

W&T PRODUCTION COMPANY
GREATER MARY ANN FIELD OFFSHORE GAS PRODUCTION PLATFORMS
MOBILE COUNTY, AL
FACILITY No.: 503-0010

MAJOR SOURCE OPERATING PERMIT
FOURTH TITLE V RENEWAL
APRIL 14, 2022

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W&T PRODUCTION COMPANY
MARY ANN OFFSHORE GAS PRODUCTION PLATFORM
MOBILE COUNTY, AL
Facility No.: 503-0010

STATEMENT OF BASIS

The proposed fourth Title V Major Source Operating Permit (MSOP) Renewal is issued under the provisions of ADEM Admin. Code r. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of Alabama Department of Environmental Management, in accordance with the terms and the conditions of this permit.

W&T Offshore (W&T) was issued its existing MSOP on February 1, 2017, with an effective date of February 1, 2017, and an expiration date of January 31, 2022. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration for the permit. The initial renewal application was submitted to the Department on July 16, 2021, which is considered timely.

FACILITY HISTORY

Table 1 summarizes the permit history of this facility:

Issuance Date	Permittee	Permit Type	Permit No.	Unit(s) Permitted
23 October 2019	W&T	Title V	N/A	Title V Modification – Name Change
1 February 2017	ExxonMobil	Title V	N/A	Title V Renewal 3
13 April 2010	ExxonMobil	Title V	N/A	Title V Renewal 2
4 April 2006	ExxonMobil	Title V	N/A	Title V Renewal 1
17 April 2000	MOEPSI	Title V	N/A	Title V Initial
19 October 1998	MOEPSI	Air Permit	X025	Tract No. 75—Sour Gas Flare
19 May 1997	MOEPSI	Air Permit	X024	Tract No. 75—Sour Gas Flare
24 October 1996	MOEPSI	Air Permit	X001	Drilling Rig No. 1
24 October 1996	MOEPSI	Air Permit	X002	Drilling Rig No. 2
24 October 1996	MOEPSI	Air Permit	X003	Drilling Rig No. 3
24 October 1996	MOEPSI	Air Permit	X004	Drilling Rig No. 4
24 October 1996	MOEPSI	Air Permit	X005	Platform 76A: (2) 661 BHP engines, (1) 818 BHP engine, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater
24 October 1996	MOEPSI	Air Permit	X006	Platform 77B: (2) 661 BHP engines, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater

EXXONMOBIL PRODUCTION COMPANY
MARY ANN FIELD OFFSHORE GAS PRODUCTION PLATFORMS
 Facility No.: 503-0010
 Statement of Basis

24 October 1996	MOEPSI	Air Permit	X016	Platform 95E: (2) 818 BHP engines, (1) 230 BHP Diesel Engine, & (1) 10 MMBTU/hr heater
21 November 1994	MOEPSI	Air Permit	X023	Tract No. 94—Sour Gas Flare
23 August 1994	MOEPSI	Air Permit	X002	Drilling Rig No. 2
18 May 1993	MOEPSI	Air Permit	X022	Tract No. 94—Sour Gas Flare
4 December 1991	MOEPSI	Air Permit	X021	Tract No. 75—Sour Gas Flare
17 July 1991	MOEPSI	Air Permit	X002	Drilling Rig No. 2
24 May 1991	MOEPSI	Air Permit	X020	Tract No. 95—Sour Gas Flare
16 November 1990	MOEPSI	Air Permit	X019	Tract No. 77—Sour Gas Flare
19 October 1990	MOEPSI	Air Permit	X018	Tract No. 95—Sour Gas Flare
12 September 1990	MOEPSI	Air Permit	X016	Platform 95E: (2) 753 BHP Engines, (1) Diesel Engine, & (1) Diesel Crane Engine
12 September 1990	MOEPSI	Air Permit	X017	Platform 95E: (1) 10 MMBTU/hr heater
24 June 1988	MOEPSI	Air Permit	X015	Tract No. 77—Sour Gas Flare
11 May 1988	MOEPSI	Air Permit	X014	Tract No. 94—Sour Gas Flare
19 February 1988	MOEPSI	Air Permit	X013	Tract No. 77—Sour Gas Flare
27 May 1987	MOEPSI	Air Permit	X012	Tract No. 77—Sour Gas Flare
12 March 1987	MOEPSI	Air Permit	X005	Platform No. 1: (2) 661 BHP engines, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater
12 March 1987	MOEPSI	Air Permit	X006	Platform No. 2: (2) 661 BHP engines, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater
12 March 1987	MOEPSI	Air Permit	X007	Platform No. 3: (2) 661 BHP engines, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater
12 March 1987	MOEPSI	Air Permit	X008	Platform No. 4: (2) 661 BHP engines, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater
12 March 1987	MOEPSI	Air Permit	X009	Platform No. 5: (2) 661 BHP engines, (1) 275 BHP Diesel Engine, & (1) 6 MMBTU/hr heater
10 July 1985	MOEPSI	Air Permit	X011	Tract No. 94—Sour Gas Flare
4 April 1986	MOEPSI	Air Permit	X010	Tract No. 77—Sour Gas Flare
26 September 1985	MOEPSI	Air Permit	X005	Platform No. 1: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
26 September 1985	MOEPSI	Air Permit	X006	Platform No. 2: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater

