BOADS AND GOADS, OR JUST WHEN YOU THOUGHT THAT IT WAS SAFE TO GO OUT IN THE GARDEN AGAIN

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INTRODUCTION

The purpose of this paper is to explain why the Minerals Management Service (MMS) is requiring certain Gulf of Mexico operators to develop and submit air emissions inventory data. It also presents an overview of the specific program requirements.

AIR ISSUES ASSOCIATED WITH OFFSHORE FACILITIES

There are two air issues associated with oil and gas operations in the Gulf of Mexico Outer Continental Shelf (OCS) the first is a general concern about emissions that may contribute to ozone exceedences (typically NOx and VOC). The second is a specific concern over whether operations near the Breton National Wildlife Refuge/Wilderness Area could be adversely affecting the visibility of a Class I Area by causing haze. In addition, potential SO_2 and NO_2 impacts will be determined.

The Minerals Management Service (MMS) is addressing these issues by collecting site-specific meteorological data, and by gathering emissions inventory data from all operators in the area. This information will allow the potential impacts from operations to be determined, using mathematical dispersion modeling.

The mechanisms that the MMS is using to collect the emission inventory data are two software packages, namely the Breton Offshore Activities Data System (BOADS) and Gulf Offshore Activities Data System (GOADS).

REGULATORY BACKGROUND

The Clean Air Act (CAA) was passed in 1955 and has been used as the basis for regulations to ensure air quality in the U.S. The CAA was amended in 1970, shifting responsibility for prevention and control of air pollution to state and local government. On November 15, 1990, President Bush signed the Clean Air Act Amendments (CAAA), probably the most far-reaching piece of environmental legislation that has been passed to date. The CAAA are divided into a series of Titles, each addressing a different topic. The central mechanism of the CAAA is the operating permit, which is required under Title V. Any facility considered a "major source" is required to obtain a Title V Operating Permit, renewable every five years. The facility must comply with all applicable rules and regulations, including protection of health and property of the public. All emission control equipment must be maintained in good condition and be operated properly during operation of the facility. All permits and exemptions may contain general and special conditions that must be followed.

The information supplied by the operator concerning matters such as construction plans, operating procedures, and maximum emission rates becomes the condition under which the facility is to be constructed and operated. Equipment or method of operation cannot be varied from that submitted to the regulatory agency, unless the owner/operator of the facility notifies the agency.

In addition to permitting requirements, the operator must demonstrate on-going compliance with the permit limits and provide twice yearly certifications that the facility is operating in compliance with all the permit conditions.

National Ambient Air Quality Standards

The EPA has established National Ambient Air Quality Standards (NAAQS) for six "criteria" air pollutants: Ozone, Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Sulfur Oxides (SO_x), Particulate Matter (PM_{10}), and Lead. The NAAQS were set at a level that would ensure air quality was protective of both human health and the environment. All areas in the U.S. have been checked against the NAAQS and are classified as one of the following:

- Non-attainment: any area that does not meet the NAAQS for the specified pollutant. Adjacent areas whose ambient air quality may be affected also have the potential of being classified as non-attainment areas;
- Attainment: any area that meets the NAAQS for the specified pollutant; or
- Unclassifiable: any area that cannot be classified on the basis of available information.

The CAAA further divides non-attainment areas into subcategories (marginal, moderate, serious, severe & extreme), depending on how close to meeting the NAAQS the region is. The group into which an area falls determines the date by which the area will be required to come into attainment. Under the CAAA, the level of non-attainment also determines the definition of a major source. Not surprisingly, the worse the air quality, the lower the level of emissions that count as major. Table 1 summarizes these definitions.

- **Ozone**

Ozone in the upper atmosphere filters the sun's ultraviolet radiation. However, at ground level, excessive levels of ozone may aggravate lung and respiratory disorders. Long-term exposure to levels above the federal standard may also cause lung damage in healthy individuals. Ozone is typically formed by complex chemical reactions in the air when nitrogen oxides (NO_x) and specific types of reactive chemicals, called volatile organic compounds (VOCs), combine in the presence of sunlight and warm temperature.

The current 1-hour standard for ozone published by EPA in 1979 is 0.12 parts per million (120 parts per billion). An area that violates this standard when concentration levels, averaged over one hour at any monitor, equal or exceed 125 ppb more than three times during any consecutive three-year period.

- **Particulate Matter**

Particulate matter includes dust, dirt, smoke, and certain types of chemical compounds. These materials form very small particles that stay in the air and can be inhaled. If the particles are small enough, they can lodge deep in a person's lungs, reduce lung function and aggravate respiratory problems. A federal standard for PM_{10} has been in place since 1987.

TABLE 1 DEFINITION OF A MAJOR SOURCE

Pollutant Emitted	Potential to Emit Pollutant Over (TPY)	Facility Location
Any hazardous air pollutant (HAP)	10	Any location
Combination of HAPs	25	Any location
Any criteria pollutant (VOC, NO_x, CO, SO_x, PM_{10}, or Pb)	100	Any location
VOC or NO_x	100	Marginal or moderate ozone non-attainment
VOC or NO_x	50	Serious ozone non-attainment
VOC or NO_x	25	Severe ozone non-attainment
VOC or NO_x	10	Extreme ozone non-attainment
VOC	50	Ozone transport region
CO	50	Serious ozone non-attainment
PM_{10}	70	Serious ozone non-attainment

Maximum Achievable Control Technologies (MACT) Standards

Under the CAA, the EPA is required to adopt MACT standards to reduce the 188 hazardous air pollutants associated with 174 different industrial source categories. As of January 2000, the EPA has promulgated 48 MACT standards, with the remainder due for adoption by the end of

2001. Texas is implementing this national program by adopting new MACT standards as the EPA finalizes and delegates them.

