

STATEMENT OF BASIS

Transcontinental Gas Pipe Line Company, LLC
Station 90
Sweetwater, Marengo County, Alabama
Facility No. 105-0007

This proposed Major Source Operating Permit (MSOP) 4th renewal is issued under 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. The current MSOP was issued on June 3, 2015, and is scheduled to expire on December 27, 2019.

Transcontinental Gas Pipe Line Company, LLC (Transco) operates a compressor station for the transmission of pipeline natural gas. The significant sources of air pollutants at this facility are seven (7) 2,500 hp Cooper 2-stroke, lean burn (2SLB) natural gas-fired reciprocating engines (RICE), two (2) 2,625 hp Cooper 2SLB natural gas-fired reciprocating engines, five (5) 3,400 hp Cooper 2SLB natural gas-fired reciprocating engines, one (1) 5,500 hp Cooper 2SLB natural gas-fired reciprocating engine, one (1) 4,220 hp Solar natural gas-fired turbine, one (1) 17,239 hp Solar natural gas-fired turbine, one (1) 16,793 hp Solar natural gas-fired turbine, three (3) 375 hp Cooper 4-stroke, rich burn (4SRB) natural gas-fired emergency reciprocating engines, and one (1) 135 hp Waukesha 4SRB natural gas-fired emergency air compressor. Insignificant emission sources at this station include three (3) gas starters, lube oil vents, pipeline blowdowns, and degreasers.

Applicability: Federal Regulations

Title V

This facility is a major source under Title V regulations because the potential emissions for nitrogen oxides (NO_x), carbon monoxide (CO), and Volatile Organic Compounds (VOCs) exceed the 100 TPY major source threshold. It is also a major source of Hazardous Air Pollutants (HAP) because individual HAP potential emissions exceed 10 TPY [formaldehyde potential to emit (PTE) ~144.2 TPY, Acrolein PTE ~19.8 TPY, and Acetaldehyde PTE ~19.7 TPY] and the total HAP potential emissions exceed 25 TPY (PTE ~183.7 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 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_x, CO, and VOC exceed 250 TPY. Mainline Unit 4 was installed in 1950, prior to the PSD applicability date of January 1977; however, it was modified in 2001 in order to provide additional air for lean burn operation. This modification reduced NO_x emissions but increased CO emissions. Therefore, synthetic minor source emission limits for NO_x and CO were established for this unit to avoid a PSD review. Mainline Units 12 and 13 were respectively installed in 1966 and 1967, prior to the PSD applicability date of January 1977; however, they were modified in 1995 in order to reduce NO_x, CO, and VOC emissions to offset an increase

in those pollutants from additional new units. Therefore, synthetic minor source emission limits for NO_x, CO, and VOC were established for these units to avoid a PSD review. Mainline Unit 16 also has a NO_x emission limitation which was established to avoid undergoing PSD review when the unit was installed in 1987. Mainline Unit 18 (installed/manufactured in 2003) has NO_x and CO synthetic minor source emission limits which were established at the time of its installation to prevent undergoing PSD review.

MACT

National Emission Standards for Hazardous Air Pollutants (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 (the RICE MACT) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(103)]. Under this NESHAP, Mainline Units 1-15 are classified as existing 2SLB RICE with a site rating of more than 500 hp at a major source of HAP. In accordance with 40 CFR §63.6590(b)(3), Transco does not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A for these RICE.

Emergency Units 1-3 and Emergency Air Compressor Unit 5 are classified as existing 4SRB emergency RICE with a site rating of less than 500 hp at a major source of HAP. In accordance with 40 CFR §63.6595(a)(1), Transco does have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and Subpart A for these RICE.

Because these engines are being operated as emergency units, they are subject to less stringent requirements. In accordance with 40 CFR §63.6640(f), to retain their emergency classification, these engines will be 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)

According to 40 CFR §63.6602, any existing stationary RICE with a site rating of equal to or less than 500 brake hp located at a major source of HAP emissions must comply with applicable emission limitations and other requirements in Table 2c of Subpart ZZZZ.

According to Table 2c, Item 6, existing emergency SI RICE are subject to the following work practice requirements:

- Change oil and filter every 500 hours of operation or annually, whichever comes first; or participate in the oil analysis program as allowed by 40 CFR §63.6625(j);
- Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and

- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

According to Tables 4 and 5 of the subpart, no initial or subsequent performance testing is required for these emergency engines. 40 CFR §63.6625(e) and Table 6, Item 9, requires these units be operated and maintained according to the manufacturer's written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. 40 CFR §63.6625(f) requires the installation of a non-resettable hour meter if one is not already installed.

NESHAP –Subpart YYYYY

All of the combustion turbines at the facility are affected sources under 40 CFR Part 63, Subpart YYYYY, 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, Mainline Units 16-18 are classified as existing stationary combustion turbines. In accordance with 40 CFR §63.6090(b)(4), Transco does not have to meet the requirements of 40 CFR Part 63, Subpart YYYYY and Subpart A for these combustion turbines.