EXXONMOBIL PRODUCTION COMPANY
MARY ANN FIELD OFFSHORE GAS PRODUCTION PLATFORMS
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26 September 1985	MOEPSI	Air Permit	X007	Platform No. 3: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
26 September 1985	MOEPSI	Air Permit	X005	Platform No. 1: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
26 September 1985	MOEPSI	Air Permit	X006	Platform No. 2: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
26 September 1985	MOEPSI	Air Permit	X007	Platform No. 3: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
26 September 1985	MOEPSI	Air Permit	X008	Platform No. 4: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
26 September 1985	MOEPSI	Air Permit	X009	Platform No. 5: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
25 September 1983	MOEPSI	Construction Permit	X003	Drilling Rig No. 3
25 September 1983	MOEPSI	Construction Permit	X004	Drilling Rig No. 4
25 September 1981	MOEPSI	Operating Permit	Z001	Drilling Rig No. 1
25 September 1981	MOEPSI	Operating Permit	Z002	Drilling Rig No. 2
25 September 1981	MOEPSI	Construction Permit	X005	Platform No. 1: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
25 September 1981	MOEPSI	Construction Permit	X006	Platform No. 2: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
25 September 1981	MOEPSI	Construction Permit	X007	Platform No. 3: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
25 September 1981	MOEPSI	Construction Permit	X008	Platform No. 4: (2) 661 BHP engines, (1) 750 BHP Diesel Engine, & (1) 15 MMBTU/hr heater
22 July 1981	MOEPSI	Operating Permit	Z001	Power Generation Engines
10 October 1980	MOEPSI	Construction Permit	X001	Power Generation Engines

Table 1: Facility Permit History

PROCESS DESCRIPTION

There are two related processes for the platform which will be covered by Major Source Operating Permit No. 503-0010.

Process No. 1 — Gas Extraction

Sour gas is produced and gathered from wells on primary platforms, (76A, 77B, and 95E) and gathered from satellite platforms (76AUX, 77BC, and 75F) in the Greater Mary Ann Field in Mobile Bay. This facility is comprised of three primary production platforms, 76A, 77B, and 95E, and two satellite platforms. On each primary production platform, the produced sour gas is separated from the entrained liquids in the high pressure, gas-liquid separators. Gas from all of the platforms is collected at Platform 76AUX before it is transported to the onshore gas treating facility for processing. Platform 76AUX also receives and distributes fuel gas as needed to the other platforms.

The liquids leaving the separators are sent to a flash tank and then pipelined to W&T's Onshore Treatment Facility (OTF). Vapors from the flash tank are sent to a flash gas compressor which is controlled by the low-pressure flare. The production platforms were originally equipped with glycol dehydration systems; however, these systems have been flanged off and are no longer in operation.

Platforms 76A and 77B have heat provided by 6 MMBtu/hr natural gas-fired process heaters. Electrical power for Platform 76A is provided by electrical generators powered by two (2) 818 bhp, natural gas-fired, rich burn, reciprocating internal combustion engines equipped with catalytic convertors. Electrical power for platform 77B is provided by electrical generators powered by two (2) 818 bhp, natural gas-fired, rich burn, reciprocating internal combustion engines. The engines for platforms 76A and 77B are limited to 661 bhp through the use of circuit breakers. Electrical power for Platform 95E is provided by electrical generators powered by two (2) 818 bhp, natural gas-fired, rich burn, reciprocating internal combustion engines equipped with catalytic convertors. Additional activities include the use of chemical corrosion inhibitors for corrosion prevention and methanol injection for deicing.

Process No. 2 — Drilling & Workover Operations

Rarely, a drilling rig may be utilized to drill new producing wells or to work over one of the current producing wells. Each drilling rig that is utilized in this manner will have as air emission sources several large, diesel fired, RIC engines. The current permit allows for three (3) drilling rigs and one (1) workover rig provided the workover rig is not onsite for longer than 11 consecutive months in a 12-month period.

Equipment List

The Mary Ann Field Offshore Gas Production Platforms (MA) are currently equipped with the following equipment:

Always Onsite (Insignificant)

- 6 MMBtu/hr Heater (A-RH-1)
- 6 MMBtu/hr Heater (B-RH-1)
- Small diesel sources
 - Diesel-fired well-kill pump (E-PBE-5676)
- Storage Tanks
 - Three (3) 800 gallon Diesel Fuel Storage Tanks (A-ABJ-9392, B-ABJ-403, E-ABJ-8385)
 - Four (4) 800 gallon Tote Tanks (Platforms 76A, 77B, 95E, & 77BC)

Always Onsite (Significant)

- Four (6) 661 Bhp, 4SRB, SI RICE, Waukesha Engines (A-GEN-1, A-GEN-2, B-GEN-1, B-GEN-2)
- Two (2) 818m Bhp, 4SRB, SI RICE, Waukesha Engines (E-GEN-1 and E_GEN-2)
- One (1) 306 Bhp, 4SRB, RICE, Caterpillar Engine (S-GEN-1)
- Nine (9) 117 Bhp, 4SRB, RICE, Compression Crane Engines (A-DC-1, A-DC-2, AUX-DC-1, AUX-DC-2, B-DC-1, B-DC-2, E-DC-1, E-DC-2, and S-DC-1)
- 76A High Pressure Flare (A-ZZZ-4864)
- 76A Low Pressure Flare (A-ZZZ-4861)
- 77B HP/LP Flare (B-ZZZ-4833)
- 95E HP/LP Flare (E-ZZZ-4879)
- Well Test Flare (WTF-1) (The well test has not been used in many years and if W&T intends to use it, a permit application should be submitted to the Department before use)

Occasionally Onsite (Temporary Source)

- 1,100 Bhp Drilling Rig Emergency Generator (D004) [Generic]

Occasionally Onsite (Significant)

- Three (3) 2,500 Bhp Drilling Rig Diesel Engines (D001, D002, and D003) [Generic]

NOTABLE CHANGES

In this fourth renewal, W&T has requested to make the following changes to its existing Major Source Operating Permit (MSOP):

