

Fact Sheet



For General Permit Registration Under 45CSR30 and Title V of the Clean Air Act

Permit Number: R30-NGGP-2007-08300017

Application Received: May 7, 2002

Plant Identification Number: 08300017

Permittee: **Columbia Gas Transmission**

Facility Name: Gladys Compressor Station

Mailing Address: 1700 MacCorkle Avenue, S.E.

Charleston, WV 25314

Issued – August 27, 2007

Physical Location:	Glady, Randolph County, West Virginia
UTM Coordinates:	615.52 km Easting • 4,293.19 km Northing • Zone 17
Directions:	From US Route 33 East, turn right on Secondary Route 27 at Alpena. Proceed approximately 10 miles to Gladys, turn left on Route 22 and travel approximately 1 mile to the station located on the left side of road.

Facility Description

The Gladys Station is a natural gas transmission facility covered by Standard Industrial Classification (SIC) 4922. The station has the potential to operate seven (7) days per week, twenty-four (24) hours per day. The station consists of three (3) 1320-hp natural gas fired reciprocating engines, one (1) triethylene glycol (TEG) dehydrator with a NATCO SHV 5.74 MMBtu/hr flare, two (2) 1.40 MMBtu/hr glycol regenerators, one (1) 0.15 MMBtu/hr glycol reclaiming, two (2) 15.0 MMBtu/hr indirect-fired line heaters and numerous storage tanks of various sizes. Additional on-site support equipment includes two (2) electrical generators rated at 336-hp and 608-hp and one (1) 1.512 MMBTU/hr heating system boiler.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2005 Actual Emissions
Carbon Monoxide (CO)	74.5	21.8
Nitrogen Oxides (NO _x)	1,108.3	255.4
Particulate Matter (PM ₁₀)	1.1	0.1
Total Particulate Matter (TSP)	1.1	0.1
Sulfur Dioxide (SO ₂)	1.7	0.1
Volatile Organic Compounds (VOC)	40.0	16.1

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2005 Actual Emissions
Formaldehyde	9.3	2.3
Other HAPs	8.0	3.0
Total HAPs*	17.3	5.3

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

Title V Program Applicability Basis

This facility has the potential to emit 1,108.3 tons/yr of NO_x. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Columbia Gas Transmission Corporation 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	Indirect Heat Exchangers
	45CSR6	Open burning prohibited.
	45CSR10	SO ₂ emissions
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for construction, modification
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.

	45CSR30	Operating permit requirement.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
	40 C.F.R. 60 Subpart Kb	Tank NSPS
	40 C.F.R. 60.18	Flare NSPS
State Only:	45CSR4	No objectionable odors.
	45CSR17	Particulate Fugitive

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, 45CSR15, 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>)
R13-2218C	March 11, 2003	N/A

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

- a. The emission limits for the flare (FL3) were based on the following:
 1. For CO, NOx, and PM: the use of AP-42 emission factors (5th Edition) and the design heat input of the flare.
 2. For SO₂: the use of a maximum emission factor of 0.057 lb SO₂/MMBtu (derived from FERC 20 grains Sulfur/100 scf) to calculate pph limit and an average emission factor of 0.0007 lb SO₂/MMBtu (derived from 0.25 grains Sulfur/100 scf).to calculate tpy limit.
 3. For VOC: the sum of VOC generated from combustion of natural gas using AP-42 factors (5th Edition) and the design heat input of the flare, and the VOC generated from the combustion of the regenerator overhead waste gas stream using GRI-GLYCalc at 95% destruction efficiency for the flare.
 4. For HAP: the use of GRI-GLYCalc at 95% destruction efficiency for the flare.

Since the emission limits for the flare (FL3) were based on the above referenced methods, complying with the operating requirements for the flare to ensure proper operation of the flare, as well as the

recordkeeping requirements for operating times of the flare, amount of natural gas used, and amount of waste gas processed will also serve as compliance demonstrations for the emission limitations.

