



west virginia department of environmental protection

Division of Air Quality
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3006
Plant ID No.: 081-00259
Applicant: CNX Gas Company (CNX)
Facility Name: Rowland 310 Station
Location: near Glen Daniels, Raleigh County
NAICS Code: 211111
Application Type: Construction
Received Date: October 22, 2012
Engineer Assigned: David Keatley
Fee Amount: \$1,000
Date Received: October 23, 2013
Complete Date: April 30, 2013
Due Date: July 29, 2013
Applicant Ad Date: January 7, 2013
Newspaper: *The Register Herald*
UTM's: Easting: 467.33 km Northing: 4,193.57 km Zone: 17
Description: Permit one (1) 60 bhp compressor engine, one (1) full time generator engine, and two (2) 8,820 gallon produced water tanks.

DESCRIPTION OF PROCESS

Natural gas enters the facility via pipeline. The natural gas is compressed to a higher pressure. The compressor is powered by a 60 bhp 1,800 rpm Ford CSG-649 four-stroke rich-burn pipeline quality natural gas fired engine 1S. The compressed natural gas stream then exits the facility via pipeline. This facility has a full time generator to provide electrical power for the facility. The generator is powered by a Ford LRG-425 four-stroke rich-burn pipeline quality natural gas fired engine 2S. This facility will also have two (2) 10,000 gallon produced water tanks which will have a 6,600 gallon/year throughput each.

SITE INSPECTION

John Money Penny from the DAQ's Compliance and Enforcement performed a site visit on February 20, 2013. The Ford CSG 649 (1S) had not been installed yet, but the Ford Generator (2S) was on site and running. The closest private residence was approximately 2 or 3 miles away. No odors or visible emissions were noticed during the inspection.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The following table has the estimated controlled point source emissions:

| Source ID | Emission Source | Pollutant | Maximum Hourly Emissions (lb/hr) | Maximum Annual Emissions (tpy) |
|-----------|---|----------------------------|----------------------------------|--------------------------------|
| 1S | Compressor Engine Ford CSG 649 60 bhp | Nitrogen Oxides | 1.31 | 5.73 |
| | | Carbon Monoxide | 2.14 | 9.36 |
| | | Volatile Organic Compounds | 0.02 | 0.06 |
| | | Total Particulate Matter | 0.01 | 0.04 |
| | | Particulate Matter-10 | 0.01 | 0.04 |
| | | Formaldehyde | 0.01 | 0.04 |
| 2S | Generator Ford LRG 425 40 bhp | Nitrogen Oxides | 0.08 | 3.50 |
| | | Carbon Monoxide | 3.77 | 16.48 |
| | | Volatile Organic Compounds | 0.01 | 0.04 |
| | | Particulate Matter-10 | 0.01 | 0.04 |
| | | Formaldehyde | 0.01 | 0.03 |
| 3S | Produced Water Tank | Volatile Organic Compounds | 0.39 | 1.69 |
| 4S | Produced Water Tank | Volatile Organic Compounds | 0.39 | 1.69 |

The following table represents the total estimated controlled facility wide emissions:

| Pollutant | Maximum Annual Facility Wide Emissions (tons/year) |
|----------------------------|--|
| Nitrogen Oxides | 9.24 |
| Carbon Monoxide | 25.84 |
| Volatile Organic Compounds | 3.48 |
| Total Particulate Matter | 0.06 |
| PM ₁₀ | 0.06 |
| Formaldehyde | 0.07 |
| Total HAPs | 0.07 |
| Carbon Dioxide Equivalent | 125 |

REGULATORY APPLICABILITY

45CSR4 (To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors)

This facility shall not cause the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. 45CSR4 states that an objectionable odor is an odor that is deemed objectionable when in the opinion of a duly authorized representative of the Air Pollution Control Commission (Division of Air Quality), based upon their investigations and complaints, such odor is objectionable.

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)

CNX has voluntarily applied for a permit. CNX has published the required Class I legal advertisement notifying the public of their permit application.

45CSR22 (Air Quality Management Fee Program)

This facility is a minor source and not subject to 45CSR30. CHK is required to keep their Certificate to Operate current. CHK paid a \$1,000 construction application fee.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The following information was obtained from USEPA's Air Toxic Website.

Formaldehyde

Formaldehyde is used mainly to produce resins used in particleboard products and as an intermediate in the synthesis of other chemicals. Exposure to formaldehyde may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air. Acute (short-term) and chronic (long-term) inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. EPA considers formaldehyde a probable human carcinogen (Group B1).

AIR QUALITY IMPACT ANALYSIS

Based on the annual emission rates this facility will not be a major source as defined by 45CSR14, so air quality modeling was not performed.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates CNX's natural gas compressor station should meet all applicable requirements. It is recommended that CNX's proposed Rowland 310 Station should be granted a 45CSR13 construction permit for their facility.

David Keatley
Permit Writer

Date