Planned Well and any of its associated Relief Well(s) and Replacement Well(s)” (Condition 1.6); and
3. An ORL prohibiting Shell from having “the Kulluk occupy Drill Sites associated with the same Exploratory Operation for more than 80 calendar days, in aggregate, during a rolling 52-week period.” (Condition 15.1).

EPA implied in the Response to Comments that this issue is “unrelated to the stationary source determination, revised modeling analysis or modified portions of the permit” and is therefore “beyond the scope of the remand and need not be addressed.”

Response to Comments at 36, 44.¹⁰ EPA is incorrect.

Permit Condition 15.1 relates specifically to the revised modeling analysis performed by Shell and EPA on remand. Shell provided to EPA a “modified air quality impact analysis” to assist the EPA in its consideration of “whether emissions from drilling operations under the permit could violate an applicable air quality standard.”

Kulluk, Beaufort Sea Exploratory Drilling Program, Modified Impacts Analysis Report, Approval to Construct (No. R10-OCS-AK-07-01) and cover letter from Susan Childs to

¹⁰ As will be discussed further, EPA did not respond directly to the Borough’s comments on this point in violation of 40 C.F.R. § 124.17(a)(2), and therefore the Region did not provide a direct response as to whether this issue is properly subject to consideration on remand.

Dan Mahar (January 8, 2007) at 1. The modeling “takes into account the following proposed ORLs,” which include the “maximum duration of well drilling of 80 days (while an OCS Source), in any one year.” *Id.* at 10. The Report stated that:

it is possible that annual impacts could result from the Kulluk drilling sequentially at different locations. Additive annual impacts are addressed by including the impacts from a first well lasting 80 days and a second well that is drilled at a minimum distance from the first well of 1,000 meters and upwind, for another 80 days. The sum of these and including the background for each pollutant would represent the maximum combined concentrations from two wells, and this value is compared to the AAQS in Table 1.

*Id.*¹¹

The conditions placed on the revised modeling analysis submitted by Shell were then incorporated directly into the permit by EPA, which specified that Permit Condition 15.1 was designed for “Ambient Air Quality Protection (NO₂, PM₁₀, and SO₂).” Consequently Condition 15.1 was designed specifically to limit the potential of the permitted operations to cause or contribute to violations of the NAAQS, and the condition was identified by Shell as a limit on the modeling performed to demonstrate compliance with the NAAQS. Condition 15.1 therefore relates directly to the revised air modeling analysis performed by EPA on remand.

Furthermore, this issue relates to “modified portions of the permit.” The original permit did not include a definition of Relief Wells or Exploratory Operations, nor did the original permit include a limitation on the number of days of operation as set forth in Condition 15.1. EPA modified all of these provisions on remand, and the Borough has

¹¹ EPA also incorporated Shell’s ORL regarding an 80-day operating limit into its own modeling analysis. Supplemental Statement of Basis, Attachment 26, at 1, 6, 9. EPA stated that the “highest annual average impacts were obtained by summing the predicted concentration impacts from the operation of two drill sites. That is, the first drill site was limited to a maximum eighty (80) calendar day period.” *Id.* at 9.

therefore properly raised these issues during the remand proceedings and before The Board.

3. EPA Did Not Conclude that Shell Was Capable of Complying with Permit Condition 15.1 and Failed to Respond Adequately to this Issue in the Response to Comments.

The record in this case does not include any rationale set forth by EPA as to whether or how Shell could drill both a Planned Well and a Relief Well in compliance with the 80-day limitation in Condition 15.1. “Without an articulation by the permit writer of his analysis, we cannot properly perform any review whatsoever of that analysis and, therefore, cannot conclude that it meets the requirement of rationality.” *In Re Gov’t of the Dist. of Columbia Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342-43 (2000).

Furthermore, pursuant to 40 C.F.R. § 124.17(a)(2), the Region must “[b]riefly describe and respond to all significant comments on the draft permit.” The Response to Comments must “address the issues raised in a meaningful fashion and ... be clear and thorough enough to adequately encompass the issues raised by the commenter.” *In re Wash. Aqueduct Water Supply Sys.*, 11 E.A.D. 565, 585 (EAB 2004). The permit issuer “must articulate with reasonable clarity the reasons for its conclusions and the significance of the crucial facts it relied upon in reaching those conclusions.” *Id.*

The requirement to respond to comments is “‘designed to ensure that the decision maker gives serious consideration to public comments at the time of making his or her final decision.’” *In re: Amerada Hess Corporation Port Reading Facility*, 12 E.A.D. 1, 16 (EAB 2005) (quoting *In Re Weber # 4-8*, 11 E.A.D. 241, 245 (EAB 2003)). A “‘failure to fulfill the obligation to respond to comments is ‘neither harmless, inconsequential, nor trivial.’” *Id.* (quoting *In Re Weber # 4-8*, 11 E.A.D. at 245).

