

RE: Installation of two Solar Titan 250-30000S natural gas-fired turbines rated at 207.8 MMBtu per hour (29,766 hp) used to compress natural gas for pipeline transport, natural gas-fired boiler rated at 4.6 MMBtu per hour, one 1,500 kW emergency generator powered by a 2,175 hp SI engine, and fugitive emissions from equipment in gas and light oil service.

On September 15, 2015, the Pollution Control Division received a complete application from Mr. Thomas C. Dender requesting a construction permit for the installation of a new natural gas compressor station (Compressor Station 563) at 7650 Whites Creek Pike, Joelton, Tennessee. The application will also serve as the Part 70 Operating Permit Application. The proposed natural gas compressor station will consist of two Solar Titan 250-30000S natural gas-fired turbines each rated at 207.8 MMBtu per hour (29,766 hp), one natural gas-fired boiler/heater rated at 4.6 MMBtu per hour, and one 1,500 kW natural gas generator powered by a 2,175 hp spark ignition (SI) engine, and equipment leaks, of various connectors, flanges, valves, seals, and other fittings in gas and light service.

Nashville/Davidson County is currently classified as an attainment area for criteria pollutants. Since the source does not include any of the Prevention of Significant Deterioration (PSD) industrial source categories, the threshold for PSD applicability is 250 tons per year, per criteria pollutant. Based on the application, no criteria pollutant will exceed the 250 ton per year threshold and is therefore not subject to the PSD review process.

This facility is subject to MCL 10.56.170, “Emission of Gases, Vapors or Objectionable Odors” of Chapter 10.56 which states no person shall cause, suffer, allow or permit any emission of gases, vapors or objectionable odors beyond the property line from any source whatsoever which causes injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which causes or has a natural tendency to cause injury or damage to business or property.

This facility is subject to MCL 10.56.280, “Startups, Shutdowns and Malfunctions” of Chapter 10.56 which requires the facility to take all reasonable measures to keep emissions to a minimum during start-ups, shutdowns and malfunctions. This section also outlines the reporting and recordkeeping requirements if an excess emissions event occurs at the facility.

This facility is subject to MCL 10.56.290, “Measurement and Reporting of Emissions” of Chapter 10.56. This section states the Director may require the permittee to conduct tests at the owner’s expense to determine the quantity and quality of the emission of air pollutants from any source. Any person conducting a test for the purpose of complying with an applicable emission standard shall notify the Director of the intent to test not less than thirty (30) days prior to the proposed test date. The notification shall contain at least the following: (1) A statement outlining the purpose of the proposed test; (2) A description of the source and emission point to be tested; (3) A detailed description of the test protocol; and (4) A timetable setting forth the dates on which the testing will be conducted and a date by which the test results will be submitted to the Director. Additionally, the permittee must submit to the Director by March 31 of each year the actual annual emissions of all regulated pollutants emitted by the source during the previous calendar year and signed by a responsible official.

This facility is subject to MCL 10.56.300, “Testing Procedures” of Chapter 10.56. This section states any tests conducted for the purpose of demonstrating compliance with any applicable emission standard shall be conducted in accordance with the requirements of MCL 10.56.300.

This facility is subject to Regulation No. 11, “Emergency Episode Regulation” of the MCL, which establishes criteria so as to prevent undesirable levels of air contaminants during adverse meteorological conditions. Major sources must submit to the Director an acceptable air pollution episode emissions reduction plan to be followed during the alert, warning, and emergency levels of an air pollution episode.

This facility is subject to Regulation No. 13, “Part 70 Operating Permit Program” of the MCL based on the facility having the potential to emit greater than 100 tons of NO_x and CO annually.

RE: Installation of two Solar Titan 250-30000S natural gas-fired turbines rated at 207.8 MMBtu per hour (29,766 hp) used to compress natural gas for pipeline transport, natural gas-fired boiler rated at 4.6 MMBtu per hour, one 1,500 kW emergency generator powered by a 2,175 hp SI engine, and fugitive emissions from equipment in gas and light oil service.

This source is classified as an area source for hazardous air pollutants (HAP). The allowable facility wide HAP emission rate is restricted to less than 10.0 tons per year of any one HAP and less than 25.0 tons per year of any two or more HAPs as identified in Section 112(b) of the 1990 Clean Air Act Amendment.

Two Natural Gas Turbines - Construction Permit C-28XX

Each gas turbine is permitted to burn natural gas only. The potential emission rates for the gas turbines are based on an operating schedule of 24 hours per day and 8,760 hours per rolling twelve months, manufacturer's emission test data, AP-42, Section 3.1 dated 4/00, a natural gas heating value of 1,020 Btu per cubic foot, and a maximum total natural gas burning rates of 203,721 cubic feet per hour, 4.89×10^6 cubic feet per day, and $1,785 \times 10^6$ cubic feet per rolling twelve months, for a combined total of $3,569 \times 10^6$ cubic feet per rolling twelve months.

