

Fact Sheet



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

Permit Number: **R30-07700017-2022**
Application Received: **January 7, 2022**
Plant Identification Number: **03-54-077-00017**
Permittee: **Columbia Gas Transmission, LLC**
Facility Name: **Terra Alta Compressor Station**
Mailing Address: **1700 MacCorkle Avenue SE, 4th Floor, Charleston, WV 25314**

Physical Location: Terra Alta, Preston County, West Virginia
UTM Coordinates: 625.137 km Easting • 4364.582 km Northing • Zone 17
Directions: From I-79 take State Route 7 east to Terra Alta. Traveling east on State Route 7 to the town of Terra Alta, turn right onto Secondary Route 53. Proceed approximately 2 miles to the station which is located on the right.

Facility Description

Terra Alta Compressor 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 five (5) heaters, five (5) 1100-hp and one (1) 174-hp natural gas fired reciprocating engines, one (1) 530-hp emergency engine/generator, three (3) 2,250-hp electric motor drive reciprocating compressors, one (1) 3.57 mmBtu/hr heating system boiler, one (1) 10,000 gallon methanol tank, one (1) 7,500 gallon methanol tank, a loading rack and five (5) 30,000 gallon produced fluid tanks.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2020 Actual Emissions
Carbon Monoxide (CO)	74.85	28.40
Nitrogen Oxides (NO _x)	604.00*	294.57
Particulate Matter (PM _{2.5})	12.55	5.30
Particulate Matter (PM ₁₀)	12.55	5.30
Total Particulate Matter (TSP)	12.55	6.41
Sulfur Dioxide (SO ₂)	0.34	0.11
Volatile Organic Compounds (VOC)	41.69	21.39

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2020 Actual Emissions
Formaldehyde	11.25	5.66
Other HAPs	6.57	0.46
Total HAPs	17.82	6.12

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

* The extra 200 tpy increase in the NO_x PTEs is due to a typographical error in the 2012 renewal and carried into the 2017 renewal where the PTE was shown as 388.96 tpy and it should have been 588.96 tpy.

Title V Program Applicability Basis

This facility has the potential to emit 604.00 TPY of NO_x and 11.25 TPY of Formaldehyde. Due to this facility's potential to emit over 100 tons per year of criteria pollutant and over 10 tons per year of a single HAP, Columbia Gas Transmission, LLC's Terra Alta Compressor Station 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.
45CSR11	Standby plans for emergency episodes.
45CSR13	Permits For Construction, Modification, Relocation And Operation Of Stationary Sources Of Air Pollutants, Notification

45CSR16	Requirements, Administrative Updates, Temporary Permits, General Permits, And Procedures For Evaluation Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
45CSR30	Requirements For Operating Permits.
45CSR34	Emission Standards For Hazardous Air Pollutants.
40 C.F.R. Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
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 Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
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
<u>State Only:</u>	
45CSR4	No objectionable odors.
45CSR17	To Prevent And Control Particulate Matter Air Pollution From Materials Handling, Preparation, Storage And Other Sources Of Fugitive Particulate Matter

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)
R13-3431D	April 26, 2022	

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

This is a renewal of the Title V permit which was issued on July 24, 2017 and modified on June 4, 2019, June 15, 2020, and July 13, 2021. Unless otherwise noted, the terminology "current permit" or "CP" means Title V Operating Permit R30-07700017-2017 (MM01, MM02).

This permit renewal also includes changes associated with the Minor Modification R30-07700017-2017 (MM03) application received on January 7, 2022 which incorporates the revisions made in R13-3431D Modification Permit for the:

- 1) Installation of three (3) 2,250 hp electric motor drive reciprocating compressors,
- 2) Increase of the design capacity of “HTR7” to 11.07 MMBtu/hr,
- 3) Increase of the design capacity of “HTR8” and HTR9” to 15.22 MMBtu/hr, and
- 4) To include additional blowdowns

The change of potential emissions associated with MM03 are as follows:

Pollutant	Change in Potential Emissions TPY
Carbon Monoxide (CO)	+ 4.86
Nitrogen Oxides (NO _x)	+ 5.80
Particulate Matter (PM/PM ₁₀ / PM _{2.5})	+ 0.57
Sulfur Dioxide (SO ₂)	+ 0.04
Volatile Organic Compounds (VOC)	+ 9.95
Total HAPs	+ 0.65

Substantial changes to the most recent version of the current Title V Permit consist of the following:

1) Title V Boilerplate changes

- **Condition 2.11.4.** – The citation of authority has been corrected.
- **Condition 2.22.1.** – The citation of authority has been updated to remove 45CSR38 which had been repealed.
- **Conditions 3.5.3.** – This condition was revised to update the US EPA mailing address.