1. Add the Shorebase Generator Engine (in the past, this source was listed as in insignificant source, but due to it being subject to MACT ZZZZ, it can no longer be considered insignificant).
 - a. S-GEN-1
2. Add the Crane Engines (in the past, these sources were listed as insignificant sources, but due to them being subject to MACT ZZZZ, they can no longer be considered insignificant).
 - a. A-DC-1
 - b. A-DC-2
 - c. AUX-DC-1
 - d. AUX-DC-2
 - e. B-DC-1
 - f. B-DC-2
 - g. E-DC-1
 - h. E-DC-2
 - i. S-DC-1
3. Remove Well Test Flare (WTF-1) from permit as this flare should not be included in the Title V. In the original permit, Air Permit 503-0010-X010 issued on April 11, 1986, Proviso No.22 stated that the permit would be void upon completion of the well test. If W&T proposes to drill a new well and must use a well test flare, a permit application should be submitted to the Department, and a permit determination will be made.
4. Update emissions and significant and insignificant activities.

FACILITY-WIDE EMISSION REQUIREMENTS

DESCRIPTION	POLLUTANT	EMISSION LIMIT	REGULATIONS
Petroleum Production - Facility that handles natural gas containing 0.10 grains of H ₂ S/scf	H ₂ S	Burn gas	Rule 335-3-5-.03(1)
		20 ppbv offsite concentration	Rule 335-3-5-.03(2)
Visible Emissions - Stationary Sources	Opacity	No more than one 6 min avg. > 20%	Rule 335-3-4-.01(1)(a)
		AND No 6 min avg. > 40%	Rule 335-3-4-.01(1)(b)

The plant's applicability to the state and federal regulations are discussed in the following sections.

STATE REGULATIONS

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), “Visible Emissions” for Control of Particulate Emissions

Applicability:

These regulations control particulate emissions by restricting visible emissions from stationary sources. These regulations would be applicable to the facility’s flares, engines, and compression turbine. The specific monitoring and recordkeeping requirements shall be discussed in the appropriate sections.

ADEM Admin. Code r. 335-3-5-.03(2) “Petroleum Production”-Control of Sulfur Compounds

Applicability:

ADEM Admin. Code r. 335-3-5-.03(2) states that all process streams containing at least 0.10 grains of hydrogen sulfide (H₂S) per SCF [~162 ppmv] shall be burned such that the offsite H₂S concentration is 20 ppb or less, as averaged over a 30-minute period. The high and low pressure flares would be subject to this regulation. The specific monitoring and recordkeeping requirements will be discussed in the flare section.

ADEM Admin. Code r. 335-3-16-.03, “Major Source Operating Permits” (MSOP)

Applicability:

The facility has been deemed a major source of criteria pollutants under this regulation since the nitrogen oxide (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂) emissions from the facility have the potential to exceed the 100 TPY threshold for criteria pollutants. However, the facility would not be a major source of hazardous air pollutants (HAPs) because the HAP emissions are not expected to exceed the 10 TPY threshold for a single HAP or the 25 TPY threshold for a combination of HAPs. The facility would be an area source with respect to HAP emissions.

ADEM Admin. Code r. 335-3-16-.10, “Permit Shields” for Major Source Operating Permits

Applicability:

A permit shield exists under this operating permit in accordance with ADEM Admin. Code 335-3-16-.10 in that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance. A detailed regulatory analysis is provided in Section 4 of the permit application to support the permit shield. The permit shield is based on the accuracy of the information supplied in the application for this permit. Under this shield, it has been determined that requirements listed as non-applicable in the application are not applicable to this source.

FEDERAL REGULATIONS

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

40 CFR Part 60 Subpart A, “General Provisions”

Applicability:

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart

40 CFR Part 60 Subpart OOOO “Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution” [NSPS OOOO]

Applicability:

This facility is not subject to this subpart because this subpart is only applicable to onshore facilities.

40 CFR 60 Subpart OOOOa “Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015” [NSPS OOOOa]

Applicability:

This facility is not subject to this subpart because this subpart is only applicable to onshore facilities, and all components were constructed before September 18, 2015.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

40 CFR Part 63, Subpart A, “General Provisions”

Applicability:

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

40 CFR Part 63 Subpart HH, “National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities” [Oil and Gas MACT]

Applicability:

The MA facility processes natural gas prior to the point of custody transfer, and the facility is defined as an area source of HAPs. MA is an area source of HAPs since it does not meet the definition of a major source of HAPs as defined in 40 CFR §63.761. In order for this facility to be subject to the applicable area source requirements of this subpart, it is required to have an affected source. An affected source for area sources of HAPs would include each triethylene glycol (TEG) dehydration unit. This platform was originally equipped with a TEG, although it is flanged off, has been out-of-service for several years, and is now inoperable.

Therefore, the TEG is exempt from this regulation. Should W&T ever put the TEG system back into service, this regulation should be addressed at that time.

40 CFR PART 64, “COMPLIANCE ASSURANCE MONITORING (CAM)”

Applicability:

This subpart is applicable to an emission source provided the source meets the following criteria: it is subject to an emission limit or standard, it uses a control device to achieve compliance with the emissions limit or standard, and it has pre-controlled emissions from a regulated air pollutants that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source [40 CFR §64.2(a)]. The flares are subject to the requirements of this subpart. Compliance with this subpart is discussed in the individual section for the flares.

FACILITY-WIDE EMISSIONS

Facility wide potential emissions were obtained from the Title V renewal application and actual facility wide emissions were obtained from the Air Emission Electronic Reporting System (AEERS) for 2020.

