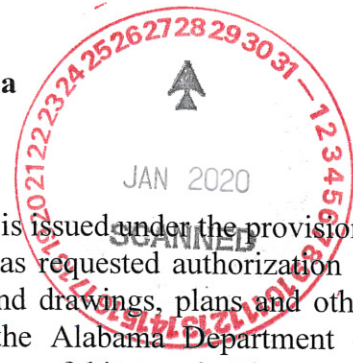


STATEMENT OF BASIS

**Bay Gas Storage Company, LLC
McIntosh, Washington County, Alabama
Facility/Permit No. 108-0017**



This draft Title V Major Source Operating Permit (MSOP) 1st 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 the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit. The current MSOP was originally issued on April 13, 2015, and is scheduled to expire on April 13, 2020. With Bay Gas Storage Company, LLC's (Bay Gas) timely and complete application submittal, the terms of the current permit remain in effect until this renewal has been issued or denied, in accordance with ADEM Admin. Code r. 335-3-16-.12(2)(c).

Facility Operations

Bay Gas operates a natural gas storage terminal designed for injection, storage, and withdrawal of natural gas in underground salt dome caverns (SIC 4922) located in McIntosh (Washington County). The facility stores natural gas in five (5) underground salt dome caverns for customers that operate pipeline facilities.

The following are the significant sources of air pollutants at this facility:

- **Emission Unit Nos. 001 and 002:** two 2,000 hp natural gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (RICE) [Compressor Engine (CE) Nos. 1 and 2]
- **Emission Unit Nos. 003 and 004:** two 4,735 hp natural gas-fired 4SLB RICE [CE Nos. 4 and 5]
- **Emission Unit Nos. 005 and 006:** two 4,735 hp natural gas-fired 4SLB RICE with catalytic converters [CE Nos. 3 and 12]
- **Emission Unit Nos. 007 and 008:** two 10.06 MMBtu/hr withdrawal gas heaters [Heater Nos. 1 and 2]
- **Emission Unit Nos. 009, 010, and 011:** three 18.12 MMBtu/hr withdrawal gas heaters [Heater Nos. 3, 4, and 5]
- **Emission Unit No. 012:** one 1.7 MMBtu/hr triethylene glycol (TEG) reboiler [Reboiler No. 1] associated with a 610 MMSCFD TEG dehydration unit (Skid No. 1)
- **Emission Unit Nos. 013, 014, and 015:** three 2.0 MMBtu/hr TEG reboilers [Reboiler Nos. 2, 3, and 4] associated with three 350 MMSCFD TEG dehydration units [Skid Nos. 2, 3, and 4]
- **Emission Unit No. 016:** one 449 hp diesel-fired RICE that powers an emergency generator [Generator No. 1]
- **Emission Unit No. 018:** one 755 hp diesel-fired RICE that powers an emergency generator [Generator No. 3]
- **Emission Unit No. 019:** one 0.5 MMBtu/hr natural gas-fired fuel gas heater [Heater No. H-7860]

The following are the insignificant emission sources at this facility:

- one 4,000 gallon methanol storage tank [Tank No. T118]

The following are the trivial emission sources at this facility:

- one 2,000 gallon waste water storage tank [Tank No. T112]
- one 16,800 gallon oily water storage tank [Tank No. T801]
- one 2,000 gallon new TEG storage tank [Tank No. T114]
- one 2,000 gallon used TEG storage tank [Tank No. T119]
- one 1,000 gallon diesel storage tank [Tank No. T117]
- two 1,000 gallon lube oil tanks [Tank Nos. T110 and TK710]
- one 4,000 gallon Ambitrol storage tank [Tank No. T213]
- one 1,000 gallon used oil storage tank [Tank No. T111]
- one 2,000 gallon crankcase oil storage tank [Tank No. TK720]
- one 2,000 gallon used oil tank [Tank No. T212]
- one 2,000 gallon crankcase oil storage tank [Tank No. V213]
- one 500 gallon lube oil storage tank [Tank No. V214]
- one 1,000 gallon lube oil storage tank [Tank No. TK730]
- one 500 gallon gasoline storage tank [Tank No. T500]

Facility Modifications

Bay Gas has added one 1,000 gallon lube oil storage tank and one 500 gallon gasoline storage tank since the issuance of the initial MSOP. Because of capacity of these tanks, neither tank would be considered a trivial emission source.

