

Fact Sheet



For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on July 13, 2011.

Permit Number: **R30-01300001-2011**
Application Received: **April 3, 2015**
Plant Identification Number: **03-54-01300001**
Permittee: **Dominion Transmission, Inc.**
Facility Name: **Yellow Creek Station**
Mailing Address: **925 White Oaks Blvd; Bridgeport, WV 26330**

Permit Action Number: *MM01* Revised: *November 13, 2015*

Physical Location: Big Springs, Calhoun County, West Virginia
UTM Coordinates: 495.80 km Easting • 4314.80 km Northing • Zone 17
Directions: Take Interstate 79 North to the Big Otter Exit. Take Route 16 North through Grantsville. After leaving Grantsville, travel on Route 16 North for approximately 6.1 miles to Calhoun County Route 6 (Klipstine Road). Turn right onto Route 6 and travel 1 mile; station is to the right of road.

Facility Description

Yellow Creek Compressor Station is a natural gas transmission facility that compresses production gas to Hastings Extraction Plant. It is covered by Standard Industrial Classification (SIC) Code 4922 and North American Industry Classification System (NAICS) Code 486210. The station currently consists of three (3) 1100 HP natural gas fired reciprocating engines, one (1) dehydrator reboiler, one (1) dehydration unit with flare, one (1) 16 HP air Compressor, nine (9) storage tanks of various sizes, and two (2) emergency generators. The station has the potential to operate seven (7) days per week, twenty-four (24) hours per day.

The purpose of this modification is to remove the existing 20 mmscf/day Triethylene Glycol (TEG) Glycol Dehydration Unit (GDU) (DEHY01), reboiler (RBR01), and dehydration unit flare (DEHY 1C). This

equipment will be replaced with an Inegral 20 mmscf/day TEG GDU (DEHY02) utilizing a thermal oxidizer (2C) and a new reboiler (RBR02).

Emissions Summary

Due to the changes associated with this modification, the following emissions will increase:

Pollutant	Emissions Change (TPY)
NO _x	1.37
CO	6.08
VOC	19.15
SO ₂	0.01
PM ₁₀	0.41
HAPs	8.06 ¹

¹The PTE of all individual HAPs are less than 10 TPY and the PTE of total HAPs is less than 25 TPY.

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 274.2 TPY of CO, 445.0 TPY of NO_x, and 135.7 TPY of VOC. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Dominion Transmission, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers
	45CSR6	Open burning prohibited.
	45CSR13	NSR Permitting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for HAPs.
	40CFR63, Subpart HH	Oil and Gas Production Facilities NESHAP.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2614B	July 28, 2015	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

Equipment Changes

The following Equipment was removed with this modification:

- Glycol Dehydration Unit Still Column (Emission Unit ID: DEHY01)
- Glycol Dehydration Unit Reboiler (Emission Unit ID: RBR01)
- Glycol Dehydration Unit Flare (Emission Unit ID: DEHY 1C)

And the following equipment replaced the equipment removed:

- Dehydrator Still Column and Flash Tank (Emission Unit ID: DEHY02)
- Reboiler (Emission Unit ID: RBR02)
- Thermal Oxidizer (Emission Unit ID: 2C)

Removal of Section 4.0

Section 4.0 previously addressed only the Glycol Dehydration Unit Reboiler (Emission Unit ID: RBR01). This reboiler was removed, and the new reboiler will be addressed in section 5.0. Therefore all conditions from this section were removed.

45CSR2: To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers

The Reboiler (RBR02) has been determined to meet the definition of a "fuel burning unit" under 45CSR2 and is, therefore, subject to the applicable requirements therein. However, pursuant to the exemption given under §45-2-11, as the MDHI of the unit is less than 10 mmBtu/hr, it is not subject to sections 4, 5, 6, 8 and 9 of 45CSR2. The only remaining substantive requirement is under Section 3.1 - Visible Emissions Standards.

Pursuant to 45CSR2, Section 3.1, the reboiler is subject to an opacity limit of 10%. Proper maintenance and operation of the unit (and the use of natural gas as fuel) should keep the opacity of the unit well below 10% during normal operations.

45CSR6: To Prevent and Control Particulate Air Pollution from Combustion of Refuse

Dominion has proposed a thermal oxidizer (enclosed combustor) for controlling the regenerator still vent emissions. This unit meet the definition of an "incinerator" under 45CSR6 and is, therefore, subject to the requirements therein. The substantive requirements applicable to the unit are discussed below.

