

STATEMENT OF BASIS

Southern Natural Gas Company
McConnells Compressor Station
Northport, Tuscaloosa County, Alabama
Facility No. 413-0028

This proposed Title V Major Source Operating Permit (MSOP) 4th 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 issued on August 12, 2015, and is scheduled to expire on August 6, 2020. There have been no modifications to or additions of significant emission sources at this facility since the issuance of the third MSOP.

Southern Natural Gas Company (SNGC) operates a compressor station for the transmission of pipeline natural gas. The significant sources of air pollutants at this facility are two 1,350 hp Cooper-Bessemer GMV-19-STF, 2-stroke, lean-burn (2SLB) natural gas-fired reciprocating internal combustion engines (RICE) (Emission Unit Nos. 001 and 002); two 1,360 hp Solar Saturn T-1302 natural gas-fired combustion turbines (Emission Unit Nos. 003 and 004); one 1,452 hp Solar Saturn T-1402 natural gas-fired combustion turbine (Emission Unit No. 005); one 1,530 hp Solar Saturn T-1300 natural gas-fired combustion turbine (Emission Unit No. 006); and one 225 hp Caterpillar G342, 4-stroke, rich-burn (4SRB) natural gas-fired emergency generator (Emission Unit No. 007). Insignificant emission sources at this station include one 9,995 gallon lube oil storage tank; one 2,000 gallon oily water tank; one 1,462 gallon used oil storage tank; one 500 gallon drain-down tank; one 1,000 gallon condensate tank; one <0.5 MMBtu/hr space heater; and one air compressor.

Applicability: Federal Regulations

Title V

This facility is a major source under Title V regulations because the potential emissions for nitrogen oxides (NO_x) exceed the 100 TPY major source threshold. It is not a major source of Hazardous Air Pollutants (HAP) because individual HAP potential emissions are less than 10 TPY and the total HAP potential emissions are less than 25 TPY.

Prevention of Significant Deterioration (PSD)

This facility is located in an attainment area for all criteria pollutants, and the facility's operations are not one of the listed major source categories; therefore, the applicable major source threshold is 250 TPY for criteria pollutants. The facility is a major source under PSD regulations because the facility-wide potential NO_x emissions exceed 250 TPY, but does not hold any PSD permits. The two 1,350 hp reciprocating engines (Emission Unit Nos. 001 and 002) were installed prior to the PSD applicability date of January 1977, and have not been modified since that time. Therefore, there are no emission limits applicable to these engines under PSD regulations.

To remain below the significance emission rates for NO_x, synthetic minor source (SMS) emission limits were established for the two 1,360 hp turbines (Emission Unit Nos. 003 and 004); the 1,452 hp turbine (Emission Unit No. 005); and the 1,530 hp turbine (Emission Unit No. 006) when they were installed. Emission Unit Nos. 003 and 004 are each limited to 5.03 lb/hr of NO_x, Emission Unit No. 005 is limited to 7.64 lb/hr of NO_x, and Emission Unit No. 006 is limited to 8.13 lb/hr of NO_x. In addition, Emission Unit Nos. 003 and 004 are each limited to operating no more than 7,743 hours during any consecutive 12-month period.

NESHAP Part 63

This facility is not a major source of HAP; therefore, the combustion turbines are not considered affected sources under 40 CFR Part 63, Subpart YYYY, the National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(102)].

Compressor Engine Nos. 1 and 2 (Emission Unit Nos. 001 and 002) located at this facility are considered affected sources under 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (the RICE MACT), which applies to both major and area sources for HAP. These engines are considered existing RICE because they were manufactured prior to the area source applicability date of June 12, 2006. As existing non-emergency 2SLB stationary RICE located at an area source for HAP emissions, the units are subject to the requirements of Table 2d of this Subpart which include:

- Change oil and filter every 4,320 hours of operation or annually, whichever comes first, or utilize an oil analysis program;
- Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and
- Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.

The 225 hp natural gas-fired emergency generator is an existing affected source under the RICE MACT. As an existing emergency spark ignition (SI) stationary RICE <500 hp located at an area source of HAP emissions, this engine is subject to the requirements of Table 2d of this Subpart which include:

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

In accordance with 40 CFR §63.6640(f), this engine is limited to operating during:

- Emergency situations;
- Maintenance checks and readiness testing, not to exceed 100 hours per year; and
- Non-emergency situations, not to exceed 50 hours per year (those 50 hours are counted towards the 100 hours per year provided for maintenance and testing).

