

# Fact Sheet



## For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03300100-2017**  
Application Received: **January 13, 2016**  
Plant Identification Number: **03-54-033-00100**  
Permittee: **Dominion Transmission, Inc.**  
Facility Name: **Bridgeport Compressor Station**  
Mailing Address: **925 White Oaks Blvd., Bridgeport, WV 26330**

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Physical Location: Bridgeport, Harrison County, West Virginia  
UTM Coordinates: 567.05 km Easting • 4,355.39 km Northing • Zone 17  
Directions: Exit #125 off I-79. Take Route 73 North for approximately 0.5 mile.  
Station is located on the right.

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### Facility Description

Bridgeport Compressor Station is a natural gas compressor station owned and operated by Dominion Transmission, Inc. for the purpose of servicing a natural gas storage field. The station injects and withdraws natural gas based upon demand. The facility is covered by Standard Industrial Classification (SIC) Code 4922. The station has the potential to operate seven (7) days per week, twenty-four (24) hours per day. The station consists of two (2) 1100 HP natural gas fired reciprocating engines, one (1) 2.5 MMBtu/hr natural gas fired boiler, one (1) 0.75 MMBtu/hr glycol dehydration unit reboiler, one (1) 80 MMSCF/day dehydration unit still column with flare, and six (6) storage tanks of various sizes. Per permit determination application dated 3/7/16 and an issued permit determination from WVDEP on 5/17/16, the two (2) natural gas fired auxiliary microturbines (AUX02 and AUX03) have been removed from site and an emergency generator (AUX04) has been installed.

## Emissions Summary

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions</b>	<b>2015 Actual Emissions</b>
Carbon Monoxide (CO)	69.37	50.41
Nitrogen Oxides (NO <sub>x</sub> )	185.55	113.74
Particulate Matter (PM <sub>2.5</sub> )	2.89	0.03
Particulate Matter (PM <sub>10</sub> )	2.89	0.66
Total Particulate Matter (TSP)	5.49	0.94
Sulfur Dioxide (SO <sub>2</sub> )	4.33	0.02
Volatile Organic Compounds (VOC)	77.50	52.47

*PM<sub>10</sub> is a component of TSP.*

<b>Hazardous Air Pollutants</b>	<b>Potential Emissions</b>	<b>2015 Actual Emissions</b>
Acrolein	0.58	0.20
Acetaldehyde	0.58	0.20
Benzene	0.27	0.09
Formaldehyde	4.10	0.95
Hexane	0.14	0.04
Toluene	0.28	0.10
Xylenes	2.58	1.06

*Some of the above HAPs may be counted as PM or VOCs.*

### Title V Program Applicability Basis

This facility has the potential to emit 185.55 TPY of NO<sub>x</sub>. 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.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Control of PM from Combustion of Fuel in Indirect Heat Exchangers
	45CSR6	Open burning prohibited.
	45CSR10	Control of Sulfur Oxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits to Construct/modify

	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
	40 C.F.R. 63 Subpart ZZZZ	NESHAPs-MACT for RICE
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR17	Control of Fugitive PM

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> )
R13-1801G	6/16/2015	

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**

As part of this renewal application, the equipment list has been updated based on recent updates to the Bridgeport Station:

- Emission Point ID TK03 has been removed from the Emission Unit Table.
- Emission Point IDs TK06 and TK07 have been added to the Emission Unit Table.  
 The new tanks are not subject to 40 CFR 60 Subpart OOOO since they do not meet the applicability requirements in 40 CFR§60.5365(e).
- For Emission Point ID TK04, the tank description and installation date have been updated.
- For Emission Point IDs TK01 and TK02, the tank descriptions have been updated.
- For Emission Point ID BLR02, the model description has been corrected from WN-2500 to WNC-2500.
- The two (2) natural gas fired auxiliary microturbines (AUX02 and AUX03) have been removed from site and an emergency generator (AUX04) has been installed.

**40 C.F.R. 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.** The emergency generator (AUX04) is subject to NSPS Subpart JJJJ as a 4SLB, emergency, certified engine located at an area source of HAPs. The NSPS Subpart JJJJ requirements are added in section 7 of this permit.

**40 C.F.R. 63 Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.** According to 40 CFR §63.6590(c)(1), a new stationary RICE located at an area source of HAPs must meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ.