EPA failed to conclude that Shell was capable of complying with Condition 15.1 as required by 18 AAC 50.542(f)(8)(A) and failed to set forth a reasoned response to the comments of the North Slope Borough on this issue. The Response to Comments includes a discussion of Relief Wells, but EPA never acknowledged the issue raised by the Borough – specifically whether a relief well could be drilled within the 80-day limit of Condition 15.1, which is designed to ensure compliance with the NAAQS.¹²

First, EPA included Category 8 in the Response to Comments - “Kulluk Relief Well Capacity.” Response to Comments at 36-38. Here, EPA restated the comment as follows – “If the *Kulluk* is damaged during a blowout, a second rig would be needed to drill the relief well. The proposed permit does not authorize a second rig to drill the relief well.” *Id.* In its response, EPA first acknowledges the need to plan for a relief well: “There exists a need for contingency planning given that between 1992 and 2006, approximately one in every 298 exploratory wells drilled in the United States OCS experienced a blowout.” *Id.* at 37. EPA, however, never addressed whether a relief well could be drilled in compliance with Condition 15.1. Instead, the Region simply deferred to the apparent conclusion of the Minerals Management Service that Shell “is capable of conducting safe exploratory operations in the Beaufort Sea utilizing a single drill rig” *Id.* at 38.

The issue, however, is not whether the *Kulluk* could technically drill a relief well in the event of a blowout or stated another way whether the *Kulluk* is likely to be damaged and therefore inoperable following a blowout. Instead, the issue is whether a relief well could be drilled in compliance with the 80-day limit in Condition 15.1.

¹² Similarly, the Supplemental Statement of Basis failed to include a determination by EPA that Shell could drill both a Planned Well and a Relief Well within the 80-day time limitation in Condition 15.1. SSOB at 18-1.

Pursuant to Category 8, EPA never acknowledged this comment and certainly did not provide a rational response thereto.

Second, EPA included Subcategory 10-2 – “Completeness of Emissions Inventory.” *Id.* at 44. Here, EPA restated the comment as follows – “If the permit is to remain a minor source permit, the emissions associated with a relief well should be considered.” *Id.* In its response, EPA focused solely on whether a relief well could be drilled in compliance with the 245 ton-per-year limit on NO_x emissions, which is listed at Condition 8 in the permit. *Id.* Condition 8 is designed to ensure that the emissions do not exceed the threshold for major source determination. *Id.*

Again, EPA failed acknowledge that the Borough raised a completely separate issue, namely whether a relief well could be drilled in compliance with Condition 15.1, which limits the days of operation in order to ensure that the emissions do not cause or contribute to violations of the NAAQS.¹³ In its comments, the Borough did not argue that a Relief Well would result in violation of the 245 tons per year limitation of Condition 8. Ex. 1 at 13-14. Rather, the Borough questioned whether Shell could comply with the time limitation in Condition 15.1. *Id.* at 13. “Adequate time must be allocated for air pollution associated with a relief well, since this is a necessity in the event of a blowout.” *Id.*

Because EPA has failed to set forth a rational basis for its determination that Shell could comply with its ORL in Section 15.1, the permit must be remanded to the Region. *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 11, 175 (EAB 1999) (remanding the permit

¹³ EPA was required to deny the permit application for a stationary source if it found that the construction and operation would result in a violation of the NAAQS. 18 AAC 50.542(f)(1)(B). The basis for Condition 8, which relates to the threshold determination for major source status, is independent of Condition 15.1, which is designed to ensure that the emissions will not cause a violation of the NAAQS.

because “there are no details regarding [the Region’s] determinations in the administrative record” and therefore the Board “cannot judge the adequacy of the Region’s analysis”). Pursuant to 40 C.F.R. § 124.17(a)(2), EPA also failed to address the issue raised by the Borough in a meaningful fashion and failed to encompass the issues raised by the Borough. *In re: Amerada Hess Corporation Port Reading Facility*, 12 E.A.D. at 16.

4. The Record Would not Support a Determination that Shell is Capable of Complying with Condition 15.1.

Even if EPA had concluded that Shell could drill both a Planned Well and a Relief Well within 80 days as required by Condition 15.1, that determination would not be supported by the record. Shell failed to provide any data and EPA failed to cite to any data that both wells could be drilled within that time frame. All the available information suggests otherwise.

First, in Shell’s original application dated December 29, 2006, Shell set forth its assumptions for how long each planned well would take:

Under ideal ice conditions and unanticipated drilling issues the drilling program could possibly continue for up to 75 days and 60 days, respectively, per lease block drill site location for the deeper and the shallower wells. SOI however considered a 59-day drilling program for the deeper wells and a 43-day drilling program for the shallower wells to represent a conservatively long estimate.