NSPS

Compressor Turbine Nos. 4 through 7 (Emission Unit Nos. 003 – 006) were installed after the New Source Performance Standards - Subpart GG, applicability date of October 3, 1977; therefore, they are subject to 40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(33)] and have applicable NO_x and sulfur dioxide (SO₂) emission limits. Previous performance testing has demonstrated that the turbines are able to comply with the applicable NO_x standard. In accordance with 40 CFR §60.334(h)(3), SNGC elects to demonstrate compliance with the SO₂ standard by demonstrating that the only fuel combusted in an affected source would meet the definition of “natural gas” as defined at 40 CFR §60.331(u).

Compressor Engine Nos. 1 and 2 (Emission Unit Nos. 001 and 002), and the emergency generator at this facility are not subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(88)], based on the date that these engines were manufactured (1948, 1948, and 1984, respectively), all of which are prior to each unit’s applicability date.

The compressors associated with Compressor Engine Nos. 1 and 2 (Emission Unit Nos. 001 and 002) and Compressor Turbine Nos. 4 through 7 (Emission Unit Nos. 003 - 006) were installed prior to the August 23, 2011, applicability of 40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distributions [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(91)]; therefore, these units are not subject to this Subpart.

The McConnells Compressor Station is considered a natural gas compressor facility and is potentially subject to 40 CFR Part 60, Subpart OOOOa, Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015 [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(91)(a)]. However, all equipment and processes potentially subject to this regulation were installed and modified prior to the applicability date, therefore, this facility is not subject to this Subpart.

The storage tanks do not meet the applicability criteria for NSPS, Subpart K, Ka, or Kb [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(9)(a) and (b), respectively], the space heaters and water heaters do not meet the applicability criteria for NSPS, Subpart Dc [Adopted

by reference in ADEM Admin. Code r. 335-3-10-.02(2)(c)].

Applicability: State Regulations

Although the compressor engines, turbines, and emergency generator at the facility are fuel combustion sources, they are not subject to any particulate matter (as TSP) emission limitation of ADEM Admin. Code chap. 335-3-4 or any sulfur dioxide (SO₂) emission limitation of ADEM Admin. Code chap. 335-3-5 because they do not meet the definition of fuel burning equipment nor is the facility considered one of the process industries, general or specific. The compressor engines, turbines, and emergency generator are, however, subject to the visible emissions standards of ADEM Admin. Code r. 335-3-4-.01(1), which states that no air emission source may emit particulate of an opacity greater than 20% (as measured by a six-minute average) more than once during any 60-minute period and at no time shall emit particulate of an opacity greater than 40% (as measured by a six-minute average). These units are fired exclusively with natural gas, and are expected to be able to comply with this standard.

Emission Testing and Monitoring

SNGC is required to certify on a semiannual basis that only natural gas was burned in the engines, turbines, and emergency generator as a method for monitoring compliance with the visible emission requirements of ADEM Admin. Code r. 335-3-4-.01(1) because opacity is negligible while combusting natural gas.

To monitor compliance with the applicable SMS emission limits for NO_x for Emission Unit Nos. 003 – 006, emissions testing is required once per peak season (October – March) and once per off-peak season (April – September). However, if the operating time for a turbine during the off-peak season does not exceed 250 hours, then no emission testing is required for that turbine during that season. The first emissions testing conducted for each unit following the effective date of this renewal permit shall be conducted using the approved EPA Reference Method. Emissions testing for the remainder of the permit term may be conducted using either the approved EPA Reference Method or an alternate method if approved in advance by the Air Division.

Recordkeeping and Reporting

As part of the Semiannual Monitoring Report, SNGC is required to include a statement addressing whether only natural gas was fired in the engines, turbines, and emergency generator during the respective reporting period. SNGC is required to submit the results of all emission tests conducted to the Air Division within 30 days of the actual completion of the test.

In addition to certifying that only natural gas was fired in Emission Unit Nos. 003, 004, and emergency generator (Emission Unit No. 007), SNGC is required to record the hours of operation for these units on a monthly and 12-month rolling total basis to ensure that the permittee does not exceed the 7,743 hour limitation for Emission Unit Nos. 003 and 004 each, and to ensure that the emergency generator is operated as an emergency stationary RICE in

accordance with 40 CFR §63.6640(f). These records are required to be maintained in a permanent form suitable for inspection and be made available upon request.

Compliance Assurance Monitoring (CAM)

Compressor Engine Nos. 1 and 2 and Compression Turbine Nos. 4 - 7 do not use an active control device as defined in the CAM regulations to meet the applicable emission standards. As such, the facility is not subject to CAM requirements.

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

Based on the above analysis, I recommend that the Title V Major Source Operating Permit (413-0028) be renewed with the requirements noted above pending the resolution of any comments received during the 30-day public comment period and 45-day EPA review.



Brandon R. Cranford
Chemical Branch
Air Division

February 24, 2020
Date

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