

Fact Sheet



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

Permit Number: **R30-03100002-2018**
Application Received: **April 18, 2017**
Permittee: **Columbia Gas Transmission, LLC**
Facility Name: **Lost River Compressor Station**
Mailing Address: **5151 San Felipe St., Suite 2400, Houston, TX 77056**

Revised: N/A

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 currently employs five (5) natural gas-fired engines to power the compressor units, including three (3) 2,700 horsepower engines, one (1) 4,640 horsepower engine and one (1) 4,735 horsepower engine; one (1) natural gas-fired reciprocating engine/emergency generator; four (4) natural gas fired turbines; one (1) wastewater evaporator boiler; three (3) fuel gas heaters; 88 catalytic heaters; 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 | 2016 Actual Emissions |
| Carbon Monoxide (CO) | 523.93 | 80.43 |
| Nitrogen Oxides (NO _x) | 800.19 | 33.81 |
| Particulate Matter (PM _{2.5}) | 35.62 | 2.36 |
| Particulate Matter (PM ₁₀) | 35.62 | 2.36 |
| Total Particulate Matter (TSP) | 35.62 | 2.36 |
| Sulfur Dioxide (SO ₂) | 1.82 | 0.22 |
| Volatile Organic Compounds (VOC) | 128.02 | 6.26 |

PM₁₀ is a component of TSP.

| Hazardous Air Pollutants | Potential Emissions | 2016 Actual Emissions |
|---------------------------------|----------------------------|------------------------------|
| Acetaldehyde | 4.58 | 0.01 |
| Acrolein | 4.09 | <0.01 |
| Benzene | 0.93 | <0.01 |
| Ethyl Benzene | 0.12 | 0.01 |
| Formaldehyde | 30.63 | 0.89 |
| Hexane | 0.39 | 0.01 |
| Toluene | 0.73 | 0.04 |
| Xylenes (Mixed Isomers) | 0.27 | 0.02 |
| Other HAPs | 3.08 | Not reported |
| Total HAPs | 44.82 | < 1.0 |

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

Title V Program Applicability Basis

This facility has the potential to emit 523.93 tons per year of CO, 800.19 tons per year of NO_x, 128.02 tons per year of VOCs, over 10 tons per year of formaldehyde and 44.82 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:

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| Federal and State: | 45CSR2 | Opacity Requirements for boilers |
| | 45CSR6 | Open burning prohibited. |
| | 45CSR11 | Standby plans for emergency episodes. |
| | 45CSR13 | NSR Permitting |
| | 45CSR16 | Standards of Performance for New Stationary Sources Pursuant to 40CFR60 |
| | 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 60, Subpart JJJJ | NSPS for Stationary Spark Ignition Internal Combustion Engines |
| | 40 C.F.R. Part 60, Subpart KKKK | Standards of Performance for Stationary Combustion Turbines |
| | 40 C.F.R. Part 60 Subpart OOOOa | Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015. |
| | 40 C.F.R. Part 61 | Asbestos inspection and removal |
| | 40 C.F.R. Part 63 Subpart DDDDD | National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters |
| | 40 C.F.R. Part 63 Subpart YYYYY | National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines |
| | 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 | No objectionable odors. |
| | 45CSR17 | 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 (if any) |
|--------------------------------|------------------|---|
| R14-0013E | May 11, 2016 | |

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

- There were the following two modifications issued for the previous permit renewal (approved on 10/31/2012):
 - Significant modification SM01 (issued on 08/13/2013) incorporated changes allowed by Permit R14- 0013D: addition of two (2) new Solar Taurus 70 combustion turbines (T01 and T02), addition of two (2) fuel heaters (HTR2 and HTR3) and forty (40) catalytic heaters (SH1), removal of three (3) existing Clark HRA-8T compressor engines (E02, E04 and E05) and removal of boiler BL1.
 - Significant modification SM02 (issued on 09/20/2016) covered the addition of two (2) new Solar Mars 100 turbines, one (1) process heater, 48 catalytic heaters and the removal of one (1) existing Clark HRA-8T Compressor engine. Additionally, the synthetic minor limit for greenhouse gas (GHG) emissions on the two (2) existing Solar Taurus 70 turbines for GHG was removed.
- Emission Units Table - the following equipment was removed from the site and from the Emission Units Table: Water Evaporator Unit WE1 (on 08/02/2009) and Fuel Gas Heater #1 HTR1 (on 07/20/2013).
- Old sections of the permit (4.0 through 24.0) were re-structured to include only specific requirements applicable to the Lost River Compressor Station (new Sections 4.0 through 10.0).