NSPS

New Source Performance Standards (NSPS) –Subpart GG

Mainline Units 16 and 18 were manufactured after the 40 CFR Part 60, Subpart GG, applicability date of October 3, 1977; therefore, they are subject to Subpart GG, Standards for Stationary Gas Turbines [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(33)] and have applicable NO_x and SO₂ emission limits. Mainline Unit 17 was also manufactured after the applicability date of this subpart, but it was modified in 2009, thereby becoming subject to 40 CFR Part 60, Subpart KKKK. Performance testing for each turbine demonstrated that each unit can comply with the applicable NO_x standard. Transco certifies the fuel burned in the units meet the definition of natural gas by maintaining a current tariff sheet specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less as allowed by 40 CFR §60.334(h)(3)(i) to demonstrate compliance with the SO₂ standard.

NSPS –Subpart KKKK

On July 6, 2006, EPA promulgated 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)]. Mainline Units 16 and 18 are not subject to this subpart since they were not constructed, reconstructed, or modified after the February 18, 2005, applicability date for this standard.

Since Mainline Unit 17 has a heat input at peak load greater than 10 MMBtu/hr and was modified in 2009 after the February 18, 2005, applicability date for this standard, it is subject to this subpart. It is classified as a modified or reconstructed turbine firing natural gas with a heat input at peak load >50 MMBtu/hr and ≤850 MMBtu/hr. It has applicable NO_x and SO₂

emission limits. Performance testing for this turbine demonstrated that it can comply with the applicable NO_x standard. Transco certifies the fuel burned in the units meet the definition of natural gas by maintaining a current tariff sheet specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less as allowed by 40 CFR §60.4365(a) to demonstrate compliance with the SO₂ standard.

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)]. Pursuant to 40 CFR §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 OOOO

The compressors associated with all units at this facility were installed prior to the August 23, 2011, applicability of 40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distributions [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(91)]; therefore, these units are not subject to this subpart.

NSPS –Subpart OOOOa

Compressor Station 90 is considered a natural gas compressor facility and is potentially subject to 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 [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(91)(a)]. However, all equipment and processes potentially subject to this regulation were installed and modified prior to the applicability date, therefore, this facility is not subject to this subpart.

Applicability: State Regulations

Although the reciprocating engines and turbines at this facility are fuel combustion sources, they are not subject to any particulate matter (as TSP) emission limitation of ADEM Admin. Code r. 335-3-4 or any sulfur dioxide (SO₂) 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 engines and turbines would, however, be subject to the visible emissions standards of ADEM Admin. Code r. 335-3-4-.01(1). Since they are fired exclusively with natural gas, they would be expected to be able to comply with this standard.

Emission Testing and Monitoring

Transco would be 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 synthetic minor source limits for Mainline Units 4 and 18 (NO_x and CO), Mainline Units 12 and 13 (NO_x, CO, and VOC), and Mainline Unit 16 (NO_x), emission testing would be required twice per calendar year at a frequency of once per semiannual period (Jan 1st-Jun 30th and Jul 1st-Dec 31st), with a minimum of three (3) calendar months elapsing between tests. The first emission testing conducted following the issuance of this renewal permit shall be conducted using an approved US EPA Reference Method or an alternate method, if approved in advance by the Air Division. If emission results from the performance test are less than or equal to 75% of the emission limit, then the frequency of subsequent performance tests may be reduced from a semiannual to an annual basis. If the results of any subsequent performance test exceed 75% of the emission limit, then semiannual performance testing must resume until the unit shows compliance for two consecutive testing events demonstrating emissions are less than or equal to 75% of the emission limit, at which time annual testing may resume. After the first emission testing conducted following the issuance of this renewal permit, no periodic monitoring testing will be required if this unit does not operate for production purposes during the semiannual or annual testing period, whichever applies.

To determine compliance with the NO_x standard in 40 CFR Part 60, Subpart KKKK, for Mainline Unit 17, Transco shall conduct NO_x performance tests on an annual basis. 40 CFR §60.4340(a) states that if NO_x emission results from the initial performance test are less than or equal to 75% of the NO_x emission limit, then the frequency of subsequent performance tests may be reduced to once every two years. If the results of any subsequent performance test exceed 75% of the NO_x emission limit, then annual performance testing must resume.

To determine compliance with the SO₂ standard in 40 CFR Part 60, Subpart GG, for Mainline Units 16 and 18, and the SO₂ standard in 40 CFR Part 60, Subpart KKKK, for Mainline Unit 17, Transco shall continue to demonstrate the fuel meets the definition of natural gas in 40 CFR §60.331(u) as per Transco's FERC Natural Gas Tariff.

Recordkeeping and Reporting

In addition to the recordkeeping and reporting required to comply with 40 CFR Part 63, Subpart ZZZZ for Emergency Units 1-3 and Emergency Air Compressor 5, as part of the Semiannual Monitoring Report, Transco would be required to include a statement addressing whether only natural gas was fired in each unit during the respective reporting period. Transco would also be required to include a statement addressing whether a unit operated for production purposes during the respective reporting period. Transco would 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. Transco would be required to maintain the most current fuel tariff sheet on-site in a form suitable for inspection.

Compliance Assurance Monitoring (CAM)

Mainline Units 1-15 (reciprocating engines), and Mainline Unit 17 (17,239 hp turbine), 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

I recommend that Transcontinental Gas Pipe Line's Title V MSOP be renewed with the requirements noted above pending the resolution of any comments received during the 30-day public comment period and the EPA 45-day review.

Andrea Sellers

Andrea Sellers
Chemical Branch
Natural Resources Section
Agriculture/Gas Unit
Air Division

October 1, 2019
Date

ALS/als

12303 105-0007 091 10-01-2019 T5SOB ALS 4REN