STATEMENT OF BASIS
SOUTHERN NATURAL GAS COMPANY
DEARMANVILLE COMPRESSOR STATION
ANNISTON, CALHOUN COUNTY, ALABAMA
FACILITY NO. 301-0033

This proposed Title V Major Source Operating Permit (MSOP) renewal has been developed in accordance with the provisions of ADEM Admin. Code chap. 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 facility was originally constructed/began operations in 1947. The initial application for this renewal was received September 6, 2024, and the application was deemed complete on September 16, 2024. The initial MSOP was issued on March 10, 2000, and this is the fifth renewal. The current MSOP was issued on January 7, 2020, became effective on March 10, 2020, and is scheduled to expire on March 9, 2025.

The facility is located in Calhoun County, which is currently listed attainment/unclassifiable with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against Southern Natural Gas Company (SNGC) necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at https://echo.epa.gov/ (Search using Facility ID AL0000000101500033).

Facility Operations

Southern Natural Gas Company, LLC (SNGC) operates a compressor station for the transmission of pipeline natural gas. The significant sources of air pollutants at this facility are two 1,000 hp Cooper-Bessemer GMV-10, 2-stroke lean-burn (2SLB) natural gas-fired reciprocating internal combustion engines (RICE) (Compressor Engine Nos. 5 and 6); three 1,350 hp Cooper-Bessemer GMV-10 STF, 2SLB natural gas-fired RICE (Compressor Engine Nos. 7, 8 and 9); one 1,262 hp Solar T-1300 natural gas-fired combustion turbine (Compressor Turbine No. 10); two 2,000 hp Cooper-Bessemer GMVS-10, 2SLB natural gas-fired RICE (Compressor Engine Nos. 11 and 12); one 500 hp 4-stroke, lean-burn (4SLB) natural gas-fired emergency generator engine (Emergency Generator Engine No. 1); and one 0.25 MMBtu/hr Sivalls IH 306-T2, natural gas-fired fuel gas heater (No. 1 Fuel Gas Heater). Insignificant emission sources at this station include one 9,825 gallon lube oil storage tank; three 1,447 gallon used oil storage tanks; two 500 gallon used oil storage tanks, one 500 gallon oily water tank; one electric air compressor; space heaters; and water heaters.

Proposed Changes

There have been no modifications to or additions of significant emission sources at this facility since the issuance of the fourth renewal MSOP.

Permit History

The following is a history of previously issued permits for this facility:

Issuance No./Permit No.	Limit(s) Established	Issuance Date	Effective Date	Expiration Date	PSD SER Exceeded (Y/N)
Installation of (6) 1,000 hp RICE and (3) 1,350 hp RICE	--	1947-1948 (Unpermitted)	--	--	--
Installed one 1,080 hp Turbine	--	1964 (Unpermitted)	--	--	--
Air Permit X001 & X002 – 2,000 hp Engines (Replaced (4) 1,000 hp RICE)	NO_x limits established as SMS limits	December 24, 1980	--	--	Y
Air Permit X003 – Upgraded turbine from 1,080 hp to 1,200 hp	NO_x limits established as SMS limits	May 29, 1996	--	--	N
Initial MSOP	--	March 10, 2000	March 10, 2000	March 9, 2005	--
MSOP 1st Renewal	--	February 4. 2005	March 10, 2005	March 9, 2010	--
MSOP 2nd Renewal Added Emergency Engines G001 003	--	March 9, 2010	March 10, 2010	March 9, 2015	---
MSOP 3rd Renewal - Added fuel gas heater FGH1	--	July 6, 2015	July 6, 2012	March 9, 2020	--
MSOP 4th Renewal	--	January 7, 2020	March 10, 2020	March 9, 2025	--

Plant-Wide Potential to Emit (PTE)

Pollutant	Potential Emissions (TPY)
PM	28.27
SO_2	0.69
NO_x	2,439.72
CO	234.28
VOC	76.55
CO_2e	67,324.79
Formaldehyde	26.33
HAP ≥ 10 TPY (by CAS)	41.40

Applicability: Federal Regulations

Title V

This facility is a major source under Title V regulations because the potential emissions for nitrogen oxides (NO_x) and carbon monoxide (CO) each exceed the 100 TPY major source

threshold. The facility is also a major source of Hazardous Air Pollutants (HAP) because individual HAP potential emissions (formaldehyde, 26.33 TPY) are greater than 10 TPY and the total HAP potential emissions are greater than 25 TPY.