State Implementation Plan

The State Implementation Plan (SIP) is the technical and regulatory process for attaining and maintaining federal air quality standards. The SIP establishes requirements for designated sources, or categories of sources, to reduce their emissions so that all areas of the state will reach attainment of the NAAQS within the time frame specified in the act. The requirements that a facility has to follow depend upon the location of the facility. Intensive, regionally specific SIP planning efforts are required in areas that violate NAAQS. In some instances the content of the SIP is left up to the State. However, the CAAA specify particular control strategies that must be used in certain levels of non-attainment.

Other CAA Authorized Standards

In addition to NAAQS, the CAA is the authority under which New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAPs) are established.

BRETON OFFSHORE ACTIVITIES DATA SYSTEM (BOADs)

The question has been raised as to whether emissions from Outer Continental Shelf (OCS) activities are significantly affecting the air quality of the Breton Wildlife Refuge/Wilderness Area (BWA). In order to answer this question, the MMS has established a data collection system to enable it to perform air quality analyses (including the running of air dispersion models to determine sulphur dioxide and nitrous oxide impacts).

The MMS issued Notice to Lessees, NTL No. 99-G14 and 2000-G19 to explain the requirements of the program. In order to construct the inventory, the MMS is requiring data on the activities occurring at each production facility located within 100 kilometers of the BWA. A list of the affected blocks is included as Table 2. Lessees and operators are required to collect and report facility, equipment, fuel usage and other information from September 1, 2000 to August 31, 2001.

TABLE 2 BOADS AFFECTED BLOCKS

AREA NAME	CODE	BLOCK NUMBERS
Bay Marchand	BM	2
Breton Sound	BS	24, 25, 39-44, 53-56
Chandeleur	CA	1, 3-5, 8-44
Destin Dome	DD	1, 45, 89, 133, 177, 221
Grand Isle	GI	15-48, 52-59, 65-69, 79
Mississippi Canyon	MC	20-34, 63-77, 103-104, 107-121, 147-163, 190-206, 234-249, 277-292, 316-334, 360-363, 363A, 364-376, 408-416
Mobile	MO	765-767, 778-779, 809-824, 826-830, 853-874, 897-918, 942-962, 987-1006
Main Pass	MP	6, 7, 17-20, 27-30, 37-44, 55-65, 68-74, 77, 78, 65-252, 257-316
Pensacola	PE	881, 925, 969
South Pass	SP	6, 17-20, 27-29, 31-39, 42-96
Viosca Knoll	VK	20-38, 65-82, 109-126, 154-170, 201-214, 246-258, 292-302, 338-346, 383-390, 427-434, 473-477, 518-521, 564-565, 692-695, 734-739, 772-782, 813-825, 856-868, 898-911, 940-954, 983-997
West Delta	WD	16-50, 56-81, 85-136, 139-154

The specific data that needs to be submitted includes:

- Complex and structure identification numbers
- Total volume of hydrocarbons processed on the platform
- Throughput of individual pieces of equipment (e.g. dehydrator, compressors, tanks)
- Descriptions of, and emission calculations for, each piece of equipment. Manufacturer's data is preferred
- Stack parameters
- Type of fuel and its heating value
- Upset venting and flaring

GULF OFFSHORE ACTIVITIES DATA SYSTEM (GOADS).

The EPA recently promulgated more stringent ambient air quality standards for ozone, and is drafting regulations to address regional haze. These regulations will require the State agencies to perform modeling to determine ozone and regional haze for use in the State Implementation Plan (SIP). The State's need information on OCS activities in the Gulf of Mexico west 87°30' West longitude, for the year 2000. The MMS is therefore requiring all operators and lessees in these areas to collect and report facility, equipment, fuel usage, and other information during the

period January 1, 2000 - December 31, 2000. The data must be reported to MMS by February 15, 2001. The MMS issued Notice to Lessees, NTL No. 99-G15 to explain the requirements of the program.

The specific data that needs to be submitted includes:

- Complex and structure identification numbers
- Total volume of hydrocarbons processed on the platform
- Throughput of individual pieces of equipment (e.g. dehydrator, compressors, tanks)
- Descriptions of, and emission calculations for, each piece of equipment. Manufacturer's data is preferred
- Stack parameters
- Type of fuel and its heating value
- Upset venting and flaring
- Fugitive emission data is required for GOADS (it was not for BOADS).

COMPARISSON OF BOADS AND GOADS

Both the BOADS and GOADS program require the use of MMS developed software to document and report the data that has been collected. The gathering of data for both GOADS and BOADS are similar, although the reporting of these data is different. The key similarities and differences between the two systems are summarized in Table 3.

TABLE 3 COMPARISSON OF GOADS AND BOADS

GOADS	BOADS
All facilities Gulfwide	Facilities in the Breton Area
Monthly data collection	Monthly data collection
Annual report of quarterly data	Monthly report of monthly data
VOC sources required	VOC sources not required

SUMMARY

Until recently air emissions associated with production activities in the OCS were not subject to emission inventory reporting requirements. The increased awareness of deteriorating air quality onshore, and fears about air quality in the Breton Wildlife Refuge, have resulted in the MMS requiring operators to collect and report air emission data. These data will be used to model the potential impact from operations on ambient air quality. Depending on the results of the modeling, additional regulations and controls may be required.