



# PUBLIC NOTICE AND INFORMATION SHEET

## Proposed Air Permit: Shell Offshore Inc. - Beaufort Sea, Alaska

**Public Comment Open: February 17 – March 22, 2010**

The U.S. Environmental Protection Agency (EPA) is proposing a Clean Air Act permit to Shell Offshore Inc. (Shell) at 3601C St., Ste. 1000, Anchorage, Alaska 99503. The permit will allow Shell to operate the *Frontier Discoverer* drillship and its associated fleet for multi-year exploration drilling within Shell's current lease blocks in lease sales 195 (March 2005) and 202 (April 2007) on the Beaufort Sea outer continental shelf (OCS), within and beyond 25 miles from Alaska's seaward boundary. Because the drillship operations are a "major" source, the permit requires the drillship operations to comply with the Prevention of Significant Deterioration (PSD) regulations.

**You are invited to comment on the proposed permit until March 22.** If you believe any condition of this permit is inappropriate, you must comment on the permit and raise all reasonably ascertainable issues and submit all reasonably available arguments supporting your position by the end of the comment period. EPA is also asking for comments on the non-guideline ISC3-PRIME modeling system used to predict air pollutant concentrations and determine ambient air quality impacts in this permit.

SEND COMMENTS TO:	PUBLIC HEARINGS		
<b>Email:</b> <a href="mailto:R10ocsairpermits@epa.gov">R10ocsairpermits@epa.gov</a> <b>Mail:</b> EPA Region 10 Shell Beaufort Air Permit 1200 6th Ave, Ste. 900, AWT-107 Seattle, Washington 98101 <b>Fax:</b> 206-553-0110	<b>March 16, 2010</b> Information Meeting: 6:00 pm Public Hearing: 7:00 pm City Hall Kaktovik, Alaska	<b>March 17, 2010</b> Information Meeting: 6:00 pm Public Hearing: 7:00 pm Kisik Community Center Nuiqsut, Alaska	<b>March 18, 2010</b> Information Meeting: 6:00 pm Public Hearing: 7:00 pm Inupiat Heritage Center Barrow, Alaska

EPA will receive public comments on the proposed air permit at public hearings in Kaktovik, Nuiqsut and Barrow. You do not need to attend the public hearings to give your comments. You can send written comments by mail or e-mail. You can also record and submit your comments on cassette tape or CD. Send your comments to the addresses above.

**Comments must be postmarked by March 22, 2010.**

### For More Information

**Questions about the air permit:**  
 Natasha Greaves, Air Permit Writer  
 (206) 553-7079 [greaves.natasha@epa.gov](mailto:greaves.natasha@epa.gov)

**Questions about the public hearings:**  
 Suzanne Skadowski, Public Affairs  
 (206) 553-6689 [skadowski.suzanne@epa.gov](mailto:skadowski.suzanne@epa.gov)

**Beaufort air permit Web Site:** [yosemite.epa.gov/R10/airpage.nsf/Permits/beaufortap](http://yosemite.epa.gov/R10/airpage.nsf/Permits/beaufortap)

## PERMIT DOCUMENTS AVAILABLE

EPA has prepared a detailed document called a *statement of basis* that explains the derivation of the permit conditions and the reasons for them. The record for this permit includes Shell's application and supplemental information, the statement of basis, the proposed permit and all other materials relied on by EPA. The permit record is available at EPA Region 10, 1200 6th Ave, Seattle, Washington, from 9 am-12 pm and 1 pm-4 pm, Monday-Friday, (206) 553-1200.

The permit application, the statement of basis, and the proposed permit will also be available at the locations listed below. Please call in advance for available viewing times.

