

Fact Sheet



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

Permit Number: **R30-03100002-2012**
Application Received: **November 2, 2011**
Plant Identification Number: **031-00002**
Permittee: **Columbia Gas Transmission, LLC**
Facility Name: **Lost River Compressor Station**
Mailing Address: **1700 MacCorkle Ave., S.E., Charleston WV 25314**

Physical Location: Mathias, Hardy County, West Virginia
UTM Coordinates: 685.5 km Easting • 4,305.1 km Northing • Zone 17
Directions: Traveling on I-81 (in VA), take Exit 257 to US Route 11. Take left on US 11 to State Route 259. Travel North on SR 259 to Mathias, WV. Turn right on Upper Cove and travel 1/4 mile toward Basore. Entrance to facility is on the left.

Facility Description

Columbia Gas Transmission operates a natural gas compressor station, known as the Lost River Station, located near Mathias in Hardy County, West Virginia. The compressor station employs nine (9) natural gas-fired engines to power the compressor units, including four (4) 1,320 horsepower engines, three (3) 2,700 horsepower engines, one (1) 4,640 horsepower engine and one (1) 4,735 horsepower natural gas-fired engine, one (1) natural gas-fired reciprocating engine/emergency generator, one (1) waste water evaporator, two (2) boilers, one (1) fuel gas heater, and numerous storage tanks.

The facility's SIC Code is: 4922 (Natural Gas Transmission).

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2011 Actual Emissions
Carbon Monoxide (CO)	356.90	135.82
Nitrogen Oxides (NO _x)	1,203.62	338.64
Particulate Matter (PM ₁₀)	24.04	7.01
Total Particulate Matter (TSP)	24.04	7.01
Sulfur Dioxide (SO ₂)	0.68	0.17
Volatile Organic Compounds (VOC)	119.14	24.86

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2011 Actual Emissions
Acetaldehyde	6.42	Not reported
Benzene	1.36	Not reported
Ethylbenzene	0.10	Not reported
Ethylene Glycol	< 0.03	0.00006
Formaldehyde	41.93	11.80
Hexane	0.46	Not reported
Toluene	0.71	Not reported
Xylene (Mixed Isomers)	0.19	Not reported
Total HAPs	51.21	11.81

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

Title V Program Applicability Basis

This facility has the potential to emit 356.90 tons per year of CO, 1,203.62 tons per year of NO_x, 119.14 tons per year of VOCs, over 10 tons per year of formaldehyde and 51.21 tons per year of aggregate hazardous air pollutants (HAPs). Due to this facility's potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Columbia Gas Transmission, LLC 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 45CSR6 45CSR11 WV Code § 22-5-4 (a) (14)	Opacity limit only Open burning prohibited Standby plans for emergency episodes The Secretary can request any pertinent information such as annual emission inventory reporting
	45CSR14	Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration
	45CSR16	Standards of Performance for New Stationary Sources
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60, Subpart JJJJ	NSPS for Stationary Spark Ignition Internal Combustion Engines
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 63, Subpart ZZZZ	NESHAPs MACT for Stationary RICES
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4 45CSR17	No objectionable odors. Particulate Fugitive

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>)
R14-0013C	April 17, 2008	
CO-R1-C-2007-4A (2005)	March 1, 2007	

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

This facility was previously registered under General Permit R30-NGGP-2007 for Natural Gas Compressor Facilities. The Division of Air Quality did not renew the general permit for natural gas compressor facilities, therefore this facility's renewal will be issued as a source-specific permit. The source-specific permit includes various requirements which are potentially applicable to natural gas compressor stations. The "Applicable

Requirements” column in the Section 1.0 Emission Units Table of the permit indicates which of the requirements in Sections 2.0 through 24.0 are applicable to each emissions unit.

1. Emission Units Table - Engines E03 and E06 were removed from service pursuant to R14-0013C, condition 4.1.6; emergency generators G1 and G2 were removed from service within 180 days from startup of a replacement generator G3 (off-permit change); added applicable sections of Part 63 Subpart ZZZZ for engines G3 and E11.
2. 45CSR2 - *To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers* - the facility currently employs three boiler units (BL1, BL2 and WE1) and a heater (HTR1). With a design heat input of less than 10 MM BTU/hr, the sources are subject to the opacity limits set forth by 45CSR§2-3 (Section 4).

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity
001-01*	BL1	Heating System Boiler	1997	3.99 MMBtu/hr
001-03*	BL2	Wastewater Evaporator Boiler	1997	0.20 MMBtu/hr
001-02 *	HTR1	Fuel Gas Heater	1990	0.72 MMBtu/hr
006-01*	WE1	Water Evaporator Unit	2009	50,000 gal/yr / 0.195 MMBTU/hr

* This equipment burns or combusts pipeline quality natural gas only.

3. 40 C.F.R. Part 60 Subpart JJJJ- *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* - Engine G11 has maximum engine power greater than 500 HP and is manufactured after July 1, 2007, therefore per §60.4230(a)(4)(i) it is subject to this rule.

