



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3030B
Plant ID No.: 081-00181
Applicant: CNX Gas Company, LLC
Facility Name: Rowland Land #303
Location: Dameron, Raleigh County
NAICS Code: 21111
Application Type: Class II Update
Received Date: September 25, 2015
Engineer Assigned: Caraline Griffith
Fee Amount: \$1,300
Date Received: September 30, 2015
Complete Date: October 20, 2015
Due Date: December 21, 2015
Applicant Ad Date: October 6, 2015
Newspaper: *The Register-Herald*
UTM's: Easting: 468.481 km Northing: 4191.932 km Zone: 17
Description: Replacement of the onsite generator. Removing the previous 4.2 L Ford ESG-642 Engine and replacing it with a 2.5 L Ford LRG-425.

DESCRIPTION OF PROCESS

The Rowland 303B Compressor Station is an existing facility that operates under permit R13-3030.

Natural gas enters the facility via a gathering pipeline that collects field gas from area wells as well as from an onsite well. The gas pressure is boosted onsite using a Caterpillar G3304NA [1S] natural gas-fired compressor. This [1S] 95 Hp compressor was installed in 2013 under the R13-3030 permit approved on April 29, 2013. The gas pressure is boosted from 0.5 psig to 70 psig and sent off site.

A 2.5L Ford LRG-425 natural gas-fired engine is proposed to replace the 4.2L Ford ESG-642 (3S) natural gas-fired engine which powers the Olympia G30F3 generator. The generator will continue to be used for supplying prime power for down-hole, dewatering

pumps in the natural gas well.

The site also utilizes two 210 bbl produced water storage vessels and two 500 gal lube oil tanks, all of which were installed in 2007 and are included in the current R13 permit.

Installation and Startup Schedule:

The replacement 2.5L Ford LRG-425 Engine will be installed as soon as the updated permit is issued and will begin operation immediately after installation. Prior to receiving the updated permit, the facility will continue to operate per the requirements of the existing permit.

Emission Units Table:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type and Date of Change	Control Device
3S	3E	Electrical Generator Ford, (Model ESG-642)	2014	59.4 HP	Removal	N/A
4S	4E	Electrical Generator Ford LRG-425	2015	33 HP	New	N/A

SITE INSPECTION

A full on-site inspection was conducted by John Money Penny of DAQ's Compliance and Enforcement Section on October 28, 2014. There were no visible emissions or leaks at the time of the inspection. The site has a Cat G3304 95hp Manufacture date: July 2004 SN NFF00908. It also has a DCL Cat bed installed in May 2014, SN 611809. At time of inspection: Inlet temp 857F, Outlet temp 902F.

Directions to the facility:

Take County Rout 1/8 to Workman's Creek Road. Go 2.8 miles to Rowland 303B Compressor Station on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Manufacturer's Data was used to calculate the potential emissions of NOX, CO, and VOC. AP-42 emission factors were used to calculate the potential emissions for SO2, PM10, PM2.5, Formaldehyde, and other HAPs. Greenhouse Gas emissions were calculated using emission factors from 40 CFR 98, Subpart C, Table C-1 and C-2.

Emissions Summary Table:

Emission Point ID	Emission Unit ID	Control Device ID	Regulated Pollutant	Maximum Potential Emissions	
				lb/hr	tpy
4E	4S	N/A	PM	0.0024	0.0107
			SO2	0.0002	0.0007
			NOX	0.4449	1.9485
			CO	2.0941	9.1722
			VOC	0.0076	0.0333
			CO2e	30.076	131.734
			Benzene	0.0004	0.0018
			Ethylbenzene	0.00	0.00
			Toluene	0.0001	0.0006
			Xylenes	0.0001	0.0002
			Formaldehyde	0.0053	0.0231
			Total HAP	0.0059	0.0257

The proposed change results in permitted potential emissions changes of a increase of 0.23 tpy NO_x, an decrease of 12.05 tpy CO, and an decrease of 1.69 tpy VOC.

REGULATORY APPLICABILITY

The following state and federal regulations were reviewed for the proposed modifications addressed in permit application R13-3030B.

State Regulations:

45CSR13 PERMITS FOR CONSTRUCTION, MODIFICATION, RELOCATION AND OPERATION OF STATIONARY SOURCES OF AIR POLLUTANTS, NOTIFICATION REQUIREMENTS, ADMINISTRATIVE UPDATES, TEMPORARY PERMITS, GENERAL PERMITS, PERMISSION TO COMMENCE CONSTRUCTION, AND PROCEDURES FOR EVALUATION

The applicant has met the requirements of 45CSR13 for the Class II Administrative Update that they applied for by placing a Class I legal notice in *The Registered-Harold* on October 6, 2015, providing a complete permit application, and paying the required \$300 application fee and \$1,000 NSPS fee.

Federal Regulations:

40CFR60,
Subpart JJJJ

STANDARDS OF PERFORMANCE FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES

The Ford LRG-425 33 HP natural gas generator engine is subject to this subpart since this non-emergency generator commenced construction after June 12, 2006 and is directed by 40 CFR 63, Subpart ZZZZ to comply with the applicable new source requirements of Subpart JJJJ. However, due to the manufacturing date of this engine (12/1/2006), it was found not to be subject to any of the emission limitations under Subpart JJJJ because it was manufactured before July 1, 2008. This is in accordance with 40 CFR § 60.4230(a)(4)(iii) for engines with a maximum engine power less than 500 Hp.

40 CFR 63,
Subpart ZZZZ

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

The Ford LRG-425 33 HP natural gas generator engine is subject to this subpart as a new non-emergency engine because it was constructed after June 12, 2006. As a new engine, it satisfies the requirements of Subpart ZZZZ by following the requirements of 40 CFR 60, Subpart JJJJ in accordance with 40 CFR § 63.6590(c)(1) and the definition of a new area source under 40 CFR § 63.6590(a)(2)(iii).

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There are no new hazardous pollutants associated with this permit modification.

AIR QUALITY IMPACT ANALYSIS

The proposed changes in this Class II Administrative Update permit application do not meet the definition of a major modification according to the definitions in 45CSR14 and 45CSR19; therefore, modeling is not required for this permit application.

MONITORING OF OPERATIONS

The new generator engine will be required to monitor the engine hours of operation, the fuel throughput, and the planned and unplanned maintenance of the engine.

CHANGES TO PERMIT R13-3030A

- General changes in the permit to reflect the current permit revision
- 1.0 - updated the emission units table as shown in the process description section of this evaluation
- 4.1.2, 4.2.1, 4.4.6, 4.4.7 - revised the requirement to reflect engine 4S and delete the reference to engine 3S that is being replaced.

RECOMMENDATION TO DIRECTOR

It is recommended that permit modification R13-3030B be granted to CNX Gas Company, LLC; Rowland 303B Compressor Station located in Dameron, Raleigh County, WV. Based on the information provided in the application, CNX Gas will be in compliance with all applicable state and federal regulations associated with this modification.


Caroline Griffith
Permit Engineer

11/10/15
Date