Facility Name: **Southern Natural Gas Company, L.L.C--Hall Gate Compressor Station**
City: Milledgeville
County: Baldwin
AIRS #: 04-13-009-00035

Application #: TV-604007
Date Application Received: October 25, 2021
Permit No: 4922-009-0035-V-05-0

Program	Review Engineers	Review Managers
SSPP	Cynthia Dorrough	Hamid Yavari
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Introduction

This narrative is being provided to assist the reader in understanding the content of referenced operating permit. Complex issues and unusual items are explained here in simpler terms and/or greater detail than is sometimes possible in the actual permit. The permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name: Southern Natural Gas Company, L.L.C – Hall Gate Compressor Station

2. Parent/Holding Company Name

   Kinder Morgan, Inc.

3. Previous and/or Other Name(s)

   Southern Natural Gas Company – Hall Gate Compressor Station

   Southern Natural Gas Company

4. Facility Location

   180 J.M. Walker Road, NE
   Milledgeville, Georgia 31061-9522

5. Attainment, Non-attainment Area Location, or Contributing Area

   Southern Natural Gas Company, LLC - Hall Gate Compressor Station (SNG) is located in Baldwin County, which is considered to be in "attainment" or “unclassifiable” for all criteria air pollutants.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
4922-009-0035-V-04-0	26-Apr-2017	Title V Renewal

D. Process Description

1. SIC Codes(s)

4922

The SIC Code(s) identified above were assigned by EPD's Air Protection Branch for purposes pursuant to the Georgia Air Quality Act and related administrative purposes only and are not intended to be used for any other purpose. Assignment of SIC Codes by EPD's Air Protection Branch for these purposes does not prohibit the facility from using these or different SIC Codes for other regulatory and non-regulatory purposes.

Should the reference(s) to SIC Code(s) in any narratives or narrative addendum previously issued for the Title V permit for this facility conflict with the revised language herein, the language herein shall control; provided, however, language in previously issued narratives that does not expressly reference SIC Code(s) shall not be affected.

2. Description of Product(s)

The facility does not manufacture any product. It is a natural gas compression station.

3. Overall Facility Process Description

The facility operates natural gas fired compressor engines to transport natural gas along the pipeline by receiving low-pressure inlet natural gas and compressing the gas to increase the pressure in the pipeline and maintain the downstream flow. The facility is located between Ocmulgee and Wrens compressor stations on the Southern Natural Gas (SNG) network.

Natural gas compression is achieved by three reciprocating compressor engines all of which fire only pipeline quality natural gas. In order to supply electricity in the case of a power failure, an emergency generator rated at 440 hp is operated. The emergency generator fires only pipeline quality natural gas.

As part of the normal compressor station operation, SNG routinely conducts activities associated with the maintenance and repair of engines and other equipment at the facility. Such activities associated with maintenance and repair include, but are not limited to, start-ups and shutdowns, upsets, and emergencies. Some of these activities, such as blowdown, result in release of natural gas.

4. Overall Process Flow Diagram

The facility provided a process flow diagram in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

Southern Natural Gas Company, LLC - Hall Gate Compressor Station is a major source with regards to the New Source Review (NSR) Prevention of Significant Deterioration of Air Quality (PSD) regulations. The facility is a major source because the potential to emit (PTE) NOx and CO is each greater than the PSD major source threshold of 250 tons per year (ton/yr). However, all equipment installed since the startup of the installation has been permitted as minor modifications because they emit less than the PSD significant emission thresholds. The compression of natural gas is not one of the 28 named industrial categories whose major source threshold is 100 ton/yr.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	yes			✓
PM_{10}	yes			✓
$PM_{2.5}$	yes			✓
SO_2	yes			✓
VOC	yes	✓		
NO_x	yes	✓		
CO	yes	✓		
TRS	De minimis			
H_2S	De minimis			
Individual HAP	yes	✓		
Total HAPs	yes	✓		

3. MACT Standards

40 CFR 63, Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	no
Program Code 8 – Part 61 NESHAP	no
Program Code 9 - NSPS	no
Program Code M – Part 63 NESHAP	yes
Program Code V – Title V	yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

None applicable.

B. Applicable Rules and Regulations

Not applicable.

C. Compliance Status

The Permittee did not indicate any issues with noncompliance in the application.

D. Permit Conditions

Not applicable.