POTENTIAL FACILITY WIDE EMISSIONS (TPY)					
PM	SO₂	NO_x	CO	VOC	Total HAPs
19.75	2,440.00	1519.12	550.65	76.01	3.87

ACTUAL FACILITY WIDE EMISSIONS FOR 2020 (TPY)					
PM	SO₂	NO_x	CO	VOC	Total HAPs
1.40	4.95	83.40	23.40	6.95	2.53

DRILLING RIG ENGINE REQUIREMENTS

DESCRIPTION	POLLUTANT	EMISSION LIMIT	REGULATIONS
Drilling Rigs No. 1, 2, & 3 and Workover Rig:	NO _x	68.3 lbs/hr/Rig	Rule 335-3-14-.04(9)(b) [PSD]
	CO	13.6 lbs/hr/Rig	Rule 335-3-14-.04(9)(b) [PSD]
	SO ₂	[Met by fuel volume and sulfur limits]	
	Diesel Sulfur Content	0.05% by weight	Rule 335-3-14-.04(9)(b) [PSD]
	Fuel Consumption	913,000 Gal./12-Mos./Rig	
	Opacity	<= 20% < 40%	Rule 335-3-4-.01(1)(a) Rule 335-3-4-.01(1)(b)
Workover Rig	Runtime	Onsite only 11-consecutive- months per 12 months	

STATE REGULATIONS

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), “Visible Emissions” for Control of Particulate Emissions

Applicability:

The engines are subject to the requirements of this regulation.

Emissions Standards:

The engines are required to comply with the 20%/40% state opacity standards specified in these subparts.

Compliance and Performance Test Methods and Procedures:

Method 9 or Method 22 found in 40 CFR Part 60, Appendix A would be used to demonstrate compliance with the opacity standards.

Emissions Monitoring:

A daily visual check is required and provided that visible emissions, in excess of the opacity standards, are observed from an engine at any time that the unit is operating, a visible emission observation shall be conducted utilizing one the specified methods. When Method 22 is used to determine the duration of emissions, the method has to be conducted by an individual who is familiar with the procedures. When Method 9 is used to determine opacity, it

has to be conducted by an individual who is certified to use this procedure. Visual inspections and visible emissions observations are both required to be conducted during daylight hours.

Recordkeeping and Reporting Requirements:

A record of the daily visual inspections of the engines for the presence or absence of visible emissions and each occurrence when a visible emissions observation was conducted should be recorded and maintained daily. A deviation should be reported within 48 hours or 2 working days when a visible emissions event occurs.

ADEM Admin. Code r. 335-3-14-.04, “Prevention of Significant Deterioration (PSD) Permitting”

Applicability:

PSD limits have been placed on all drilling/workover rig engines in units of pounds per hour per rig.

Emissions Standards:

The emissions standards used to demonstrate compliance with the PSD limits for the engines are listed on page 18 under the Drilling Rig Engine Requirements summary.

Compliance and Performance Test Methods and Procedures:

To demonstrate compliance with the emissions standards for the engines, the following requirements must be met:

- Engines must be tested for NO_x emissions using 40 CFR Part 60 Appendix A, Method 7, 7A, 7B, 7C, 7D, or 7E.
- Engines must be tested for CO emissions using 40 CFR Part 60 Appendix A, Method 10, 10A, or 10B.

Emissions Monitoring:

The diesel fuel volume for each of the engines shall be monitored with a system capable of continuously measuring and recording the flow rate and/or the parameters utilized for flow rate calculations.

A performance test shall be conducted on the engines at least once every five (5) years. The test shall be conducted within the first three (3) months of the commencement of rig operations.

To demonstrate compliance with the emissions standards for all engines, the diesel fuel heat content and sulfur content shall be determined by supplier certification each shipment. The fuel heat content, emission factors, fuel volume used, and operating hours will be utilized in monthly calculations of pollutant emissions.

Recordkeeping and Reporting Requirements:

The following monthly records should be maintained for the engines: deviations from the permit requirements, supplier certification of diesel fuel heat and sulfur content, VEO results, fuel consumption per rig, diesel (gal/month), fuel consumption (MMBtu/month), and CO and NO_x emissions.

A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition shall be prepared and submitted to the Department semi-annually on a calendar basis. The reports shall be received within 30 days of the end of the reporting period.

ADEM Admin. Code r. 335-3-16-.03, “Major Source Operating Permits”

Applicability:

The engines would be subject to the major source requirements under this regulation.

FEDERAL REGULATIONS

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

40 CFR Part 60 Subpart IIII, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” [NSPS IIII]

Applicability:

This subpart is applicable to stationary CI ICE. Per §60.4219, “stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a non-road engine as defined at 40 CFR 1068.30.”

Per §1068.30, a non-road engine is an internal combustion engine that “By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another.”

These rigs are portable, and they are transported to and from multiple platforms in the Gulf. Since these engines are located on the rigs, they would be defined as non-road engines. Therefore, these engines are not subject to NSPS IIII.

40 CFR Part 63 Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” [MACT ZZZZ]

Applicability:

This subpart is applicable to stationary RICEs. Per §63.6585(a), “A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30.”

Per §1068.30, a non-road engine is an internal combustion engine that “By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another.”

These rigs are portable, and they are transported to and from multiple platforms in the Gulf. Since these engines are located on the rigs, they would be defined as non-road engines. Therefore, these engines are not subject to MACT ZZZZ. However, if they remain for 12 months or more, these engines would be considered stationary.

DRILLING RIG ENGINES POTENTIAL EMISSIONS

The drilling rig engines potential emissions are calculated based on permit limits and AP-42 emission factors for large stationary diesel and all stationary dual-fuel engines. The calculations also assume continuous operation (8,760 hours) at a maximum power output.