The fugitive emissions from natural gas transport equipment leaks are based on the specified number of connectors, flanges, valves, seals, and other fittings throughout the facility specified in the application. There is currently a proposed New Source Performance Standard (NSPS) that could apply to the fugitive emissions at a natural gas compressor station. At this time, the regulation has not been finalized, but will be reviewed at that time.

This source is subject MCL 10.56.170, "Emission of Gases, Vapors or Objectionable Odors" of Chapter 10.56 which states no person shall cause, suffer, allow or permit any emission of gases, vapors or objectionable odors beyond the property line from any source whatsoever which causes injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which causes or has a natural tendency to cause injury or damage to business or property.

The gas turbines are subject to Section 10.56.260, "Process Emissions," of Chapter 10.56, "Air Pollution Control" of the MCL, which limits emissions of particulate matter to no more than 0.25 grains per dry standard cubic foot (dscf) and emissions of sulfur oxides to no more than 500 ppm. This requirement has been streamlined into the more stringent standard of 0.71 lb. per hour (0.213 ppm) for each turbine, respectively. The requirement for particulate matter has been streamlined into the more stringent standard of 1.37 lb. per hour (0.0005 grains per dscf) for each turbine, respectively

The source is subject to MCL 10.56.270, "Visible Emissions," of Chapter 10.56 which restricts visible emissions from each emission point to 20 percent opacity. This requirement has been streamlined into the more stringent standard of 10 percent opacity.

This source is subject to Regulation No. 7, "Regulation for Control of Volatile Organic Compounds" of the MCL. This source will comply with this regulation by implementing good combustion practices while operating the gas turbines and burning only pipeline grade natural gas as fuel in the gas turbines.

The gas turbines are subject to the requirements of 40 CFR Part 60, Subpart KKKK - *Standards of Performance for Stationary Gas Turbines*. Subpart KKKK requires emissions of NO_x to not exceed 25 ppm at 15% oxygen or 150 ng/J of useful output and outlines testing guidelines. Within 60 days of startup, the gas turbines must be tested to demonstrate compliance with the NO_x emission limits outlined in the construction permit according to the

RE: Installation of two Solar Titan 250-30000S natural gas-fired turbines rated at 207.8 MMBtu per hour (29,766 hp) used to compress natural gas for pipeline transport, natural gas-fired boiler rated at 4.6 MMBtu per hour, one 1,500 kW emergency generator powered by a 2,175 hp SI engine, and fugitive emissions from equipment in gas and light oil service.

testing requirements outlined in §60.4400. The testing requirements are outlined in Condition (11) of the construction permit.

Since the gas turbines are subject to the requirements of Subpart KKKK, they are exempt from the requirements of 40 CFR 60, Subpart GG – *Standards of Performance for Stationary Gas Turbines* as stated in §60.4305(b) of Subpart KKKK.

PSD permitting only applies to facilities with the potential to emit more than 250 tons per year of a Clean Air Act regulated pollutant unless the source is one of 28 industrial source categories which the major threshold is 100 tons per year. The proposed source is not included in the subject industrial source categories and therefore the PSD applicability threshold is 250 tons per year. The source has the potential to emit 100 tons per year or more of NO_x and is, therefore, subject to MCL 14-2 which requires the use of Reasonably Achievable Control Technology (RACT) in controlling NO_x emissions. EPA defines RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. The facility proposed the following technically feasible control technologies to be considered under RACT: Selective Catalytic Reduction (SCR), Dry Low-NO_x Combustion (DLN), Steam/Water Injection, and good operating practices.

SCR is a post-combustion control which uses ammonia and catalyst to reduce NO_x in the exhaust. SCR can reduce emissions up to 90% when used in combination with water/steam injection. From the RACT assessment, the cost effectiveness of SCR ranges from \$350 to \$4,500 per ton of NO_x removed, with cost being on the higher end of the range of this range for smaller rated turbines.

DLN operate in a lean premixed mode where peak flame temperatures are maintained at a lower level, reducing NO_x formation. DLN also involves adjusting the air to fuel ratio, staged combustion, or adjusting the fuels residence time in the combustion chamber, all methods of which reduce the formation of NO_x in the exhaust. DLN can reduce NO_x in the exhaust to 25 ppmv at 15% O₂. The proposed turbine model has been designed and emissions estimated for the use of the *SoLoNO_x* control, which is designed to achieve 25 ppmv of NO_x. From the RACT assessment, the cost effectiveness of DLN ranges from \$55 to \$138 per ton of NO_x removed, with cost being on the higher end of the range of this range for smaller rated turbines.