**Barrow City Office**, 2022 Ahkovak Street, Barrow, Alaska, 99723, (907) 852-4050  
**Kaktovik City Office**, 2051 Barter Avenue, Kaktovik, Alaska, 99747, (907) 640-6313  
**Nuiqsut City Office**, 2230 2<sup>nd</sup> Street, Nuiqsut, Alaska, 99789, (907) 480-6727  
**EPA Alaska Office**, Federal Building, 222 West 7<sup>th</sup> Ave, Anchorage, Alaska, 99513, (907) 271-5083  
**EPA Region 10 web site:** [yosemite.epa.gov/R10/airpage.nsf/Permits/beaufortap](http://yosemite.epa.gov/R10/airpage.nsf/Permits/beaufortap)

To request a copy of the permit application, statement of basis and/or the proposed permit, or to be added to our Beaufort or Chukchi permits mailing lists, contact Suzanne Skadowski, EPA Public Affairs, (206) 553-6689 [skadowski.suzanne@epa.gov](mailto:skadowski.suzanne@epa.gov).

## HOW TO COMMENT

Any person may submit comments on the proposed air permit during the public comment period. If you believe any condition of this permit is inappropriate, you must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting your position. Any documents supporting your comments must be included in full and may not be incorporated by reference unless they are already part of the record for this permit, consist of state or federal statutes or regulations, EPA documents of general applicability, or other generally available referenced materials.

We recommend that comments submitted by mail, e-mail, cassette tape or CD include your contact information so that we can provide you with notice of the final permit decision. If EPA cannot read or hear your comment and cannot contact you for clarification, we may not be able to fully consider your comment. Any personal information, including addresses or phone numbers that are included with a public comment will be included in the public record for the permit.

### **All comments must be postmarked by March 22, 2010.**

This permit is subject to the decision-making procedures of 40 C.F.R. Part 124. All timely comments will be considered in making the final decision, included in the record, and responded to by EPA. When EPA issues a final permit decision, we will prepare a response to comments received, an explanation of any changes made in the final permit, and we will notify all commenters of our permit decision.

## INFORMATION ABOUT THE PROPOSED PERMIT

### **Sources of Air Emissions**

Under OCS regulations, emissions from a support vessel are counted as emissions from the OCS source when the *Discoverer* is an OCS source and the support vessel is within 25 miles of the *Discoverer*. This permit proposes two alternatives for when the *Discoverer* is considered an "OCS source" under the permit and when the emission limitations and other operating restrictions apply. In this proposal, EPA seeks comment on considering the *Discoverer* to be an OCS source when it is attached by a single anchor to the seabed. EPA is also soliciting comment on an alternative proposal

to consider the *Discoverer* to be an OCS source when it is sufficiently secure and stable to commence exploratory activity at a drill site.

The *Discoverer* is a turret-moored drillship with air emission sources that include generators for the drilling systems and associated self-powered equipment (such as air compressors and hydraulic pumps), boilers for heating and an incinerator. The *Discoverer's* exploratory drilling will be supported by two icebreakers, a supply ship (or barge and tugboat), a drill cuttings/mud barge and tugboat, and an oil spill response fleet (a ship, two work boats, a skimmer, a tugboat, and a barge).

The main pollutants that will be emitted from the *Discoverer* and its support vessels are nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>), carbon monoxide (CO), and volatile organic compounds (VOC).

### **Air Pollution Controls**

To limit air pollution emissions, the permit requires Best Available Control Technology (BACT) on the *Discoverer* and controls on some other emission sources in the fleet, including:

- Use of ultra-low sulfur diesel fuel in the *Discoverer* and all fleet vessels when a vessel is within 25 miles of the *Discoverer* and the *Discoverer* is operating as an OCS source, to limit emissions of SO<sub>2</sub> and sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>).
- Selective catalytic reduction controls on the six largest engines on the *Discoverer* and the icebreaker/anchor handler's main diesel engines, to reduce emissions of NO<sub>x</sub>.
- Oxidation catalysts or catalytic diesel particulate filters on the six largest engines and all other engines on the *Discoverer*, to limit emissions of CO, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOCs.
- Good operation and maintenance procedures and good combustion practices on the *Discoverer* and the associated fleet, to limit air pollution emissions overall.
- Record-keeping and reporting necessary to monitor compliance with permit terms and conditions.