DRILLING RIG ENGINES EMISSIONS					
EMISSION SOURCE	(TPY)				
	SO ₂	NO _x	CO	VOC	TOTAL HAP
Drilling Rigs 1-3	9.7	897.5	178.7	15.4	0.15
Workover Rig	3.2	300.2	53.2	5.1	0.05

PLATFORM ENGINE REQUIREMENTS

DESCRIPTION	POLLUTANT	EMISSION LIMIT	REGULATIONS
PLATFORM 76A			
A-GEN-1	NOx	15.0 lb/hr	Rule 335-3-14-.04(9)(b)
	CO	15.0 lb/hr	[PSD/BACT]
	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 11) 40 CFR 63 Subpart ZZZZ
A-GEN-2	NOX	15.0 lb/hr	Rule 335-3-14-.04(9)(b)
	CO	15.0 lb/hr	[PSD/BACT]
	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 11) 40 CFR 63 Subpart ZZZ
A-DC-1	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ
A-DC-2	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ
AUX-DC-1	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ
AUX-DC-2	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ
Platform 77B			
B-GEN-1	NOX	15.0 lb/hr	Rule 335-3-14-.04(9)(b)
	CO	15.0 lb/hr	[PSD/BACT]
	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 11) 40 CFR 63 Subpart ZZZZ
B-GEN-2	NOX	15.0 lb/hr	Rule 335-3-14-.04(9)(b)
	CO	15.0 lb/hr	[PSD/BACT]
	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 11) 40 CFR 63 Subpart ZZZZ
B-DC-1	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ
B-DC-2	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ

Platform 77B				
E-GEN-1	NOX		3.6 lb/hr	Rule 335-3-14-.04
	CO		3.6 lb/hr	[Anti-PSD]
	VOC		1.8 lb/hr	40 CFR §63.6603(a)
		Applicable Work Practice(s)		Table 2d (No.118) 40 CFR 63 Subpart ZZZZ
E-GEN-2	NOX		3.6 lb/hr	Rule 335-3-14-.04
	CO		3.6 lb/hr	[Anti-PSD]
	VOC		1.8 lb/hr	40 CFR §63.6603(a)
		Applicable Work Practice(s)		Table 2d (No. 11) 40 CFR 63 Subpart ZZZZ
E-DC-1	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ	
E-DC-2	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ	
Aloe Bay Shore				
S-GEN-1	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 4) 40 CFR 63 Subpart ZZZZ	
S-DC-1	HAPS	Applicable Work Practice(s)	40 CFR §63.6603(a) Table 2d (No. 1) 40 CFR 63 Subpart ZZZZ	
Facility Wide				
All	Opacity	No more than one 6-min. avg.	Rule 335-3-4-.01(1)(a)	
		OR No 6-min. avg. > 40%	Rule 335-3-4-.01(1)(b)	
	H2S	≤ 4 gr/100 scf in fuel gas	Rule 335-3-14-.04	

STATE REGULATIONS

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), “Visible Emissions” for Control of Particulate Emissions

Applicability:

The engines are subject to the requirements of this regulation.

Emissions Standards:

The engines are required to comply with the 20%/40% state opacity standards specified in these subparts.

Compliance and Performance Test Methods and Procedures:

Method 9 or Method 22 found in 40 CFR Part 60 Appendix B would be used to demonstrate compliance with the opacity standards.

Emissions Monitoring:

To comply with the opacity standards, the facility would be required to conduct a daily visual inspection of the engines’ exhaust stacks for the presence or absence of visible emissions. Provided that at any time visible emissions are observed for more than 3 minutes at a time in excess of the opacity standards, a visible emission observation shall be conducted. When Method 22 is used to determine the duration of emissions, the method has to be conducted by an individual who is familiar with the procedures. When Method 9 is used to determine opacity, it has to be conducted by an individual who is certified to use this procedure. Visual inspections and visible emissions observations are both required to be conducted during daylight hours. A daily visible emissions observation is not required on the engines.

Recordkeeping and Reporting Requirements:

A record of the daily visual inspections of the engines for the presence or absence of visible emissions and each occurrence when a visible emissions observation was conducted should be recorded and maintained. A deviation should be reported within 48 hours or 2 working days when a visible emissions event occurs.

ADEM Admin. Code r. 335-3-14-.04, “Prevention of Significant Deterioration (PSD) Permitting”

Applicability:

The generator engines for platforms 76A and 77B (A-GEN-1, A-GEN-2, B-GEN-1, & B-GEN-2) have PSD limits as specified in the engine requirements summary. Anti-PSD limits have been placed on both of the generator engines for platform 95E (E-GEN-1 & E-GEN-2) (Rule 335-3-14-.04). The anti-PSD limits for the 76A engines were introduced in Air Permit 503-0010-X005 on October 24, 1996. The anti-PSD limits for the 77B engines were introduced in Air Permit 503-0010-X006 on October 24, 1996. The anti-PSD limits for the 95E engines were

introduced in Air Permit 503-0010-X016 on October 24, 1996.

Emissions Standards:

The emissions standards used to demonstrate compliance with the PSD requirements for the engines are listed on pages 14 and 15 under the Platform Engine Requirements section.

Compliance and Performance Test Methods and Procedures:

To demonstrate compliance with the emissions standards for the engines, the following requirements must be met:

- The engines must be tested for NO_x emissions using EPA 40 CFR 60 Appendix A, Method 7E.
- The engines must be tested for CO emissions using EPA 40 CFR 60 Appendix A, Method 10, 10A, or 10B.
- The engines must be tested for VOC emissions using EPA 40 CFR 60 Appendix A, Method 18, 25, 25A, 25B.
- The fuel gas shall be tested for BTU content using Method ASTM D1826-77 OR an equivalent method.
- The fuel gas shall be tested for H₂S content using the Tutwiler procedures found in 40 CFR §60.648, the chromatographic analysis procedures found in ASTM E-260, the stain tube procedures found in GPA 2377-86, OR those provided by the stain tube manufacture.