Steam/Water Injection would inject water into the combustion chamber to reduce the peak flame temperature and increase residence time of the fuel in the combustion chamber. Emissions are usually reduced to 25 to 42 ppmv. Good operating practices included maintenance, optimizing the air to fuel ratio, and appropriate fuel selection, all of which should be considered baseline RACT for controlling NO_x from the turbines

Based on the RACT analysis submitted to the Pollution Control Division on September 15, 2015, this office is in agreement that the use of *SoLoNO_x* technology which is a dry low-NO_x combustion that ensures a uniform air/fuel mixture as well as good operating practices should be considered RACT for this source. Additionally, the cost of implementing this technology is considered economically feasible and a reasonably available control technology. These two control options as proposed together will achieve compliance with the category-wide emission rate limitation of 25 ppmv outlined in Subpart KKKK.

It appears this source will comply with all applicable air pollution regulation requirements. Therefore, I am issuing **Construction Permit C-28XX**.

RE: Installation of two Solar Titan 250-30000S natural gas-fired turbines rated at 207.8 MMBtu per hour (29,766 hp) used to compress natural gas for pipeline transport, natural gas-fired boiler rated at 4.6 MMBtu per hour, one 1,500 kW emergency generator powered by a 2,175 hp SI engine, and fugitive emissions from equipment in gas and light oil service.

Natural Gas Boiler - Construction Permit C-28XX

The 4.6 MMBtu Parker Industrial Boiler Model T4600LR is being used as a hydronic heater for the purpose of conditioning fuel gas. The mass allowable emission standards are based on an operating schedule of 24 hours per day and 8,760 hours per rolling twelve months, manufacturer's emission data, AP-42, Section 1.4 dated 7/98, and a maximum natural gas usage rate of 4,510 cubic feet per hour, 108,240 cubic feet per day, and 39.5 x 10⁶ cubic feet per rolling twelve months.

This source is subject to MCL 10.56.270, "Visible Emissions," which restricts visible emissions from the source to no more than 20% opacity. This requirement has been streamlined into the more stringent standard of 10% opacity

This source is not subject to the requirements of 40 CFR Part 63, Subpart JJJJJ - *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources*. Since the boiler will burn natural gas only, the boiler is classified as a "gas-fired boiler" as defined in §63.11237. As stated in §63.11195, gas-fired boilers are not subject to this subpart and to any requirements in this subpart.

This source is subject to Regulation No. 3, "New Source Review" of the MCL.

This source is subject to Regulation No. 7, "Regulation for Control of Volatile Organic Compounds" of the MCL. This source will comply with this regulation by implementing good combustion practices while operating the fuel burning equipment.

It appears this source will comply with all applicable air pollution regulation requirements. Therefore, I am issuing **Construction Permit C-28XX**.

1,500 kW Emergency Generator Powered by a 2,175 hp Spark Ignition (SI) Internal Combustion Engine (ICE) – Construction Permit C-28XX

The mass allowable emission standards are based on the proposed mass emission standards reported in the Process Permit Application, for the purpose of calculating annual emission fees based on annual permitted allowable emissions in accordance with MCL 10.56.080. The mass allowable emissions for NO_x, CO, and VOC are based on applicable Tier 2 standards outlined in 40 CFR 60, Subpart JJJJ. Mass allowable emissions for PM₁₀ and SO₂ are based on AP-42, Section 3.2: Natural Gas-fired Reciprocating Engines.

The engine is subject to the requirements of 40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engine. §60.4233(e) of Subpart JJJJ states owners and operators of engines classified as emergency spark ignition (SI) internal combustion engines (ICE) with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to Subpart JJJJ for their stationary SI ICE. On the May 1, 2015, the US EPA vacated the provisions for emergency engines outlined in the both the RICE NESHAP and NSPS. The provisions vacated, which are outlined in §60.4243(d)(2)(ii)-(iii) of Subpart JJJJ, removed the paragraphs where emergency engines are allowed to operate for emergency demand response and voltage deviations.

RE: Installation of two Solar Titan 250-30000S natural gas-fired turbines rated at 207.8 MMBtu per hour (29,766 hp) used to compress natural gas for pipeline transport, natural gas-fired boiler rated at 4.6 MMBtu per hour, one 1,500 kW emergency generator powered by a 2,175 hp SI engine, and fugitive emissions from equipment in gas and light oil service.

The engine is subject to 40 CFR Part 63, Subpart ZZZZ - *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines*. However, the engine must meet the requirements of Subpart ZZZZ by meeting the applicable requirements of 40 CFR Part 60, Subpart JJJJ.

The source is subject to MCL 10.56.240, “Internal Combustion Engines” which restricts visible emissions from the source to 40% opacity. The source is also subject to MCL 10.56.270, “Visible Emissions,” which restricts visible emissions from the source to 20% opacity. The visible emission requirements have been streamlined into the more stringent standard of 20% opacity.