Outer Continental Shelf Pre-Construction Air Permit Application, Shell Kulluk

2007-2009 Beaufort Sea Exploratory Drilling Program and cover letter from Susan

Childs to Dan Mahar (December 29, 2006) at 4.¹⁴ Ms. Harvey reiterated these facts in

¹⁴ The permit does not restrict the depth to which Shell can drill the planned wells and therefore EPA must consider the time required to drill a deeper well.

her declaration, stating that "Shell's exploration plan called for 60 days per well."

Harvey Dec. at 5.

The record provided by EPA is devoid of any discussion of how long it would take to drill a relief well. EPA did not set forth any information on this point in either the Supplement Statement of Basis or the Response to Comments.

Furthermore, Shell's Oil Discharge Prevention and Contingency Plan (ODPCP) suggests that Shell would not be able to drill a Relief Well within the allotted time:

The estimated total duration from the start of a blowout to well killing by drilling a relief well would be approximately 16 days for a relief well for the 8,000 foot TVD well and would be approximately **34 days for a relief well from the 14,000 foot TVD.**

Shell Offshore Inc., Beaufort Sea Regional Exploration Oil Discharge Prevention and Contingency Plan (January 2007) at 1-23 (emphasis added).¹⁵

The information in the record therefore suggests that Shell could not drill a planned well and a relief well at a deep well site, which is allowed under the permit, in compliance with the 80-day limitation in Condition 15.1. Pursuant to Shell's own estimates, the planned well and relief well would likely require 93 days and could take as long as 109 days. Both scenarios could result in a violation of the NAAQS.

Finally, in the Smith Memo Shell purports to respond to the Borough's comment that "there is insufficient information in the record to show that any relief wells could be drilled within 80 days." In the Smith Memo, Shell again fails to provide any data to support a conclusion that it could drill both a planned well and a relief well within the 80-day limitation of Condition 15.1. Instead, Shell asserts simply that a relief well is

¹⁵ EPA cited to the ODPCP in the Response to Comments at pgs. 37-38. The ODPCP is therefore considered to be a part of the Administrative Record. 40 C.F.R. § 124.18(b)(4).

“extremely unlikely to occur” and then discusses recent data on the rate of blowouts occurring during OCS exploration activities. Smith Memo at 9. Shell then requested amendments to the definition of Exploratory Operations in Section 1.6 of the permit “to make it clear that this definition does not include Relief Wells, at least for purposes of determining SOI’s compliance with the 80-day or 245 ton permit restrictions” *Id.* at 11.¹⁶ EPA did not amend the permit as requested by Shell.

5. The Board Should Reject any Argument that EPA Need Not Consider the Potential Operations Associated with a Relief Well because they are Speculative.

EPA is likely to argue in response that blowouts are uncommon occurrences and therefore relief wells need not be considered in determining whether Shell is capable of complying with Permit Condition 15.1. In the Response to Comments, EPA made this same argument in Category 10-2 with respect to Condition 8. Response to Comments at 44. “Although emissions resulting from drilling a relief well shall still be considered as part of the stationary source, given the infrequent need for relief wells, EPA has determined that Shell is not required to submit further information related to relief well emissions prior to issuance of the minor source permit.” *Id.* at 45.

This argument is wrong for three reasons. First, EPA did not set forth this reason in its permitting decision with respect to Condition 15.1, which is designed to ensure compliance with the NAAQS. Second, this rationale conflicts with the applicable regulations. Third, EPA cannot and did not reach a determination of the likelihood of a

¹⁶ Shell also made the unsupported argument that “EPA cannot reasonably write permit limits, including ORLs and stipulations that ensure NAAQS compliance, to address emissions that occur during emergency response actions undertaken to protect safety and the environment.” *Id.* at 11. This statement is particularly inappropriate because Shell has again insisted upon permitting the Kulluk as a minor source and avoiding a BACT analysis pursuant to the PSD program. Neither Shell nor EPA have any information as to whether emergency response actions could be permitted to ensure compliance with the NAAQS if the Kulluk was properly permitted as a major source.

blowout under the permit, because there was no limit placed on the duration of the permit or the number of wells to be drilled under the permit.

