

# Fact Sheet



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

Permit Number: **R30-03300013-2011**  
Application Received: **October 12, 2010**  
Plant Identification Number: **03-54-033-00013**  
Permittee: **Dominion Transmission, Inc.**  
Facility Name: **Sardis Station**  
Mailing Address: **445 West Main Street, Clarksburg, WV 26301**

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Physical Location: Sardis, Harrison County, West Virginia  
UTM Coordinates: 552.89 km Easting • 4355.61 km Northing • Zone 17  
Directions: Interstate 79 North to the Clarksburg exit. Turn left off the exit ramp, then go thru Clarksburg on Route 50. Off of Route 50, turn onto Route 9 (Gregory Run Road). Travel for 5 miles, and then turn right at DTI sign. Go approximately 0.5 miles to station.

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### Facility Description

Sardis Compressor Station is a natural gas facility covered by Standard Industrial Classification (SIC) Code 4922 and North American Industry Classification System (NAICS) Code 48612. The Sardis Station consists of one (1) 1000 HP natural gas fired reciprocating engine (EN01), (1) 800 HP natural gas fired reciprocating engine (EN02), two (2) 192.5 HP emergency generators (EG01 and EG02), one (1) glycol dehydrator system (DEHY01), one (1) dehydration unit reboiler (RBR01), one (1) 0.3 MMBtu/hr dehydration unit still flare (DEHY), two (2) 2,730-gallon aboveground storage tanks (TK01 and TK02), one (1) 2,500-gallon aboveground storage tank (TK03), one (1) 230-gallon aboveground storage tank (TK04), one (1) 5,000-gallon aboveground storage tank (TK05), one (1) 500-gallon aboveground storage tanks (TK06), and one (1) 520-gallon aboveground storage tanks (TK07). The station has the potential to operate seven (7) days per week, twenty-four (24) hours per day.

The Sardis Station is a production facility that compresses production gas to Hastings Extraction Plant.

**Emissions Summary**

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions</b>	<b>2009 Actual Emissions</b>
Carbon Monoxide (CO)	72.50	46.99
Nitrogen Oxides (NO <sub>x</sub> )	422.32	316.22
Particulate Matter (PM <sub>2.5</sub> )	0.01	0.007
Particulate Matter (PM <sub>10</sub> )	0.61	0.43
Total Particulate Matter (TSP)	0.61	0.43
Sulfur Dioxide (SO <sub>2</sub> )	0.04	0.03
Volatile Organic Compounds (VOC) <sup>1</sup>	159.78	125.87
<i>PM<sub>10</sub> is a component of TSP.</i>		
<b>Hazardous Air Pollutants</b>	<b>Potential Emissions</b>	<b>2009 Actual Emissions</b>
Total HAPs <sup>2 and 3</sup>	17.37	15.05
<i>Some of the above HAPs may be counted as PM or VOCs.</i>		

<sup>1</sup> The increase in VOC between the first renewal and the second renewal is 37.49 TPY. The PTE for VOC went up because of new calculations for the dehy (different GLYCalc estimate & sample).

<sup>2</sup> The HAPs also increased due to a different wet gas sample and subsequent GLYCalc estimate.

<sup>3</sup> HAPs were not speciated since the regulatory triggers were not exceeded. The triggers are 10 TPY for a single HAP or 25 TPY of Total HAPs. The highest HAP PTE is Xylene at 9.38 TPY.

**Title V Program Applicability Basis**

This facility has the potential to emit 422.32 tons of NO<sub>x</sub> and 159.68 tons 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.

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

	45CSR10	To Prevent and Control Air Pollution from the Emissions of Sulfur Dioxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation
	45CSR16	Standards of Performance for New Stationary Sources Pursuant to 40 C.F.R. Part 60
	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 Hazardous Air Pollutants
	40 C.F.R. Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR17	Control fugitive particulate matter
	45CSR42	Greenhouse Gas Emissions Inventory Program

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft 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 (if any)
G60-C026	January 4, 2011	

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 B," which may be downloaded from DAQ's website.

## Determinations and Justifications

There was a general R13 permit, R13-G65-C026, issued to the Dominion Transmission, Inc Sardis Station Title V Permit since R30-03300013-2006 was issued.

The following updates were made to the renewal permit:

1. The Emission Unit Table 1.0 was revised in accordance with Attachment D of Dominion Transmission, Inc. Sardis Station Title V Renewal Application.

Following are changes that were made from the 2006 renewal to the 2011 renewal Emission Unit table:

- a. The installation of two emergency generators (EG01 and EG02) were made in 2011.
- b. The following table provides the tank revisions.

2006 Emission Unit ID	2011 Emission Unit ID <sup>1</sup>
TK01	TK03
TK02	TK07
TK03	TK05
TK04	TK01
TK05	TK02
TK06	TK04
TK07	TK06

<sup>1</sup> The tanks order listing in 2006 Title V renewal permit were revised in the 2011 Title V renewal permit application to reflect how Dominion internally has them listed. None of the tanks have been changed or replaced.

