

Fact Sheet



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

Permit Number: **R30-00900116-2024**

Application Received: **June 27, 2023**

Plant Identification Number: **03-54-009-00116**

Permittee: **Appalachia Midstream Services, L.L.C.**

Facility Name: **Buffalo Compressor Station**

Mailing Address: **100 Teletech Drive, Suite 2, Moundsville, WV 26041-2352**

Physical Location: Bethany, Brooke County, West Virginia
UTM Coordinates: 540.71 km Easting • 4449.70 km Northing • Zone 17
Directions: From Bethany: Head east on Bethany Pike (WV-67) ~2.8 miles, turn left onto site access road ~0.3 miles. Entrance is on the right.

Facility Description

The Appalachia Midstream Services, L.L.C., Buffalo Compressor Station is covered by Standard Industrial Classification (SIC) 1389. The station has the potential to operate seven (7) days per week, twenty-four (24) hours per day, fifty-two (52) weeks per year. The facility compresses and dehydrates up to 165 MMscf of locally produced natural gas. The primary equipment includes: twelve (12) natural gas compressors, and two (2) natural gas dehydrators, each with flash tank, regenerator /still and reboiler. The auxiliary equipment includes: one (1) electricity generator, two (2) heater treaters, and ten (10) storage tanks.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2022 Actual Emissions
Carbon Monoxide (CO)	82.81	11.69
Nitrogen Oxides (NO _x)	83.97	31.42
Particulate Matter (PM _{2.5})	6.44	2.71
Particulate Matter (PM ₁₀)	6.44	2.71
Total Particulate Matter (TSP)	6.44	2.71
Sulfur Dioxide (SO ₂)	0.40	0.17
Volatile Organic Compounds (VOC)	212.42	85.94

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2022 Actual Emissions
Acetaldehyde	1.00	0.52
Acrolein	0.61	0.32
Benzene	1.19	0.11
Butadiene, 1,3-	0.03	0.02
Ethylbenzene	0.55	0.02
Formaldehyde (HCHO)	8.82	1.78
n-Hexane	5.20	1.68
Methanol (MeOH)	3.32	0.34
Polycyclic Organic Matter (POM)	0.04	0.02
Toluene	1.63	0.14
2,2,4-Trimethylpentane (TMP)	0.51	0.07
Xylenes	1.72	0.07
Other/Trace HAP*	0.04	--

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

*Other/Trace HAPs include: Carbon Tetrachloride, Chlorobenzene, Chloroform, Dichloropropene, 1,3-Dichloropropene, Ethylene Dibromide, Methylene Chloride, Phenol, Propylene Oxide, Styrene, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, and Vinyl Chloride.

Title V Program Applicability Basis

This facility has the potential to emit 212.42 tpy of VOCs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Appalachia Midstream Services, L.L.C.'s Buffalo 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	Control Of Air Pollution From Combustion Of Refuse.
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, 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 Standards for Hazardous Air Pollutants
40 C.F.R. Part 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
40 C.F.R. Part 60, 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
40 C.F.R. Part 61, Subpart M	Asbestos inspection and removal
40 C.F.R. Part 63, Subpart HH	National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities
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 64	Compliance Assurance Monitoring
40 C.F.R. Part 82, Subpart F	Ozone depleting substances

State Only:

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 <i>(if any)</i>
R13-3048C	February 28, 2023	

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 January 8, 2019 and modified on June 12, 2023. Substantial changes to the most recent version of the current Title V Permit (R30-00900116-2019 (MM01)) consist of the following:

1) Section 3.0

- Condition 3.1.12. – Added the “state-only enforceable” requirements from 45CSR§17-3-1.
- Condition 3.7.2. – Added non-Applicable requirements for a permit shield as requested in the renewal application.

2) Section 4.0

- Condition 4.1.1. – Since this requirement refers to the emission units, the emission point IDs “(EPCE-1 – EPCE-12)” were changed to the emission unit IDs “(EUCE-1 – EUCE-12)” to identify the engines.

3) Section 5.0

- Condition 5.1.2. – Updated the language to the revised language in the most recent version of 40 CFR 60 Subpart JJJJ.