Applicability: Federal Regulations

Title V

This facility is considered a major source under Title V regulations because the potential emissions for carbon monoxide (CO) and nitrogen oxides (NOx) exceed the 100 TPY major source threshold. This facility is considered a synthetic minor source for Hazardous Air Pollutants (HAP) because this facility has placed hourly limits on the following units: CE Nos. 1 and 2 (limited to 10,500 hours/year combined), CE Nos. 4 and 5 (limited to 10,500 hours/year combined), CE Nos. 3 and 12 (limited to 10,500 hours/year combined), Skid No. 1 (limited to 3,000 hours/year), Skid No. 2, 3, and 4 (limited to 9,000 hours/year combined), and Emergency Generator Nos. 1 and 3 (limited to 500 hours/year each). Due to these limits, the individual HAP potential emissions are less than 10 TPY and the total HAP potential emissions are less than 25 TPY.

New Source Review (NSR)/Prevention of Significant Deterioration (PSD)

This facility is located in an attainment area for all criteria pollutants, and its operations are not one of the listed 28 major source categories. Therefore, the PSD major source threshold of concern is 250 TPY for criteria pollutants.

This facility is considered a synthetic minor source for PSD. To remain a synthetic minor source, Bay Gas has placed hourly limits on the following units: CE Nos. 1 and 2 limited to 10,500 hours/year combined, CE Nos. 4 and 5 limited to 10,500 hours/year combined, CE Nos. 3 and 12 limited to 10,500 hours/year combined, Skid No. 1 limited to 3,000 hours/year, Skid Nos. 2, 3, and 4 limited to 9,000 hours/year combined, and Emergency Generator Nos. 1 and 3 limited to 500 hours/year each.

New Source Performance Standards (NSPS)

Compressor Engines

Compressor Engine (CE) No. 12 was ordered in February 2012; therefore, this engine is subject to 40 CFR Part 60, Subpart JJJJ, New Source Performance Standard for Stationary Ignition (SI) Internal Combustion Engines (ICE)[Adopted by reference at ADEM Administrative Code r. 335-3-10-.02(88)]. §60.4230(a)(4)(i) states that stationary SI ICE with a maximum engine hp ≥ 500 are subject to this subpart if construction commences (the engine is ordered) after June 12, 2006, and the SI ICE is manufactured on or after July 1, 2007. CE No. 12 is not subject to 40 CFR Part 60, Subpart OOOO or Subpart OOOOa because the engine was ordered prior to the applicability dates. The remaining engines, CE Nos. 1-4, were all manufactured prior to any NSPS applicability dates.

The following are the applicable requirements of Subpart JJJJ for CE No. 12:

1. Emission Limitations

In accordance with §60.4233(e) of Subpart JJJJ, CE No. 12 must comply with the following NO_x, CO, and volatile organic compounds (VOC) emission standards listed in Table 1 of Subpart JJJJ: a NO_x emission standard of 1.0 g/hp-hr or 82 ppmvd at 15% O₂, a CO emission standard of 2.0 g/hp-hr or 270 ppmvd at 15% O₂, and a VOC emission standard of 0.7 g/hp-hr or 60 ppmvd at 15% O₂. According to 40 CFR §60.4234 of Subpart JJJJ, Bay Gas must operate and maintain the engine in a manner that meets these emission standards over the entire life of the engine.

Based on the applications submitted by Bay Gas, CE No. 12 is not certified by the manufacturer to meet the NSPS standard; therefore, Bay Gas chose to install a catalytic converter on the engine to meet the applicable emission standards.

2. Compliance Requirements

40 CFR §60.4243(b)(2)(ii) of Subpart JJJJ states that an owner or operator of a non-certified stationary SI ICE > 500 hp must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practices for minimizing emissions.

