



west virginia department of environmental protection

Division of Air Quality
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G30-D106A
Plant ID No.: 109-00154
Applicant: Enervest Operating LLC Eastern Division
Facility Name: LCHC-101
Location: Crany, Wyoming County, West Virginia
NAICS Code: 211111
Application Type: Class I Administrative Update
Received Date: August 25, 2015
Engineer Assigned: David Keatley
Fee Amount: \$0
Date Received: Not Applicable (NA)
Complete Date: October 2, 2015
Due Date: December 1, 2015
Applicant Ad Date: NA
Newspaper: NA
UTM's: Easting: 452.728 km Northing: 4,178.340 km Zone: 17
Description: Installation and operation of one (1) 276-bhp compressor engine. Removal of two (2) compressor engines: one (1) 400-hp and one (1) 195-hp.

DESCRIPTION OF PROCESS

Natural gas enters the facility via pipeline. The natural gas will be compressed to a higher pressure. The compress is powered by one (1) 276 bhp Caterpillar G3406 four-stroke rich-burn natural gas fired compressor engine and is equipped with a NSCR EMIT catalyst. This facility also has two existing tanks: one (1) 2,100-gallon produced water tank and one (1) 1,260-gallon new lubricating oil tank.

SITE INSPECTION

Todd Shrewsbury of DAQ's Compliance and Enforcement Section performed a full on site inspection of the facility on July 10, 2015 and determined the facility was in compliance.

From Beckley: Take Exit 44 (Harper Road / Route 3) off I77. Go west about 10 miles to stop sign in Glen Daniel. Go straight ahead on Hwy 99 at stop sign to Highway Maintenance Yard on the west edge of Bolt. Continue straight ahead on Hwy 99 for approximately 5.9 miles. Turn left on gravel road at the fire tower. Go downhill through the gate. Follow road about 1.3 miles to bottom of hill and turn right. Continue about 3 miles on strip bench to end of Crany strip dump. Road runs into facility site location.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions from the produced water tanks will be considered negligible. The Emissions for engine CE-1 were estimated with manufacture data (NOx, CO, HCHO, and VOC) and AP-42 emission factors.

Table 1: Maximum Estimated PTE

Emission Unit	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
CE-1 (Compressor Engine)	Nitrogen Oxides	1.22	5.33
	Carbon Monoxide	1.83	8.00
Caterpillar G3406	Volatile Organic Compounds	0.11	0.48
	Formaldehyde	0.17	0.72

REGULATORY APPLICABILITY

The following rules and regulations apply to the facility:

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*

This facility has exceeded the permitting threshold of 1,000 lb/year for formaldehyde. The potential formaldehyde emissions were estimated at 1,440 lb/year and therefore this facility requires a permit.
(45CSR13 Table 45-13A)

45CSR22 *Air Quality Management Fee Program*

This facility is a minor source as can be seen in Table 1 and not subject to 45CSR30 since this facility is exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71. This facility has a total maximum horsepower capacity less than 1,000 hp (276 hp) and is therefore a 9M source which is required to pay a \$200 annual fee. Enervest is required to keep their Certificate to Operate current

40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. The Nice Station is subject to the area source requirements and has non-emergency spark ignition engines.

Engine CE-1 is a "New Stationary RICE" sources at an area source of HAPs and are affected source because construction will commenced after June 12, 2006 [63.6590(a)(2)(iii)] due to the manufacture's dates of the engine (February 20, 2007).

Engine CE-1 must meet the requirements of 40CFR60 subpart JJJJ and has no requirements due to this regulation.

40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE))

40CFR60 Subpart JJJJ sets forth emission limits, fuel requirements, installation requirements, and monitoring requirements based on the date of construction, date of manufacture, and horsepower (hp) of the spark ignition internal combustion engine. All proposed engines will commence construction after June 12, 2006.

Engine CE-1 is a SI RICE which is less than 500 hp and was manufactured before July 1, 2008 and has no requirements due to this regulation.

The following regulation does not apply to the facility:

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Pursuant to §60.110b, 40 CFR 60, Subpart Kb applies to “each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.” The storage tanks located at this facility are each 2,100 gallons, or about 8 m³. Therefore, Subpart Kb does not apply to the storage tanks due to the tank volume.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. This facility has the the following HAPs as emitted in substantive amounts (at least 20 pounds (0.01 tons) per year) in their emissions estimate: Formaldehyde. The following table lists each HAP’s carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

Table 4: Potential HAPs - Carcinogenic Risk

HAPs	Type	Known/Suspected Carcinogen	Classification
Formaldehyde	VOC	Yes	Category B1 - Probable Human Carcinogen

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health affects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at www.epa.gov/iris.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates compliance with all state and federal air quality requirements will be satisfied and this facility is expected to meet the requirements of General Permit G30-D. Therefore Enervest's request to for a Class I Administrative Update is recommended to the Director of Air Quality.



David Keatley
Permit Writer - NSR Permitting

October 2, 2015

Date