Prevention of Significant Deterioration (PSD)

The DeArmanville Compressor Station was originally constructed/began operation in 1947. At that time SNGC installed (6) 1,000 hp RICE and (3) 1,350 hp RICE which were considered "grandfathered" under PSD regulations. (4) of these units were later replaced. 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. Compressor Engine Nos. 5 - 9 were installed prior to the PSD applicability date of January 1977 (1947-1948) and have not been modified since that time. Therefore, there are no emission limits applicable to these engines for the purposes of PSD. However, Compressor Engine Nos. 11 and 12 underwent PSD review prior to their installation in 1980 and are subject to applicable NO_x emission limitations of 72.75 lb/hr established as Best Available Control Technology (BACT) for each unit. Combustion Turbine No. 10 is subject to an applicable synthetic minor source (SMS) emission limit of 5.15 lb/hr for NO_x which was established to avoid undergoing PSD review when the turbine was modified in 1996.

New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (Subpart Dc) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(2)(c)]

Per 40 CFR §60.40c(a), since the rated heat input capacity for the fuel gas heaters are less than 10 MMBtu/hr, these units would not be subject to Subpart Dc.

40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines (Subpart GG) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(33)]

Compressor Turbine No. 10 was initially installed in 1964, prior to the Subpart GG applicability date of October 3, 1977; however, it was modified in 1996 and became subject to 40 CFR Part 60, Subpart GG. Therefore, this unit is subject to applicable NO_x emission limit of 150 ppmvd @ 15% O_2 and a SO_2 emission limit of 150 ppmvd @ 15% O_2 in accordance with 40 CFR §60.332. Performance testing in accordance with 40 CFR §60.335 has demonstrated the turbine is able to comply with the applicable NO_x emission standard (150 ppmvd at 15% O_2) as required by 40 CFR §60.332(a)(2). In order to demonstrate compliance with the SO_2 emission standard (150 ppmvd at 15% O_2) as required by 40 CFR §60.333, SNGC utilizes an approved custom monitoring schedule for monitoring the sulfur content of the fuel as specified in 40 CFR §60.334(h)(4).

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (Subpart JJJJ) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(88)]

Compressor Engine Nos. 5 - 9, 11 and 12, and Emergency Generator Engine No. 1 at this facility are not subject to 40 CFR Part 60, Subpart JJJJ, based on the date that these engines were

manufactured [Compressor Engine Nos. 5 and 6 (1947). Compressor Engine Nos. 7-9 (1948), Compressor Engine Nos. 11 and 12 (1980), and Emergency Generator Engine No. 1 (1982)], all of which are prior to each unit's applicability date.

40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines (Subpart KKKK) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(89)]

This Subpart applies to stationary gas turbines with a heat input at a peak load equal to or greater than 10 MMBtu/hr and have commenced construction, modification, or reconstruction after February 18, 2005. This regulation is not applicable to Compressor Turbine No. 10 because the unit was installed and modified prior to 2005.

40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction,11 – 12, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015 (Subpart OOOO) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(91)]

The compressors associated with Compressor Engine Nos. 5 -9, 11 – 12 and Compressor Turbine No. 10 were each installed prior to the August 23, 2011, applicability date of Subpart OOOO; therefore, this facility is not subject to this Subpart.

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 and On or Before December 6, 2022 (Subpart OOOOa) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(91)(a)]

All equipment and processes at this facility were installed or modified prior to the September 18, 2015 applicability date of Subpart OOOOa, therefore, this facility is not subject to this Subpart.

40 CFR Part 60, Subpart OOOOb, Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After December 6, 2022 (Subpart OOOOb)

All equipment and processes at this facility were installed or modified prior to the December 6, 2022, applicability date of this regulation; therefore, this facility is not subject to this Subpart.

National Emission Standards for Hazardous Air Pollutants (NESHAP/MACT)

40 CFR Part 63, Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines (Subpart YYYY) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(102)]

The 1,262 hp lean-burn natural gas-fired combustion turbine (Combustion Turbine No. 10) is an existing affected source under 40 CFR Part 63, Subpart YYYY. In accordance with 40 CFR §63.6090(b)(4), existing stationary combustion turbines do not have to meet the requirements of 40 CFR Part 63, Subpart YYYY or Subpart A.

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(103)]

Compressor Engine Nos. 5 through 9, 11 and 12 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 (Subpart ZZZZ) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(103)]. These engines are each considered existing 2SLB RICE greater than 500 hp located at a major source of HAP. In accordance with 40 CFR §63.6590(b)(3)(i), the seven 2SLB engines are not subject to any applicable requirements under Subpart ZZZZ or Subpart A.

