Facility Name: **Southern Natural Gas Company, L.L.C. – Ellerslie Compressor Station**
City: Ellerslie
County: Harris
AIRS #: 04-13145-0002

Application #: TV-659670
Date Application Received: May 25, 2022
Permit No: 4922-145-0002-V-05-0

Program	Review Engineers	Review Managers
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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. – Ellerslie Compressor Station

2. Parent/Holding Company Name

   Kinder Morgan Inc.

3. Previous and/or Other Name(s)

   The facility was previously known as Southern Natural Gas Company – Ellerslie Compressor Station. With the 4922-145-0002-V-03-1 amendment, the facility's name was changed to Southern Natural Gas Company, L.L.C. – Ellerslie Compressor Station.

4. Facility Location

   11480 Warm Springs Road
   Ellerslie, Georgia 31807

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

   There facility is located just north of Columbus, Georgia (approximately 10 miles in Harris County and is in an attainment area for all criteria 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
4922-145-0002-V-04-0	November 29, 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)

Compressed natural gas.

3. Overall Facility Process Description

Southern Natural Gas Company, L.L.C. – Ellerslie Compressor Station 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. Natural gas compression at the Ellerslie Compressor Station is achieved by six (6) reciprocating compressor engines, all of which fire only pipeline quality natural gas. In order to supply electricity in the case of a power failure, one (1) emergency generator rated at 306 hp is operated at the Ellerslie Compressor Station.

Emission Unit C006, a 2,900 hp Clark HLA-10T compressor engine, is currently permitted but was abandoned in place in 2020. The Permittee has requested removal of this unit in this permitting action.

4. Overall Process Flow Diagram

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

E. Regulatory Status

1. PSD/NSR

The facility 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) of nitrogen oxides (NO_X) and carbon monoxide (CO) are greater than the PSD major source threshold of 250 tons per year (ton/yr). The facility was major upon start of

operations before 1978 and hence was not subject to the NSR PSD permitting rules when the regulations became effective in 1977/1978. Compressor Engine C007 went through a PSD review for NO_X emission in 1981. Note: the compression of natural gas is not one of the 28 named industrial categories whose major source threshold is 100 ton/yr.

The facility has accepted the following BACT limits to ensure compliance with the PSD Permit issued on September 30, 1981:

Compressor Engine C007 limited to below 37.5 lb/hr of NO_X.

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	✓			✓
PM_{10}	✓			✓
$PM_{2.5}$	✓			✓
SO_2	✓			✓
VOC	✓			✓
NO_x	✓	✓		
CO	✓	✓		
TRS	✓			✓
H_2S	✓			✓
Individual HAP	✓	✓		
Total HAPs	✓	✓		

3. MACT Standards

The facility is a major source of hazardous air pollutants (HAP) with a combined PTE of about 40 tons per year (updated from 52 tons after removal of Unit C006), which is greater than the 25-tons-per-year major source threshold, and an individual HAP PTE greater than the 10-tons-per-year major source threshold for formaldehyde.

The facility will therefore be subject to any applicable 40 CFR 63 NESHAP and is specifically subject to 40 CFR 63 Subpart ZZZZ – Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

Compressor Engines C001 through C005, each with a rated brake horsepower (bhp) of 1,440, and Compressor Engine C007 with a rated bhp of 2,000 are stationary 2-stroke, lean-burn (2SLB) Reciprocating Internal Combustion Engines (RICE). According to 40 CFR 63.6592(a)(1)(i), the

compressor engines meet the definition of *existing* stationary RICE. They are located at a major source of HAP emission, have greater than 500 bhp, and were constructed before December 19, 2002. According to 40 CFR 63.6590(b)(3), these *existing* 2SLB RICE are subject to only limited requirements; they do not have to meet the requirements of this subpart and of Subpart A of Part 63. No initial notification is necessary. However, according to 63.10(b)(3), the Permittee must keep a record of this applicability determination on site for a period of 5 years after the determination, or until the source changes its operations to become an affected source.

Emergency Generator G001, rated at 306 bhp, is a 4-stroke, rich-burn (4SRB) RICE. According to 40 CFR 63.6590(a)(1)(ii), this engine meets the definition of an *existing* stationary RICE. It is located at a major source of HAP emission, has less than 500 bhp, and was constructed before June 12, 2006.

The boiler (Source Code: B001) is subject to 40 CFR 63 Subpart DDDDD - "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" because it was constructed before June 4, 2010 and is considered existing. It has a heat input capacity of less than 5 MMBtu/hr and fires natural gas, making it a unit designed to burn gas 1 fuels. Per 40 CFR 63.7500(e), a tune-up must be completed on the boiler every 5 years as specified in 40 CFR 63.7540, and the boiler is subject to the work practice standards from Subpart DDDDD.

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	Y
Program Code 8 – Part 61 NESHAP	N
Program Code 9 - NSPS	N
Program Code M – Part 63 NESHAP	Y
Program Code V – Title V	Y

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

None applicable.

B. Applicable Rules and Regulations

None applicable.