Engine	Design Capacity	Ignition	Use/Type	Year installed	HAP Source
E11	4,735 HP	Spark (SI)	Non-Emergency 4SLB	2008 (new)	Major

4. 40 C.F.R. Part 63 Subpart ZZZZ - *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* - Engines G3 and E11 were installed in 2008 (after December 19, 2002), therefore, per 40 C.F.R §63.6590(a)(2)(i), they are considered “new stationary RICE”, and this subpart is applicable.

Engine	Design Capacity	Ignition	Use/Type	Year installed	HAP Source
G3	1,006 HP	Spark (SI)	Emergency 2SLB	2008 (new)	Major
E11	4,735 HP	Spark (SI)	Non-Emergency 4SLB	2008 (new)	Major

5. Former Section 2 (*45CSR13/14 Permits, Consent Orders, and other specific requirements not included in the Title V General Permit*) requirements 5 and 6 from the General Permit Registration were deleted. A requirement to maintain records of fuel consumption and hours of operation for each engine (E01 through E10) is already included as condition 6.4.1. Also, there is no limit on hours of operation for BL1, BL2, HTR1 and WE1, so the requirement to maintain records of operating hours was not included.

Non-Applicability Determinations

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

1. 45CSR2 - *To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers* - the facility currently employs three boiler units and a heater (see item 2 in the Determinations and Justifications Section above). With a design heat input of less than 10 MM BTU/hr, per 45CSR§2-11.1, the facility is exempt from 45CSR§2-4 - “Weight Emission Standards”, 45CSR§2-5 - “Control of Fugitive Particulate Matter”, 45CSR§2-6 - “Registration”, 45CSR§2-8 - “Testing, Monitoring, Recordkeeping, and Reporting”, and 45CSR§2-9 - “Start-ups, Shutdowns and Malfunctions”.
2. 45CSR6 – *Control of Air Pollution from Combustion of Refuse* - this facility does not have any incinerator (or flare); hence this rule is not applicable to this facility.
3. WVDEP determined that 45CSR10 does not apply to gas fired engines. Also, 45CSR10 is not applicable to the facility boilers and heater because their design heat input is less than 10 MMBtu/hr (see item 2 in the Determinations and Justifications Section above).
4. 40 C.F.R. Part 60 Subpart Kb - *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984* - Tanks A03 and B04 were constructed before July 23, 1984, therefore this Subpart doesn’t apply. All other tanks have a capacity below 75 m³ (19,813 gallons), therefore per §60.110b(a) they are exempt from the requirements of this Subpart:

Tank ID	Design Capacity	Description	Year installed
A10	3,600 gallon	Monoethylene glycol, horizontal, above ground	04/01/2009
A11	3,600 gallon	Monoethylene glycol, horizontal, above ground	04/01/2009
A01	1,000 gallon	Monoethylene glycol, horizontal, above ground	01/01/1986
A02	2,000 gallon	Monoethylene glycol, horizontal, above ground	01/01/1986
A03	3,300 gallon	Monoethylene glycol, horizontal, above ground	01/01/1968
A05	5,000 gallon	Pipeline liquids, horizontal, above ground	01/01/1991
A06	5,000 gallon	Pipeline liquids, horizontal, above ground	01/01/1991
A07	4,000 gallon	Oils, used, vertical above ground	01/01/1985
A08	400 gallon	Diesel fuel, horizontal, above ground	01/01/1991
A09	600 gallon	Gasoline, horizontal, above ground	01/01/1991
A12	5,000 gallon	Wastewater, horizontal, above ground	08/15/1996
B01	7,000 gallon	Oil lubrications, horizontal, below ground	01/01/2009
B05	3,000 gallon	Oil lubrications, horizontal, below ground	01/01/2009
B04	1,500 gallon	Wastewater, vertical, below ground	01/01/1969

5. 40 C.F.R. Part 60 Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* - The boilers (BL1 and BL2), Water Evaporator Unit WE1 and heater HTR1 were installed after June 9, 1989, but according to 40 C.F.R § 60.40c (a) this rule is not applicable because their maximum design heat input capacity is less than 10 MMBtu/hr.
6. 40 C.F.R. Part 60 Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* - The provisions of this subpart are not applicable to this facility because there are no stationary compression ignition (CI) internal combustion engines (ICE) at this facility.
7. 40 C.F.R. Part 60 Subpart JJJJ - *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* - Engines E01, E02, E04, E05, E07, E08, E09 and E10 were installed before June 12, 2006, therefore this subpart is not applicable to them.

Engine G3 is an emergency engine with a design capacity above 25 HP, manufactured before January 1, 2009, therefore per 40 C.F.R. §60.4230(a)(4)(iv) it is not subject to this subpart.