Emergency Generator Engine No. 1 is also considered an affected source under Subpart ZZZZ. As an existing emergency spark ignition (SI) stationary RICE less than or equal to 500 hp located at a major source of HAP emissions, this emergency engine is subject to work practice requirements in 40 CFR §63.6602 and Table 2c to Subpart ZZZZ, which include:

- Change oil and filter every 500 hours of operation or within 1 year plus 30 days of the previous change, whichever comes first, or utilize an oil analysis program;
- Inspect spark plugs every 1,000 hours of operation or within 1 year plus 30 days of the previous change, whichever comes first, and replace as necessary; and
- Inspect all hoses and belts every 500 hours of operation or within 1 year plus 30 days of the previous change, whichever comes first, and replace as necessary.

In accordance with 40 CFR §63.6640(f), to retain the emergency classification, 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).

Also, 40 CFR §63.6625(f) requires the installation of a non-resettable hour meter if one is not already installed. SNGC has installed the non-resettable hour meter.

Testing Requirements

There are no emission testing requirements for the emergency RICE.

Recordkeeping and Reporting Requirements

SNGC is required to record the hours of operation for each of these units on a monthly and 12-month rolling total basis to ensure that the permittee operates this engine as an emergency stationary RICE as indicated by 40 CFR §63.6640(f). In addition, SNGC is required to report to the Air Division any failure to perform a work practice on the schedule required. The report must be submitted within two working days of the deviation. These records are required to be maintained in a permanent form suitable for inspection and be made available upon request

40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (Subpart DDDDD) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(107)]

The No. 1 Fuel Gas Heater is a 0.25 MMBtu/hr Sivalls IH 306-T2, natural gas-fired fuel gas heater located at this facility and is considered an affected source under 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (Subpart DDDDD). This unit is considered an existing affected source as defined in 40 CFR §63.7490 since it was manufactured prior to the June 4, 2010, applicability date. This unit has a heat input capacity less than 5 MMBtu/hr and burns only natural gas; therefore SNGC was required to perform an initial tune-up and a one-time energy assessment of the facility in accordance with 40 CFR §63.7510(e). The initial tune-up was completed in accordance with 40 CFR §63.7540(a)(10)(i) through (vi) on October 2, 2015, and the one-time energy assessment was completed in accordance with 40 CFR §63.7575 and Table 3 of Subpart DDDDD on June 18, 2014. SNGC is required to perform subsequent tune-ups every five years in accordance with 40 CFR §63.7500(e) and 40 CFR §63.7540(a)(12).

SNGC would be required to keep a copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance or compliance report submitted according to the requirements in 40 CFR §63.10(b)(2)(xiv). In addition, SNGC would be required to submit a compliance report every five years after the January 31, 2016, compliance date containing the information specified in 40 CFR §63.7550(c). The compliance report must be postmarked or submitted no later than January 31 following the end of the five year period.

Mandatory Greenhouse Gas Reporting

40 CFR Part 98, Subpart A General Provision

This facility is a listed source category as defined in 40 CFR §98.2(a)(1) or (2), it is potentially subject to this rule in accordance with 40 CFR §98.2(a)(3) since the aggregate maximum rated heat input capacity of the stationary fuel combustion units at the facility is 30 MMBtu/hr or greater and the facility has the potential to emit 25,000 metric tons (27,558 TPY) of CO_2e or more per year from all stationary fuel combustion sources combined. SNGC must calculate greenhouse gas quantities according to the methodologies described in 40 CFR §98.2(c). SNGC is required to maintain records of actual CO_2, CH_4, and N_2O emissions to determine the actual CO_2e emissions. If such emissions exceed the 25,000 metric tons per year threshold, then an annual report must be submitted no later than March 31 of each calendar year thereafter per 40 CFR §98.3. In accordance with 40 CFR §98.5, the annual report must be submitted electronically in accordance with the requirements of 40 CFR §98.4 (via EPA's Central Data Exchange). While this facility is required to report greenhouse gas emissions to EPA per 40 CFR Part 98, these requirements do not meet the definition of "applicable requirements" under 40 CFR 70.2 and ADEM Admin. Code r. 335-3-16-.01(1)(e). Therefore, the requirements of 40 CFR Part 98 are not required to be included in the Title V permit.

Applicability: State Regulations

ADEM Admin. Code r. 335-3-4-.01, "Control of Particulate Emissions: Visible Emissions"

The engines, turbine, fuel gas heater, and emergency engine are each subject to the State 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).

ADEM Admin. Code r. 335-3-4-.02, "Fugitive Dust and Fugitive Emissions"

This rule is applicable. However, all plant roads are paved or graveled. There are no raw materials, storage piles, products, etc. capable of generating fugitive dust at this facility. Therefore, additional specific requirements for fugitive dust are not necessary for this facility.