### **National Ambient Air Quality Standards and PSD Increments**

As part of the permit application process, Shell is required to use air quality monitoring information and modeling to demonstrate that air quality in the vicinity of their drilling operations in the Beaufort Sea will continue to meet the National Ambient Air Quality Standards and PSD increments. PSD increments are limits on the amount that air quality can be degraded by actual emissions.

In addition to emission limitations and permit requirements that impose BACT, the permit also includes annual emission limits for NO<sub>x</sub>, daily emission limits for PM<sub>10</sub> and PM<sub>2.5</sub>, and other operational restrictions to ensure that emissions from the *Discoverer* and its support vessels do not exceed the National Ambient Air Quality Standards or PSD increments while the *Discoverer* is anchored at a drill site. Operational restriction include: ultra-low sulfur diesel fuel use in all support vessels, drilling limited to a total of 168 days between July 1 and December 31 of each year, and limits in the amount of fuel that can be combusted.

The permit is based on the non-guideline ISC3-PRIME modeling system used to predict air pollutant concentrations. This modeling system has not been approved by the EPA for general use, but has been tested for use in arctic conditions. EPA specifically requests public comment on the suitability of this model in this permitting action.

PSD increments are limits on the amount that air quality can be degraded by actual emissions. EPA predicts that Shell's operations will consume the percentage of PSD increments as shown in *Table 1*. The permit will allow the *Discoverer* and its support vessels to emit air pollutants as shown in *Table 2*.

**Table 1 - PSD Increment Predicted to be Consumed by Shell's Operations**

Air Pollutant	PSD Increments		
	3-hour	24-hour	Annual
Nitrogen Dioxide (NO <sub>2</sub> )	-	-	78.8%
Particulate Matter Less than 10 (PM <sub>10</sub> )	-	69.0%	6.5%
Sulfur Dioxide (SO <sub>2</sub> )	4.9%	3.5%	0.5%

**Table 2 - Permitted Air Pollutant Emissions from Discoverer and Fleet as OCS Source at all Locations**

Air Pollutant	Emissions (tons per year)
Carbon Monoxide (CO)	464
Nitrogen Oxides (NO <sub>x</sub> )	1371
Particulate Matter Less than 2.5 (PM <sub>2.5</sub> )	57
Particulate Matter Less than 10 (PM <sub>10</sub> )	65
Sulfur Dioxide (SO <sub>2</sub> )	2
Volatile Organic Compounds (VOC)	96

## ADDITIONAL PROJECT INFORMATION

### Arctic General Permit

Shell's proposed drilling activities also include wastewater discharges to the Beaufort Sea, which are regulated under the National Pollutant Discharge Elimination System (NPDES). In 2006, EPA issued the Arctic NPDES General Permit (AKG-28-0000) to authorize discharges from oil and gas exploration activities in state and federal waters on the outer continental shelf in the Beaufort Sea, Chukchi Sea, Hope Basin, and northern Norton Basin, if the facilities meet the permit terms and conditions. This permit expires in 2011.

Shell submitted two notices of intent (NOIs) requesting coverage under the Arctic General Permit for wastewater discharges related to its proposed exploration activities in Camden Bay within the Beaufort Sea. EPA will decide whether to grant coverage for Shell under the Arctic NPDES General Permit following the end of the public and tribal review period. **EPA is accepting public and tribal input on Shell's Beaufort NOIs until March 22, 2010.**

To learn more about the Arctic General Permit or to comment on Shell's Beaufort NOIs, contact:  
Hanh Shaw, EPA NPDES Permit Writer, (206) 553-0171 [shaw.hanh@epa.gov](mailto:shaw.hanh@epa.gov).

To sign up for the Arctic General Permit mailing list, contact:  
Suzanne Skadowski, EPA Public Affairs, (206) 553-6689 [skadowski.suzanne@epa.gov](mailto:skadowski.suzanne@epa.gov).

Find more information on the Arctic NPDES General Permit and Shell's Beaufort NOIs on the Web:  
[yosemite.epa.gov/R10/WATER.NSF/NPDES+Permits/General+NPDES+Permits](http://yosemite.epa.gov/R10/WATER.NSF/NPDES+Permits/General+NPDES+Permits).