Engine	Design Capacity	Ignition	Use/Type	Year installed	HAPs Source
E01	1,320 HP	Spark (SI)	Non-Emergency 2SLB	1953 (existing)	Major
E02	1,320 HP	Spark (SI)	Non-Emergency 2SLB	1953 (existing)	Major
E04	1,320 HP	Spark (SI)	Non-Emergency 2SLB	1953 (existing)	Major
E05	1,320 HP	Spark (SI)	Non-Emergency 2SLB	1954 (existing)	Major
E07	2,700 HP	Spark (SI)	Non-Emergency 2SLB	1969 (existing)	Major
E08	2,700 HP	Spark (SI)	Non-Emergency 2SLB	1969 (existing)	Major
E09	2,700 HP	Spark (SI)	Non-Emergency 2SLB	1970 (existing)	Major
E10	4,640 HP	Spark (SI)	Non-Emergency 2SLB	1991 (existing)	Major
G3	1,006 HP	Spark (SI)	Emergency 2SLB	2008 (new)	Major

8. 40 C.F.R. Part 63 Subpart ZZZZ - *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* - per 40 C.F.R §§63.6590(a)(1)(i) and (ii), engines E01, E02, E04, E05, E07, E08, E09 and E10 are considered “existing stationary RICE”, because they were installed before December 19, 2002 (see item 7 Table above). Per 40 C.F.R. §63.6590(b)(3)(i) this rule doesn’t apply to the existing 2SLB engines with the design capacity above 500 HP at the major source of HAPs.
9. 40 C.F.R. Part 60 Subpart GG - *Standards of Performance for Stationary Gas Turbines* - there are no turbines at the Lost River Station, therefore the 40 C.F.R. Part 60 Subpart GG is not applicable.
10. 40 C.F.R. Part 60 Subpart KKKK - *Standards of Performance for Stationary Combustion Turbines* - there are no turbines at the Lost River Station, therefore the subpart is not applicable.

11. 40 C.F.R. Part 63 Subpart HH - *National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities* – this rule is not applicable to this facility because this facility is not an oil and gas production facility, it is a transmission facility.
12. 40 C.F.R. Part 63 Subpart HHH - *National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities* – according to 40 C.F.R. §63.1270 (a), Subpart HHH applies to natural gas transmission and storage facilities that are major sources of HAPs. Since the Lost River Station doesn't have a glycol dehydration unit, per §63.1270(c) this Subpart is not applicable.
13. 40 C.F.R. Part 63 Subpart YYYY - *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines* - according to 40 C.F.R. §63.6085, 40 C.F.R. Part 63 Subpart YYYY applies to turbines at a major source of HAP emissions, but there are no turbines at the Lost Creek station, therefore the requirements of this subpart are not applicable.
14. 40 C.F.R. Part 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* - according to 40 C.F.R. §63.7485, 40 C.F.R. Part 63 Subpart DDDDD applies to boilers at a major source of HAPs. Since all boilers and the heater at the Lost River station have a capacity of less than 10 mmBtu/hr (see item 2 in the Determinations and Justifications Section above), they don't have requirements under this subpart. These units are existing and defined as *small gaseous fuel boilers and process heaters* which are not subject to the rule per §63.7506(c)(3).
15. 40 C.F.R. Part 63 Subpart JJJJJ – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* - this subpart applies to boilers at area HAP sources only. Since the Lost River Station is major source of HAPs, it is not subject to this Subpart.
16. 40 CFR 64 - *Compliance Assurance Monitoring (CAM) Plan* – The facility has only one PSEU - engine E11 (it has PTE above 100 TPY before controls and a control device OC1); since this engine is subject to the requirements of 40 C.F.R. Part 60 Subpart JJJJ and Part 63 Subpart ZZZZ (see items 3 and 4 in the Determinations and Justification Section above), CAM is not applicable per 40 C.F.R. §64.2(b)(1)(i).

There are no Greenhouse Gas Clean Air Act requirements for this facility because the facility has not made any changes that triggered a PSD permit modification.

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: August 29, 2012
Ending Date: September 28, 2012

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

Natalya V. Chertkovsky-Veselova
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th 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

Natalya V. Chertkovsky-Veselova
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1220 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

Company's comments were received in this office on October 12, 2012 (although the last day of public comment period was September 28, 2012). Despite the fact that the comments arrived late, they mostly were incorporated in the final version of the permit and the fact sheet, because they were found very reasonable and minor.

The following changes were made to the final permit based on the company's comments:

- 1) Emission Units Table – Unit 006-01 Design Capacity was revised (“0.195 mmbtu/hr” was deleted).
- 2) Emission Units Table – Units 002-07, 002-08 and 002-09 (Engines E07, E08 and E09) Description was revised from “4-cycle” to “2-cycle” (a typo).
- 3) Emission Units Table – Units 002-12 and 002-13 (Engines G3 and E11) Applicable Requirements were revised to remove applicability of the Consent Order CO R1-C-2007-4A (2005) since it is not applicable to these engines.

The following changes were made to the fact sheet based on the company's comments:

- 1) Facility Description – phrase “three (3) boilers” was corrected to “two (2) boilers” (a typo).
- 2) Non-Applicability Determinations, items 8 and 9 - Engines E07, E08 and E09 type was corrected from “4SLB” to “2SLB” (a typo).