III. Regulated Equipment Requirements

A. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
C001	Compressor Engine No. 1	GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(g)	N/A	N/A
C002	Compressor Engine No. 2	GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(g)	N/A	N/A
C003	Compressor Engine No. 3	40 CFR 63, Subpart A 40 CFR 63, Subpart ZZZZ GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(g)	C003C	Oxidation Catalyst
G002	Emergency Generator	40 CFR 63 Subpart A, 40 CFR 63 Subpart ZZZZ GA Rule 391-3-1-.02(2)(b), GA Rule 391-3-1-.02(2)(g)	N/A	N/A

B. Equipment & Rule Applicability

40 CFR 63, Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

The facility has three natural gas-fired engines at the facility that can possibly be subject to 40 CFR 63, Subpart ZZZZ. These include two 2-stroke, lean-burn, Compressor Engines No. 1 and No. 2 (C001, C002), each with a rated brake horsepower of 3,400, and a 4-stroke, lean-burn, Compressor Engine No. 3 (C003), with a rated brake horsepower of 4,730. Both Compressor Engines No. 1 and No. 2 are "existing" as defined in §63.6590(a)(1)(ii) because construction commenced on each engine before the trigger date of December 19, 2002. Hence, these engines are not subject to the requirements of 40 CFR 63, Subpart ZZZZ via §63.6590(b)(3)(i) for existing 2SLB RICE with greater than 500 brake HP located at major sources of HAPs.

Compressor Engine No. 3 is considered a new engine because construction commenced after December 19, 2002. Because this engine started up before August 16, 2004, it was required to be in compliance with 40 CFR 63, Subpart ZZZZ by August 16, 2004. Emergency Generator G002 is considered a new affected source as defined in 40 CFR 63.6590(a). Per 40 CFR 63.6590(c)(6) it is deemed to meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirement of 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. However, according to 40 CFR 60.4230, Emergency Generator G002 does not meet the definition of an affected source. Therefore, it is not subject to 40 CFR 60, Subpart JJJJ.

Emission and Operating Caps:

Compressor Engines No. 1 and No. 2 were manufactured and installed in the late '60's. Both units burn natural gas as the fuel and have a heat input capacity below 100 million Btu/hr. These emission units are subject to Georgia Rules 391-3-1-.02(2)(b) and 391-3-1-.02(2)(g). Georgia Rule (b) limits visible emissions from Source Codes C001 and C002 to 40 percent opacity. Georgia Rule (g) limits the sulfur content of the fuel to 2.5 percent sulfur by weight in any fuel burning source below 100 million Btu/hr.

Compressor Engine No. 3 (C003) is a stationary, 4-stroke, lean-burn, natural gas-fired reciprocating internal combustion engine providing mechanical horsepower to drive a natural gas compressor. The engine is a Caterpillar G3616 model with a maximum heat input capacity of 35.633 million British thermal units per hour (MMBtu/hr), a design power output of 4,730 horsepower (hp), and a brake-specific fuel consumption of 7,533 British thermal units per horsepower hour (Btu/hp-hr).

Compressor Engine No. 3 is subject to 40 CFR 63, Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" because it is located at a major source for Hazardous Air Pollutants (HAPs). This engine was required to be in compliance with the applicable emission limitations and operating limitations of 40 CFR 63, Subpart ZZZZ by August 16, 2004. Specifically, it is required to reduce CO emissions using an oxidation catalyst by at least 93 percent. The Permittee is required to maintain a catalyst inlet temperature greater than or equal to 450°F and less than or equal to 1350 °F. In addition, the Permittee is required to maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load, plus or minus 10 percent, from the pressure drop across the catalyst that was measured during the initial performance test.

C. Permit Conditions

Permit Condition 3.2.1 requires the Permittee to reduce the CO emissions from Compressor Engine No. 3 by at least 93 percent, pursuant to §63.6600(b).

Permit Condition 3.2.2 limits the nitrogen oxides emission rate from Compressor Engine No. 3 to 7.82 lb/hr.

Permit Condition 3.2.3 limits the volatile organic compounds emission rate from Compressor Engine No. 3 to 8.86 lb/hr.

Permit Condition 3.2.4 requires the Permittee to maintain the oxidation catalyst on Compressor Engine No. 3 so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load, ±10%, from the pressure drop that was measured during the initial performance test.

Permit Condition 3.2.5 requires the Permittee to maintain the temperature of Compressor Engine No. 3 exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.

Permit Condition 3.3.1 requires the Permittee to comply with all applicable standards of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE).

Permit Condition 3.3.2 requires the Permittee to operate and maintain Compressor Engine No. 3 and Emergency Generator G002, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Permit Conditions 3.3.3 through 3.3.6 require the facility to keep and maintain records of the maintenance conducted on Emergency Generator G002 and the hours of operation for each period of

operation. The conditions also specify the format of the record and how long the facility must keep their records.

Permit Condition 3.4.1 limits the opacity from each compressor engine to less than 40 percent as specified by Rule (b).

Permit Condition 3.4.2 limits the fuel sulfur content to 2.5 percent as specified by Rule (g).

IV. Testing Requirements (with Associated Record Keeping and Reporting)

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days (or sixty (60) days for tests required by 40 CFR Part 63) prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

B. Specific Testing Requirements

Permit Condition 4.2.1 requires the Permittee to conduct semiannual performance tests on Compressor Engine No. 3 and the methodology for conducting the tests.