Emissions Monitoring:

The fuel gas volume for each of the engines shall be monitored with a system capable of continuously measuring and recording the flow rate and/or the parameters utilized for flow rate calculations.

A performance test shall be conducted on the engines at least once every five (5) years. A periodic test shall be conducted within twelve (12) months of either the last performance test or periodic test. During these performance tests, E-GEN-1 and E-GEN-2 are required to be tested for VOC emissions with a suitable method, in addition to the other emissions tests that are required (NO_x, CO, BTU, and fuel gas). All other engines (A-GEN-1, A-GEN-2, B-GEN-1, and B-GEN-2) will be tested for NO_x, CO, BTU, and fuel gas.

To demonstrate compliance with the emissions standards for all engines, the fuel gas must be tested no less than once each twelve (12) months for its heat content (Btu/Scf) and hydrogen sulfide content (H₂S ppmv). The fuel gas heat content, emission factors, fuel volume used, and operating hours will be utilized in monthly calculations of pollutant emissions.

Recordkeeping and Reporting Requirements:

The following monthly records should be maintained for the engines: deviations from the permit requirements, maintenance performed on each engine, engine fuel consumption, fuel gas heat content, fuel gas H₂S content, engine fuel (MMBtu/Month), engine operating hours, and engine emissions.

A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition shall be prepared and submitted to the Department semi-annually on a calendar basis. The reports shall be received within 30 days of the end of the reporting period.

ADEM Admin. Code r. 335-3-16-.03, “Major Source Operating Permits”

Applicability:

The engines would be subject to the major source requirements under this regulation because this facility has been deemed a major source of criteria pollutants (i.e., has the potential to exceed 100 tons per year (TPY) or more).

FEDERAL REGULATIONS

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

40 CFR Part 60 Subpart A, “General Provisions”

Applicability:

Provided that the facility is subject to one of the applicable subparts found under this part, the facility shall comply with this regulation as specified in that subpart.

40 CFR 60 Subpart III, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” [NSPS III]

Applicability:

NSPS III applies to stationary compression ignition (CI) internal combustion engines (ICE). The 818 hp generator engines are spark ignition ICEs, so this subpart does not apply to them. The various engines including the crane engines and emergency diesel generators predate this NSPS and are also not subject.

40 CFR 60 Subpart JJJJ, “Standards of Performance for Stationary Spark Ignition Internal Combustion Engines” [NSPS JJJJ]

Applicability:

NSPS JJJJ applies to stationary spark ignition (SI) internal combustion engines (ICE) constructed, modified, or reconstructed after June 12, 2006. All engines present at this facility were constructed before June 12, 2006 and have not been modified or reconstructed. Therefore, the engines are not subject to this subpart.

40 CFR 63 Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” [MACT ZZZZ]

Applicability:

Units A-GEN-1, A-GEN-2, A-DC-1, A-DC-2, AUX-DC-1, AUX-DC-2, B-GEN-1, B-GEN-2, B-DC-1, B-DC-2, E-GEN-1, E-GEN-2, E-DC-1, E-DC-2, S-GEN-1, and S-DC_1 are subject to this subpart because they are existing stationary RICE located at an area source of HAPs. Per §63.6590(1)(iii), “For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.” These sixteen (16) engines would be subject to this subpart because each engine was constructed before June 12, 2006.

However, A-GEN-1, A-GEN-2, B-GEN-1, B-GEN-2, E-GEN-1, and E-GEN-2 may each be defined as a ‘remote stationary RICE’ under §63.6675 because they are located more than a mile from the shoreline. Per §63.6603(f), “Owners and operators...must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.”

Emissions Standards:

Engine Nos. A-GEN-1, A-GEN-2, A-DC-1, A-DC-2, AUX-DC-1, AUX-DC-2, B-GEN-1, B-GEN-2, B-DC-1, B-DC-2, E-GEN-1, E-GEN-2, E-DC-1, E-DC-2, S-GEN-1, and S-DC-1 are subject to the work practice standards in Table 2d of Subpart ZZZZ. Per 40 CFR §63.6625(f), a non-resettable hour meter must be installed on Engine No. S-GEN-1 if one is not already installed.

Compliance and Performance Test Methods and Procedures:

Engine Nos. A-DC-1, A-DC-2, AUX-DC-1, AUX-DC-2, B-DC-1, B-DC-2, E-DC-1, E-DC-2, S-GEN-1, and S-DC-1 are subject to the work and management practice requirements in Table 6 of Subpart ZZZZ. The engines must be operated as outlined in 40 CFR §63.6640(f). In addition to 40 CFR §63.6640(f), Engine Nos. A-DC-1, A-DC-2, AUX-DC-1, AUX-DC-2, B-DC-1, B-DC-2, E-DC-1, E-DC-2, and S-DC-1 are required to minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

Engines Nos. A-GEN-1, A-GEN-2, B-GEN-1, B-GEN-2, E-GEN-1, and E-GEN-2 are not subject to the work and management practice requirements in Table 6 of Subpart ZZZZ due to them being considered remote engines that operate more than 24 hours in a calendar year.

Recordkeeping and Reporting Requirements:

A record of the initial and annual evaluation of the remote status of Engine Nos. A-GEN-1, A-GEN-2, B-GEN-1, B-GEN-2, E-GEN-1, and E-GEN-2 must be maintained.

The following records must be maintained for each engine: maintenance conducted on the engine, hours of operation that is recorded through the non-resettable hour meter, maintenance plan, occurrence and duration of each malfunction of operation, and actions taken during periods of malfunction.