C. Compliance Status

There was no non-compliance indicated in application #659670.

D. Permit Conditions

None 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 C001 Type: 2-stroke lean-burn Rating: 1,440 bHP Installed: 1953	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ	NA	NA
C002	Compressor Engine C002 Type: 2-stroke lean-burn Rating: 1,440 bHP Installed: 1953	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ	NA	NA
C003	Compressor Engine C003 Type: 2-stroke lean-burn Rating: 1,440 bHP Installed: 1953	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ	NA	NA
C004	Compressor Engine C004 Type: 2-stroke lean-burn Rating: 1,440 bHP Installed: 1953	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ	NA	NA
C005	Compressor Engine C005 Type: 2-stroke lean-burn Rating: 1,440 bHP Installed: 1953	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ	NA	NA
C007	Compressor Engine C007 Type: 2-stroke lean-burn Rating: 2,000 bHP Installed: 1982	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 40 CFR Part 52.21 (PSD)	NA	NA
G001	Emergency Generator Type: 4-stroke, rich-burn Rating: 306 bHP	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 63 Subpart A, 40 CFR 63 Subpart ZZZZ	NA	NA

B. Equipment & Rule Applicability

Compressor Engines C001 through C005 were manufactured in 1953. Compressor Engine C007 was manufactured in 1982. All engines burn natural gas as the fuel and have a heat input capacity in between 10 MMBtu/hr and 100 MMBtu/hr. Additionally, the facility has a 306 hp emergency generator (Source Code: G001), a boiler (Source Code: B001), and three water heaters (Source Code: WH01 through WH03). These units each have a heat input capacity less than 10 MMBtu/hr.

Prevention of Significant Deterioration (PSD)

Applicable.

PSD requires that Best Available Control Technology (BACT) be used to control emissions that exceed the PSD significance level. In 1981, this facility went through a PSD Permit review for the installation and operation of Compressor Engine C007. The BACT emission limit established for

Compressor Engine C007 is 37.5 lb/hr NO_X. The Permittee must demonstrate compliance quarterly with a portable analyzer, measuring NO_X emission in accordance with Condition 5.2.2. The NO_X BACT limit is carried forward in Condition 3.2.1.

40 CFR 60 Subpart Dc – "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units Source"

Not applicable.

This standard applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 MW (100 MMBtu/hr) or less but greater than or equal to 2.9 (10 MMBtu/hr).

The boiler (Source Code: B001) and the water heaters (Source Code: WH01 through WH02) have a design heat input capacity less than 10 MMBtu/hr and thus are not subject to this subpart.

40 CFR 60 Subpart JJJJ – "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines"

Not applicable.

This standard applies to stationary spark ignition (SI) internal combustion engines that commence construction, modified, or reconstructed after June 12, 2006.

The compressor engines (Source Code: C001 through C005 and C007) and the emergency generator (Source Code: G001) were manufactured prior to June 12, 2006 and hence are not subject to this subpart.

40 CFR 63 Subpart ZZZZ – "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines"

Applicable.

This standard applies to stationary RICE at a major or area source of HAP emissions.

The compressor engines (Source Code: C001 through C005 and C007) were constructed or reconstructed before December 19, 2002 and have a site rating of more than 500 bhp at a major source of HAP emissions and thus are considered *existing* with respect to this subpart. Per 40 CFR 63.6590(b)(3)(i), *existing* SI 2SLB stationary RICE with a site rating of more than 500 bhp located at a major source of HAP emissions do not have to meet the requirements of this subpart. The compressor engines are subject to this subpart but have no applicable requirements.

The emergency generator (Source Code: G001) was constructed or reconstructed before June 12, 2006 and has a site rating of less than or equal to 500 bhp located at a major source of HAP emission and thus is considered *existing* with respect to this subpart. Per 40 CFR 63.6602, the requirements of Line 6 of Table 2c are applicable to the emergency generator. Per 40 CFR 63.6605, the unit must be in compliance at all times and operated in a manner consistent with safety and good air pollution control

practices for minimizing emissions. Per 63.6640, G001 must be operated as described in that section to be considered an emergency stationary RICE.

40 CFR 63 Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"

Applicable.

This standard applies to boilers or process heaters located at a major source of HAP emissions.

The boiler (Source Code: B001) was constructed before June 4, 2010 and is considered *existing* with respect to this subpart. It has a heat input capacity of less than 5 MMBtu/hr and fires natural gas, making it a *unit designed to burn gas 1 fuels.* Per 40 CFR 63.7500(e), a tune-up must be completed on the boiler every 5 years as specified in 40 CFR 63.7540, and the boiler is not subject to emission limits or operating limits in this subpart.

The water heaters (Source Code: WH01 through WH03) have a heat input capacity less than 1.6 MMBtu/hr and meet the definition of *hot water heater*. Per 63.7491(d), *hot water heaters* are not subject to the subpart, and hence the water heaters are not subject to this subpart.

Georgia Rule 391-3-1-.02(2)(b) – "Visible Emissions"

Applicable.