45CSR6 Emission Standards for Incinerators - Section 4.1: Section 4.1 limits PM emissions from incinerators to a value determined by the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

<u>Incinerator Capacity</u>	<u>Factor F</u>
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

Based on information taken from GRI-GLYCalc, the uncontrolled weight rate of hydrocarbons going to the thermal oxidizer is 142 lbs/hr (0.07 tons/hr). Using this amount as the capacity of the thermal oxidizer, it has a particulate matter limit of 0.38 lbs/hour. The particulate matter emission rate from the thermal oxidizer was estimated to be 0.09 lbs/hr, which is in compliance with the 45CSR6 limit.

45CSR6 Opacity Limits for - Section 4.3, 4.4: Pursuant to Section 4.3, and subject to the exemptions under 4.4, the thermal oxidizer has a 20% limit on opacity during operation. As a primary constituent in the vapors combusted in the unit shall be clean burning methane/ethane, particulate matter emissions from the unit are expected to be nominal. Therefore, the unit should easily meet this requirement.

40 CFR 63 Subpart HH: National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

On June 1, 2013 the DAQ took delegation of the area source provisions of 40 CFR 63, Subpart HH. Pursuant to 40CFR§63.760(a)(3), as the Yellow Creek Compressor Station - an area source of HAPs - “process[es], upgrade[s], or store[s] natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user,” it is defined as an area source subject to the applicable provisions under Subpart HH.

Pursuant to 40CFR§63.760(b)(2), each TEG GDU located at an area source that meets the requirements under 40CFR§63.760(a)(3) is defined as an affected facility under Subpart HH. The requirements for affected sources at area sources are given under 40CFR§63.764(d). However, for a GDU, exemptions to these requirements are given under 40CFR§63.764(e): if (1) “actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters [3 mmscf/day] per day” or (2) “actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram [1 TPY] per year.”

Pursuant to information in the permit application, the maximum aggregate PTE of benzene emissions from the GDU process vent is 0.35 TPY. Therefore, the GDU is exempt from the Subpart HH requirements given under 40CFR§63.764(d).

Changes to Permit R13-2614A

Permit R13-2614A was issued only to make the flare on the existing Glycol Dehydration Unit federally enforceable and to keep the facility from being a major source of HAPs. As such, a completely new permit was created for the new Glycol Dehydration Unit, Reboiler, and Thermal Oxidizer. This resulted in the majority of the permit conditions in this Title V permit that reference R13-2614A being rewritten.

The following permit conditions were revised, added, or deleted to address the equipment changes associated with this modification:

- The permittee mailing address was updated.
- The citation for condition 3.1.11 was updated to reference condition 4.1.8 instead of condition 4.1.1 of R13-2614B.
- Conditions 3.1.12 and 3.4.6 were deleted since these conditions were not included in R13-2614B.
- The citation of condition 3.4.1 was updated to include a reference to condition 4.4.1 of R13-2614B.