### Non-Applicability Determinations

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

- a. **45CSR10 – To Prevent and Control Air Pollution from the Emission of Sulfur Oxides for Certain Sources.** Compressor Engines (EN01, EN02): WVDEP has determined that this rule does not apply to natural gas-fired engines (EN01, EN02). Boiler (BLR02): The 2.5 MMBtu/hr boiler meets the exemption at 45CSR§10-10.1., which states, “Any fuel burning units having a design heat input under ten (10) million BTU's per hour will be exempt from section 3 and sections 6 through 8.” Rule sections 4 and 5 are not covered by this exemption. 45CSR§10-4 sets SO<sub>2</sub> limits from source operations. 45CSR§10-4 does not apply to BLR02 because it is not a “source operation” as defined in 45CSR§10-2.19. 45CSR§10-5.1. prohibits combustion of refinery process gas streams or other process gas streams that contain certain concentrations of hydrogen sulfide. 45CSR§10-5.2. pertains to by-product coke operations. The permittee’s source BLR02 is not subject to either of these subsections; therefore, 45CSR§10-5 does not apply to BLR02.
- b. **40 C.F.R. 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.** This subpart applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines that have been constructed, reconstructed, or modified after various dates, the earliest of which is July 11, 2005. All of the engines (EN01, EN02) at the facility are spark ignition IC engines, and therefore the requirements of this subpart do not apply.
- c. **40 C.F.R. 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.** This subpart applies to manufacturers, owners, and operators of stationary spark ignition internal combustion engines that have been constructed, reconstructed, or modified after various dates, the earliest of which is June 12, 2006. Engines (EN01, EN02) at the facility were installed prior to 2006 and have not been modified or reconstructed, and therefore the requirements of this subpart do not apply to EN01 and EN02.
- d. **40 C.F.R. 60 Subparts D, Da, Db, and Dc.** These subparts apply to steam generating units of various sizes, all greater than 10 MMBtu/hr. The facility does not have any steam generating units greater than 10 MMBtu/hr; therefore, the requirements of NSPS Subparts D, Da, Db, and Dc do not apply.
- e. **40 C.F.R. 60 Subparts K, Ka, Kb.** These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods. Subpart K applies to storage tanks constructed, reconstructed, or modified after 1973 and prior to 1978, and subpart Ka applies to those constructed, reconstructed, or modified after 1978 and prior to 1984. Both subparts K and Ka apply to storage tanks with a capacity greater than 40,000 gallons. Subpart Kb applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984 with a capacity equal to or greater than 75 m<sup>3</sup>

(~19,813 gallons). Each of the tanks at the facility have a capacity less than 19,813 gallons. As such, NSPS Subparts K, Ka, and Kb do not apply to the storage tanks at the facility.

- f. **40 C.F.R. 60 Subpart KKK – Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.** According to 40 C.F.R. §60.631, a *Natural gas processing plant* (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both. Although this subpart includes requirements for compressors and storage tanks, it only applies to those units located at a natural gas processing plant as defined by the regulation. Even though the facility removes water from the natural gas, it does not extract *Natural gas liquids* (which excludes water, per the definition at §60.631). In summary, the operations at the facility do not meet the definition of a *Natural gas processing plant*; therefore, the requirements of this subpart do not apply to the emission units at the facility.
- g. **40 C.F.R. 60 Subpart LLL – Standards of Performance for Onshore Natural Gas Processing: SO<sub>2</sub> Emissions.** According to 40 C.F.R. §60.640(a), this subpart applies to each sweetening unit, and each sweetening unit followed by a sulfur recovery unit, at a natural gas processing plant. The facility does not meet the definition of a natural gas processing plant, nor does the facility include a sweetening unit. Therefore, the requirements of this subpart do not apply.
- h. **40 C.F.R. Part 63 Subpart HH – National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities.** According to 40 C.F.R. §63.760, Subpart HH is applicable to emission points that "are located at oil and natural gas production facilities that meet the specified criteria". The facility is not considered to be within the natural gas production source category since it does not meet the definition of *Facility* in 40 C.F.R. §63.761. Rather, it is categorized as a natural gas transmission and storage facility, which is potentially subject to 40 C.F.R. 63 Subpart HHH.
- i. **40 C.F.R. Part 63 Subpart HHH - National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities.** According to §63.1270(a) "This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in §63.1271." While the facility is considered to be within the natural gas transmission and storage source category, it does not meet the potential HAP emissions threshold criterion (by use of the federally enforceable permitted flare to gain synthetic minor status for HAPs). The potential HAP emissions of the facility do not exceed the major source thresholds; therefore, this regulation does not apply to the facility. Further, the regulation does not contain any area source provisions.
- j. **40 C.F.R. 63 Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers.** According to 40 C.F.R. §63.11195(e), a gas-fired boiler as defined in §63.11237 is not subject to this subpart and to any requirements of this subpart. The definition states that a "*Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year." The gas-fired Ajax Boiler (BLR02) combusts only natural gas, and does not combust solid or liquid fuels. Therefore, BLR02 meets the exemption in §63.11195(e) and this rule does not apply.