40 CFR 64, “COMPLIANCE ASSURANCE MONITORING (CAM)”

Applicability:

In order for units to be subject to CAM they must meet the following requirements: be subject to an emission limitation or standard for the application of a regulated pollutant (or surrogate thereof), a control device has to be used to demonstrate compliance with the emission limitation or standard, and the unit's potential pre-control device emissions of the applicable regulated air pollutant have to be greater than or equal to 100 percent of the amount, in tons per year, required for a source to be classified as a major sources. Based on guarantee from the manufacturer and the past ten (10) years of the facility conducting stack tests on identical uncontrolled engines with the uncontrolled engines operating well below 100 TPY, the controlled engines would not have the potential to emit more than 100 TPY or more for criteria pollutants. Each engine's potential uncontrolled emissions are not expected to exceed 100 TPY or more for criteria pollutants, and they are not expected to exceed 10 tons or more of a single HAP or 25 tons or more of a combination of HAPs and would not be subject to any CAM requirements.

PLATFORM ENGINES POTENTIAL EMISSIONS

The platform engines potential emissions are calculated based on permit limits and AP-42 emission factors natural gas fired and diesel fired reciprocating engines. The emissions estimates also assume continuous operation (8,760 hours) at a maximum power output.

PLATFORM ENGINES EMISSIONS					
EMISSION SOURCE	(TPY)				
	SO ₂	NO _x	CO	VOC	TOTAL HAP
A-GEN-1	0.1	65.7	65.7	0.2	0.16
A-GEN-2	0.1	65.7	65.7	0.2	0.16

A-DC-1	0.2	15.7	3.4	1.3	0.01
A-DC-2	0.2	15.7	3.4	1.3	0.01
AUX-DC-1	0.2	15.7	3.4	1.3	0.01
AUX-DC-2	0.2	15.7	3.4	1.3	0.01
B-GEN-1	0.1	65.7	65.7	0.2	0.16
B-GEN-2	0.1	65.7	65.7	0.2	0.16
B-DC-1	0.2	15.7	3.4	1.3	0.01
B-DC-2	0.2	15.7	3.4	1.3	0.01
E-GEN-1	0.1	15.8	15.8	0.03	0.04
E-GEN-2	0.1	15.8	15.8	0.03	0.04
E-DC-1	0.2	15.7	3.4	1.3	0.01
E-DC-2	0.2	15.7	3.4	1.3	0.01
S-GEN-1	.02	2.36	0.51	0.19	0.002
S-DC-1	0.2	15.7	3.4	1.3	0.01

FLARE REQUIREMENTS

EMISSION POINT	POLLUTANT	EMISSION LIMIT	REGULATIONS
A-ZZZ-4864 & A-ZZZ-4861	SO ₂	12.9 tons/12-months [Total for both; continuous]	Rule 335-3-14-.04 [Anti-PSD]
All site flares:	SO ₂	Dependent on available sulfur; see rule [Category I County]	Rule 335-3-5-.03(3)
A-ZZZ-4864 A-ZZZ-4861 B-ZZZ-4833 E-ZZZ-4879	H ₂ S	Burn gas with 0.10 grains/Scf Offsite Concentration less than 20 ppbv	Rule 335-3-5-.03(2)
	Opacity	No more than one 6-min average >20% per hour and No 6-min average >40%	Rule 335-3-4-.01(1)(a) Rule 335-3-4-.01(1)(b)

STATE REGULATIONS

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b), “Visible Emissions” for Control of Particulate Emissions

Applicability:

The flares are all subject to the requirements of this regulation.

Emission Standards:

ADEM Admin. Code r. 335-3-4-.01(1) (a) states that except for one 6-minute period during any 60-minute periods, stationary emission sources shall not discharge into the atmosphere particulate that results in an opacity greater than 20%, as determined by a 6-minute average.

ADEM Admin. Code r. 335-3-4-.01(1) (b) states that at no time shall a stationary emission source discharge into the atmosphere particulate that results in an opacity greater than 40%, as determined by a six minute average.

Emissions Monitoring:

To comply with the opacity standards, the facility would be required to conduct a daily visual inspection of the flares for the presence or absence of visible emissions. Provided that at any time visible emissions are observed from the flares in excess of the opacity standards, a visible emission observation shall be conducted. When Method 22 is used to determine the duration of emissions, the method has to be conducted by an individual who is familiar with the procedures. When Method 9 is used to determine opacity, it has to be conducted by an individual who is certified to use this procedure. Visual inspections and visible emissions observations are both required to be conducted during daylight hours.

Compliance and Performance Test Methods and Procedures:

Method 9 or Method 22 found in 40 CFR 60, Appendix A would be used to demonstrate compliance with the opacity standards.

Recordkeeping and Reporting Requirements:

A record of the daily visual inspections of the flares for the presence or absence of visible emissions and each occurrence when a visible emissions observation was conducted should be recorded and maintained. A deviation should be reported within 48 hours or 2 working days when a visible emissions event occurs.

ADEM Admin. Code r. 335-3-5-.03 (1), (2) and (3), “Petroleum Production” for Control of Sulfur Compound Emissions

Applicability:

The facility flares would be subject to the requirements of these regulations since the facility handles natural gas that contains more than 0.10 grains of H₂S per standard cubic foot (SCF)

(~160 ppmv).

