



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3232A
Plant ID No.: 039-00656
Applicant: Tennessee Gas Pipeline Company, LLC
Facility Name: Station 118A
Location: Charleston, Kanawha County
NAICS Code: 486210
Application Type: Modification
Received Date: August 4, 2017
Engineer Assigned: William T. Rothwell II, PE
Fee Amount: \$2,000.00
Date Received: September 18, 2017
Complete Date: September 18, 2017
Due Date: October 2, 2017
Applicant Ad Date: August 15, 2017
Newspaper: *The Charleston Gazette Mail*
UTM's: Easting: 438.130 km Northing: 4,252.460 km Zone:17
Description: Modification for the replacement of an emergency generator at a natural gas compressor station.

DESCRIPTION OF PROCESS

Natural gas from the transmission pipeline will be routed and compressed through this station. Natural gas will be compressed to a higher pressure and discharged downstream into the sales line. The natural gas fired compressor turbine (118-CT-01) that will be operated is a Solar Taurus 70-10802S turbine with a design capacity of 11,523 brake horsepower. Station 118A will also operate one (1) natural gas fired emergency generator (118-EG-03), one (1) natural gas fired hydronic heater (118-WH-02) and one (1) pipeline liquids storage tank (118-PF-04).

SITE INSPECTION

A site inspection was performed on March 19, 2015 by Roy Kees and Todd Shrewsbury of the enforcement section. The actual site was located behind a closed gate marked as a private landfill. From the location of the gate the site could be seen and is appropriate for this facility.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emission changes due to the replacement of the emergency generator are as shown below:

Criteria Pollutants

New Gen	NO _x		CO		VOC		SO ₂		PM/PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
118-EG-03	5.91	1.48	11.82	2.95	2.95	0.74	0.01	<0.01	0.11	0.03

Exist Gen	NO _x		CO		VOC		SO ₂		PM/PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
118-EG-03	4.56	1.14	9.13	2.28	2.28	0.57	<0.01	<0.01	0.08	0.02

Non-criteria Pollutants

Formaldehyde and total HAP emissions are based on AP-42 and 500 hours per year of operation.

New Gen	Formaldehyde		Toluene		Xylene		Acetaldehyde		Benzene		Ethylbenzene		Total HAPs	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
118-EG-03	0.59	0.15	--	--	--	--	--	--	--	--	--	--	0.59	0.15

Exist Gen	Formaldehyde		Toluene		Xylene		Acetaldehyde		Benzene		Ethylbenzene		Total HAPs	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
118-EG-03	0.43	0.11	--	--	--	--	0.07	0.02	--	--	--	--	0.50	0.13

REGULATORY APPLICABILITY

The following state and federal rules apply to the modified portion of the facility:

45CSR13: *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed construction of Station 118A Compressor Station has a potential to emit in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant and, therefore, is subject to 45CSR13.

As required under §45-13-8.3, Tennessee Pipeline placed a Class I legal advertisement in a “newspaper of general circulation in the area where the source is . . . located.” The ad ran on August 15, 2017 in *The Charleston Gazette Mail* and the affidavit of publication for this legal advertisement was submitted on August 24, 2017.

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Tennessee Gas Pipeline Company, LLC
Station 118A

45CSR22: Air Quality Management Fee Program

Station 118A is not subject to 45CSR30. The facility is subject to 40CFR60 Subpart OOOO, JJJJ, and KKKK, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source, therefore, the facility is not subject and will pay its annual fees through the Rule 22 program.

40 CFR 60 Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

The proposed 1,462 hp replacement emergency generator 118-EG-03 is defined under 40 CFR 60, Subpart JJJJ as stationary spark-ignition internal combustion engines (SI ICE) and is, pursuant to §60.4230(a)(4)(ii), subject to the applicable provisions of the rule. Pursuant to §60.4233(e): “Owners and operators of stationary SI 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 this subpart for their stationary SI ICE.” Therefore, as the proposed generator engine is an emergency engine greater than 130 HP, the engine must comply with the following emission standards:

	NO _x	CO	VOC
Standard (g/HP-hr)	2.0	4.0	1.0

Since the replacement emergency generator is not EPA certified, under the rule, it will have to demonstrate compliance by performing testing in accordance with §60.4244 of the rule. Additionally, per §60.4243(b)(2)(i) the permittee will have to “keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.”

40 CFR 63 Subpart ZZZZ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

The replacement emergency generator will be considered “new” under Subpart ZZZZ since the engine commenced construction after June 12, 2006. Therefore, the engine will only need to meet the provisions of 40CFR60 Subpart JJJJ.

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-3232A for the modification of a compressor station near Charleston, Kanawha County, be granted to Tennessee Pipeline Company, LLC.

William T. Rothwell II, P.E.
Engineer - NSR Permitting

Date