This source is subject to MCL 10.56.260, “Process Emissions,” which restricts sulfur emissions from the source to 500 ppmv. This requirement has been streamlined into the more stringent standard of 0.08 ppmv (0.01 lb. per hour). This regulation also limits the maximum concentration of particulate process emissions to no greater than 0.25 grains per dry standard cubic foot (dscf) of exhaust gas. This requirement has been streamlined into the more stringent standard of 0.002 grains per dscf (0.16 lb. per hour).

This source is subject to Regulation No. 7, “Regulation for Control of Volatile Organic Compounds” of the MCL. This source will comply with this regulation by implementing good combustion practices while operating the engine.

It appears this source will comply with all applicable air pollution regulation requirements. Therefore, I am issuing **Construction Permit C-28XX**.

Fugitive emissions components - Fugitive emissions from equipment leaks, of various connectors, flanges, valves, seals, and other fittings in both gas and light oil service.

The mass emission standards are based on the proposed mass emission rates reported in the permit application, dated September 15, 2015, for the purpose of calculating annual emission fees based on annual permitted allowable emissions in accordance with MCL 10.56.080. The mass allowable emissions are based on the estimated total number of fugitive emission components including connectors, flanges, valves, open ended lines, pump seals and other fittings in gas and light oil service at the facility and the emission factors in EPA Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017) dated 11/95.

This source is subject to the requirements of 40 CFR Part 60, Subpart OOOOa - *Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after May 12, 2016*. The facility is considered a centrifugal compressor affected facility and is subject to the requirements for a collection of fugitive emissions components at a compress station. Subpart OOOOa requires the facility to monitor all fugitive emission components as defined in §60.5430a using either optical gas imaging (OGI) or an instrument reading 500 ppm or greater using Method 21. The facility must perform repairs in accordance with §60.5397a(h)(1) through (3), which requires a source of fugitive emissions to be repaired within 30 days of detection and resurveyed within 30 days of repair. The facility must maintain records and report according to the requirements outlined in §60.5397a(i) and §60.5397a(j). The facility must develop an emissions monitoring plan that covers the collection of fugitive emissions components at the compressor station within each company-defined area. The initial compliance period for Subpart OOOOa begins upon startup of the facility with the initial compliance period ending 1 year after the initial startup date.

RE: Installation of two Solar Titan 250-30000S natural gas-fired turbines rated at 207.8 MMBtu per hour (29,766 hp) used to compress natural gas for pipeline transport, natural gas-fired boiler rated at 4.6 MMBtu per hour, one 1,500 kW emergency generator powered by a 2,175 hp SI engine, and fugitive emissions from equipment in gas and light oil service.

This source is subject to MCL 10.56.270, “Visible Emissions,” which restricts visible emissions from the source to no more than 20% opacity. This requirement has been streamlined into the more stringent standard of 0% opacity.

This source is subject to Regulation No. 7, “Regulation for Control of Volatile Organic Compounds” of the MCL. This source will comply with this regulation by implementing the monitoring and work practice requirements of 40 CFR Part 60, Subpart OOOOa.

It appears this source will comply with all applicable air pollution regulation requirements. Therefore, I am issuing **Construction Permit C-28XX**.

Finally, this source will be classified as a major source with respect to the Part 70 Operating Permit Program.

Applicability Determinations for Tennessee Gas Pipeline

Chapter 10.56 – Air Pollution Control

10.56.020 – Construction Permits – Any new or modified source that is not specifically exempted from the requirements of Chapter 10.56 is required to obtain a construction permit prior to installation of the facility. Tennessee Gas Pipeline (TGP) will be required to comply with this section.

10.56.040 – Operating Permits – After a construction permit has been issued and the source has demonstrated the ability to operate the source in compliance with all applicable requirements, an operating permit must be obtained for continued operation. Since the facility will be a major source with respect to the Part 70 Operating Permit Program, the facility will be required to obtain a Part 70 (Title V) operating permit.

10.56.080 – Permit and Annual Emission Fees – Sources holding operating permits shall pay an annual emissions fee based on annual allowable emissions established in the operating permit.

10.56.170 – Emissions of Gases, Vapors or Objectionable Odors – the source may not cause objectionable odors beyond the property line which causes injury, detriment, nuisance or annoyance to any considerable number of persons or to the public.

10.56.200 – Sale, Use or Consumption of Solid and Liquid Fuels – this section applies to the burning of solid or liquid fuel. All of the proposed equipment will burn natural gas. Therefore, this section will not apply to the source.

10.56.210 – Hazardous Air Pollutants – this section requires the source to comply with any emission standard established by EPA. Specific emission standards will be addressed under the applicable regulation. This facility will have equipment subject to specific emission standards related to hazardous air pollutants.

10.56.220 – Fuel Burning Equipment – this section addresses the burning of solid and liquid fuels used for the primary purpose of producing heat or power by indirect heat transfer. All of the proposed equipment will utilize natural gas and will not be subject to this section.

