

# Fact Sheet



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

Permit Number: **R30-01700162-2020**  
Application Received: **December 20, 2019**  
Plant Identification Number: **017-00162**  
Permittee: **Columbia Gas Transmission, LLC**  
Facility Name: **Sherwood Compressor Station**  
Mailing Address: **700 Louisiana St, Ste 700; Houston, TX 77002**

---

Physical Location: Smithburg, Doddridge County, West Virginia  
UTM Coordinates: 523.0 km Easting • 4,346.7 km Northing • Zone 17  
Directions: US-50 to Route 18. Travel approximately 2.7 miles on Route 18 South to the site.

---

### Facility Description

The Sherwood Compressor Station is a transmission compressor station for a natural gas pipeline system. The Sherwood Compressor Station is covered by SIC Code 4922 and NAICS Code 486210. The facility consists of two (2) Solar Taurus 60 Turbines, two (2) Solar Mars 100 Turbines, one (1) 1,175-hp Waukesha emergency generator, two (2) process heaters, forty (40) catalytic space heaters (0.072 MMBtu/hr each), and one (1) 2,000 gallon condensate storage tank. The facility has the potential to operate twenty-four (24) hours a day for seven (7) days per week and fifty-two (52) weeks per year.

## Emissions Summary

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions</b>	<b>2019 Actual Emissions</b>
Carbon Monoxide (CO)	238.49	46.28
Nitrogen Oxides (NO <sub>x</sub> )	101.89	30.21
Particulate Matter (PM <sub>2.5</sub> )	11.75	4.08
Particulate Matter (PM <sub>10</sub> )	11.75	4.08
Total Particulate Matter (TSP)	11.75	4.08
Sulfur Dioxide (SO <sub>2</sub> )	1.27	0.44
Volatile Organic Compounds (VOC)	23.32	3.61

*PM<sub>10</sub> is a component of TSP.*

<b>Hazardous Air Pollutants</b>	<b>Potential Emissions</b>	<b>2019 Actual Emissions</b>
Formaldehyde	1.41	0.46
Other HAPs	0.89	0.24
Total HAPS	2.30	0.70

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

### Title V Program Applicability Basis

This facility has the potential to emit 238.49 TPY of CO and 101.89 TPY of NO<sub>x</sub>. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, 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	Particulate matter and opacity limits for 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 Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation.

	45CSR16	Standards of Performance for New Stationary Sources
	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 Standard for Hazardous Air Pollutants
	40 CFR 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
	40 CFR 60 Subpart KKKK	Standard of Performance for Stationary Combustion Turbines
	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
	40 C.F.R. Part 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR17	Prevention and Control of Fugitive PM

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> )
R13-3313A	December 18, 2017	

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**

**Section 3.0: Facility Wide Requirements**

The following boilerplate Title V permit condition had a citation for an R13-3313A condition added:

Title V Permit Condition	Summary of Permit Condition	R13-3313A Condition
3.4.1.	Monitoring records	4.1.1.

In addition to boilerplate language, this section contains the following additional requirements:

Title V Permit Condition	Summary of Permit Condition	R13-3313A Condition
3.1.9.	Noise abatement equipment	4.1.6.
3.1.10.	Noise Survey	4.1.7.

Note: conditions 4.1.2. and 4.1.3. of R13-3313A were not included in this Title V permit. These conditions address operation, maintenance, and malfunctions of air pollution control equipment. Since, there are no control devices listed in the emission units table, these conditions are not necessary.

Also, condition 3.1.11. was added to prohibit the emission of fugitive particulate matter beyond the boundary lines of the property, as specified in 45CSR§17-3.1.

**Section 4.0: Turbines [emission point ID(s): T01, T02, T03, T04]**

These turbines are subject to the following:

- NSR Permit Requirements
- 45CSR16
- 40CFR60 Subpart KKKK: Standard of Performance for Stationary Combustion Turbines: 40CFR60, Subpart KKKK is the NSPS for stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. All of the turbines at this facility were constructed in 2017 and have heat inputs exceeding 10 MMBTU/hr making them subject to this NSPS. T01 and T02 are Solar Taurus 60 Turbines rated at 68.24 MMBtu/hr and 7,417 HP (5.53 MW). T03 and T04 are Solar Taurus 100 Turbines rated at 132.02 MMBtu/hr and 15,427 HP (11.50 MW). These turbines are subject to emission limits, testing, reporting, and recordkeeping requirements as outlined in the table below.