Section 10.0 – includes the requirements of 40 C.F.R. Part 60 Subpart OOOOa, *Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015*, applicable to the facility after the Combustion Turbines / Compressors #3 and #4 (Emission Point IDs T03 and T04) were installed in 2017 (after the subpart applicability date of September 18, 2015). The only section applicable to the facility is 40 C.F.R. §60.5397a (LDAR requirements). The fugitive emission components became subject to LDAR in accordance with 40 C.F.R. §60.5365a(j)(1). Combustion Turbines / Compressors #3 and #4 are exempt from the “wet seal” centrifugal compressor requirements as a result of being “dry seal”.

Non-Applicability Determinations

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

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| 45CSR4 | <i>To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Cause or Contributes to an Objectionable Odor or Odors: This State Rule shall not apply to the following source of objectionable odor untilfeasible control methods are developed: Internal combustion engines.</i> |
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| 45CSR10 | <i>To Prevent and Control Air Pollution from the Emission of Sulfur Oxides:</i> The sulfur requirement for fuel burning units do not apply to indirect combustion sources at this site because there are no units with design heat inputs above 10 MMBtu/hr. Therefore, they are exempt in accordance with 45CSR§10-10.1 |
| 45CSR21 | <i>To Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds:</i> This facility is not located in one of the subject counties defined by this Rule: Wood, Wayne, Putnam, Kanawha, or Cabell. |
| 45CSR27 | <i>To Prevent and Control the Emissions of Toxic Air Pollutants:</i> 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.” |
| 40 C.F.R. Part 60 Subpart IIII | <i>Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:</i> There are no compression ignition engines at this facility. |
| 40 C.F.R. Part 60 Subpart OOOO | <i>Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which Construction, Modification, or Reconstruction Commenced after August 23, 2011 and on or before September 18, 2015.</i> The Storage Vessel requirements defined for transmission sources were evaluated and the storage vessels were found not to be affected sources under this subpart because they were all constructed, modified, or reconstructed before August 23, 2011. Also, Turbines #1 and #2 are exempt from the “wet seal” centrifugal compressor requirements as a result of being “dry seal”. |
| 40 C.F.R. Part 60 Subpart Dc | <i>Standards of Performance for Steam Generating Units:</i> The boiler and fuel gas heaters at this facility are less than 10 MMBtu/hr design heat capacity, which is below the applicability criteria stated in 40 C.F.R. §60.40c(a). |
| 40 C.F.R. Part 60 Subpart K and Ka | <i>Standards of Performance for Petroleum Liquid Storage Vessels.</i> All tanks at the station are below the applicability criteria of 40,000 gallons in capacity as stated in 40 C.F.R. §§60.110(a) and 60.110a(a). |
| 40 C.F.R. Part 60 Subpart Kb | <i>Standards of Performance for Volatile Organic Liquid Storage Vessels.</i> All tanks at the station are between 75 m ³ (19,813 gallons) and 151 m ³ (39,890 gallons) in capacity storing a liquid with a maximum true vapor pressure less than 15 kPa (112.5 mmHg). Therefore, they are exempt from this subpart as stated in the applicability criteria of 40 C.F.R. §§60.110b(a) and (b). |
| 40 C.F.R. Part 60 Subpart KKK | <i>Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plant(s).</i> The 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. As a result, the station has no affected sources operating within this source category. |
| 40 C.F.R. Part 60 Subpart GG | The provisions of this subpart are not applicable because the turbines were installed after the applicability dates and are therefore subject to 40 C.F.R. 60 Subpart KKKK. |
| 40 C.F.R. Part 63 Subpart YYYY | The provisions of this subpart are not applicable because although turbines have been installed at this major HAP source, the control requirements of this regulation for natural gas fired units was stayed by USEPA. |
| 40 C.F.R. Part 63 Subpart HHH | <i>National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities.</i> The transmission station is not subject to Subpart HHH since there are no affected dehydration units utilized at this site. |

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| 40 C.F.R. Part 64 CAM | Per 40 C.F.R. §64.2(a)(2) the compliance assurance monitoring provisions of Part 64 are not applicable to the equipment at the station due to them not having add-on controls (except Reciprocating Engine / Compressor E11). The Reciprocating Engine / Compressor E11 is the only potential PSEU at the station (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. 60 Subpart JJJJ and 40 C.F.R. 63 Subpart ZZZZ, CAM is not applicable per 40 C.F.R. §64.2(b)(1)(i). |
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Also, Consent Order CO-R1-C-2007-4A (2005) applicable to the Lost River Compressor Station, was superseded by the new Consent Order CO-R40-C-2017-7 (issued on September 26, 2017). The new Consent Order CO-R40-C-2017-7 is not applicable to the Lost River Compressor Station.

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: February 26, 2018
Ending Date: March 28, 2018

Point of Contact

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