10.56.240 – Internal Combustion Engines – this section limits the visible emissions from sources to no more than 40% opacity. The proposed facility will have an emergency generator powered by an internal combustion engine and will be subject to this section.

10.56.260 – Process Emissions – this section limits sulfur oxides and particulate emissions from processes. This section will apply to the proposed facility.

10.56.270 – Visible Emissions – This section limits the visible emissions from sources to 20% opacity. This section will apply to the proposed facility.

10.56.280 – Start-ups, Shutdowns and Malfunctions – this section requires sources to take all reasonable measures to minimize emissions during start-ups, shutdowns and malfunctions. This section will apply to the proposed source.

10.56.290 – Measurement and Reporting of Emissions – this section allows for the testing of new equipment. This section also addresses the submittal of annual emission inventories. This section will apply to the proposed source.

Metropolitan Health Department, Pollution Control Division Regulations

Regulation No. 3 – New Source Review – this regulation outlines the requirements for new stationary sources in Nashville. The proposed source will be subject to this Regulation.

Regulation No. 4 – Hazardous Air Pollutants – this regulation outlines reporting, testing, and notification requirements for hazardous emission sources in a similar manner to 10.56.290. Specific emission standards and requirements will be addressed by specific National Emission Standards for Hazardous Air Pollutants. The proposed source is subject to this regulation.

Regulation No. 5 – Standards of Performance for New Stationary Sources – this regulation addresses compliance with New Source Performance Standards. Specific requirements will be addressed separately. The proposed source is subject to this regulation.

Regulation No. 6 – Emissions Monitoring for Stationary Sources – this regulation establishes requirements for continuous emissions monitoring. The proposed source will not be subject to this regulation.

Regulation No. 7 – Regulation for Control of Volatile Organic Compounds – this regulation establishes emission standards for sources of volatile organic compounds. The proposed source will be subject to this regulation.

Regulation No. 11 – Emergency Episode Regulation – this regulation outlines how major sources will respond when an emergency episode is declared. The proposed source will be subject to this regulation.

Regulation No. 13 – Part 70 Operating Permit Program – this regulation outlines the operating permit requirements for major stationary sources. The proposed source will be subject to this regulation.

Regulation No. 14 – Regulation for Control of Nitrogen Oxides – this regulation requires major sources of NO_x to apply Reasonably Available Control Technology. The proposed source will be subject to this regulation.

40 CFR Part 60 – New Source Performance Standards

Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units – this standard applies to boilers greater than 10 MMBtu/hour. The proposed source will not be subject to this standard.

Subparts K, Ka, and Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels – these standards apply to storage vessels larger than 19,812 gallons. The proposed source will not be subject to this standard.

Subpart GG – Standards of Performance for Stationary Gas Turbines – sources that are subject to Subpart KKKK are exempt from Subpart GG. The proposed source will not be subject to this standard.

Subpart KKK – Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants – the proposed source does not meet the definition of a natural gas processing plant and will not be subject to this standard.

Subpart LLL – Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions – the proposed source does not meet the definition of a natural gas processing plant and will not be subject to this standard.

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – the proposed source will not include a compression ignition engine. The proposed source will not be subject to this standard.

Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – the proposed source will include a spark ignition engine and will be subject to this standard.

Subpart KKKK – Standards of Performance for Stationary Combustion Turbines – the proposed turbines at the site will be subject to this standard.

Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution – this standard applies to compressors located at production facilities located between the well head and the point of custody transfer. The proposed source is beyond the point of custody transfer and will not be subject to this standard.

Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after May 12, 2016 – this is a proposed standard that addresses fugitive emissions from natural gas facilities, which includes natural gas compressor stations.

40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants

Subpart HH – National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities – the proposed source is not a production facility and will not be subject to this standard.

Subpart HHH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities – this standard applies to major HAP sources. The proposed source will not be major for HAPs and will not be subject to this standard.

Subpart EEEE – National Emission Standards for Hazardous Air Pollutants: Organic Liquid Distribution – this standard only applies to major sources of HAP. The proposed source will not be subject to this standard.

Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines – this standard only applies to major sources of HAP. The proposed source will not be subject to this standard.

Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines – the proposed facility will be subject to this standard. Compliance with Subpart ZZZZ requires the facility to comply with 40 CFR Part 60, Subpart JJJJ.

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters – this standard applies to major HAP sources. The proposed source will not be subject to this standard.

Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources – the proposed source meets the definition of “gas-fired boiler” and will not be subject to this standard.

