

**STATEMENT OF BASIS  
 TENNESSEE GAS PIPELINE COMPANY, LLC - STATION 550  
 MARION COUNTY  
 FACILITY/PERMIT NO. 710-0019**

The proposed renewal of the Title V Major Source Operating Permit (MSOP) has been developed in accordance with 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.

Tennessee Gas Pipeline Company, LLC's (Tennessee Gas) Station 550 was originally constructed/began operations in 1961. This is the fifth renewal of the MSOP. The current MSOP was issued on November 25, 2019, and is set to expire on November 29, 2024. Per ADEM Admin Code r. 335-3-16-.12(2), an application for permit renewal must be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than May 29, 2024, but no earlier than May 29, 2023. The initial application for this permit renewal was initially received by the Department on May 28, 2024, an addendum with the necessary revisions was received on August 2, 2024, and the application was deemed complete on August 2, 2024.

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

On June 5, 2024, the Department issued a Consent Order to Tennessee Gas based on the results of a stack test performed in accordance with ADEM Admin. Code r. 335-3-8-3.04 on August 22, 2023. The civil payment penalty of \$25,000 was paid on July 3, 2024, by Tennessee Gas. Tennessee Gas agreed to implement a Maintenance Verification Program that includes periodic emissions checks on the engine. Quarterly emissions checks will be conducted until four consecutive quarterly emissions checks demonstrate compliance with the NO<sub>x</sub> permit limitation. The enforcement and compliance history for the facility can be found at <https://echo.epa.gov/> (Search using Facility ID AL0000000109300019).

**Permit History**

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

<b>Issuance No./Permit No.</b>	<b>Issuance Date</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Amendments/ Modifications (Where Applicable)</b>	<b>PSD Significant Emission Rates Exceeded (Y/N)</b>
Initial	November 30, 1999	November 30, 1999	November 29, 2004	--	N
Air Permit Nos. X001-X004 (NO <sub>x</sub> SIP call)	June 25, 2003	--	--	--	N

1 <sup>st</sup> Renewal	November 1, 2004	November 30, 2004	November 29, 2009	October 11, 2006 (Incorporate X001-X004)	N
2 <sup>nd</sup> Renewal	November 4, 2009	November 30, 2009	November 29, 2014	February 5, 2013 (Name Change)	N
3 <sup>rd</sup> Renewal	June 23, 2015	June 23, 2015	November 29, 2019	--	N
4 <sup>th</sup> Renewal	November 29, 2019	November 30, 2019	November 29, 2024	--	N
Air Permit No. X005 (Fuel heater replacement)	March 27, 2024	--	--	--	N

### **Facility Operations**

Tennessee Gas operates an existing natural gas transmission operation (SIC 4922) located in Hamilton, Marion County. Tennessee Gas's Station 550 transports 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. Significant sources of air pollutants at this facility include:

**Emission Unit No. 001 (ENG1A):** 5,500 hp Clark, 2-stroke, Lean Burn (2SLB) Natural Gas-fired Reciprocating Engine

**Emission Unit No. 002 (ENG2A):** 5,500 hp Clark, 2-stroke, Lean Burn (2SLB) Natural Gas-fired Reciprocating Engine

**Emission Unit No. 003 (ENG3A):** 5,500 hp Clark, 2-stroke, Lean Burn (2SLB) Natural Gas-fired Reciprocating Engine

**Emission Unit No. 004 (ENG4A):** 5,500 hp Clark, 2-stroke, Lean Burn (2SLB) Natural Gas-fired Reciprocating Engine

**Emission Unit No. 005 (ENG1B):** 7,500 hp GE Natural Gas-fired Turbine

**Emission Unit No. 007 (AUX1A):** 637 hp Caterpillar 4-stroke, lean-burn (4SLB) Natural Gas-fired Emergency Generator

**Emission Unit No. 008 (EU008):** 0.42 MMBtu/hr Peerless Natural Gas-fired Fuel Heater

Insignificant emission sources at this station include pipeline components (valves, flanges, etc.), condensate and oil storage tanks, natural gas-fired heaters, and truck loading/unloading activities (new/used oil, pipeline condensate).