2) Condition 1.1. - Emission Units Table

- The design capacity has been updated for “HTR7” from 8.0 to 11.07 mmBtu/hr and for “HTR8” and “HTR9” from 10.0 to 15.22 mmBtu/hr.
- The electric motor drive reciprocating compressors C-10, C-20, and C-30 have been added to the table.
- The Odorant Flare “FLLP1 was removed from the facility in 2005. Therefore, as requested in the renewal application it has been removed from the table.
- The 250 gallon mercaptan odorant tank (A-27) operates as a pressurized storage vessel and does not have a Potential to Emit (PTE) based upon the operation of the tank. Therefore, as requested in the renewal application it has been removed from the table.

3) Condition 1.2. - Updated to include the most recent permit, R13-3431D.

4) Condition 3.7.2. – The installation of the three electric motor drive reciprocating compressors triggered applicability to 40 CFR Part 60 Subpart OOOOa. Therefore, Subpart OOOOa has been removed from this condition.

- 5) **Section 4.0** – The MDHI has been increased for HTR7, HTR8 and HTR9 through R13-3431D and a minor modification (MM03) application to the current Title V permit. MM03 is being processed with this renewal permit and the revisions associated with R13-3431D for the heaters have been incorporated into this section of the Title V permit. The applicable requirements of 40 CFR 63 Subpart DDDDD have changed for HTR7 since it went from a process heater with a heat input capacity category of “greater than 5 mmBtu/hr and less than 10 mmBtu/hr” to a process heater with a heat input capacity category of “10 mmBtu/hr or greater.” Therefore, the old requirements for HTR7 in Conditions 4.1.5. and 4.1.10. of the current permit have been deleted from the renewal permit and the subsequent conditions renumbered.

Other changes in Section 4.0 are as follows:

- The new Subpart DDDDD requirements for HTR7 are the same as for HTR8 and HTR9 and so HTR7 has been added to the appropriate existing requirements for HTR8 and HTR9. Excluding the deleted condition already mentioned, the affected permit conditions reflecting these changes are: 4.1.3., 4.1.5. (CP-4.1.6.) and 4.1.7. (CP-4.1.8.),
 - **Condition 4.1.8 (CP-4.1.9.)** - Updated condition number references resulting from the deleted permit conditions mentioned above.
 - **Condition 4.1.9. (CP-4.1.11.)** - Updated MDHIs for HTR7, HTR8 and HTR9 per permit R13-3431D.
 - **Condition 4.1.10. (CP-4.1.12.)** - Updated emission limits and natural gas consumption for HTR7, HTR8 and HTR9 per permit R13-3431D.
 - **Condition 4.1.11. (CP-4.1.13.)** – Added HTR7 per R13-3431D.
 - **Condition 4.5.5.** – HTR7 has been added to this condition. Since HTR7’s MDHI increased above 10 MMBtu/hr, applicability to 40 CFR Part 60 Subpart Dc was triggered. This subpart requires process heaters that burn only natural gas to submit an initial notification and record fuel use. There are no standards for natural gas fired units, so performance testing is not required.
- 6) **Condition 5.1.1 CP** – Pursuant to 40 CFR §63.6590(b)(1)(i) the emergency engine G3 is not subject to the requirements in this condition of the current permit. Therefore, these requirements have not been included in the renewal permit and have been deleted. The subsequent condition has been changed from 5.1.2. to 5.1.1.
- 7) **Condition 5.1.1 (5.1.2. CP)** – This condition has been revised to remove the 40 CFR 63 Subpart ZZZZ vacated requirements in §§63.6640(f)(2)(ii) and (iii). The citation of authority has also been updated.
- 8) **Condition 5.5.1. CP** – This condition of the current permit contained reporting requirements from 40 CFR 63 Subpart ZZZZ that were associated with the vacated requirements in §§63.6640(f)(2)(ii) and (iii). Therefore, these requirements are no longer applicable, and this condition has been removed from the renewal permit. The subsequent permit condition has been changed from 5.5.2. to 5.5.1.
- 9) **Condition 5.5.1 (5.5.2. CP)** – Since the initial notification requirements of 5.5.2 (CP) have been satisfied, this condition has been marked “Reserved.” in the renewal permit.
- 10) **Section 8.0** – The current permit contains requirements for the mercaptan tank flare FLLP1 and the mercaptan tank in Section 8. As discussed under Item 2 above, the flare had been removed from the facility and due to the operation of the tank there are no PTEs. This section of the current permit contained 45CSR6 requirements for the flare and “State Enforceable Only” objectionable odor requirements from 45CSR4. These requirements have therefore been removed from Section 8 of the renewal permit. Although the odor