2. Added Section 1.2, Active R13, R14, and R19 Permits and Table.
3. The regulatory language was updated for Sections 3.1.1 and 3.1.2, 45CSR§§6-3.1 and 3.2.
4. 45CSR34 incorporates and is now cited with 40 C.F.R. Part 61 because 45CSR15 was repealed. The citation for 3.1.3 has been revised accordingly.
5. Title V boiler plate was revised to incorporate the greenhouse gas language, 45CSR42, in Sections 3.1.10 and 3.5.10.
6. The boilerplate language for Section 3.3.1 was revised with the addition of Section 3.3.1.d and the citation was also revised to expand the authority of the West Virginia state code.
7. Replaced “None” in Section 3.7.2 of the second renewal Title V permit with the “Non-Applicability Determinations” table that is in the Fact Sheet.
8. Section 5.1.8 was added to address Sardis applicability to 40 C.F.R. Part 63 Subpart HH. Based on the PTE data submitted by Dominion, this facility is exempt from 40 C.F.R. Part 63 Subpart HH, as stated in 40 C.F.R. § 63.764 (e) (1) (ii), since it emits less than 1 tpy of benzene.

If the Sardis Station ever exceeds 1 tpy of benzene, they would be subject to 40 C.F.R. § 63.764 (d) (2). The facility would be required to calculate the optimum glycol circulation rate and operate the dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate. Additionally, a record of determination must be maintained.

The estimated benzene PTE for Sardis is 1.15 TPY per the 2011 renewal application. The 2009 actual benzene emissions from the “2010 Certified Emissions Statement” are 0.96 TPY.

9. The language in Section 5.2.1 was revised to provide clarifications for GLYCalc emission modeling. This new language lists actual operating parameters to be used in the modeling and provides instructions on estimates that can be used in this modeling. The language was modeled from other Dominion Transmission NSR permits.
10. Due to Xylene PTE, the language in Sections 5.3.1 and 5.5.2 was revised. The testing frequency in Section 5.3.1 was increased to annually from the previous requirement of within 180 days of permit issuance and no more than two years before the renewal permit application due date for determining the wet natural gas composition. With this renewal, testing is required annually.

This increased testing frequency is necessitated by the Potential to Emit (PTE) of Xylene, which is 9.38 TPY. This PTE is approaching the major source threshold of 10 TPY for any single HAP. Since this PTE is approaching the major source threshold, additional monitoring is necessary to more closely monitor any changes in the wet natural gas composition to determine if the 10 TPY threshold will be reached in the future.

Condition 5.5.2, reporting requirements for the testing required in condition 5.3.1., was also revised. The report now requires an annual average emissions estimate instead of a PTE estimate. Additional records are required to be submitted with this report. Additionally, a custody transfer point was defined, for clarity, as the point where the gas enters into a natural gas transmission and/or storage pipeline (as referenced in 40 C.F.R. 63, Subpart HH).

11. Two emergency generators (EG01 and EG02) are to be installed in 2011 per G60-C026 registration that was issued January 4, 2011. Section 1.1 was updated to include the new emergency generators. Section 6.0 was added for the emergency generators requirements. An Appendix was also included for the G60-C026 registration and the Class II General Permit G60-C.
12. 40 C.F.R. Part 63 Subpart ZZZZ area source requirements were incorporated in Section 7.0.
13. Dominion Transmission, Inc. has not made any modifications at the Sardis Station that would trigger a PSD permit and require GHG permitting.

#### **40 C.F.R. Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

Sardis Station’s two (2), Cummins Model GM 8.1 L Emergency Generators (EG01 and EG02), shall comply with 40 C.F.R. Part 60 Subpart JJJJ. EG01 and EG02 are rated at 192.5 HP each and combust natural gas. Applicable emissions limitations are found in Table 1 of 40 C.F.R. Part 60 Subpart JJJJ as specified in 40 C.F.R. § 60.4248.

Comparing the applicable emissions limitations from Table 1 of 40 C.F.R. § 60.4248 for maximum horsepower of  $\geq 130$  Hp with the emission limits in Section 6.1.1 of the Title V Permit/G60-C026 shows that the maximum emissions from Sardis’ natural gas fired emergency generators (EG01 and EG02) shall not exceed the requirements in 40 C.F.R. § 60.4248 Table 1 [40 C.F.R. Part 60 Subpart JJJJ] (see Section 6.1.1.).

Pollutant	Table 1	Horsepower			Section 6.1.1
	g/hp-hr	HP-hr	Lb/g	LB/hr <sup>1</sup>	LB/hr
HC/VOC	1.0	192.5	0.0022046	0.424	0.19
NOx	2.0	192.5	0.0022046	0.849	0.03
CO	4.0	192.5	0.0022046	1.70	0.39

<sup>1</sup> Calculation for LB/hr = g/hp-hr \* g/hp-hr \* LB/g

These emission limits are less stringent than the emission limits established in R13-G60-C026. Therefore, compliance with 40 C.F.R. § 60.4248 Table 1 limits will be streamlined with the R13- G60-C026.