### **Proposed Modifications**

The draft MSOP includes the following modifications to the current permit:

- The removal of EU008 - 0.42 MMBtu/hr Peerless natural gas-fired fuel heater
- The addition of Emission Unit No. 009 (EU009) - 0.50 MMBtu/hr Dynaflame natural gas-

fired fuel heater

Tennessee Gas was issued Air Permit No. X005 on January 24, 2024, for the installation of a 0.50 MMBtu/hr Dynaflame natural gas-fired fuel gas heater (EU009) to replace the existing 0.42 Peerless natural gas-fired water heater (EU008). Authorization to Operate Emission Unit No. 009 was granted to Tennessee Gas on November 20, 2024. In this action, the Department is proposing to incorporate the requirements of Air Permit No. X005 for the 0.50 MMBtu/hr Dynaflame fuel gas heater (40 CFR Part 63, Subpart DDDDD) as Emission Unit No. 009.

**Plant-Wide Potential to Emit (PTE)**

<b>Pollutant</b>	<b>PTE (TPY)</b>
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	48.31
NO <sub>x</sub>	1401.94
CO	574.31
SO <sub>2</sub>	6.68
Formaldehyde	52.49
VOC	124.72
Total HAP	78.15
CO <sub>2e</sub>	113,510.94

**Applicability: Federal Regulations**

**Title V**

This facility is a major source under Title V regulations because the potential emissions for nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC) each exceed the 100 TPY major source threshold. It is also a major source of Hazardous Air Pollutants (HAP) because individual HAP (Formaldehyde) potential emissions are greater than 10 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. The facility is a major source for PSD because the facility-wide potential emissions of NO<sub>x</sub> and CO each exceed 250 TPY. No modifications that would require PSD review have occurred at this facility. However, each of the four reciprocating engines is subject to a synthetic minor emissions limit of 30.80 lb/hr for CO. These limits were established to ensure the net emissions increase in CO emissions resulting from the combustion modifications made to reduce NO<sub>x</sub> emissions, in order to comply with Phase II of the NO<sub>x</sub> SIP Call, would not exceed PSD significance levels and therefore trigger PSD review. Air Permit Nos. X001-X004 were issued to Tennessee Gas on June 25, 2003, to initially establish these emission limits.

**New Source Performance Standards (NSPS)**

**40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines (Subpart GG)**

The 7,500 hp GE turbine is not 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)], because it was constructed prior to the October 3, 1977, applicability date and has not been reconstructed or modified.

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE) (Subpart JJJJ)

On January 18, 2008, EPA promulgated 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)]. In accordance with 40 CFR §60.4230(a)(4), the engines at this facility are not subject to this Subpart since each engine was not constructed or modified after the June 12, 2006, applicability date.

40 CFR 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines (Subpart KKKK)

The 7,500 hp GE turbine is not subject to 40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(89)] because it was constructed prior to the February 18, 2005, applicability date and has not been reconstructed or modified.

40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015 (Subpart OOOO)

The compressors and storage vessels at the facility were each installed prior to the August 23, 2011, applicability date of this regulation and have not been modified or reconstructed since installation; 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 2, 2022 (Subpart OOOOa)

All equipment and processes potentially subject to this regulation were installed prior to the September 18, 2015, applicability date and have not been modified or reconstructed since installation; 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 potentially subject to this regulation were installed prior to the December 6, 2022, applicability date and have not been modified or reconstructed since installation; therefore, this facility is not subject to this Subpart. The 0.50 MMBtu/hr Dynaflame natural gas-fired fuel heater was installed after December 6, 2022, however, the installation of this unit does not meet the applicable criteria listed in 40 CFR §60.5365b and is not subject to this Subpart.

**NESHAP/MACT**

Per 40 CFR §63.2 the facility is considered a major source for hazardous air pollutants (HAP) because potential emissions exceed 10 tons per year or more of any HAP (Formaldehyde) or 25 tons per year or more of any combination of HAP.

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)]

All of the stationary reciprocating internal combustion engines (RICE) are affected sources under 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ). Under this Subpart, Engines 1A-4A (ENG1A-ENG4A) are each classified as existing 2-stroke, lean-burn (2SLB), non-emergency RICE greater than 500 hp located at a major source of HAP emissions. Auxiliary Unit 1A (AUX1A) is classified as an existing 4-stroke, lean-burn (4SLB), emergency RICE greater than 500 hp located at a major source of HAP emissions. In accordance with 40 CFR §63.6590(b)(3), these RICE do not have to meet the requirements of Subpart ZZZZ, including initial notification requirements.