ADEM Admin. Code r. 335-3-4-.03, "Control of Particulate Emissions: Fuel Burning Equipment"

Although the engines, turbine, and emergency engine are fuel combustion sources, they are not subject to any particulate matter (as TSP) emission limitation of ADEM Admin. Code Chap. 335-3-4 because they do not meet the definition of fuel burning equipment and the facility is not considered one of the process industries, general or specific The fuel gas heaters would be considered fuel-burning equipment and would be subject to the State particulate matter emission standard in ADEM Admin. Code r. 335-3-4-.03(1). Since the fuel gas heater would be fired with natural gas, they would be expected to be able to comply with this standard.

ADEM Admin. Code r. 335-3-5-.01, "Control of Sulfur Compound Emissions: Fuel Combustion"

Although the engines, turbine, and emergency engine are fuel combustion sources, they are not subject to any sulfur dioxide (SO_2) emission limitation of ADEM Admin. Code Chap. 335-3-5 because they do not meet the definition of fuel burning equipment nor is this facility considered one of the process industries, general or specific. The fuel gas heaters would be considered fuel-burning equipment and would be subject to the State particulate matter emission standard in ADEM Admin. Code r. 335-3-5. Since the fuel gas heater would be fired with natural gas, they would be 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, turbine, the emergency generator and the fuel gas heater as a method for demonstrating compliance with the visible emission requirements of ADEM Admin. Code r. 335-3-4-.01(1) since opacity is expected to be negligible while combusting natural gas.

To demonstrate compliance with the applicable BACT and SMS limits for NO_x for Compressor Engine Nos. 11 and 12 and Compressor Turbine No. 10, emissions testing is required twice per calendar year at a frequency of once per semiannual period (January 1st - June 30th and July 1st - December 31st), with a minimum of three (3) calendar months elapsing between tests. The first emissions test conducted following the effective date of this renewal permit must be conducted using the appropriate EPA Reference Method. Emissions test 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.

Performance testing in accordance with 40 CFR §60.335 has demonstrated the turbine is able to comply with the applicable NO_x emission standard (110 ppmvd at 15% O_2) as required by 40 CFR §60.332(a)(2). To monitor compliance with the applicable SO_2 standard of Subpart GG, SNGC is required to monitor compliance with the applicable SO_2 standard in accordance with at least one

of the options specified in 40 CFR §60.334.

No emissions testing is required for the Emergency Generator Engine No. 1.

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 each unit during the respective reporting period as a method for monitoring compliance with the visible emission requirements of ADEM Admin. Code r. 335-3-4-.01(1). 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, unless stated otherwise in an applicable regulation.

SNGC is required to record the hours of operation for the emergency generator engine on a calendar year basis to ensure that the SNGC operates the engine as an emergency stationary RICE as specified in 40 CFR §63.6640(f). In addition, SNGC must report to the Air Division any failure to perform a work practice on the required scheduled. The report must be submitted within two working days of the deviation. These records must be maintained in a permanent form suitable for inspection and be made available upon request.

SNGC is required to submit a Notification of Compliance for the fuel gas heater containing the information specified in 40 CFR §63.7545(e)(1) and (8) within 60 days of completing the required tune-up. SNGC is required to submit a compliance report for the fuel gas heater every five years containing the information specified in 40 CFR §63.7550(c). In addition, SNGC is required to keep copies of all documentation submitted for the fuel gas heater.

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

In addition, SNGC is required to certify on a semiannual basis that only natural gas was burned in these units.

Compliance Assurance Monitoring (CAM)

Compliance Assurance Monitoring (CAM), 40 CFR Part 64, applies to any pollutant-specific emission unit at a major source that is required to obtain an operating permit, in accordance with 40 CFR §64.5, if it meets all of the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant.
- It uses a control device to achieve compliance with the applicable emission limit or standard.
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY of a criteria pollutant, 10 TPY of an individual HAP, or 25 TPY of total HAP.

Compressor Engine Nos. 5 through 9, 11 and 12; and Compression Turbine No. 10 do not use an active control device as defined in the CAM regulations to meet the applicable emission

limitations. As such, the facility is not subject to CAM requirements.

Public Participation

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 Southern Natural Gas Company, LLC's Title V Major Source Operating Permit (301-0033) be renewed with the requirements noted above, pending the resolution of any comments received during a 30-day public comment period and 45-day EPA review.

Brandon Cranford

Brandon R. Cranford
Chemical Branch
Air Division

March 13, 2025
Date

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