Permit Review Checklist

Company Name:	<u>Tennessee Gas Pipeline Company, LLC</u>	Construction Permit:	C- 28XX
Address:	<u>7650 Whites Creek Pike</u>	Date of Issuance:	_____
Permit Engineer:	<u>Blake McClain</u>	Facility ID:	<u>New</u>
Source Description:	<u>Two natural gas-fired compressor turbines</u>	Source No:	<u>001</u>

Type of Application

Newly Permitted Source:	<input type="checkbox"/> Existing Source	<input checked="" type="checkbox"/> Proposed Source
Modification to existing permit:	<input type="checkbox"/> Agency's Request	<input type="checkbox"/> Source's Request
Change in methodology:	_____	

Important Dates

Application Request Issued:	<u>N/A</u>	Due Date:	_____
Application Received:	<u>February 15, 2015</u>		
Additional Information Requested:	<u>July 23, 2015</u>	Due Date:	<u>August 21, 2015</u>
Additional Information Received:	<u>September 15, 2015</u>		
Application Determined Complete:	_____		
Public Notice:	_____		

Emissions (TPY)

	Past Actuals	Past Allowables	Proposed Allowables	Change In:	
				Actuals	Allowables
PM ₁₀ :	0.00	0.00	12.0	+12.00	+12.00
SO ₂ :	0.00	0.00	6.2	+6.20	+6.20
NO _x :	0.00	0.00	167.4	+167.40	+167.40
CO:	0.00	0.00	107.6	+107.60	+107.60
VOC:	0.00	0.00	11.5	+11.50	+11.50
Other: CO _{2e}	0.00	0.00	215,893	+215,893	+215,893
Other:				+0.00	+0.00

Permit Filing Fee: \$7,667.50 total

Proposed Plant-wide Allowables

PM ₁₀ :	12.26	tons		VOC:	15.32	tons
SO ₂ :	6.19	tons	Other:	CO ₂ e	218,873	tons
NO _x :	170.28	tons	Other:			tons
CO:	113.51	tons		Total HAPs:	4.83	tons

Stack Information - Emission Points 101 & 102

Stack Height: 83.00 ft Flow Rate: 313,711 acfm
 Stack Diameter: 11.28 ft Exit Temperature: 860 °F
 Exit Velocity: 55.5 ft/s Fugitive Emissions: No
 NAAQS Modeling: Attached Not Performed

Applicable Regulations

10.56.170 – Objectionable Odors:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.190 – Wind-borne Materials:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.200 – Solid and Liquid Fuels:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.220 – Fuel-burning Equipment:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.230 – Incinerators:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.240 – Internal Combustion Engines:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.260 – Process Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.270 – Visible Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.280 – Startups, Shutdowns & Mal.:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.290 – Reporting of Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.300 – Testing Procedures:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
Regulation No. 4 – NO _x RACT	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
BACT Evaluation	<input type="checkbox"/>	In Application	<input checked="" type="checkbox"/>	Not Applicable
Regulation No. 7 – VOC		Section:	<input checked="" type="checkbox"/>	Not Applicable
NESHAP/MACT:		Subpart:	<input checked="" type="checkbox"/>	Not Applicable
New Source Performance Standards:		Subpart: KKKK	<input type="checkbox"/>	Not Applicable
Insignificant Activity: <u>Pipeline Liquids Storage Tank</u>		Exemption: <u>MCL 10.56.050 A.3.</u>		
Insignificant Activity: _____		Exemption: _____		

Testing Required: Emission Point: 101 & 102 Method: 7E or 20 Deadline: Within 60 days of startup

Stack Information - Emission Points 103

Stack Height: _____ ft Flow Rate: _____ acfm
Stack Diameter: _____ ft Exit Temperature: Ambient °F
Exit Velocity: _____ ft/s Fugitive Emissions: Yes
NAAQS Modeling: Attached Not Performed

Permit Review Checklist

Company Name:	<u>Tennessee Gas Pipeline Company, LLC</u>	Construction Permit:	C- 28XX
Address:	<u>7650 Whites Creek Pike</u>	Date of Issuance:	_____
Permit Engineer:	<u>Blake McClain</u>	Facility ID:	<u>New</u>
Source Description:	<u>Natural gas-fired heater/boiler</u>	Source No:	<u>002</u>

Type of Application

Newly Permitted Source:	<input type="checkbox"/> Existing Source	<input checked="" type="checkbox"/> Proposed Source
Modification to existing permit:	<input type="checkbox"/> Agency's Request	<input type="checkbox"/> Source's Request
Change in methodology:	_____	

Important Dates

Application Request Issued:	<u>N/A</u>	Due Date:	_____
Application Received:	<u>February 15, 2015</u>		
Additional Information Requested:	<u>July 23, 2015</u>	Due Date:	<u>August 21, 2015</u>
Additional Information Received:	<u>September 15, 2015</u>		
Application Determined Complete:	_____		
Public Notice:	_____		

Emissions (TPY)

	Past Actuals	Past Allowables	Proposed Allowables	Change In:	
				Actuals	Allowables
PM ₁₀ :	0.00	0.00	0.20	+0.20	+0.20
SO ₂ :	0.00	0.00	0.01	+0.01	+0.01
NO _x :	0.00	0.00	0.48	+0.48	+0.48
CO:	0.00	0.00	1.11	+1.11	+1.11
VOC:	0.00	0.00	0.12	+0.12	+0.12
Other: CO _{2e}	0.00	0.00	2,371	+2,371	+2,371
Other:				+0.00	+0.00