To ensure Auxiliary Unit 1A (AUX1A) continues to meet the emergency classification under 40 CFR §63.6640(f), the 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.)

Tennessee Gas is required to keep records of the engine's hours of operation that are recorded through a non-resettable hour meter. Tennessee Gas must document how many hours are spent for emergency operation; including what classified the operation as an emergency and how many hours are spent for non-emergency operation.

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 7,500 hp GE turbine (ENG1B) is an affected source under 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)]. Under this Subpart, Turbine 1B (ENG1B) is classified as an existing stationary combustion turbine since construction of the stationary combustion turbine occurred on or before January 14, 2003. In accordance with 40 CFR §63.6090(b)(4), this turbine does not have to meet the requirements of Subpart YYYY and Subpart A, including the initial notification requirements.

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 fuel gas heater (EU009) is considered an affected source under this subpart. This unit is considered a new affected industrial source as defined by 40 CFR §63.7490 because it was manufactured after June 4, 2010. In accordance with 40 CFR §63.7495(a), Tennessee Gas must comply with this Subpart upon start up. This fuel gas heater is less than 5 MMBtu/hr and exclusively utilizes natural gas (Gas 1) fuel; therefore, in accordance with 40 CFR §63.7500(e) and Table 3 to Subpart DDDDD, Tennessee Gas is required to complete a tune-up every 5 years as specified in 40 CFR §63.7540. This unit is not subject to the emission limits in Tables 1 or 14, or the operating limits in Table 4 of this Subpart. In accordance with 40 CFR §63.7515(d), the first 5-year tune-up must be conducted no later than 61 months after the initial startup of the unit. Each subsequent 5-year tune-up must be conducted no more than 61 months after the previous tune-up.

**Mandatory Greenhouse Gas Reporting**

40 CFR Part 98, Subpart A General Provision

Although this facility is not subject to 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 (113,511 TPY) of CO<sub>2</sub>e or more per year from all stationary fuel combustion sources combined. Tennessee Gas must calculate greenhouse gas quantities annually according to the methodologies described in 40 CFR §98.2(c). In accordance with 40 CFR §98.3(g), Tennessee Gas would be required to maintain records of actual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions to determine the actual CO<sub>2</sub>e 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(b). In accordance with 40 CFR §98.5, the annual report must be submitted electronically via EPA's Central Data Exchange in accordance with the requirements of 40 CFR §98.4. 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 turbine (ENG1B), engines (ENG1A-ENG4A & AUX1A) , and fuel heater (EU009) 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, "Control of Particulate Emissions: 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 turbine (ENG1B), engines (ENG1A-ENG4A & AUX1A), and fuel heater (EU009) are each 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 nor is the facility considered one of the process industries, general or specific.

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

Although the turbine (ENG1B), engines (ENG1A-ENG4A & AUX1A), and fuel heater (EU009) are each fuel combustion sources, they are not subject to any sulfur dioxide (SO<sub>2</sub>) 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.

ADEM Admin Code r. 335-3-8-.04-NO<sub>x</sub> SIP Call Phase II Rule

This facility operates internal combustion engines and is located in Marion County which is one of the counties affected by the NO<sub>x</sub> SIP Call Phase II Rule. Engines 2A and 3A were each identified as "large" internal combustion engines in the inventory. Accordingly, Tennessee Gas performed combustion modifications on these two units as well as the "small" internal combustion engines (Engines 1A and 4A), in order to reduce NO<sub>x</sub> emissions and achieve "early" compliance with the Phase II Rule in Alabama. A NO<sub>x</sub> emission rate of 66.69 lb/hr has been applied to each engine (Engines 1A-4A) to achieve the required reductions under the NO<sub>x</sub> SIP Call Phase II Rule.

**Emission Testing and Monitoring**

Tennessee Gas is required to certify on a semiannual basis that only natural gas was burned in all units as a method for monitoring compliance with the visible emission requirements of ADEM Admin. Code r. 335-3-4-.01(1) because opacity would be negligible while combusting natural gas.

