

STATEMENT OF BASIS

Southern Natural Gas Company, LLC
Elmore Compressor Station
Elmore, Elmore County, Alabama
Facility No. 205-0006

This draft 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 originally issued on April 2, 2015, and is scheduled to expire on December 27, 2019. There have been no modifications to or additions of significant emission sources at this facility since the issuance of the 3rd renewal 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 four natural gas-fired reciprocating engines: a 2,500 hp Cooper-Bessemer GMWA-10, 2-Stroke Lean-Burn (Compressor Engine No. 7); a 5,000 hp Clark TCVD-10, 2-Stroke Lean-Burn (Compressor Engine No. 9); a 2,050 hp Cooper-Bessemer GMVH-10C, 2-Stroke Lean-Burn (Compressor Engine No. 10); a 1,650 hp Cooper-Bessemer GMVH-8C, 2-Stroke Lean-Burn (Compressor Engine No. 11); and one 536 hp Caterpillar 4-Stroke, Lean-Burn Emergency Generator (Emergency Generator No. 1). Insignificant emission sources at this station include one 9,995 gallon lube oil storage tank, one 1,447 gallon hydraulic oil storage tank, one 596 gallon used oil storage tank, one 8,750 gallon pipeline condensate tank, four (4) 0.024 MMBtu/hr space heaters, one 500 gallon used oil tank, and hot water heaters.

Applicability: Federal Regulations

Title V

This facility is a major source under Title V regulations because the potential emissions for nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) exceed the 100 TPY major source threshold. It is also a major source of Hazardous Air Pollutants (HAP) because individual HAP potential emissions are greater than 10 TPY (formaldehyde, CAS No. 50-00-0, has a potential to emit of 24.45 TPY) and the total HAP potential emissions are greater than 25 TPY.

Prevention of Significant Deterioration (PSD)

This facility is located in an attainment area for all criteria pollutants, and the facility operations are not one of the 28 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 emissions for NO_x exceed 250 TPY. The 5,000 hp Clark engine (Compressor Engine No. 9) has applicable NO_x, CO, and VOC emission limitations established as best available control technology (BACT). The engine was issued a PSD permit on June 4, 1981, for its initial construction. However, the engine underwent another PSD review

to revise the BACT limit for VOC following emission testing which determined that the engine was not able to achieve the initial BACT limit. The PSD permit with the revised BACT limit for VOC was issued on September 30, 1999. The Cooper-Bessemer engines (Compressor Engine Nos. 10 and 11) also have applicable synthetic minor source emission limitations for NO_x, CO, and VOC, which were established to maintain emissions below PSD significance levels.

NSPS

Compressor Engine Nos. 7, 9, 10, and 11, 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 (1967, 1982, 1985, 1985, and 2007 respectively), all of which are prior to each units applicability date.

In addition, 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), (9a), and (9b), respectively] and the space and water heaters do not meet the applicability criteria for NSPS, Subpart D, Db, or Dc [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(2), (2b), and (2c)], respectively.

The compressors associated with Compressor Engine Nos. 7, 9, 10 and 11 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 Elmore 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.

NESHAP Part 63

This facility is a major source for HAPs and operates four (4) 2-stroke lean-burn reciprocating engines (Compressor Engine Nos. 7, 9, 10, and 11) that were installed between 1967 and 1985. These units are 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) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(103)]. In accordance with 40 CFR §63.6590(b)(3), existing lean burn engines (2-stroke and 4-stroke >500 hp located at a major source of HAP) do not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A. An initial notification is also not required. Therefore, although these engines are not excluded from the applicability of the RICE MACT, there would be no applicable requirements.

The emergency generator is also an affected source under the RICE MACT. Because its site rating exceeds 500 hp, 40 CFR §63.6590(b)(1)(i) specifies that except for the requirement to submit an initial notification, SNGC does not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ or Subpart A. SNGC's application to construct this emergency RICE satisfies this requirement. This emergency generator does not have to meet the requirements of Subpart ZZZZ.

Applicability: State Regulations

Although the compressor engines and the emergency generator 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 and the emergency generator are, however, subject to the visible emissions requirements of ADEM Admin. Code r. 335-3-4-.01(1). Since these units would be fired exclusively with natural gas, they would be expected to be able to comply with this standard.

Emission Testing and Monitoring

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

To monitor compliance with the applicable BACT and SMS limits for NO_x, CO, and VOC for Compressor Engine Nos. 9, 10, and 11, emission testing would be required twice per calendar year at a frequency of once per semiannual period (Jan 1st – Jun 30th and Jul 1st – Dec 31st), with a minimum of three calendar months elapsing between tests. The first emission testing conducted following the effective date of this renewal permit shall be conducted using the appropriate EPA Reference Method. Emission testing for the remainder of the permit term may be conducted using either the appropriate EPA Reference Method or an alternate method with a portable analyzer, if approved in advance by the Air Division.

No emission testing would be required for the 536 hp emergency engine.

Compliance Assurance Monitoring (CAM)

Compressor Engines Nos. 7, 9, 10, and 11 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.

Recordkeeping and Reporting

As part of the Semiannual Monitoring Report, SNGC would be required to include a statement addressing whether only natural gas was fired in each unit during the respective reporting period. In addition to certifying that only natural gas was fired in the emergency generator, SNGC would be required to record the hours of operation for this unit on a monthly and 12-month rolling total basis to ensure that the permittee operates the engine as an emergency stationary RICE as specified by 40 CFR §63.6640(f). These records would be required to be maintained in a permanent form suitable for inspection and be made available upon request.

Recommendation

Based on the above analysis, I recommend that the Title V Major Source Operating Permit (205-0006) be renewed (4th) with the requirements noted above pending resolution of any comments received during a 30-day public comment period and a 45-day EPA review.



Brandon R. Cranford
Chemical Branch
Air Division

August 6, 2019
Date

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