3. Testing Requirements

Performance test requirements and procedures are outlined in 40 CFR §60.4244. In accordance with 40 CFR §60.4243(b)(2)(ii), Bay Gas is required to perform performance tests every 8,760 hours of operation or every three years, whichever comes first, for this compressor engine.

4. Notification, Reports, and Records

40 CFR §60.4245(a) requires owners and operators of all stationary SI ICE subject to Subpart JJJJ to keep records of all notifications submitted and all documentation supporting any notification. Records of all maintenance conducted on the engines must also be maintained. In addition, 40 CFR §60.4245(d) requires that copies of all performance tests be submitted to the Air Division within 60 days after the test has been completed. All records required under Subpart JJJJ must be retained for at least two years from the date of generation and made available for inspection upon request.

Emergency Generators

40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE)[Adopted by reference at ADEM Administrative Code r. 335-3-10-.03(87)] applies to owners/operators of stationary CI ICE that commence construction after July 11, 2005, and are manufactured after April 1, 2006 [40 CFR §60.4200(a)(2)(i)]. Emergency Generator No. 3 is subject to Subpart IIII because the emergency generator was constructed/manufactured on October 31, 2007, after the respective applicability dates. The application indicates that this emergency generator is certified to meet the applicable emission standards in 40 CFR §89.112 and §89.113.

The following are the applicable requirements of Subpart IIII for Emergency Generator No. 3:

1. Emission Limitations

In accordance with 40 CFR §60.4205(b) and §60.4202(a)(2), Bay Gas shall not cause or allow the emissions from the emergency generator to exceed the following applicable emission standards in 40 CFR §89.112: NO_x + NMHC emission standard of 6.4 g/kW-hr (4.8 g/hp-hr), a CO emission standard of 3.5 g/kW-hr (2.6 g/hp-hr), and a PM emission standard of 0.20 g/kW-hr (0.15 g/hp-hr). The opacity limitations of 40 CFR §89.113 are not applicable to this generator because it would be operated as a constant-speed engine as defined in 40 CFR §89.2.

2. Compliance Requirements

To demonstrate compliance with the operational limitations, Bay Gas shall maintain records of the date, time, duration, and purpose of operation each time the generator is operated. Subpart IIII also limits the operation of the generator to emergency situations and 100 hours per year for maintenance checks and readiness testing [40 CFR §60.4211(f)(1)-(3)]. To demonstrate compliance with the fuel limitations specified in 40 CFR §80.510(b) as required by §60.4207(b) of Subpart IIII, Bay Gas shall maintain records of the sulfur content and either the Cetane index or aromatic content of the diesel fuel that is burned in the emergency generator. All records shall be maintained in a form suitable for inspection and shall be retained for a period of five years from the date of generation. The generator

must be equipped with a non-resettable hour meter [40 CFR §60.4209] and based on the applications, this generator is equipped with a non-resettable hour meter.

3. Testing Requirements

There are no testing requirements for Emergency Generator No. 3 because the engine is certified by the manufacturer.

TEG Re-Boilers and Withdrawal Heaters

Due to the date of installation (installed after the June 9, 1989, applicability date) and the size of the withdrawal gas heaters (≥ 10 MMBtu/hr), Heater Nos. 1-5 are subject to 40 CFR Part 60, Subpart Dc [Adopted by reference at ADEM Administrative Code r. 335-3-10-.02(c)]. Because the heaters are fired with natural gas exclusively, the heaters are only subject to the notification and recordkeeping requirements specified in 40 CFR §60.48c(a) and §60.48c(g), respectively. Bay Gas is required to record and maintain records of the amount of fuel burned during each calendar month. Due to their size, the following units are not subject to Subpart Dc:

- 1.7 MMBtu/hr TEG Reboiler H-131;
- 2.0 MMBtu/hr TEG Reboilers H-7800, H-130, and H-230; and
- 1.3 MMBtu/hr Fuel Gas Heater H-7860.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

Engines

CE Nos. 1-5 are considered existing sources under 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines because the engines were constructed before the June 12, 2006 applicability date. Based on information provided by Bay Gas, CE Nos. 1-5 meet the definition of remote stationary RICE in 40 CFR §63.6675. CE No. 12 was manufactured in 2012; therefore, the engine is considered a new source under Subpart ZZZZ and meets the requirements of this subpart by meeting the requirements of 40 CFR Part 60, Subpart JJJJ.

