

The following slides are provided:

- For informational purposes only;
- As a high-level summary of a more complex regulatory system;
- As part of a larger presentation that added additional clarification and context; and
- To describe how BOEM currently expects to regulate.

BOEM will continue to refine the approach to this process.



Air Quality Jurisdiction on the Arctic OCS



**Tuesday, February 5, 2013
3:15 p.m. – 4:30 p.m.**

presented by

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The Bureau of Ocean Energy Management (BOEM) is responsible for managing development of the nation's offshore resources in an environmentally and economically responsible way.



Anchorage

Camarillo, CA



New Orleans



BOEM Alaska OCS Region (AOCSR) oversees more than one billion acres on the OCS and more than 6,000 miles of coastline.

AOCSR Office of Environment regulates air quality impacts from proposed oil and gas exploration, development, and production



1953 – OCS Lands Act (OCSLA) [Sec. 5(a)(8)]
DOI authority to regulate offshore emission sources for OCS areas lying seaward of state coastal waters (3 miles to 200 miles offshore).

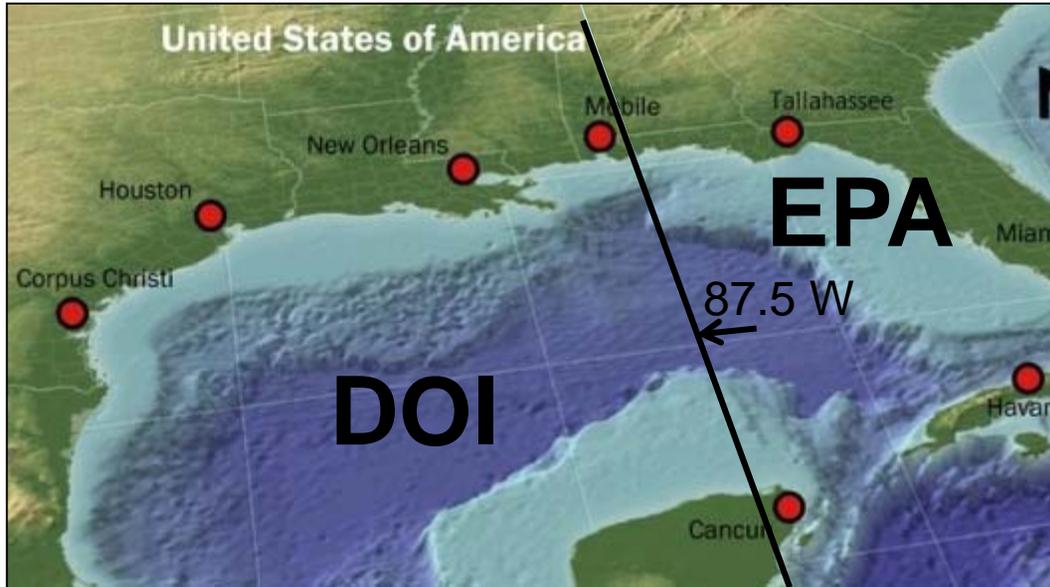


1990 Amendments – Clean Air Act (CAA) (Sec. 328)
EPA assigned jurisdiction for control over all OCS areas except Central and Western Gulf of Mexico OCS; superseding OCSLA 5(a)(8).



2011 – Amended CAA (Sec. 328)
DOI authority restored just for the Arctic OCS in *Consolidation Appropriations Act, 2012*.