- Former conditions 5.1.1-5.1.5 were deleted. These requirements are addressed in the new condition 5.1.5.h.
- Condition 5.1.1 only allows the sources listed in section 1.0 of the permit to be operated. Fugitive emissions must be minimized, listed design capacities cannot be exceeded, and specified controls must be used. This condition references condition 4.1.1 from R13-2614B.
- Condition 5.1.2 limits the maximum wet natural gas throughput to the Dehydration Unit (DEHY02) to 20 mmscf/day or 7,300 mmscf/year. This condition references condition 4.1.2 from R13-2614B.
- Condition 5.1.3 lists emission limits and 40CFR63, Subpart HH requirements for the Dehydration Unit (DEHY02). This condition references condition 4.1.3 from R13-2614B.
- Condition 5.1.4 lists the maximum design heat input, emission limits, and opacity limit for the Reboiler (RBR02). This condition references condition 4.1.4 from R13-2614B.
- Condition 5.1.5 lists emission limits, pilot flame requirements, visible emission limits, and operating requirements for the thermal oxidizer (2C). This condition references condition 4.1.5 from R13-2614B.
- Former conditions 5.1.6, 5.1.7, 5.2.1, and 5.2.2 were deleted. These conditions are not applicable to the new equipment.
- Condition 5.1.6 lists closed vent requirements for the thermal oxidizer (2C). This condition references condition 4.1.6 from R13-2614B.
- Condition 5.1.7 requires the existing dehydration unit to cease operation and be rendered inoperable upon start-up of the new dehydration unit. This condition references condition 4.1.7 from R13-2614B.
- Former conditions 5.1.8-5.1.11 were deleted. They applied to DEHY01 and Flare 1C.
- Former condition 5.1.12 was deleted. The requirements are contained in new condition 5.1.3.c.
- Condition 5.2.1 requires monitoring of the wet gas throughput to ensure compliance with condition 5.1.2. This condition references condition 4.2.1 from R13-2614B.
- Condition 5.2.2 requires visible emissions monitoring, recordkeeping, and deviations reporting for the reboiler (RBR02). This condition references condition 4.2.2 and 4.3.3 from R13-2614B.
- Former conditions 5.2.3-5.2.6, 5.3.1, 5.4.1-5.4.5, and 5.5.1-5.5.3 were deleted. These conditions were from R13-2614A for DEHY01 and Flare 1C.
- Condition 5.2.3 addresses thermal oxidizer pilot flame monitoring. This condition references condition 4.2.3 from R13-2614B.
- Condition 5.2.4 addresses thermal oxidizer pilot flame recordkeeping. This condition references condition 4.2.4 from R13-2614B.
- Condition 5.2.5 addresses thermal oxidizer visible emissions monitoring. This condition references condition 4.2.5 from R13-2614B.
- Condition 5.2.6 addresses closed vent monitoring to ensure compliance with condition 5.1.6. This condition references condition 4.2.6 from R13-2614B.
- Condition 5.2.7 addresses closed vent recordkeeping. This condition references condition 4.2.7 of R13-2614B.
- Condition 5.2.8 was added specifying the procedures to be used to determine the actual average flowrate of natural gas or actual average emissions of benzene for the exemption under from 40 CFR 63, Subpart HH. This condition references condition 4.2.8 of R13-2614B.
- Condition 5.3.1 requires the permittee to conduct testing to ensure compliance with emission limitations or control device efficiencies at the request of the Secretary. This condition references condition 4.3.1 from R13-2614B.
- Condition 5.3.2 requires the permittee to demonstrate compliance with the VOC/HAP emissions limits of condition 5.1.3(a) using GLYCalc Version 3.0 or higher. This condition references condition 4.3.2 from R13-2614B.
- In order to demonstrate compliance with condition 5.1.5(h), condition 5.3.3 requires stack tests upon the Secretary's request to determine the particulate matter loading by using 40 CFR Part 60, Appendix A Method 5. This condition references condition 4.3.3 from R13-2614B.

- Condition 5.4.1 was added specifying recordkeeping requirements for the glycol dehydration unit, as specified in 40 CFR 63, Subpart HH. This condition references condition 4.4.4 from R13-2614B.
- Condition 5.5.1 provides reporting requirements for any deviation of the allowable visible emission requirement for any emission source discovered during observation using 40CFR Part 60, Appendix A, Method 9 per condition 5.2.5. This condition references condition 4.5.1 from R13-2614B.
- Condition 5.5.2 requires reporting of any bypassing of a control device. This condition references condition 4.5.2 from R13-2614B.
- Condition 5.5.3 requires reporting of any instance a control device is not operating when emissions are vented to it. This condition references condition 4.5.3 from R13-2614B.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

45CSR10: To Prevent and Control Air Pollution from the Emission of Sulfur Oxides—45CSR10 has requirements limiting SO₂ emissions from “fuel burning units,” limiting in-stack SO₂ concentrations of “manufacturing processes,” and limiting H₂S concentrations in process gas streams. The only potential applicability of 45CSR10 to the new GDU is the limitations on fuel burning units. Pursuant to the exemption given under §45-10-10.1, as the MDHI of the Reboiler - which has been determined to meet the definition of a “fuel burning unit” under 45CSR10 - is less than 10 mmBtu/hr, the unit is not subject to the limitations on fuel burning units under 45CSR10.

45CSR14: Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration—The Yellow Creek Compressor Station is located in Calhoun County, WV. Calhoun County is classified as "in attainment" with all National Ambient Air Quality Standards. Therefore, as the facility is not a "listed source" under §45-14-2.43, the individual major source applicability threshold for all pollutants is 250 TPY. According to Title V Permit R30-01300001-2011, the Yellow Creek Compressor Station has a PTE of over 250 TPY and is, therefore, classified as a “major stationary source” under 45CSR14. However, the PTE associated with the new GDU is less (without subtracting out the emissions of the exiting unit to be replaced) for each pollutant than the amounts that would define the project as “significant” under to §45-14-2.74. Pursuant to §45-14-3.4(a), the proposed changes to the facility do not cause a “significant emissions increase” and, therefore, proposed changes are not defined as a “major modification” under 45CSR14 and the rule does not apply.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: N/A
Ending Date: N/A

Point of Contact

All written comments should be addressed to the following individual and office:

Rex Compston, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478
Rex.E.Compston@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.