The following are the applicable requirements of Subpart ZZZZ for CE Nos. 1-5:

1. Emission Limitations

According to 40 CFR §63.6603(a), Bay Gas must comply with the applicable requirements in Table 2d to Subpart ZZZZ for non-emergency, non-black start 4SLB remote stationary RICE >500 hp located at an area source of HAP emissions.

2. Compliance Requirements and Testing

Bay Gas is required to change oil and filter every 2,160 hours of operation or annually, whichever comes first; inspect spark plugs every 2,160 hours of operations or annually,

whichever comes first, and replace as necessary; and inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.

Bay Gas must evaluate the status of their stationary RICE every 12 months according to 40 CFR §63.6603(f) to determine if CE Nos. 1-5 continue to meet the definition of remote stationary RICE. The facility must keep records of the initial and annual evaluations of the status of the engines. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE, Bay Gas must comply with all of the requirements for existing non-emergency, non-black start 4SLB stationary RICE >500 hp located at an area source of HAP that are not remote stationary RICE within one year of the evaluation.

40 CFR §63.6640(a) states that Bay Gas must demonstrate continuous compliance with the applicable limitations to Subpart ZZZZ by the methods specified in Table 6 of Subpart ZZZZ. Bay Gas is subject to the following work or management practices specified in No. 9 of Table 6:

- i. Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
- ii. Develop and follow a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions.

3. Other Requirements (monitoring, installation, collection, operation, and maintenance)

According to 40 CFR §63.6605(a) and (b), Bay Gas must be in compliance with the applicable emission limitations, operating limitations, and other requirements in this subpart at all times. Bay Gas must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR §63.6625(h) requires Bay Gas to minimize the engines' time spent at idle during startup and minimize the engines' startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

4. Notifications, Reports, and Records

Bay Gas must keep all notifications and reports (and supporting documentation) as well as records pertaining to initial and continuous compliance for a period of 5 years from the date of each record or report. The records must be in a suitable form and readily available for inspection. [40 CFR §63.6660(a)-(c)]

5. General Provisions

Bay Gas is required to comply with all applicable general provisions of 40 CFR Part 63, Subpart A, except the provisions related to opacity or visible emission standards and COMS because Subpart ZZZZ does not contain these standards or requirements. Table 8 to Subpart ZZZZ also specifies what sections of the subpart have additional or more stringent requirements than the general provisions.

Emergency Generators

Emergency Generator Nos. 1 and 3 are considered affected sources that are subject to 40 CFR Part 63, Subpart ZZZZ; however, No. 3 is considered a new affected source since it was constructed after June 12, 2006. According to 40 CFR §63.6590(c), any new or reconstructed stationary RICE located at an area source of HAP emissions must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements would apply to No. 3 under Subpart ZZZZ.

The following are the applicable requirements of Subpart ZZZZ for Emergency Generator No. 1:

1. Emission Limitations

According to 40 CFR §63.6603(a), Bay Gas must comply with the applicable requirements in Table 2d of Subpart ZZZZ for emergency stationary CI RICE.

2. Compliance Requirements and Testing

According to 40 CFR §63.6603(a), the emergency generator is subject to the requirements of Table 2d to this subpart for existing emergency CI RICE at an area source, which requires the following:

- Change the oil and filter every 500 hours of operation or annually, whichever comes first, or utilize an oil analysis program;
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Bay Gas must operate the emergency generator according to 40 CFR §63.6625(e)(3) by operating and maintaining the generator according to the manufacturer's emission-related written instructions or develop a maintenance plan that provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. 40 CFR §63.6625(f) requires that an existing emergency stationary RICE located at an area source of HAP emissions be equipped with a non-resettable hour meter. Based on the permit applications submitted by Bay Gas, this engine is equipped with a non-resettable hour meter.