Permit Filing Fee: \$7,667.50 total

Proposed Plant-wide Allowables

PM ₁₀ :	12.26	tons		VOC:	15.32	tons
SO ₂ :	6.19	tons	Other:	CO ₂ e	218,873	tons
NO _x :	170.28	tons	Other:			tons
CO:	113.51	tons		Total HAPs:	4.83	tons

Stack Information - Emission Point 201

Stack Height: 20.00 ft Flow Rate: 1,460 acfm
 Stack Diameter: 1.83 ft Exit Temperature: 500 °F
 Exit Velocity: 9.3 ft/s Fugitive Emissions: No
 NAAQS Modeling: Attached Not Performed

Applicable Regulations

- | | | | | |
|--|-------------------------------------|------------------|-------------------------------------|----------------|
| 10.56.170 – Objectionable Odors: | <input type="checkbox"/> | In Permit | <input checked="" type="checkbox"/> | Not Applicable |
| 10.56.190 – Wind-borne Materials: | <input type="checkbox"/> | In Permit | <input checked="" type="checkbox"/> | Not Applicable |
| 10.56.200 – Solid and Liquid Fuels: | <input type="checkbox"/> | In Permit | <input checked="" type="checkbox"/> | Not Applicable |
| 10.56.220 – Fuel-burning Equipment: | <input type="checkbox"/> | In Permit | <input checked="" type="checkbox"/> | Not Applicable |
| 10.56.230 – Incinerators: | <input type="checkbox"/> | In Permit | <input checked="" type="checkbox"/> | Not Applicable |
| 10.56.240 – Internal Combustion Engines: | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| 10.56.260 – Process Emissions: | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| 10.56.270 – Visible Emissions: | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| 10.56.280 – Startups, Shutdowns & Mal.: | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| 10.56.290 – Reporting of Emissions: | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| 10.56.300 – Testing Procedures: | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| Regulation No. 4 – NO _x RACT | <input checked="" type="checkbox"/> | In Permit | <input type="checkbox"/> | Not Applicable |
| BACT Evaluation | <input type="checkbox"/> | In Application | <input checked="" type="checkbox"/> | Not Applicable |
| Regulation No. 7 – VOC | | Section: | <input checked="" type="checkbox"/> | Not Applicable |
| NESHAP/MACT: | | Subpart: | <input checked="" type="checkbox"/> | Not Applicable |
| New Source Performance Standards: | | Subpart: | <input type="checkbox"/> | Not Applicable |
| Insignificant Activity: _____ | | Exemption: _____ | | |
| Insignificant Activity: _____ | | Exemption: _____ | | |

Testing Required: Emission Point: _____ Method: _____ Deadline: _____

Permit Review Checklist

Company Name:	<u>Tennessee Gas Pipeline Company, LLC</u>	Construction Permit:	C- 28XX
Address:	<u>7650 Whites Creek Pike</u>	Date of Issuance:	_____
Permit Engineer:	<u>Blake McClain</u>	Facility ID:	<u>New</u>
Source Description:	<u>SI ICE Emergency Generator</u>	Source No:	<u>003</u>

Type of Application

Newly Permitted Source: Existing Source Proposed Source

Modification to existing permit: Agency's Request Source's Request

Change in methodology: _____

Important Dates

Application Request Issued: N/A Due Date: _____

Application Received: February 15, 2015

Additional Information Requested: July 23, 2015 Due Date: August 21, 2015

Additional Information Received: September 15, 2015

Application Determined Complete: _____

Public Notice: _____

Emissions (TPY)

	Past Actuals	Past Allowables	Proposed Allowables	Change In:	
				Actuals	Allowables
PM ₁₀ :	0.00	0.00	0.04	+0.04	+0.04
SO ₂ :	0.00	0.00	0.00	+0.00	+0.00
NO _x :	0.00	0.00	2.40	+2.40	+2.40
CO:	0.00	0.00	4.80	+4.80	+4.80
VOC:	0.00	0.00	1.20	+1.20	+1.20
Other: CO ₂ e	0.00	0.00	609	+609	+609
Other:				+0.00	+0.00

Permit Filing Fee: \$7,667.50 total

Proposed Plant-wide Allowables

PM ₁₀ :	12.26	tons		VOC:	15.32	tons
SO ₂ :	6.19	tons	Other:	CO ₂ e	218,873	tons
NO _x :	170.28	tons	Other:			tons
CO:	113.51	tons	Total HAPs:		4.83	tons

Stack Information - Emission Points 301

Stack Height: 20.00 ft Flow Rate: 11,703 acfm
 Stack Diameter: 1.00 ft Exit Temperature: 858 °F
 Exit Velocity: 248.3 ft/s Fugitive Emissions: No
 NAAQS Modeling: Attached Not Performed