- k. **40 C.F.R. 64 Compliance Assurance Monitoring (CAM).** The dehydration unit (DEHY01) is a potential PSEU for HAPs and VOC emissions because it meets all of the applicability criteria in 40CFR§64.2(a): (1) it has emission limits for HAPs and VOC (condition 5.1.2), (2) it uses a control device (Flare) to achieve compliance with these limits, and (3) potential pre-control device emissions of HAPs and VOC are higher than the major source applicability criteria (10 TPY for a single HAP, 25 TPY of aggregated HAPs, and 100 TPY for criteria pollutants). However, the DEHY01 meets the exemption in 40CFR§64.2(b)(1)(vi) for HAP and VOC emissions, since the Title V permit already specified “a continuous compliance determination method” (condition 5.2.1, underlying R13-1801G condition 4.2.1) included in the permit during MM01(issued on September 25, 2015).

### **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: Friday, November 4, 2016  
Ending Date: Monday, December 5, 2016

### **Point of Contact**

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

Beena Modi  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1228 • Fax: 304/926-0478  
Beena.j.modi@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)**

Comments were received from Paul Wentworth of US EPA Region III on December 7, 2016 regarding the Draft/Proposed Permit for Dominion Transmission, Inc., Bridgeport Compressor Station, R30-03300100-2016. The following are EPA's comments with the DAQ's response:

#### Condition 5.1.1.a.

EPA Comment 1: Gas throughput of the dehydrator has little impact on the emissions. The limit here does not assure that the dehydration unit will limit hazardous air pollution emissions to below the major source threshold value of HAPs as defined in 40 CFR §63.1270.

**The parameters that most strongly affect emissions are:**  
**wet gas BTEX concentration**  
**glycol circulation rate**  
**wet gas temperature**

The gas coming into the dehydrator must be analyzed upstream of the contactor. This must be established as a requirement. Note: a gas analysis done as a sales gas analysis should not be used because it has been stripped of its HAPs already.

A requirement to determine the three parameters discussed above must be established in the permit so that the calculation using the GLYCALC software will produce a meaningful result that will assure that the facility is a minor source of HAPs.

Please see the attached document that explains the GLYCALC process and the inputs that are required.

DAQ Response: Based on EPA's comments, the following conditions have been added to the Title V permit for Bridgeport Compressor Station.

5.2.4. In order to demonstrate compliance with the minor source status claimed within condition 5.1.1 as well as the VOC and HAP emission limits in conditions 5.1.2 and 5.1.3, using GRI-GLYCalc V3 or higher, the dehydration system must be accurately defined by monitoring and recording actual operating parameters associated with the dehydration system. These parameters shall be measured periodically, with the exception of wet gas composition, in order to define annual average values or, if monitoring is not practical, some parameters may be assigned default values as listed below. Periodically, shall be interpreted as sufficient enough to reflect annual variation and, therefore, this term is operating parameter and site dependent.

The WV Division of Air Quality requires the following actual operating parameters be measured or assumed to equal the default values listed below in order to satisfy this monitoring requirement when using the Gas Analysis and Process Data, GLYCalc emission modeling method:

- Natural Gas Flowrate:
  - number of days operated per year,
  - annual daily average (MMscf/day), and
  - maximum design capacity (MMscf/day)
- Absorber temperature and pressure
- Lean glycol circulation rate
- Glycol pump type
- Flash tank temperature and pressure, if applicable
- Stripping Gas flow rate, if applicable
- Wet gas composition (upstream of the absorber – dehydration column) Sampled in accordance with GPA method 2166 and analyzed consistent with GPA extended method 2286 as well as the procedures presented in the GRI-GLYCalc Technical Reference User Manual and Handbook V4.