4) Section 7.0

- Condition 7.2.2. – CAM requirements were added in the existing condition. Also revised the citation of authority.
- Conditions 7.2.3. through 7.2.10., 7.4.7. and 7.5.2. – These permit conditions were added to include the Compliance Assurance Monitoring (CAM) requirements. (see discussion below)

5) Section 10.0

- Conditions 10.1.3., 10.1.4., 10.2.1. and 10.4.1. – Since these requirements refer to the emission units, the emission point IDs “(ELOAD-1)” and “(ELOAD-2)” were changed to the emission unit IDs “(EULOAD-1)” and “(EULOAD-2)” to identify the Condensate Truck Loading and the Produced Water Truck Loading.

6) Section 11.0

- Condition 11.4.1. – Corrected a typographical error by deleting the redundant “shall be” in this condition.

7) 40 CFR Part 64 – Compliance Assurance Monitoring (CAM)

This rule applies to the dehydrators (EUDHY-1 and EUDHY-2) still vents for VOC emissions pursuant to 40CFR§64.2(a) because they each are pollutant-specific emission units (PSEUs) at a major source that is required to obtain a Title V operating permit and satisfy the following criteria: 1) Each one is subject to an emissions limitation or standard (i.e., emission limit for VOC (R13-3048C, 9.1.4. and 9.1.5.)); 2) Each one uses a control device (i.e., BTEX Busters (BTEX-01 and BTEX-02)) to achieve compliance with the VOC limit; and 3) Each one has potential pre-control device emissions of VOC greater than 100 TPY. The post control emissions are below Major Source Threshold Levels which qualify the units as “other” PSEUs, and therefore a CAM plan has been submitted as part of the Title V permit renewal application as specified in 40CFR§64.5(b). Pursuant to 40CFR§64.2(b)(1)(i) since the dehydrators are subject to 40 CFR 63, Subpart HH they are exempt from CAM for HAP emissions. The remainder of the equipment is not subject to CAM. The engines are subject to 40CFR60, Subpart JJJJ and are, therefore, exempt per 40CFR§64.2(b)(1)(i). The remaining potential PSEUs do not have pre-control emissions that are classified as a major source, do not use a control device to achieve compliance, or are not subject to an emission limit or standard.

Condition 9.1.3. of R13-3048C (7.1.3. of the Title V permit) in part requires that the BTEX Busters be fully functional and that they shall be operated according to manufacturer’s specifications and that they shall be properly maintained in a manner which prevents the units from freezing. The non-condensable gas from each BTEX Accumulator shall be routed to a reboiler and combusted through a closed vent system. This condition also requires that for each reboiler burner, the pilot light shall be lit at all times when the dehydration unit is in operation. Therefore, continuous monitoring of the condenser outlet temperature and the presence of the reboiler pilot flame will provide reasonable assurance of ongoing compliance with the VOC limit. Conditions 7.2.2. through 7.2.10., 7.4.7., and 7.5.2. contain the CAM requirements.

		EUDHY-1 and EUDHY-2	
		Indicator No. 1	Indicator No. 2
I.	Indicator	Reboiler Burner Pilot Flame operation	BTEX Condenser Exit Temperature.
	Monitoring Approach	Continuous monitoring of the pilot flame using a thermocouple and burner management system (BMS) to ensure the pilot flame is present at all times the dehydration units are in operation	Continuous monitoring of the condenser exit temperature using a thermocouple.
II	Indicator Range	Indicator provides data regarding presence or absence of pilot flame.	Temperature shall not be above 150 °F.
	A. QIP threshold	The permittee has chosen not to propose a threshold at this time since it is not required for this permitting action by 40 C.F.R. §64.8(a). Although the threshold is not required, the language for a QIP as it relates to other applicable requirements is set forth as permit condition 7.2.9.	The permittee has chosen not to propose a threshold at this time since it is not required for this permitting action by 40 C.F.R. §64.8(a). Although the threshold is not required, the language for a QIP as it relates to other applicable requirements is set forth as permit condition 7.2.9.
III	Performance Criteria		
	A. Data Representativeness	The thermocouple is installed, in accordance with manufacturer’s specifications and monitored by the BMS.	The thermocouple is installed, in accordance with manufacturer’s specifications downstream of the condenser.
	B. Verification of Operational Status	All manufacturer’s recommendations regarding periodic testing/checks for the proper installation and operations of the flame detecting device will be followed.	The BTEX Condensers are regularly inspected and properly maintained in conformance with the manufacturer’s recommendations.