Applicable Regulations

10.56.170 – Objectionable Odors:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.190 – Wind-borne Materials:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.200 – Solid and Liquid Fuels:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.220 – Fuel-burning Equipment:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.230 – Incinerators:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.240 – Internal Combustion Engines:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.260 – Process Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.270 – Visible Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.280 – Startups, Shutdowns & Mal.:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.290 – Reporting of Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.300 – Testing Procedures:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
Regulation No. 4 – NO _x RACT	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
BACT Evaluation	<input type="checkbox"/>	In Application	<input checked="" type="checkbox"/>	Not Applicable
Regulation No. 7 – VOC		Section:	<input checked="" type="checkbox"/>	Not Applicable
NESHAP/MACT:		Subpart: <i>ZZZZ</i>	<input type="checkbox"/>	Not Applicable
New Source Performance Standards:		Subpart: <i>JJJJ</i>	<input type="checkbox"/>	Not Applicable
Insignificant Activity: _____		Exemption: _____		
Insignificant Activity: _____		Exemption: _____		

Testing Required: Emission Point: _____ Method: _____ Deadline: _____

Permit Review Checklist

Company Name:	<u>Tennessee Gas Pipeline Company, LLC</u>	Construction Permit:	C- 28XX
Address:	<u>7650 Whites Creek Pike</u>	Date of Issuance:	_____
Permit Engineer:	<u>Blake McClain</u>	Facility ID:	<u>New</u>
Source Description:	<u>Fugitive emissions components</u>	Source No:	<u>004</u>

Type of Application

Newly Permitted Source:	<input type="checkbox"/> Existing Source	<input checked="" type="checkbox"/> Proposed Source
Modification to existing permit:	<input type="checkbox"/> Agency's Request	<input type="checkbox"/> Source's Request
Change in methodology:	_____	

Important Dates

Application Request Issued:	<u>N/A</u>	Due Date:	_____
Application Received:	<u>February 15, 2015</u>		
Additional Information Requested:	<u>July 23, 2015</u>	Due Date:	<u>August 21, 2015</u>
Additional Information Received:	<u>September 15, 2015</u>		
Application Determined Complete:	_____		
Public Notice:	_____		

Emissions (TPY)

	Past Actuals	Past Allowables	Proposed Allowables	Change In:	
				Actuals	Allowables
PM ₁₀ :	0.00	0.00	0.00	-0.00	+0.00
SO ₂ :	0.00	0.00	0.00	+0.00	+0.00
NO _x :	0.00	0.00	0.00	+0.00	+0.00
CO:	0.00	0.00	0.00	+0.00	+0.00
VOC:	0.00	0.00	2.48	+2.48	+2.48
Other: CO ₂ e	0.00	0.00	1,131	+1,131	+1,131
Other:				+0.00	+0.00

Permit Filing Fee: \$7,667.50 total

Proposed Plant-wide Allowables

PM ₁₀ :	12.26	tons		VOC:	15.32	tons
SO ₂ :	6.19	tons	Other:	CO ₂ e	218,873	tons
NO _x :	170.28	tons	Other:			tons
CO:	113.51	tons		Total HAPs:	4.83	tons

Stack Information - Emission Point 201

Stack Height: _____ ft Flow Rate: _____ acfm
 Stack Diameter: _____ ft Exit Temperature: _____ °F
 Exit Velocity: _____ ft/s Fugitive Emissions: _____ Yes
 NAAQS Modeling: Attached Not Performed

Applicable Regulations

10.56.170 – Objectionable Odors:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.190 – Wind-borne Materials:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.200 – Solid and Liquid Fuels:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.220 – Fuel-burning Equipment:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.230 – Incinerators:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.240 – Internal Combustion Engines:	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
10.56.260 – Process Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.270 – Visible Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.280 – Startups, Shutdowns & Mal.:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.290 – Reporting of Emissions:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
10.56.300 – Testing Procedures:	<input checked="" type="checkbox"/>	In Permit	<input type="checkbox"/>	Not Applicable
Regulation No. 4 – NO _x RACT	<input type="checkbox"/>	In Permit	<input checked="" type="checkbox"/>	Not Applicable
BACT Evaluation	<input type="checkbox"/>	In Application	<input checked="" type="checkbox"/>	Not Applicable
Regulation No. 7 – VOC		Section: 26 & 27	<input type="checkbox"/>	Not Applicable
NESHAP/MACT:		Subpart:	<input checked="" type="checkbox"/>	Not Applicable
New Source Performance Standards:		Subpart: OOOOa	<input type="checkbox"/>	Not Applicable
Insignificant Activity: _____		Exemption: _____		
Insignificant Activity: _____		Exemption: _____		

Testing Required: Emission Point: _____ Method: _____ Deadline: _____