- b. According to 45CSR§6-4.1, particulate matter to be discharged from FL3 shall be less than the quantity determined by the use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the Factor, F, is as indicated in the table below:

Incinerator Capacity	F Factor
Less than 15,000 lbs/hr	5.43
15,000 lbs/hr or greater	2.72

Calculation for PM Emissions:

$$5.43 \times \frac{4,530 \text{ scf}}{\text{hr}} \times \frac{0.06 \text{ lb}}{\text{scf}} \times \frac{\text{ton}}{2,000 \text{ lb}} = 0.738 \text{ lb/hr}$$

R13-2218C permit limit for PM₁₀ for FL3 is 0.02 lb/hr. Compliance with R13 permit limit shall show compliance with 45CSR§6-4.1 limit.

- c. According to 45CSR2, the pph limit for heaters HTR3 and HTR4 is = 0.09 x 15(MMBtu/hr) = 1.35. Compliance with R13-2218C permit limit of 0.21 pph for PM for heaters HTR3 and HTR4 shall assure compliance with the 1.35 pph PM emission limit of 45CSR2.
- d. According to 45CSR10, the pph limit for heaters HTR3 and HTR4 is = 1.6 x 15(MMBtu/hr) = 24. Compliance with R13-2218C permit limit of 0.01 pph for SO₂ for heaters HTR3 and HTR4 shall assure compliance with the 24 pph sulfur dioxide emission limit of 45CSR10.
- e. According to 45CSR§2A-3.1, HTR3 and HTR4 are exempt from testing and Visible emission monitoring plan requirements because they combust only natural gas.

Non-Applicability Determinations

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

- a. 40 C.F.R. 60 Subparts K,Ka; *Standards of Performance for Storage Vessels for Petroleum Liquids* - All tanks at Gladly station are below 40,000 gallons in capacity.
- b. 40 C.F.R. 60 Subpart Kb; *Standards of Performance for Volatile Organic Liquid Storage Vessels* - All tanks except Tank A21 & Tank A25 at Gladly station are below 75 m³ in capacity. Hence 40 C.F.R. 60 Subpart Kb could only be applicable to Tanks A21 & A25.
- c. 40 C.F.R. 60 Subpart KKK; *Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plant* - Gladly station is not engaged in the extraction or fractionation of natural gas liquids from field gas, the fractionation of mixed natural gas liquids to natural gas products, or both.
- d. 45CSR21; *To Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds*: This facility is not located in one of the affected counties

- e. 45CSR27; *To Prevent and Control the Emissions of Toxic Air Pollutants*: Natural gas is included as a petroleum product and contains less than 5% benzene by weight. 45CSR§27-2.4 exempts equipment “used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight.”
- f. 40 C.F.R. 60 Subparts Dc; *Standards of Performance for Steam Generating Units* – The boilers and heater are less than 10 MMBtu/hr; Hence Subpart Dc is not applicable.

Since the last Title V modification WVDEP has determined that 45CSR10 does not apply to gas fired engines. Also 45CSR10 is not applicable to BL1, BL2, BL4, BL5 because they are less than 10 MMBtu/hr.

40 CFR 64 - Engines do not have any add-on control; therefore, in accordance with 40 C.F.R § 64.2(a), CAM is not applicable to this facility. Heating System Boiler is not a major source; therefore, CAM is not applicable. Existing Title V permit specifies a continuous compliance demonstration for FL3, as defined in 40 C.F.R §64.1. Hence according to 40 C.F.R §64.2(b)(6), FL3 is exempt from 40CFR64.

Due to installation of a federally enforceable flare this facility is not a major source of HAPs; Hence 40 C.F.R 63 (MACT) is not applicable to this facility.

According to 45CSR§2-11.1, BL1, BL2, BL4, BL5 are exempted from MRR (Monitoring, recordkeeping and reporting) because they each have a heat input less than 10 MMBtu/hr.

Request for Variances or Alternatives

None

Insignificant Activities

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

Comment Period

Title V general Permit has already been advertised and finalized. This fact sheet for facility registration is written for the file. This fact sheet states which rules are applicable to the particular facility and which rules are not applicable.

Procedure for Requesting Public Hearing

N/A

Point of Contact

U.K.Bachhawat
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1256 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

N/A