		EUDHY-1 and EUDHY-2	
		Indicator No. 1	Indicator No. 2
	C. QA/QC Practices and Criteria	The thermocouples are checked annually and maintained including but not limited to, maintaining necessary parts for routine repairs.	The thermocouples are checked annually and maintained including but not limited to, maintaining necessary parts for routine repairs.
	D. Monitoring frequency	Continuous	Daily
	E. Data Collection Procedure	The pilot flame will be monitored daily during operational round and manual log entries will be performed and recorded via mobile forms.	The condenser exit temperature will be monitored daily during operational round and manual log entries will be performed and recorded via mobile forms
	F. Averaging Period	There is no averaging period since the pilot flame is either present or absent.	Daily

Non-Applicability Determinations

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

- a. 45CSR10 - *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides* - This rule applies to fuel burning units, including glycol dehydration unit reboilers and fuel gas heaters. The reboilers and heater treaters at the station burn natural gas and are each rated less than 10 MMBtu/hr. Therefore, they are exempt from this rule pursuant to 45CSR§§10-10.1. and 10.3.
- b. 40 CFR 60 Subparts D, Da, Db, and Dc - The reboilers and heater treaters at the station are each rated less than 10 MMBtu/hr and therefore do not meet the applicability thresholds for design heat inputs pursuant to 40CFR§§60.40(a), 60.40Da(a), 60.40b(a), and 60.40c(a). Furthermore, regarding Subpart Da, the reboilers and heater treaters are not electric utility steam generator units.
- c. 40 CFR 60, Subparts K, Ka, and Kb - These rules do not apply because all tanks were constructed after July 23, 1989 and there are no tanks with capacity of 75 m³ (471.7 bbl or 19,813 gal) or greater, as specified in 40 CFR §60.110b(a), that are used to store volatile organic liquids (VOL) at this subject facility.
- d. 40 CFR 60, Subpart GG - Stationary Gas Turbines. This rule does not apply because there are no stationary gas turbines at this facility with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired. (40 CFR §60.330).
- e. 40 CFR 60, Subpart KKK - Leaks from Natural Gas Processing Plants. This rule does not apply because this facility is not a natural gas processing plant as defined in 40 CFR §60.331.
- f. 40 CFR 60, Subpart LLL - SO₂ Emissions from Onshore Natural Gas Processing Plants. This rule does not apply because there are no gas sweetening operations at this facility, as required in 40 CFR §60.640(a).
- g. 40 CFR 60, Subpart IIII—Stationary Compression Ignition Internal Combustion Engines. This rule does not apply because there are no stationary compression ignition engines at this facility.
- h. 40 CFR 60, Subpart KKKK—Stationary Combustion Turbines. This rule does not apply because there are no stationary gas turbines at this facility with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the higher heating value of the fuel fired, as specified in 40 CFR §60.4305(a).

- i. 40 CFR 60 Subpart OOOOa - This rule does not apply because the facility commenced construction prior to September 18, 2015 and has not been modified or reconstructed.
- j. 40 CFR 63, Subpart HHH - Natural Gas Transmission and Storage Facilities. This rule does not apply because this facility is not a natural gas transmission or storage facility transporting or storing natural gas prior to local distribution and is not a major source of HAP emissions, as specified in 40 CFR §63.1270(a).
- k. 40 CFR 63, Subpart YYYY - Stationary Combustion Turbines. This rule does not apply because this facility is not a major source of HAP emissions and does not have a stationary combustion turbine, as specified in 40 CFR §63.6085.
- l. 40 CFR 63, Subpart DDDDD - Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. This rule does not apply because this facility is not a major source of HAP emissions, as specified in 40 CFR §63.7485.
- m. 40 CFR 63, Subpart JJJJJ—Industrial, Commercial, and Institutional Boilers and Process Heaters Area Sources. This rule does not apply because all reboilers (EURBL-1 and EURBL-2) and heater treater burners (EUHT-1 and EuHT-2) at this facility are gas-fired, as exempted in 40 CFR §63.11195(e).

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 2, 2024

Ending Date: March 4, 2024

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
304/414-1910
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.