**40 C.F.R. Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

The Dominion Transmission, Inc. Sardis Station has an 800 HP and an 1000 HP reciprocating engine, each with integral compressors that are subject as an area source of 40 C.F.R. Part 63 Subpart ZZZZ. The facility is a minor source of HAPs. The reciprocating engines with integral compressors were constructed prior to June 12, 2006. The facility shall comply with all applicable requirements of 40 C.F.R. Part 63 Subpart ZZZZ by October 19, 2013 per 40 C.F.R. § 63.6595 (see Section 7 .1.1.). The two (2) 192.5 HP emergency generators were installed 2011.

Although non-major area source MACT 40 C.F.R. Part 63 Subpart ZZZZ is excluded from state delegation in 45CSR34, its requirements are considered enforceable under 45CSR30 because of the definition in 45CSR§30-2.6.d, which includes any requirement subject to §112 of the CAA. This, coupled with 45CSR§30-5.2.a, allows enforcement (by DAQ) of these non-delegated requirements.

The 1000 HP engine (EN01) is an existing spark-ignition (SI) four-stroke lean burn (4SLB) Ingersoll Rand 36KVS-ET Reciprocating Engine/Integral Compressor that combusts pipeline quality natural gas. The 800 HP engine (EN02) is an existing spark-ignition (SI) two-stroke lean burn (2SLB) Ajax DPC-800 Reciprocating Engine/Integral Compressor that combusts pipeline quality natural gas. As stated below, the engines meet the definition for stationary reciprocating internal combustion engines (RICE) according to 40 C.F.R. § 63.6585 (a):

A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differs from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 C.F.R. 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

The Sardis Station engines are in the category of greater than 500 HP as established by the RICE regulation.

Engine (EN02) subject to the maintenance requirements for a 2SLB (every 4,320 hours change oil/filter, inspect spark plugs, and inspect hoses/belts), Table 2d, Item 6. Engine (EN01) is subject to the requirements for a 4SLB>500 HP (limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O<sub>2</sub>; or reduce CO emissions by 93 percent or more), Table 2d, Item 8.

Since the two (2) emergency generators are subject to 40 C.F.R. Part 60 Subpart JJJJ, they are not subject to 40 C.F.R. Part 63 Subpart ZZZZ per 40 C.F.R. § 63.6590 (c) (1).

Following, are the applicable RICE MACT requirements according to the RICE Summary Table of requirements provided by the EPA (<http://www.epa.gov/ttn/atw/rice/ricepg.html>). EN01 and EN02 have compliance date of October 19, 2013.

Emission Unit ID	Emission Limitations	Operating Limitations	Performance Testing	Monitoring Requirements	Initial Compliance	Continuous Compliance	Notification Requirements	Record-keeping Requirements	Reporting Requirements
EN01 4SLB	§ 63.6603 Table 2d	§ 63.6603 Table 2d	§ 63.6615 § 63.6620 Table 3 Table 4 Table 5	§ 63.6625 (a), (b), (h), (k)	§ 63.6630 Table 5	§ 63.6605 § 63.6635 § 63.6640	§ 63.6645 (The Notice shall be issued on or before February 16, 2011.)	§ 63.6655 (a), (b), (d)	§ 63.6650 (a) – (f)
EN02 2SLB	§ 63.6603 Table 2d	None	None	§ 63.6625 (e), (h), (j)	None	§ 63.6605 § 63.6640	None	§ 63.6655 (a), (b), (d), (e)	None

**Non-Applicability Determinations**

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

<b>40 C.F.R § 60.18</b>	Dehydration Unit Flare is solely used for odor control. Even without the flare, the facility is not a major source of HAPs. Therefore, 40 C.F.R § 60.18 is not applicable.
<b>40 C.F.R. Part 60 Subpart III</b>	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The 800 HP and 1000 HP reciprocating engines with integral compressors were manufactured before July 11, 2005 and they are not fired by diesel. Thus, these engines are not subject to 40 C.F.R. Part 60 Subpart III.
<b>40 C.F.R. Part 60 Subpart JJJJ</b>	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. The 800 HP and 1000 HP reciprocating engines with integral compressors were manufactured before July 12, 2006. Thus, these engines are not subject to 40 C.F.R. Part 60 Subpart JJJJ.
<b>40 C.F.R. Part 63 Subpart HHH</b>	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. The Sardis Station is not subject to Subpart HHH since the station transport production gas to Hastings Extraction Plant. Sardis Station is a minor (area) source of HAPs.
<b>40 C.F.R. Part 64</b>	This is the second permit renewal for this facility. The facility was found not to be subject to CAM at the time of the first renewal. Therefore, a CAM determination is not required.

**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: April 25, 2011  
Ending Date: May 25, 2011

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

Wayne Green  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

## 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.

## Point of Contact

Wayne Green  
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. 1258 • Fax: 304/926-0478

## Response to Comments (Statement of Basis)

**(Choose)** Not applicable.

**OR**

Describe response to comments that are received and/or document any changes to the final permit from the draft/proposed permit.