west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2669A
Plant ID No.:	021-00002
Applicant:	Dominion Transmission, Inc. (Dominion)
Facility Name:	Jones Station
Location:	Lockney, Gilmer County
SIC Code:	4922
NAICS Code:	486210
Application Type:	Modification
Received Date:	September 7, 2011
Engineer Assigned:	Jerry Williams, P.E.
Fee Amount:	$1,000.00
Date Received:	September 7, 2011
Complete Date:	October 5, 2011
Due Date:	January 3, 2012
Applicant Ad Date:	September 15, 2011
Newspaper:	*Glenville Democrat*
UTM's:	Easting: 502.87 km Northing: 4300.26 km Zone: 17
Description:	Modification of a natural gas compressor station consisting of an increase to the throughput limitation to the glycol dehydration unit.

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-2669A:

Jones Station is a compressor facility that services a natural gas pipeline. The purpose of the facility is to recompress natural gas flowing through a pipeline for transportation. The compressor engines (EN01-EN02) at the facility receive natural gas from a valve on a pipeline and compresses it to enable further transportation in the pipeline. Prior to entering the pipeline, the compressed natural gas is processed by the dehydration unit. The purpose of the dehydration unit is to remove moisture from the gas stream to comply with gas quality specifications. The process to remove the moisture begins with the compressed gas being passed through a triethylene glycol dehydration system consisting of a contactor bed, a reboiler (RB01), and

associated equipment. During this process a small amount of hydrocarbons are extracted from the gas stream. The wet gas enters the contactor where moisture and some hydrocarbons are absorbed into the lean glycol. The glycol, which has become rich with absorbed moisture and hydrocarbons, is regenerated in the still column (D1) using the heat generated in the natural gas fired reboiler (RB01) to liberate the moisture and hydrocarbon vapors. The regenerator vapors are vented to the flare (F1) to combust the hydrocarbons, thereby, reducing overall emissions and odor. The compressed, dehydrated gas then enters the pipeline.

This project includes the increase in the throughput limitation of the dehydration unit still. No other emission units will be modified.

SITE INSPECTION

A site inspection was conducted on January 7, 2010 by Mike Kolb of DAQ Enforcement. According to Air Trax, the facility was found to be operating in compliance at that time.

Directions as given in the permit application are as follows:

Take I-79 to Exit 79 (Burnsville). Turn right onto Route 5 West. Go approximately 15 miles to junction of Route 33/19 and turn left. Continue on Route 33/119 approximately 14 miles. Station is on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Maximum controlled point source emissions from Dominion's Jones Station following the proposed throughput increase to the glycol dehydration unit are summarized in the table below.

Source ID	Emission Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
RB01	Glycol Dehydrator Reboiler	Nitrogen Oxides	0.03	0.13
		Carbon Monoxide	0.03	0.11
		Volatile Organic Compounds	<0.01	0.01
		Sulfur Dioxide	<0.01	<0.01
		Particulate Matter-10	<0.01	<0.01
D1	Glycol Dehydrator Regenerator Still Vent	Volatile Organic Compounds	5.43	23.78
		Benzene	0.04	0.18
		Ethylbenzene	0.12	0.53
		Toluene	0.17	0.75
		Xylenes	0.43	1.88
		n-Hexane	0.04	0.19
F1	Flare	Nitrogen Oxides	0.04	0.15
		Carbon Monoxide	0.19	0.84
		Volatile Organic Compounds	0.07	0.32
		Sulfur Dioxide	<0.01	<0.01
		Particulate Matter-10	<0.01	<0.01

The emission changes associated with this application are shown in the following table:

Pollutant	Annual Emissions Before R13-2667A (tons/year)	Annual Emissions After R13-2667A (tons/year)	Emissions Change (tons/year)
Volatile Organic Compounds	20.67	24.10	3.43
Benzene	0.15	0.18	0.03
Ethylbenzene	0.46	0.53	0.07
n-Hexane	0.17	0.19	0.03
Toluene	0.65	0.75	0.10
Xylene	1.67	1.88	0.21
Total HAPs	3.10	3.93	0.83

REGULATORY APPLICABILITY

The following rules apply to the facility:

45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)

Dominion would be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average.

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. No odors have been deemed objectionable.

45CSR6 (To Prevent and Control Air Pollution from the Combustion of Refuse)

The purpose of this rule is to prevent and control air pollution from combustion of refuse.

