



west virginia department of environmental protection

Division of Air Quality
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Joe Manchin, III, Governor
Stephanie R. Timmermeyer, Cabinet
Secretary

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G35-A016B
Plant ID No.: 109-00128
Applicant: Enervest Operating, LLC
Facility Name: Clear Fork
Location: Ravenscliff, Wyoming County
NAICS Code: 211111
Application Type: Class II Administrative Update
Received Date: December 23, 2015
Engineer Assigned: Caraline Griffith
Fee Amount: \$2,800
Date Received: December 29, 2015
Complete Date: January 19, 2016
Due Date: March 7, 2016
Applicant Ad Date: December 18, 2015
Newspaper: *The Register Herald*
UTM's: Easting: 455.32 km Northing: 4,177.10 km Zone: 17S
Description: Installation of a 400 hp Waukesha-F18GL compressor engine.

PROCESS DESCRIPTION

Natural gas is transported from Coal bed methane and conventional vertical wells via pipeline to the Clear Fork Station. Once at the Clear Fork Station, three natural gas fueled SI-RICE are used to power compressors which compresses the gas to increase the pressure. After the gas is compressed the gas is then processed in a Glycol Dehydrator to remove excess water and to meet the pipeline standards. After gas is processed it is transported off site from the facility to another pipeline.

This application for the addition of the third of the three engines, the Waukesha-F18GL.

SITE INSPECTION

On July 23, 2015, Todd Shrewsbury of the DAQ's Compliance and Enforcement Section inspected the facility. Mr. Shrewsbury's assessment was as follows:

"Remote station with two existing 1,265 HP 4SLB Cat G3516 engines and two dehys each with capacity larger than 3 MMMSCF/day. Engines subject to regular PM service every 2,160 hours or annually per 40CFR63 Subpart ZZZZ Table 2d Section 8."

The site received a rating of 30.

Directions:

Driving North on 85 for 2 miles from Oceana, WV you will arrive at Toney Fork. Make a right onto Clear Fork Road Drive. Go for approximately 5 miles and the station will be directly ahead.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The Waukesha engine emissions were calculated using manufacture's data and AP-42. An SCR control device is affixed to the CE-3 engine causing a 45% reduction rate in VOC emissions: From 1.45 TPY to 0.80 TPY.

Table 1: Estimated Unit PTE

Unit ID	Unit Description	Pollutant	lb/hr	TPY
CE-3	Waukesha-F18GL 400 hp	NOx	1.76	7.73
		CO	0.08	0.35
		VOC	0.18	0.80
		SO2	<0.01	0.01
		PM	<0.01	<0.01
		Formaldehyde	0.15	0.65

Table 2: Facility Wide PTE

Pollutant	Maximum PTE G35-A016A (TPY)	Maximum PTE G35-A016B (TPY)	Increase in Emissions (TPY)
NOx	32.33	40.06	7.73
CO	32.36	32.71	0.35
VOC	4.85	5.03	0.18
SO2	0.03	0.04	0.01
PM	0.00	0.00	--
Formaldehyde	1.34	1.41	0.07

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

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. All facilities are inspected by the DAQ Enforcement Section.

Enervest does not believe the Waukesha-F18GL 400 hp engine will cause any objectionable odors at the site.

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

Enervest Operating, LLC has demonstrated compliance with 45CSR13 by submitting a complete G35-A general permit registration application, placing a legal advertisement in *The Register Herald* on December 18, 2015, and paying the applicable fees.

45CSR22 Air Quality Management Fee Program

This facility is a minor source and not subject to 45CSR30. Enervest is required to keep their Certificate to Operate current. They paid the \$300 fee associated with a G35-A Class II update general permit registration application and a \$2,500 NESHAPs fee.

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

Subpart JJJJ sets forth emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine.

The 400 hp Waukesha-F18Gl (CE-3) engine commenced construction after June 12, 2006 but was manufactured before July 1, 2008 (January 31, 2003), therefore it is not subject to this rule.

Because this engine will not be certified by the manufacturer, Enervest will be required to perform an initial performance test within 180 days from startup, and subsequent testing every 8,760 hours or 3 years, whichever comes first.

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

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (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.

For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006 [40CFR63.6590a(1)(iii)]. The 400 hp Waukesha-F18G1 (CE-3) engine commenced construction before June 12, 2006 and was manufactured on January 31, 2003, therefore it is subject to this rule.

Owners and operators of existing engines at areas sources must meet the requirements of Subpart ZZZZ by complying with either 40CFR60 Subpart IIII or Subpart JJJJ. Based on emissions calculations this facility is a minor source of HAP. The proposed engine located at this facility was constructed before June 12, 2006 and is less than or equal to 500 hp. Engine CE-3, due to the site construction date, must comply with the applicable emission limitations, operating limitations, and other requirements in this subpart, Table 2d.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Small amounts of non-criteria regulated hazardous or toxic air pollutants such as benzene, ethylbenzene, toluene, xylenes and formaldehyde may be emitted when natural gas is combusted in reciprocating engines. Total non-criteria regulated hazardous/toxic air pollutant emissions are tabulated for each registered natural gas compressor station in the Class II General Permit Registration Application. A toxicity analysis will be performed when the Director finds existing circumstances and/or submitted data provide cause for an assessment to be made concerning whether a specific natural gas compressor station may interfere with attainment or maintenance of an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare. Any natural gas compressor station granted Class II General Permit registration by the Director shall not have a potential to emit of 10 tons per year of any hazardous/toxic pollutant or 25 tons per year of any combination of hazardous/toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

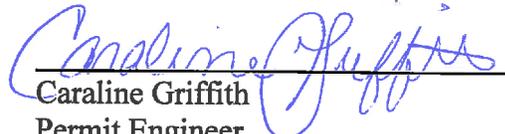
Based on the annual emission rates this facility will not be a major source as defined by 45CSR14, so air quality modeling was not performed.

GENERAL PERMIT ELIGIBILITY

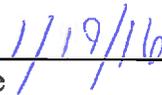
The proposed updates and operation of this facility meets the eligibility, siting, limitations, and emissions controls as specified in General Permit G35-A. Enervest's CE-3 engine is not subject to 40CFR60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

RECOMMENDATION TO DIRECTOR

General Permit G35-A016B meets all the requirements of applicable regulations when all of the applicable control devices are functioning properly. Therefore, it is recommended that General Permit G35-A016B should be issued to Enervest Operating, LLC for the Clear Fork Station..



Caraline Griffith
Permit Engineer



Date