The following permit conditions apply to these turbines:

<b>Title V Permit Condition</b>	<b>Summary of Permit Condition</b>	<b>Regulatory Citation</b>	<b>R13-3313A Condition</b>
4.1.1.	Operated and maintained in accordance with the manufacturer's recommendations and specifications in a manner consistent with good operating practices and shall only burn pipeline-quality natural gas.	N/A	5.1.1.
4.1.2.	Annual emissions: NO <sub>x</sub> , CO, VOC, SO <sub>2</sub> , PM <sub>10</sub> , CH <sub>2</sub> O	N/A	5.1.2.
4.1.3.	Hourly emissions for T01 and T02: NO <sub>x</sub> , CO, VOC, PM <sub>10</sub> , and SO <sub>2</sub>	N/A	5.1.3.
4.1.4.	Hourly emissions for T03 and T04: NO <sub>x</sub> , CO, VOC, PM <sub>10</sub> , and SO <sub>2</sub>	N/A	5.1.4.
4.1.5.	Natural gas consumption limits	N/A	5.1.5.
4.1.6.	NO <sub>x</sub> emission limits	45CSR16; 40CFR§60.4320(a) and Table 1 to 40CFR60 Subpart KKKK	5.1.6.
4.1.7.	SO <sub>2</sub> emission limits	45CSR16; 40CFR§60.4330(a)(2) and §60.4365(a)	5.1.7.
4.1.8.	Operate in a manner consistent with good air pollution control practices	45CSR16; 40CFR§60.4333(a)	5.1.8.
4.3.1.	Initial performance testing: NO <sub>x</sub> emission limits	45CSR16; 40CFR§60.8(a), §60.4340(a), and §60.4400	5.2.1.
4.3.2.	Initial and periodic performance testing: CO emission limits	N/A	5.2.2.
4.4.1.	Records of natural gas consumed and hours of operation	N/A	5.3.1.
4.4.2.	Maintain fuel quality characteristics in a purchase contract, tariff sheet or transportation contract, specifying maximum total sulfur content	45CSR16; 40CFR§60.4365(a)	5.3.2.
4.4.3.	Monthly emissions calculations	N/A	5.3.3.
4.5.1.	Notification of initial startup of turbines	45CSR16; 40CFR§60.7(a)(3)	5.4.1.
4.5.2.	Reporting of testing in 4.3.1. and 4.3.2.	45CSR16; 40CFR§60.4375(b)	5.4.2.

**Section 5.0: Emergency Generator [emission point ID(s): G1]**

The emergency generator is subject to the following:

- NSR Permit Requirements
- 45CSR16
- 45CSR34
- 40CFR60, Subpart JJJJ: 40CFR60, Subpart JJJJ is the NSPS for Spark-Ignition (SI) Reciprocating Internal Combustion Engines (RICE). This generator is subject to the emergency engine emission limits in Table 1 of 40CFR60, Subpart JJJJ. This generator is also subject to the emergency engine requirements of this Subpart including annual operating limitations and use of a non-resettable hour meter.
- 40CFR63, Subpart ZZZZ: as specified in 40CFR§63.6590(c), compliance with 40CFR63, Subpart ZZZZ is achieved through compliance with 40CFR60, Subpart JJJJ.

The following permit conditions apply to the emergency generator(s):

<b>Title V Permit Condition</b>	<b>Summary of Permit Condition</b>	<b>Regulatory Citation</b>	<b>R13-3313A Condition</b>
5.1.1.	Maximum yearly operating limitation	N/A	6.1.1.
5.1.2.	NSR NO <sub>x</sub> , CO, and VOC emission limits <sup>1</sup>	N/A	6.1.2.
5.1.3.	40CFR60, Subpart JJJJ NO <sub>x</sub> , CO, and VOC emission limits	45CSR16; 40CFR§60.4233(e); Table 1 to 40CFR60, Subpart JJJJ	6.2.1.
5.1.4.	Operate and maintain to achieve emission standards for life of engine	45CSR16; 40CFR§60.4234	6.2.2.
5.1.5.	Install non-resettable hour meter	45CSR16; 40CFR§60.4237(a)	6.3.1.
5.1.6.	Compliance demonstration: maintenance plan for non-certified engine and periodic testing	45CSR16; 40CFR§§60.4243(b)(2) and (b)(2)(ii)	6.4.1.
5.1.7.	Hours of operation limits for emergency and non-emergency use	45CSR16; 40CFR§60.4243(d)	6.4.2.
5.1.8.	Alternative fuel: propane	45CSR16; 40CFR§60.4243(e)	6.4.3.
5.1.9.	40CFR63, Subpart ZZZZ compliance by complying with 40CFR60, Subpart JJJJ	45CSR34; 40CFR§63.6590(c)	N/A
5.3.1.	Performance Testing	45CSR16; 40CFR§60.4244	6.5.1.
5.4.1.	Records of Notification, Maintenance, Engine Documentation, Hours of Operation	45CSR16; 40CFR§§60.4245(a) and (b)	6.6.1.a. and b.
5.5.1.	Initial notification and performance testing reporting`	45CSR16; 40CFR§§60.4245(c) and (d)	6.6.1.c. and d.