To monitor compliance with the applicable ozone season NO<sub>x</sub> emissions limits for ENG1A-ENG4A, should an engine operate 250 hours or more for production during an ozone season, emissions testing is required to be conducted for NO<sub>x</sub> during the ozone season or within the six-month period preceding the first day of the start of ozone season as allowed by ADEM Admin. Code r. 335-3-8-.04(6)(a). Ozone season emissions testing must be conducted in accordance with EPA Reference Method 7E or 20, as appropriate, found in Appendix A of 40 CFR Part 60. Conditional Test Method (CTM) 034 (portable analyzer) may be utilized in accordance with a protocol/method approved in advance by the Air Division.

To monitor compliance with the applicable PSD synthetic minor source CO limits for each of the four (4) 5,500 hp reciprocating engines (ENG1A-ENG4A) emissions testing is required once per calendar year during which the engine is operated 250 hours or more for the purpose of production

(ie. the compression/transmission of natural gas). The NO<sub>x</sub> and CO testing year will be defined as October 1 through September 30 which results in the end date of the annual year coinciding with the end of ozone season and will aid in determining if testing will be required. Emissions testing must be conducted in accordance with EPA Reference Method 7E or 20, as appropriate, found in Appendix A of 40 CFR Part 60. Conditional Test Method (CTM) 034 (portable analyzer) may be utilized in accordance with a protocol/method approved in advance by the Air Division.

### **Recordkeeping and Reporting Requirements**

As part of the Semiannual Monitoring Report, Tennessee Gas would continue to be required to include a statement addressing whether only natural gas was fired in all units during the respective reporting period. Tennessee Gas would continue to be required to submit the results of all emission tests conducted to the Air Division within 30 days of the actual completion of the test.

ADEM Admin. Code r. 335-3-8-.04 specifies several recordkeeping and reporting requirements for sources subject to Phase II of the NO<sub>x</sub> SIP Call. Tennessee Gas is required to maintain the following records for these units for each ozone season. The records should include the identification and location of the unit, calendar date of the record, number of hours operated during ozone season, type and quantity of fuel used during ozone season, date and results of each emission-related inspection, and a summary of any emissions-related maintenance, results of all emission tests, and any additional information included in the facility's Phase II NO<sub>x</sub> SIP Call Compliance Plan. The records should be available for inspection within 30 days of the end of each ozone season and be maintained at the facility for a period of 5 years from the date of generation of each record.

In accordance with 40 CFR §63.7550(b), Tennessee Gas is required to submit a 5-year compliance report for the fuel gas heater containing the applicable information specified in 40 CFR §63.7550(c)(1). The reports must be submitted according to 40 CFR §63.7550(h)(3). In accordance with 40 CFR §63.7550(b)(1), the first 5-year compliance report must cover the period beginning on the compliance date specified in 40 CFR §63.7495(a) and ending on December 31 within the 5-year period as applicable for this fuel heater. The first 5-year compliance report must be postmarked or submitted no later than January 31 according to 40 CFR §63.7550(b)(2) following the end of the five-year period. In addition, Tennessee Gas is required to keep copies of all documentation supporting any Initial Notification, Notification of Compliance or compliance report submitted for the fuel gas heater.

### **Compliance Assurance Monitoring**

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.

According to the application, Engines 1A-4A (ENG1A-ENG4A) and Turbine 1B (ENG1B) are the only emission units at the facility that emit greater than 100 TPY of any criteria pollutant; however, none of these units employ active control devices as defined in the CAM regulations. As such, the facility is not subject to CAM requirements.

### **Environmental Justice Screen**

ADEM utilized the EJSCREEN screening tool to perform an analysis of the area. The Draft Permit contains emission limits based on state and federal regulations that are protective of human health and the environment. In addition, the Department has robust public engagement that utilizes a number of tools, such as EPA's EJ Screen: Environmental Justice Screening and Mapping Tool, to ensure that local residents and stakeholders are provided a meaningful opportunity to participate in the permitting process.

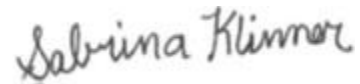
(<http://www.adem.alabama.gov/Moreinfo/pubs/ADEMCommunityEngagement.pdf>).

### **Public Notice**

The renewal of this Title V MSOP would require a 30-day public comment period and a 45-day EPA review period.

### **Recommendations**

Based on the above analysis, I recommend that Tennessee Gas's MSOP [710-0019], fifth renewal, be issued with the requirements above and pending a 30-day public comment period and a 45-day EPA review.



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Natural Resources Section  
Agriculture/Gas Unit  
Air Division

11-26-2024

Date

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