The following operating parameter(s) may be assigned default values when using GRI-GLYCalc:

- Dry Gas water content at a point directly after exiting the dehydration column and before any additional separation points or assume pipeline quality at 7 lb H<sub>2</sub>O / MMscf.
- Lean glycol water content if not directly measured may use the default value of 1.5 % water as established by GRI.
- Lean glycol circulation rate may be estimated using the recirculation ratio of 3 gal TEG / lb H<sub>2</sub>O removed.

**[45CSR§30-5.1.c.]**

5.3.2. Within the 3rd year of this permit term, the permittee shall determine the contents of the wet natural gas stream by analyzing the sample using GPA Method 2286 extended analysis. As specified in the handbook, the permittee shall sample the wet gas stream at a location prior to the glycol dehydration contactor column, but after any type of separation device, in accordance with GPA method 2166. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test date. **[45CSR§30-5.1.c.]**

5.5.1. The permittee shall submit by March 31st of the following year, an emission summary for the dehydration unit, which incorporates the wet gas testing results required by 5.3.2. These reports shall include an actual annual average emission estimate for the calendar year of the sample, modeled using GLYCalc V3 or higher software, which incorporates site specific parameters measured in accordance with 5.2.4. The permittee shall also supply all supporting documentation where site specific operating parameters are tabulated to define the annual average values. The report shall also incorporate a copy of the lab analysis obtained from the wet gas testing as well as a description of how and where the sample was taken. The report shall include a reference to all sampling and analytical methods utilized. Additionally, the permittee shall identify where the compressor station is located with respect to a custody transfer point, which is referenced within 40 C.F.R 63 Subpart HH as the point where the gas enters into a natural gas transmission and/or storage pipeline. This report shall be signed by a responsible official upon submittal. **[45CSR§30-5.1.c.]**

Condition 5.1.3.c

EPA Comment 2: Please refer to Comment 1 on establishing parameters in the permit to utilize GLYCALC to assure compliance with limits.

DAQ Response: See Response to EPA Comment 1.

Condition 5.2.1.a

EPA Comment 3: Please refer to Comment 1 regarding throughput of wet natural gas.

DAQ Response: See Response to EPA Comment 1.

Condition 5.2.2

EPA Comment 4: Sampling should be initially done more than once per year to characterize the consistency of the components in the gas. Elysian should start monthly until it is can be determined that the components in the gas do not vary appreciably with respect to time.

DAQ Response: This is an existing facility and this is a third renewal for this Title V operating permit. Monthly sampling does not seem reasonable for an existing source such as the Bridgeport Compressor Station. Therefore, no change will be made to Condition 5.2.2.

Condition 5.2.3

EPA Comment 5: This requirement cannot assure the proper operation of the flare because this process assumes the flare will operate periodically which is not the case with flares. They are mostly intermittent, based on the wet gas loading on the system. The requirement should be changed to a performance requirement as described in subsection 5.3.1 and should be done quarterly.

DAQ Response: The Bridgeport Compressor Station stores natural gas in underground storage wells during periods of low consumer demand, and withdraws the stored gas on an as needed basis. The glycol dehydration system at Bridgeport Compressor Station is used to remove water from the stored natural gas prior to it being sent to the next compressor station. Due to the nature of operations at the Bridgeport Compressor Station, the dehydration unit will operate periodically, only when natural gas is withdrawn from storage. Per condition 5.1.1.c, the permittee is required to route all emissions from the dehydration unit to the flare through a closed vent system at all times the dehydration unit is in operation. Therefore, the flare will be operated periodically because the dehydration unit will be operated periodically. Your request for quarterly visible emission observations is already required in Condition 5.2.3 with the exception that visible emission observations are not required in calendar quarters in which the dehydration unit does not operate. Since the dehydration unit does not operate continuously, I feel that Condition 5.2.3 is appropriate as written and no change will be made.