The facility has a flare at the facility. The flare is subject to section 4, emission standards for incinerators. The flare has an allowable emission rate of 0.1 pounds of particulate matter per hour (assuming a natural gas density of 0.044 lb/ft^3). The flare has negligible amounts of particulate matter per hour. Therefore, the facility's flare will demonstrate compliance with this section. The facility will demonstrate compliance by maintaining the amount of natural gas consumed by the flare and the hours of operation. The facility will also monitor the flame of the flare and record any malfunctions that may cause no flame to be present during operation. In addition, the facility will also monitor visible emissions from the flare on a monthly basis.

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 purpose of this rule is to set forth the procedures for stationary source reporting, and the criteria for obtaining a permit to construct and operate a new stationary source which is not a major stationary source, to modify a non-major stationary source, to make modifications which are not major modifications to an existing major stationary source and to relocate non-major stationary sources within the state of West Virginia.

The facility is proposing an increase in throughput to the glycol dehydration unit, therefore the facility is required to apply for a modification permit.

45CSR30 (Requirements for Operating Permits)

This rule provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act, and provides for a transition period prior to the implementation of the permitting system.

The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

The following regulations do not apply to the facility:

45CSR14 (Permits for Construction and Modification of Major Sources of Air Pollution for the Prevention of Significant Deterioration)

The modification of the Jones Station does not constitute a major modification under 45CSR14. The increased potential emissions associated with the Jones Station are less than the significant amounts set forth in 45CSR14. The proposed changes result in an increase in Volatile Organic Compounds emissions of 3.43 tpy. Therefore, a major modification has not occurred as a result of this permitting action.

40CFR63 Subpart ZZZZ (National Emission Standards for Reciprocating Ignition Internal Combustion Engines)

40CFR63 Subpart HH (National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production and National Emission Standards for Hazardous Air Pollutants: Natural Gas Transmission and Storage)

40CFR63 Subpart HHH (National Emission Standards for Hazardous Air Pollutants: Natural Gas Transmission and Storage)

WVDEP DAQ did not determine whether the permittee is subject to an area source air toxics standard requiring Generally Achievable Control Technology (GACT) promulgated after January 1, 2007 pursuant to 40 CFR 63, including the area source air toxics provisions of 40 CFR 63, Subpart HH and 40 CFR 63, Subpart ZZZZ.

These promulgated national emission standards for hazardous air pollutants (NESHAP) limit emissions of hazardous air pollutants (HAP) from oil and natural gas production and natural gas transmission and storage facilities. These final rules implement section 112 of the Clean Air Act (Act) and are based on the Administrator’s determination that oil and natural gas production and natural gas transmission and storage facilities emit HAP identified on the EPA’s list of 188 HAPs.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Various non-criteria regulated pollutants are emitted from the incomplete combustion of natural gas. However, these emissions should not adversely impact the quality of the surrounding ambient air at the concentrations, discharge rates, and point of introduction into the atmosphere as described in the permit application.

AIR QUALITY IMPACT ANALYSIS

The changes to this facility do not constitute a major modification under 45CSR14. Based on the nature of the emissions and the annual emission rate, no air quality analysis was performed. However, air dispersion modeling will be required if the Director finds existing circumstances and/or submitted data that provide cause for an assessment to be made concerning whether this facility may interfere with attainment or maintenance of an applicable ambient air quality standard or cause or contribute to a violation of an applicable air quality increment.

The gas wells that feed this processing facility are not owned by Dominion. This facility is not contiguous or adjacent with any other facility that would be associated with it. Therefore, the emissions from any other facility would not be aggregated with this facility.

MONITORING OF OPERATIONS

Dominion will be required to perform the following monitoring:

1. Monitor and record quantity of natural gas consumed for all combustion sources.

Dominion will be required to perform the following recordkeeping:

1. Maintain records of the amount of natural gas consumed in each combustion source.
2. Maintain records of testing conducted in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location
3. Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
4. Maintain records of the visible emission opacity tests conducted per the permit.
5. Maintain a record of all potential to emit (PTE) HAP calculations for the entire facility. These records shall include the natural gas compressor engines and ancillary equipment.
6. The records shall be maintained on site or in a readily available off-site location maintained by Dominion for a period of five (5) years.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates Dominion's Jones Station meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the Gilmer County location should be granted a 45CSR13 modification permit for their facility.

Jerry Williams, P.E.
Engineer

Date