Rule (b) limits the opacity of visible emissions from any air contaminant source that is subject to some other emission limitation under 391-3-1-.02(2) unless the source is subject to another opacity standard in 391-3-1-.02(2). Under Rule (b), the opacity of visible emission from regulated sources may not exceed 40 percent under this general visible emission standard. The compressor engines (Source Code: C001 through C005 and C007) and emergency generator (Source Code: G001) are subject to Rule (b).

Georgia Rule 391-3-1-.02(2)(g) – "Sulfur Dioxide"

Applicable.

Rule (g) applies to sulfur dioxide emissions from fuel-burning sources.

The compressor engines (Source Code: C001 through C005 and C007) and emergency generator (Source Code: G001) have a heat input capacity less than 100 MMBtu and thus may not burn fuel containing more than 2.5 percent sulfur by weight.

Georgia Rule 391-3-1-.02(2)(yy) – "Emissions of Nitrogen Oxides from Major Sources"
Georgia Rule 391-3-1-.02(2)(mmm) – "NO_X Emissions from Stationary Gas Turbines and Stationary Engines Used to Generate Electricity"

Not applicable.

Rule (yy) and Rule (mmm) apply to sources and units located in counties listed in paragraph 2 of (yy), and paragraph 6 of (mmm) respectively. The facility is not located in one of the listed counties and thus is not subject to these Georgia Rules.

C. Permit Conditions

Condition 3.2.1 establishes the NO_X emissions limit for Compressor Engine No. 7 (Source Code: C007) as determined by the PSD BACT.

Condition 3.3.1 establishes the applicability of 40 CFR 63 Subpart A and Subpart ZZZZ to the compressor engines (Source Code: C001 through C005 and C007). Although subjected to the subpart, the compressor engines have no applicable requirements.

Condition 3.3.2 establishes the applicability of 40 CFR 63 Subpart A and Subpart ZZZZ to the emergency generator (Source Code: G001).

Condition 3.3.3 requires the facility to operate the emergency generator (Source Code: G001) in a manner consistent with safety and good air pollution control practices.

Condition 3.3.4 establishes the frequency of maintenance for the emergency generator (Source Code: G001).

Condition 3.3.5 requires the facility to install a non-resettable hour meter on the emergency generator (Source Code: G001).

Condition 3.3.6 requires the facility to minimize idle and startup time for the emergency generator (Source Code: G001).

Condition 3.3.7 allows the facility to implement an oil analysis program to extend the requirements stated in Condition 3.3.4 if they meet the requirements found in 40 CFR 63.6625(f).

Condition 3.3.8 limits the hours of operation of the emergency generator (Source Code: G001) for emergency and non-emergency use, in order to be considered an emergency engine with respect to 40 CFR 63 Subpart ZZZZ and the Georgia Rules.

Condition 3.4.1 limits visible emission to 40 percent from the compressor engines and emergency generator, per Georgia Rule (b).

Condition 3.4.2 limits the facility from burning fuel with more than 2.5 percent sulfur, by weight, per Georgia 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

None applicable.

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

Condition 5.2.1 requires the Permittee to install, calibrate, maintain, and operate a system to continuously monitor the fuel feed rate to Compressor Engine No. 7 (Source Code: C007) to assure compliance with Condition 3.2.1

Condition 5.2.2 describes the monitoring plan to determine the NO_X emissions from Compressor Engine No. 7 (Source Code: C007) to assure compliance with Condition 3.2.1. This includes monitoring NO_X and oxygen (O_2) concentrations, fuel flow rate measurements, fuel heat content determination, hourly heat input rate determination, emission rate of NO_X determination, measurement frequency,

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

Condition 6.2.1 details the recordkeeping required in the monitoring and sampling for the determination of the NO_X emissions.

Condition 6.2.2 requires recordkeeping of the maintenance on the emergency generator (Source Code: G001).

Condition 6.2.3 requires the recordkeeping of the hours of operation of the emergency generator (Source Code: G001).

VII. Specific Requirements

A. Operational Flexibility

- The applicant did not include alternate operating scenarios in the Title V application.

B. Alternative Requirements

- There are no alternative requirements that need to be incorporated into the Title V Permit.

C. Insignificant Activities

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

D. Temporary Sources

- The applicant did not include any temporary sources in their Title V Application.

E. Short-Term Activities

- The applicant did not include short-term activities in their Title V Application.

F. Compliance Schedule/Progress Reports

- This facility is in compliance with all Air Quality Regulations. Therefore, no compliance schedule or progress reports are necessary.

G. Emissions Trading

- This facility is not involved in any emission trading.

H. Acid Rain Requirements

- This facility is not subject to any requirements in the Title IV of the Clean Air Act.

I. Stratospheric Ozone Protection Requirements

The facility has indicated that they are subject to the Title IV because there are cooling systems that utilize ozone-depleting coolant.

J. Pollution Prevention

- There are no pollution prevention provisions incorporated into this Title V permit.

K. Specific Conditions

- None.

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.//