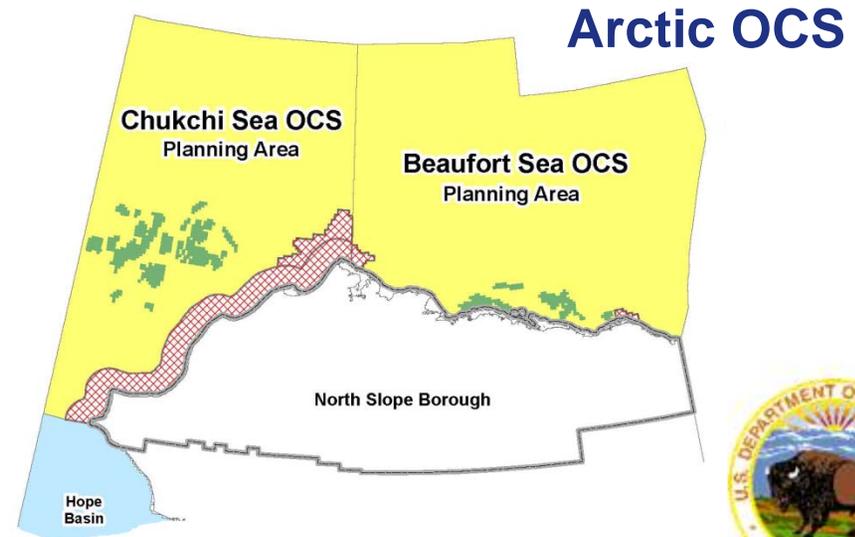


Gulf of Mexico

- Operations **west of 87.5° W.** longitude fall under **DOI** jurisdiction.
- Operations **east of 87.5° W.** longitude fall under EPA jurisdiction.

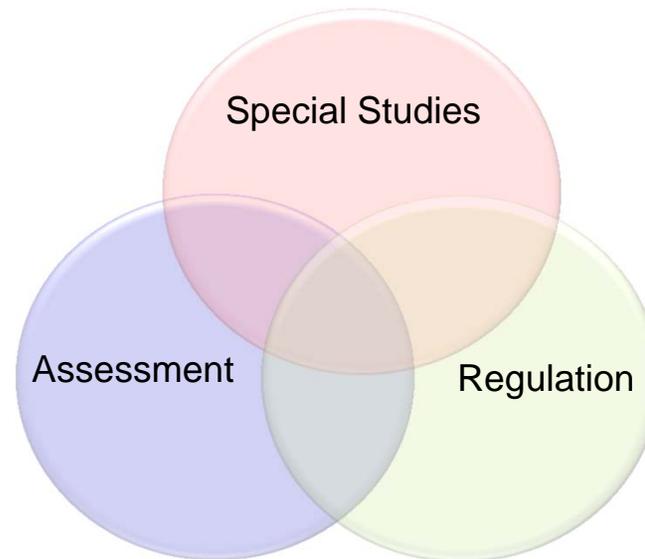
Alaska OCS

- Areas “adjacent to the North Slope Borough” – the “**Arctic OCS**” – are under **DOI jurisdiction**. Other areas offshore AK remain within EPA jurisdiction.



BOEM Alaska uses a three-pronged approach when assessing air quality for proposed oil and gas exploration on the Arctic OCS:

- Special studies
- Assessment
- Regulation



The use of all three resources will provide a holistic understanding of the air quality impacts – over the water and onshore – from activities on the Arctic OCS.



The BOEM **Environmental Studies Program** has funded more than \$400 million in studies in Alaska.

Recently, BOEM approved the **Arctic Air Quality Impact Assessment Modeling study**. Planned to begin this year, the study will investigate existing and future sources of air emissions across the North Slope Borough and the Arctic OCS (Beaufort Sea and Chukchi Sea Planning Areas) for a better understanding of Arctic air quality.



Special Studies

The Arctic air quality study will include:

- Comprehensive emission inventory of onshore and offshore sources – land, sea, and air;
- Develop meteorological datasets applicable to the shore and to the planning areas;
- Detailed computer dispersion modeling showing the concentration of pollutants over water and over the shore;
- Evaluation of existing BOEM emission-source control strategies.



- Arctic OCS study will investigate projected emissions of the following pollutants:
 - carbon monoxide (CO)
 - nitrogen dioxide (NO₂)
 - nitrogen oxides (NO_x)
 - sulfur dioxide (SO₂)
 - particulate matter, fine and coarse (PM_{2.5} and PM₁₀)
 - volatile organic compounds (VOC)
 - *lead (Pb)*
 - *ozone (O₃)*
 - *secondary formation of PM_{2.5}*
- Study is being planned to include input from EPA and Alaska Department of Environmental Conservation (ADEC).



BOEM Alaska **Environmental Analysis Section (EAS)** analyzes potential environmental impacts – including air quality impacts - under the National Environmental Policy Act (NEPA).

EAS works with project proponents to understand the proposed activities, and verifies the project's emissions inventory.

*The NEPA air quality analysis accounts for emissions from **all sources of emissions** that would operate under the approved plan, including:*

- Land, sea, and air sources
- Stationary and mobile sources
- Temporary and permanent sources

Where appropriate, BOEM requires mitigation measures.