3. Notifications, Reports, and Records

Bay Gas must demonstrate compliance by keeping records specified in 40 CFR §63.6655(d) and Table 6 to Subpart ZZZZ.

Boilers/Heaters

The TEG skids with reboilers would not be subject to 40 CFR Part 63, Subpart HH, National Emissions Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities[Adopted by reference at ADEM Administrative Code r. 335-3-10-.02(34)] because Bay Gas does not meet the criteria for an oil and natural gas production facility. Also, these units would not be subject to 40 CFR Part 63, Subpart HHH, National Emissions Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities[Adopted by reference at ADEM Administrative Code r. 335-3-10-.02(60)] because the facility would not be a major source of HAP.

Applicability: State Regulations

The compressor engines and emergency generators are considered fuel combustion sources; however, they would not be subject to the State particulate emissions standard [ADEM Admin. Code r. 335-3-4-.03] or the State SO₂ emissions standard [ADEM Admin. Code r. 335-3-5-.01] because they do not meet the definition of fuel burning equipment and would not be considered one of the process industries, general or specific. The TEG reboilers and heaters are considered fuel burning equipment and are expected to be able to comply with the particulate and SO₂ emission standards because these units are fired with natural gas. The compressor engines, emergency generators, heaters, and the TEG reboilers are subject to the State visible emissions standard [ADEM Admin. Code r. 335-3-4-.01]. Because these units are either fired exclusively with natural gas or diesel fuel, they would be expected to be able to comply with this standard.

Emission Testing and Monitoring

Bay Gas would be required to certify on a semiannual basis that only natural gas or diesel fuel meeting the sulfur limitation was burned in the reciprocating engines, TEG Skid reboilers, heaters, and the emergency generators as a method for monitoring compliance with the visible emission requirements of ADEM Admin. Code r. 335-3-4-.01(1).

Because the reboilers and heaters only burn natural gas, they would be expected to be able to comply with the applicable State TSP and SO₂ allowable emission rates, as well as the visible emission standards. Therefore, no emission testing would be necessary. For the withdrawal heaters, Bay Gas will be required to calculate the fuel usage on a monthly and 12-month rolling total basis.

Recordkeeping and Reporting

Note: *In accordance with ADEM Admin. Code r. 335-3-16-.05(c)2.(ii), all required records shall be maintained in a permanent form suitable for inspection for a period of 5 years from the date of generation of each record and be made available upon request.*

Engines

In addition to the records and reporting requirements specified in 40 CFR Part 60, Subparts Dc, JJJJ, and IIII, and 40 CFR Part 63, Subpart ZZZZ, Bay Gas would be required to submit a semiannual certification that only natural gas or diesel fuel meeting the sulfur limitation was fired in CE Nos. 1-5 and 12, Heater Nos. 1-5, TEG Reboiler Nos. 1-4, and Emergency Generator Nos. 1 and 3. In addition, records of the monthly and 12-month rolling total fuel oil usage for the heaters shall be maintained.

Compliance Assurance Monitoring (CAM)

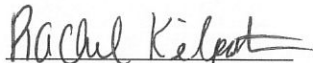
Although CE Nos. 3 and 12 utilize active control devices to meet an emission standard, these units would not be subject to the CAM requirements specified in 40 CFR Part 64 because of the exemption specified in 40 CFR §64.2(b)(1)(i). Specifically, these units are exempt from CAM requirements because CE No. 3 is subject to 40 CFR Part 63, Subpart ZZZZ, and CE No. 12 is subject to 40 CFR Part 60, Subpart JJJJ, which are standards that meet this exemption.

Public Notice

The renewal of this Title V MSOP would require a 30-day public comment period and a 45-day EPA review period.

Recommendation

I recommend that Bay Gas's MSOP (Facility No. 108-0017) be renewed with the conditions noted pending the resolution of any comments received during the 30-day public comment period and the EPA 45-day review period.



Rachel Kilpatrick
Chemical Branch
Air Division

01/09/2020
Date

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