Permit Condition 4.2.2 requires the Permittee to reestablish operating values during testing.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

Permit Condition 5.2.1 requires the Permittee to install, calibrate, maintain, and operate a system to monitor the inlet temperature and the pressure drop across the oxidation catalyst for Compressor Engine No. 3.

Permit Condition 5.2.2 is an existing condition that requires the Permittee to calibrate, maintain, and operate portable analyzers for the measurement of oxygen and nitrogen oxides concentration.

Permit Condition 5.2.3 is an existing condition that requires the Permittee to install an alarm on the temperature-monitoring device of the oxidation catalyst.

Permit Condition 5.2.4 is an existing condition that indicates the requirements to be met with regards to the temperature and pressure monitoring devices required by Condition 5.2.1.

Permit Condition 5.2.5 is an existing condition that requires the Permittee to minimize the time spent at idle during start up not to exceed 30 minutes for Compressor Engine No. 3.

Permit Condition 5.2.6 requires an hour meter on the Emergency Generator G002.

C. Compliance Assurance Monitoring (CAM)

Not Applicable

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a semiannual basis.

B. Specific Record Keeping and Reporting Requirements

Permit Condition 6.1.7c.i defines an excursion as any four-hour period during which the average inlet temperature to the oxidation catalyst, on Compressor Engine No. 3, is less than 450 °F or greater than 1350 °F.

Permit Condition 6.1.7c.ii defines as an excursion any one month period during which the pressure drop across Oxidation Catalyst C003C changes by more than two inches of water at 100 percent load, ±10%, from the pressure drop across the catalyst that was measured during the initial performance test.

Permit Condition 6.1.7c.iii defines as an excursion any NOx emission rate from Compressor Engine No. 3 that is greater than 7.82 pounds per hour.

Permit Condition 6.1.7c.iv requires reporting of any time the work practice standards for the operation of the Emergency Generator G002 are not met.

Permit Condition 6.1.7d.i requires the reporting of any instances of an alarm on the oxidation catalyst monitoring system on Compressor Engine No. 3.

Permit Condition 6.1.7d.ii requires reporting of any instance in which the requirement of Table 8 of 40 CFR 63, Subpart ZZZZ is not complied with for Compressor Engine No. 3.

Permit Condition 6.2.1 is an existing condition that requires the Permittee to submit a compliance report semiannually containing the information specified by Subpart ZZZZ.

Permit Condition 6.2.2 requires the Permittee to submit a report semiannually for each deviation from an operating limitation. The report is to include the information required in Condition 6.2.1, Paragraphs a through d, in addition to the other information specified in the condition.

Permit Condition 6.2.3 requires the Permittee to keep the indicated records outlined in 40 CFR 63.6655(a).

Permit Condition 6.2.4 requires the indicated records to be kept for each Continuous Emission Monitoring System (CEMS) or Continuous Parameter Monitoring System (CPMS).

Permit Condition 6.2.5 requires records required in Table 6 of 40 CFR 63; Subpart ZZZZ be kept showing continuous compliance.

Permit Condition 6.2.6 requires that routine maintenance be performed on all air pollution control equipment and that maintenance records be kept for five years following the date of maintenance.

Permit Condition 6.2.7 requires that records of the maintenance of Emergency Generator G002 be kept.

Permit Conditions 6.2.8 and 6.2.9 require records to be kept and reports submitted for the hours of operation of Emergency Generator G002, using the non-resettable hour meter required in Condition 5.2.4 and records of the parameters required by Permit Conditions 5.2.1 through 5.2.5.

VII. Specific Requirements

A. Operational Flexibility

None Applicable.

B. Alternative Requirements

None Applicable.

C. Insignificant Activities

See Permit Application on GEOS website.
See Attachment B of the permit

D. Temporary Sources

None Applicable

E. Short-Term Activities

None Applicable

F. Compliance Schedule/Progress Reports

No compliance scheduling was reported by the Permittee.

G. Emissions Trading

None Applicable

H. Acid Rain Requirements

None Applicable

I. Stratospheric Ozone Protection Requirements

Note: Be sure to discuss any new stratospheric ozone protection requirements (see subsection J.) that may apply to the source. State if the facility has indicated that they are subject to Title VI

J. Pollution Prevention

None Applicable

K. Specific Conditions

None Applicable

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

Template Condition 8.14.1 was updated in September 2011 to change the default submittal deadline for Annual Compliance Certifications to February 28.

Template Condition Section 8.27 was updated in August 2014 to include more detailed, clear requirements for emergency generator engines currently exempt from SIP permitting and considered insignificant sources in the Title V permit.

Template Condition Section 8.28 was updated in August 2014 to more clearly define the applicability of the Boiler MACT or GACT for major or minor sources of HAP.

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.

//If comments were received, state the commenter, the date the comments were received in the above paragraph. All explanations of any changes should be addressed below.//