<sup>1</sup>Compliance with this condition ensures compliance with condition 5.1.3.

**Section 6.0: Heaters [emission point ID(s): HTR1, HTR2, HTR3]**

These heaters are subject to the following:

- NSR Permit Requirements
- 45CSR2: 45CSR2 “establishes emission limitations for smoke and particulate matter which are discharged from fuel burning units.” A fuel burning unit is defined under 45CSR2 as any “furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer.” The process heaters are defined as fuel burning units and are subject to 45CSR2. The heaters are <10MMBTU/hr and are only subject to the opacity limit in 45CSR§2-3.1 per 45CSR§2-11.1.

The following permit conditions apply to these heaters.

<b>Title V Permit Condition</b>	<b>Summary of Permit Condition</b>	<b>Regulatory Citation</b>	<b>R13-3313A Condition</b>
6.1.1.	Maximum design heat input	N/A	7.1.1.
6.1.2.	10% opacity limit	45CSR§2-3.1.	7.1.2.
6.2.1.	Method 9 observations	N/A	7.2.1.
6.3.1.	Test methods for visible emissions	45CSR§2-3.2.	7.3.1.
6.4.1.	Records of monitoring data	N/A	7.4.1.

**Section 7.0: 40CFR60, Subpart OOOOa Requirements**

The following affected sources which commenced construction, modification or reconstruction after September 18, 2015 are potentially subject to the applicable provisions of this Subpart OOOOa. Each affected source and their relevance to this facility are discussed below:

- a. Each well affected facility, which is a single natural gas well.

*There are no wells at this facility. Therefore, all requirements regarding gas well affected facilities under 40 CFR 60 Subpart OOOOa would not apply.*

- b. Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

*There are no centrifugal compressors with wet seals at the Sherwood Compressor Station. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOOa would not apply.*

- c. Each reciprocating compressor affected facility, which is a single reciprocating compressor. A reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

*There are no reciprocating compressors at the Sherwood Compressor Station.*

d. Pneumatic Controllers

- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 scfh and not located at a natural gas processing plant.
- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller and is located at a natural gas processing plant.

*All pneumatic controllers that have a continuous bleed at the facility will be air driven. Therefore, there are no applicable pneumatic controllers which commenced construction after September 18, 2015. Therefore, all requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOOa would not apply.*

- e. Each storage vessel affected facility, which is a single storage vessel, with the potential for VOC emissions equal to or greater than 6 tpy as determined according to §60.5364a(e).

40CFR60 Subpart OOOOa defines a storage vessel as a unit that is constructed primarily of non-earthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of liquids or other materials. The following are not considered storage vessels:

- Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be located at a site for less than 180 consecutive days. If the source does not keep or are not able to produce records, as required by §60.5420a(c)(5)(iv), showing that the vessel has been located at a site for less than 180 consecutive days, the vessel described herein is considered to be a storage vessel from the date the original vessel was first located at the site.
- Process vessels such as surge control vessels, bottoms receivers or knockout vessels.
- Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

The potential for VOC emissions must be calculated using a generally accepted model or calculation methodology, based on the maximum average daily throughput for a 30-day period of production prior to the applicable emission determination deadline specified in this subsection. The determination may take into account requirements under a legally and practically enforceable limit in an operating permit or other requirement established under a federal or state authority. For each storage vessel affected facility that emits more than 6 tpy of VOC, the permittee must reduce VOC emissions by 95% or greater within 60 days of startup.