The rationale for the decision must be adequately set forth in the record. *In re City of Moscow, Idaho*, 10 E.A.D. 135, 142 (EAB 2001); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567-658 (EAB 1998). Furthermore, The Board has remanded permit decisions when EPA has offered explanations for the first time on appeal. *See, e.g., In re McGowan*, 2 E.A.D. 604, 606-07 (Adm'r 1988). Here, EPA never set forth this explanation as a reason to forego an analysis that Shell could comply with Condition 15.1, which is designed to ensure compliance with the NAAQS. Instead, EPA used this rationale only with respect to Condition 8, which is designed to ensure that the emissions do not exceed the threshold for major source status. Response to Comments at 36-38. EPA may not raise this rationale for the first time on appeal.

Second, the applicable regulations do not provide EPA the discretion to exclude permitted activities from the analysis required by 18 AAC 50.542(f)(8)(A). The regulation states that EPA will approve a minor permit only if it finds that "the stationary source is capable of complying with the limit." *Id.* EPA included emissions from the drilling of a relief well within the activities of the minor source covered by the permit. EPA must therefore demonstrate that the stationary source is capable of complying with the 80-day limit in Condition 15.1.¹⁷

The regulations do not provide EPA with the discretion to exempt certain activities from the capability determination because those activities, although covered by

¹⁷ Shell apparently agreed with this interpretation of the regulations. In its follow up submissions, Shell did not argue that EPA had the discretion to simply ignore operations related to the Relief Well in determining whether Shell could comply with Condition 15.1. Instead, Shell requested that EPA amend the permit to exclude operations related to a Relief Well from the limitations in Condition 15.1. EPA denied this request and did not amend the permit.

the permit, are unlikely to occur. Furthermore, even if the regulations did grant EPA that discretion, it has not provided any criteria as to how it would make this determination. Instead, EPA simply made an ad hoc determination without setting forth any generally applicable principles that would guide or channel its discretion.

Third, even if probability could be factored into the consideration, and even if EPA had established generally applicable criteria to guide the exercise of its discretion, its determination would still be arbitrary. The permit in this case does not contain any limitation on the number of wells to be drilled. The permit lasts for an indefinite amount of time with no expiration date and allows Shell to drill an indefinite number of wells. EPA, therefore, cannot reach a rational conclusion regarding the likelihood of a blowout, because EPA does not know how many wells Shell will drill pursuant to the permit and over what time frame those well will be drilled.

D. EPA Failed to Conclude that Shell is Capable of Complying with Permit Condition 8 as Required by 18 AAC 50.542(f)(8)(A).

Permit Condition 8 prevents Shell from allowing “the sum of emissions from an Exploratory Operation and from the Kulluk and support vessels within 25 miles of that Exploratory Operation to exceed 245.0 tons of NO_x within any Rolling 52-week period.” Permit at 11. Pursuant to Section 1.6 of the permit, an Exploratory Operation includes both planned wells and any associated relief wells. EPA failed to demonstrate that Shell could drill both a planned well and the associated relief well in compliance with the 245 ton per year limit, and the decision is therefore contrary to law.

1. Preservation of Error

As noted by EPA, the North Slope Borough preserved this issue in its comments. Ex. 1 at 17; Response to Comments at 44.

reference to the specific regulatory language that Shell “is not required to submit further information related to relief well emissions” Response to Comments at 45. EPA fails to explain how that decision comports with the plain language of the regulation.

Alaska law requires Shell to submit a contingency plan for oil spills and to prepare for that occurrence. 18 AAC 75.400(a)(3). MMS regulations require the same. 30 C.F.R. Part 254, Subpart B (Oil Spill Response Plans for Outer Continental Shelf Facilities). Shell was therefore required to establish plans, before drilling activities commence, as to how it intends to address the potential environmental impacts from an oil spill or blowout. Those advance plans should reasonably include permitting of the potential air emissions associated with response actions. Neither EPA nor Shell has set forth any interpretation of the law that exempts air emissions from all of the other advance planning requirements designed to ensure that an oil spill is addressed as quickly as possible with a minimum impact to the environment. If those response actions cannot be planned and completed in compliance with the 250 ton per year limit for minor source status, EPA must legally require Shell to obtain a major source permit and conduct a BACT review of the equipment that will be used to drill both planned wells and any associated relief wells. Advance contingency planning is required by both federal and state law, and EPA has no legal basis to exempt air quality concerns from those advance planning efforts.

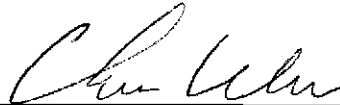
VI. CONCLUSION

EPA continues to bend beyond the breaking point the facts, precedent and the law to support its use of a minor air quality control permit for Shell’s exploration project. Shell’s exploration project will be a major source of air pollution, deserving of the strict

procedural review and substantive requirements accorded by the full application of the PSD program. For EPA to conclude otherwise is arbitrary, capricious, and contrary to law. The Board should thus vacate and remand the revised permit.

DATED this 19th Day of July, 2008.

Respectfully submitted,



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