requirements specific to the mercaptan tank were removed from this section, the tank remains subject to these requirements under the facility wide odor requirements in condition 3.1.4.

Section 8 of the renewal permit contains the requirements of Section 9 of the current permit for the Methanol aboveground storage tanks A-33 and A-34.

- 11) **Section 9.0** – The “Blowdown” requirements of R13-3431D have been added in this section of the renewal permit.
- 12) **Section 10.0** – This section has been added to include the R13-3431D and 40 CFR 60 Subpart OOOOa requirements for the reciprocating compressors C-10, C-20, and C-30.
- 13) **Section 11.0** – This section has been added to include the R13-3431D and 40 CFR 60 Subpart OOOOa requirements for fugitive emission components at a natural gas compressor station.

R13-3431D Modification Permit

As discussed earlier the revised requirements of this permit have been incorporated in the renewal Title V permit through minor modification application R30-07700017-2017 (MM03). However, conditions 8.4.1 and 9.4.1. of the R13 permit were not included in the renewal Title V permit. These conditions contained the requirements from 40 CFR §60.5420a(a)(1) for the submittal of notifications required by §§60.7(a)(1), (3), and (4) at an affected facility that is the group of all equipment within a process unit at an onshore natural gas processing plant, or a sweetening unit at an onshore natural gas processing plant. The Terra Alta facility is neither of these types of facilities. Furthermore, the requirement goes on to state in part that, a reciprocating compressor or collection of fugitive emissions components at a compressor station are not required to submit said notifications. Therefore, since these requirements are not applicable to the facility, conditions 8.4.1. and 9.4.1 of R13-3431D have not been included in the renewal permit.

Condition 9.1.1.(f)(1) is applicable to a new well site and not applicable to a compressor station. Therefore, this condition has not been included in the renewal permit.

Condition 9.1.1.(g)(1) is applicable to a well site and not applicable to a compressor station. Therefore, this condition has not been included in the renewal permit.

40 CFR 60 Subpart Dc *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

Subpart Dc of 40 CFR 60 is the federal NSPS for “steam generating units” that have a Maximum Design Heat Input (MDHI) of less than 100 MMBtu/hr and greater than 10 MMBtu/hr and that were constructed, modified, or reconstructed after June 9, 1989. Subpart Dc contains within it, emission standards, compliance methods, monitoring requirements, and reporting and recordkeeping procedures for affected facilities applicable to the rule.

- As discussed previously in the last bullet under Item 5 above, with the increase of the MDHI greater than 10 MMBtu/hr, the line heater HTR7 became subject to this subpart. Line heaters HTR8 and HTR9 were already subject to this subpart. Subpart Dc does not, however, have any emission standards for gas fired units. Therefore, the applicable heaters are only subject to the recordkeeping and reporting requirements given under §60.48c. and contained in conditions 4.2.2 and 4.5.5 of the renewal permit.

40 CFR 60 Subpart OOOOa *Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015*

EPA published its New Source Performance Standards (NSPS) and air toxics rules for the oil and gas sector. 40CFR60 Subpart OOOOa establishes emission standards and compliance schedules for the control of the pollutant greenhouse gases (GHG). The greenhouse gas standard in this subpart is in the form of a limitation on emissions of methane from affected facilities in the crude oil and natural gas source category that

commence construction, modification, or reconstruction after September 18, 2015. This subpart also establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO₂) emissions from affected facilities that commence construction, modification, or reconstruction after September 18, 2015. The effective date of this rule is August 2, 2016.

