

**STATEMENT OF BASIS**  
**Tennessee Gas Pipeline Company, LLC - Station 550**  
**Hamilton, Marion County, Alabama**  
**Facility/Permit No. 710-0019**

The proposed Title V Major Source Operating Permit (MSOP), fourth renewal, would be issued under the provisions of ADEM Admin. Code r. 335-3-16. Tennessee Gas Pipeline Company, LLC (TGP) has requested authorization to operate the facility, as indicated in the application, in accordance with the terms and conditions of this permit. The current MSOP was issued on June 23, 2015, and is scheduled to expire on November 29, 2019. There have been no significant modifications or additions of emission sources at this facility since the issuance of the third renewal MSOP.

TGP operates a compressor station for the transmission of pipeline natural gas (SIC 4922). The significant sources of air pollutants at this facility are four (4) 5,500 hp Clark, 2-stroke, lean burn (2SLB) natural gas-fired reciprocating engines (ENG 1A-4A), one (1) 7,500 hp GE natural gas-fired turbine (ENG 1B), one (1) 637 hp Caterpillar 4-stroke, lean-burn (4SLB) natural gas-fired emergency generator (AUX 1A), and one (1) 0.42 MMBtu/hr Peerless fuel gas 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).

**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 exceed 250 TPY. No modifications which would require PSD review have occurred at this facility. However, the four reciprocating engines have synthetic minor emission limits for CO. These limits were established to ensure that the net emissions increase in CO emissions resulting from the combustion modifications made to reduce NO<sub>x</sub> emissions (to comply with Phase II of the NO<sub>x</sub> SIP Call) would not exceed PSD significance levels and therefore trigger PSD review.

**New Source Performance Standards (NSPS)*****NSPS –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 since.

***NSPS –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 §60.4230(a)(4), the engines at this facility are not subject to this subpart since they were not constructed or modified after the June 12, 2006, applicability date for this standard.

***NSPS –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 since.

**National Emission Standards for Hazardous Air Pollutants (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.

***NESHAP –Subpart ZZZZ***

All of the stationary reciprocating internal combustion engines (RICE) at the facility are affected sources under 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT). Under this subpart, Engines 1A-4A are classified as existing 2SLB RICE and Auxiliary Unit 1A (emergency only) is classified as existing 4SLB RICE. In accordance with 40 CFR §63.6590(b)(3), Tennessee Gas does not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A for these RICE. To ensure the generator continues to meet the “emergency” definition, records of the length of operation and the reason the engine was in operation during that time shall be kept monthly with a 12-month rolling total.

***NESHAP –Subpart YYYY***

The 7,500 hp GE turbine at the facility is an affected source under 40 CFR Part 63, Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines (the Combustion Turbine MACT) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(102)]. Under this NESHAP, Turbine 1B is classified as an existing stationary combustion turbine because construction or reconstruction of the stationary combustion turbine occurred on or before January 14, 2003. In accordance with 40 CFR §63.6090(b)(4), TGP does not have to meet the requirements of 40 CFR Part 63, Subpart YYYY and Subpart A for this combustion turbine.

***NESHAP –Subpart DDDDD***

The fuel gas heater located at this facility 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 (Boiler MACT) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(107)]. This unit is considered an existing affected source as defined by 40 CFR §63.7490 since it was manufactured prior to June 4, 2010. This unit is less than 5 MMBtu/hr and burns only natural gas requiring an initial tune-up and a one-time energy assessment that were both performed on September 29, 2015, in accordance with 40 CFR §63.7510(e), and prior to the compliance date of January 31, 2016. In addition, TGP would have to perform subsequent tune-ups ever 5-years in accordance with 40 CFR §63.7500(e).

**Applicability: State Regulations*****ADEM Admin. Code r. 335-3-4 - Control of Particulate Emissions******ADEM Admin. Code r. 335-3-5 - Control of Sulfur Compound Emissions***

Although the 7,500 hp GE turbine, the four (4) 5,500 hp Clark reciprocating engines, the 637 hp Caterpillar emergency generator, and the 0.42 MMBtu/hr fuel gas heater are fuel combustion sources, they are not subject to any particulate matter (PM) emission limitation of ADEM Admin. Code r. 335-3-4 or any sulfur dioxide (SO<sub>2</sub>) emission limitation of ADEM Admin. Code r. 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 turbine, engines, generator, and heater would be subject to the visible emissions standards of ADEM Admin. Code r. 335-3-4-.01(1).

***ADEM Admin Code r. 335-3-8-.04-NOx SIP Call Phase II Rule***

This facility operates internal combustion (IC) 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 identified as “large” IC engines in the inventory. Accordingly, TGP performed combustion modifications on these two units as well as the “small” IC 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) in order to achieve the required reductions under the NO<sub>x</sub> SIP Call Phase II Rule.

### **Emission Testing and Monitoring**

TGP 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) since opacity would be negligible while combusting natural gas.

Monitoring for each of the four (4) 5,500 hp reciprocating engines (ENG 1A-4A) is emissions testing for NO<sub>x</sub> and CO once per year in which the engine is operated 250 hours or more for production. The NO<sub>x</sub> and CO testing year will now 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. Should an engine operate for 250 hours or more for production during the ozone season (May 1 through September 30), the MSOP would require that emission testing for NO<sub>x</sub> be conducted 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). Emissions testing should be conducted in accordance with EPA Reference Method 7E or 20, as appropriate, found in Appendix A of 40 CFR Part 60 or an alternative EPA-approved method approved by the Director.

### **Recordkeeping and Reporting Requirements**

As part of the Semiannual Monitoring Report, TGP would continue to be required to include a statement addressing whether only natural gas was fired in all units during the respective reporting period. TGP 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. These requirements are outlined in the MSOP.

TGP would continue to be required to submit a 5-year compliance report covering the time period of January 1, 2016 through December 31, 2020, by January 31, 2021, for the fuel gas heater containing the information specified in 40 CFR §63.7550(c). In addition, TGP would be 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 (CAM)**

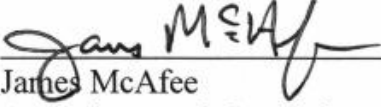
Engines 1A-4A and Turbine 1B are the only emission units at the facility that emit greater than 100 TPY of any criteria pollutant; however, none of these units employ active control devices as defined in the CAM regulations. As such, the facility is not subject to CAM requirements.

### **Public Notice**

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 the Major Source Operating Permit (710-0019), fourth renewal, be issued with the requirements above pending a 30-day public comment period and a 45-day EPA review.



James McAfee  
Agriculture and Gas Unit  
Chemical Branch  
Air Division

Supervisory Review:  
Richard T. Kelsey  
Lisa B. Cole

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