*The storage vessel located at the Sherwood Compressor Station emits less than 6 tpy of VOC. Therefore, the facility is not required by this section to further reduce VOC emissions by 95%.*

- f. The group of all equipment, except compressors, within a process unit is an affected facility.

- Addition or replacement of equipment for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.
- Equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage vessel, field gas gathering system, or liquefied natural gas unit is covered by §§60.5400a,



60.5401a, 60.5402a, 60.5421a and 60.5422a of this subpart if it is located at an onshore natural gas processing plant. Equipment not located at the onshore natural gas processing plant site is exempt from the provisions of §§60.5400a, 60.5401a, 60.5402a, 60.5421a and 60.5422a of this subpart.

- The equipment within a process unit of an affected facility located at onshore natural gas processing plants and described in paragraph (f) of this section are exempt from this subpart if they are subject to and controlled according to subparts VVa, GGG or GGGa of this part.

*The facility is a compressor station not located at an onshore natural gas processing plant. Therefore, requirements of this section would not apply.*

g. Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.

- Each sweetening unit that processes natural gas is an affected facility; and
- Each sweetening unit that processes natural gas followed by a sulfur recovery unit is an affected facility.
- Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H<sub>2</sub>S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423a(c) but are not required to comply with §§60.5405a through 60.5407a and paragraphs 60.5410a(g) and 60.5415a(g) of this subpart.
- Sweetening facilities producing acid gas that is completely reinjected into oil-or-gas-bearing geologic strata or that is otherwise not released to the atmosphere are not subject to §§60.5405a through 60.5407a, 60.5410a(g), 60.5415a(g), and 60.5423a of this subpart.

*There are no sweetening units at the Sherwood Compressor Station. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOOa would not apply.*

h. Pneumatic Pumps

*The pneumatic pumps at the facility are air driven. Therefore, all requirements regarding pneumatic pumps under 40 CFR 60 Subpart OOOOa would not apply to the Sherwood Compressor Station.*

i. Collection of fugitive emission components at a well site

*The collection of fugitive emissions components is not at a well site.*

j. Collection of fugitive emission components at a compressor station

*The collection of fugitive emissions components at a compressor station, as defined in §60.5430a, is an affected facility. The Sherwood Compressor Station has fugitive components at the facility and they conduct Quarterly leak detection and repair (LDAR) surveys to detect and repair leaks. The applicable requirements from 40 CFR 60 Subpart OOOOa for fugitive emission components were added in Section 7.0 of this permit.*

The 40CFR60, Subpart OOOOa requirements applicable to this facility, are summarized in the following table:

Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-3313A Condition
7.1.1.	Reduce GHG and VOC Emissions: Fugitive Emissions Monitoring	45CSR16; 40 C.F.R. §60.5397a	4.1.4.
7.1.2.	Initial Compliance	45CSR16; 40 C.F.R. §60.5410a(j)	N/A
7.1.3.	Continuous Compliance	45CSR16; 40 C.F.R. §60.5415a(h)	N/A
7.2.1.	VOC calculations for A1	45CSR16; 40CFR§60.5410a(h) and §60.5365a(e)	4.1.5.
7.4.1.	Fugitive Emissions Records	45CSR16; 40 C.F.R. §§60.5420a(c)&(c)(15)	N/A
7.5.1.	Annual Reporting	45CSR16; 40 C.F.R. §§60.5420a(b)(1) and (7)	N/A

**40CFR64: Compliance Assurance Monitoring**

Initial Title V Permit Applications must only include a CAM plan for large Pollutant Specific Emission Units (PSEUs). Since emissions at this facility are below major source thresholds for each PSEU, a CAM plan was not required with this application. CAM will, however, be re-evaluated at this permit’s renewal.

**Non-Applicability Determinations**

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

- a. **40CFR60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.** The heaters are less than 10 MMBtu/hr, therefore, according to 40CFR§60.40c(a), this rule does not apply.
- b. **40CFR60, Subpart OOOO: 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.** The equipment at this facility was installed in 2017, which is after the applicability date specified in 40CFR§60.5365, therefore this rule does not apply.

**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: March 24, 2020  
 Ending Date: April 23, 2020

### **Point of Contact**

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

Rex Compston, P.E.  
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. 41252 • Fax: 304/926-0478  
[Rex.E.Compston@wv.gov](mailto:Rex.E.Compston@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.