- BOEM regulates projected emissions of the following pollutants:
 - carbon monoxide (CO)
 - nitrogen oxides (NO_x)
 - nitrogen dioxide (NO₂)
 - sulfur dioxide (SO₂)
 - particulate matter, fine and coarse (PM_{2.5} and PM₁₀)
 - *lead (Pb)*
 - volatile organic compounds (VOC)
- BOEM determines significance levels for regulated emissions based on the EPA National Ambient Air Quality Standards (NAAQS) for the “*criteria pollutants*”:
 - VOC and NO_x are not criteria pollutants, but are precursors to ozone development;
 - ozone is a regional phenomena resulting from long-range transport and results from the chemical reaction of VOC and NO_x in the presence of sunshine; and,
 - ozone is not analyzed on a project-level basis.



BOEM initiates the air quality regulatory process whenever the review of a proposed Exploration Plan or Development and Production Plan is proposed on the Arctic OCS.



Regulation

Regulations require:

- Disclosure of offshore stationary emission sources;
- OCS sources must comply with CAA air quality standards; and
- Compliance to the **BOEM Air Quality Regulatory Program (AQRP)**:
 - BOEM is responsible for control of offshore sources and the Bureau of Safety and Environmental Enforcement (BSEE) is responsible for enforcement of the controls.



- Applies **to drilling units** only while attached to the ocean floor - considered a stationary source of emissions;
- **Separate analysis from the NEPA** air quality assessment;
- Requires lessee to provide BOEM with an **inventory** that shows either:
 - the emissions from the drilling unit are **exempt** (*de minimis*), or
 - the emissions have the potential to cause a **significant impact**.
- If the emissions are not exempt:
 - lessee must conduct **dispersion analysis** to predict onshore concentrations.
- Dispersion analysis shows either:
 - **impacts are insignificant** (do not exceed EPA significance levels); or
 - lessee must apply **Best Available Control Technology (BACT)**; and
 - ✓ additional controls may be required
 - ✓ operational limitations may be required
 - ✓ redesign of the plan may be necessary



- Like EPA, BOEM regulates criteria pollutants and VOC, but not ozone (at least not directly) or lead:
 - carbon monoxide (CO)
 - nitrogen oxides (NO_x)
 - nitrogen dioxide (NO₂)
 - sulfur dioxide (SO₂)
 - particulate matter, fine and coarse (PM_{2.5} and PM₁₀)
 - volatile organic compounds (VOC)
- BOEM AQRP adopts pollutant standards from EPA's regulations:
 - Significance Levels – 40 CFR 51.165(b)(2) – **4% of the NAAQS**
 - Maximum Allowable Concentration Increases – 40 CFR 51.21(c) – also referred to as the Prevention of Significant Deterioration (PSD) rule – **25% of the NAAQS**
 - NAAQS – 40 CFR Part 50



Form of Authorization to Emit

Plan approval

Permit (PSD and Title V)

Emission Inventory

Considers **the drilling unit** – no other vessels or sources

Include drilling unit and all vessels **within 25 miles** of the drilling unit

Emission Exemption Level

Exemption threshold (E_t) considers distance of drilling unit from shore

If $\leq E_t$, do nothing further

If $> E_t$, conduct dispersion analysis

Exemption threshold is 250 tons per year of any regulated pollutant

If ≤ 250 tons, do nothing further

If > 250 tons, **BACT required**

Dispersion Analysis

Compliance with EPA Significance Levels (SLs) determined at the shoreline

If \leq SLs, do nothing further

If $>$ SLs, **BACT required** and possibly additional control strategies

Compliance with NAAQS determined at 500 meters from the center of the source

If \leq NAAQS, do nothing further

If $>$ NAAQS, apply additional control strategies



Public Review and Comment

During review of plan and also during NEPA process

Follow issuance of draft permit, 30 day period

Appeals

Parties may appeal plan approvals through petition to the U.S. Court of Appeals for the Ninth Circuit.

Parties may appeal permits to EPA's Environmental Appeals Board (EAB) and then to the courts.

Although DOI and EPA approach air emissions regulation differently, both programs share the goal of ensuring healthy air for North Slope residents.



THANK YOU FOR YOUR ATTENTION.

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