- Each reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment is subject to this rule. For the purposes of this subpart, the reciprocating compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility.

The electric motor drive compressors C-10, C-20, and C-30 meet these criteria and therefore are subject to this subpart. The applicable requirements of Subpart OOOOa for which the reciprocating compressors are subject, are contained in Section 10 of the renewal permit.

- Pursuant to 40 CFR §60.5365a(j), the addition of the electric drive compressors, as well as increasing the total compressor horsepower, constitutes a modification and therefore triggers the applicable requirements for the collection of fugitive emissions components at a compressor station. The applicable requirements of Subpart OOOOa for which the fugitive emissions components at a compressor station are subject, are contained in Section 11 of the renewal permit.
- The facility will install zero-bleed pneumatic devices and therefore will not qualify as a pneumatic device affected facility.

40 CFR 63 Subpart DDDDD *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*

Subpart DDDDD of 40 CFR 63 establishes national emission limitations and work practice standards for HAPs emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. Pursuant to §63.7485, a boiler or process heater is applicable to Subpart DDDDD "that is located at, or is part of, a major source of HAP[s]." As discussed earlier in Item 5 above, the requirements for HTR7 have changed since it went from a process heater with a heat input capacity category of "greater than 5 mmBtu/hr and less than 10 mmBtu/hr" to a process heater with a heat input capacity category of "10 mmBtu/hr or greater." HTR7 has been added to the existing requirements for HTR8 and HTR9 in section 4 of the renewal permit.

Non-Applicability Determinations

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

- a. 45CSR4 - *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 until such time as feasible control methods are developed: Internal combustion engines.
- b. 45CSR21 - *To Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds*: This facility is not located in one of the subject counties defined by this Rule: Wood, Wayne, Putnam, Kanawha, or Cabell.
- c. 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."

- d. 40 CFR Part 60 Subpart K and Ka - *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (Subpart K) and After May 18, 1978, and Prior to July 23, 1984 (Subpart Ka)*: All tanks at the station are below the applicability criteria of 40,000 gallons in capacity as stated in 40 CFR §60.110(a) and §60.110a(a).
- e. 40 CFR 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*: All tanks at the station are less than 75 cubic meters (19,813 gallons) in capacity or are between 75 m³ (19,813 gallons) and 151 m³ (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 CFR §§60.110b(a) and (b).
- f. 40 CFR Part 60 Subpart GG - *Standards of Performance for Stationary Gas Turbines*: The provisions of this subpart are not applicable because there are no turbines installed at this location.
- g. 40 CFR Part 60 Subpart IIII *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*: There are no compression ignition engines at this facility.
- h. 40 CFR Part 60 Subpart JJJJ *Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines*: All non-emergency SI engines located at this site were installed before July 12, 2006. These engines are not subject to 40 CFR Part 60 Subpart JJJJ per 40 CFR §60.4230(a)(4). The emergency SI engine was manufactured before January 1, 2009 and is not subject per 40 CFR §60.4230(a)(4)(iv).
- i. 40 CFR Part 60 Subpart KKK - *Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011*: This compressor 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.
- j. 40 CFR Part 60 Subpart KKKK - *Standards of Performance for Stationary Turbines*: The provisions of this subpart are not applicable because there are no turbines installed at this location.
- k. 40 CFR Part 60 Subpart OOOO - *Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015*: The storage vessel requirements defined for transmission sources are not applicable to this site because all vessels were constructed, modified, or reconstructed prior to August 23, 2011 or after September 18, 2015, in accordance with 40 CFR §60.5365(e).
- l. 40 CFR Part 63 Subpart HHH - *National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities*: The transmission station is not subject to Subpart HHH since there are no affected dehydration units utilized at this site.
- m. 40 CFR Part 63 Subpart YYYY - *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines*: There are no turbine engines at this facility.
- n. 40 CFR Part 64 – *Compliance Assurance Monitoring*: Most of the facility is exempt per 40 CFR §64.2(a)(2). The only add-on control at this facility is the catalyst on Engine EN07, however it is subject to 40 CFR 63, Subpart ZZZZ and therefore is exempt from this Part 64 in accordance with 40 CFR §64.2(b)(1)(i).

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 23, 2022

Ending Date: September 22, 2022

Point of Contact

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

Frederick Tipane
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41910
frederick.tipane@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)

Not applicable.