Emissions Standards:

ADEM Admin. Code r. 335-3-5-.03(2) requires that all process gas streams containing greater than 0.10 grains/Scf of H₂S shall be burned such that the offsite H₂S concentration is 20 ppbv or less, as averaged over a 30-minute period. The flares are used to comply with this regulation; therefore, the H₂S feed rate to the flares is not allowed to exceed the rates shown below, which are indicator limits based on air quality modeling:

Flare	H ₂ S Feed [lb/hr]
A-ZZZ-4864	22,000 [Total]
A-ZZZ-4861	
B-ZZZ-4833	18,000
E-ZZZ-4879	4,100

ADEM Admin. Code r. 335-3-5-.03(3) requires that SO₂ emissions from a facility that is designed to dispose of or process natural gas containing more than 0.10 grains/Scf of H₂S do not exceed the allowable limit based on the available sulfur coming into the facility. The limits imposed by this rule are applicable depending on the available sulfur coming into the facility as measured in Long tons per day (LTD) and are found in the table for Category I Counties (which includes Mobile County).

Compliance and Performance Test Methods and Procedures:

One of the following methods should be used to determine the H₂S content: Tutwiler procedures found in 40 CFR §60.648, chromatographic analysis procedures found in ASTM E-260, or stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacturer.

One of the following methods should be used to determine the BTU content and molecular weight of each process stream: ASTM Analysis Method D1826-77, chromatographic analysis procedures found in 40 CFR Part 60 Appendix A, Method 18 or equivalent methods and procedures.

Emissions Monitoring:

For the Periodic Monitoring plan, a sample must be collected no less than once each calendar year to determine the H₂S concentration of any gas stream that may be sent to the flare. To determine the H₂S feed rate to each flare, the inlet feed volume is required to be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculations or estimated utilizing material balances, computer simulations, special testing, etc.

Monitoring should be in the form of performing monthly calculations to determine the H₂S feed rate to the flare and the SO₂ emissions from the flare. The volume of gas flared and the H₂S concentration of the flare gas should be used to calculate the flare emissions.

Recordkeeping and Reporting Requirements:

The following monthly records should be maintained for the flares: deviations from the permit requirements, duration of each vapor recovery system shutdown, stream molecular weight, stream BTU content, inlet wet gas volume, H₂S feed rate to the flare, flare hours of operation, stream (MMBtu/Month), stream H₂S, and H₂S feed.

ADEM Admin. Code r. 335-3-14-.04, “Prevention of Significant Deterioration (PSD) Permitting”

Applicability:

The 76A flares [A-ZZZ-4864 & A-ZZZ-4861] have a combined anti-PSD limit of 12.9 Tons SO₂ per 12 months (TPY SO₂). The anti-PSD limits for the 76A flares were introduced in Air Permit 503-0010-X005 on October 25, 1996. The facility demonstrates compliance with these limits by sampling each gas stream annually and by submitting semi-annual periodic monitoring reports (PMRs). The fuel gas is required to be tested for the hydrogen sulfide content, BTU content, and molecular weight of each process stream.

ADEM Admin. Code r. 335-3-16-.03, “Major Source Operating Permits”

Applicability:

The flares would be subject to the major source requirements under this regulation because this facility was deemed a major source of criteria pollutants (have the potential to exceed 100 tons per year (TPY) or more).

40 CFR PART 64, “COMPLIANCE ASSURANCE MONITORING (CAM)”

Applicability:

The facility flares are utilized as control devices to burn gas containing greater than 0.10 grains of H₂S/Scf.

The requirement to burn off gases is considered to be a work practice and not an emission limitation. As defined in the CAM regulation, an emission limitation may be expressed in the form of a work practice, process parameter, or other form of specific design. Thus, CAM is applicable and shall be utilized to ensure compliance with the requirement to burn the off gases. The parameter chosen to indicate that off gases are being burned shall be the presence of a flame or spark at the flare tip when off gases are being vented.

Emission Standards:

Maintain spark or flame at flare tip when gas could be routed to the flares.

Compliance and Performance Test Methods and Procedures:

Unless the flares are equipped with a continuous spark flame igniter or with a continuous

burning pilot light that is monitored with a thermocouple or an equivalent device, daily visual inspections of the flare shall be conducted.

Emissions Monitoring:

The visual inspection of the flare (if required) shall be conducted daily during daylight hours to detect the presence or absence of a spark or flame at the flare tip.

Recordkeeping and Reporting Requirements:

A record of the date, time, observer, and results of each visual inspection and each visible emissions observation of the flare shall be maintained. A record of the time, date and results of each calibration shall be maintained if a flame igniter or a thermocouple is being used. Each occurrence when a spark or flame is not maintained at the flare tip shall be reported as a deviation. If the accumulated hours of deviation events occurring exceed 5% of the flare’s operating time during any semi-annual reporting period, a Quality Improvement Plan (QIP) shall be developed and implemented.

Periodic monitoring reports (PMR) are required to be submitted to the Department on a semi-annual basis, and it is required to include deviations reported during the semi-annual reporting period.

FLARE POTENTIAL EMISSIONS

The emissions from the flares are based on Anti-PSD limits and AP-42 factors.

FLARE POTENTIAL EMISSIONS					
EMISSION SOURCE	(TPY)				
	SO ₂	NO _x	CO	VOC	TOTAL HAP
A-ZZZ-4864 & A-ZZZ-4861	200.3	0.82	3.72	7.92	negligible
B-ZZZ-4833	13.07	0.53	2.43	5.17	negligible
E-ZZZ-4879	15.91	0.55	2.51	5.35	negligible

RECOMMENDATIONS

I recommend that W&T Offshore be issued a renewal for the Mary Ann Field Facility's MSOP No. 503-0010. My recommendation is based on the fact that the facility should be able to comply with all federal and state requirements specified in its permit.

Hunter Williams
Environmental Engineering Specialist
Air Division
Energy Branch
Industrial Minerals Section

April 14, 2022

Date