West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

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

Permit Number: **R30-05100130-2024**
Application Received: **December 19, 2023**
Plant Identification Number: **03-54-051-00130**
Permittee: **Appalachia Midstream Services, L.L.C.**
Facility Name: **Miller Compressor Station**
Mailing Address: **100 Teletech Drive, Suite 2, Moundsville, WV 26041**

Physical Location:	Bannen, Marshall County, West Virginia
UTM Coordinates:	532.49 km Easting • 4,396.919 km Northing • Zone 17
Directions:	From New Martinsville, head north on Energy Highway (WV-Route 2) for approximately 4.6 miles. Turn right onto Proctor Creek Road and travel for 9.3 miles. Take a sharp left to stay on Proctor Creek Road and continue traveling for approximately 6.9 miles. Turn left onto Johnson Ridge (County Route 1/22) and continue for approximately 1.8 miles. Take a slight right to the compressor station.

Facility Description

The Miller Compressor Station receives low-pressure "wet" natural gas from local production wells via pipeline. The gas is compressed and dehydrated for delivery of high pressure "dry" natural gas via pipeline. Raw condensate and produced fluid/water are also stabilized at the facility before being sent off-site via tanker trucks.

NAICS: 213112, SIC: 1389

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	**Potential Emissions**	**2023 Actual Emissions**
Carbon Monoxide (CO)	101.30	26.18
Nitrogen Oxides (NO_X)	77.61	42.93
Particulate Matter ($PM_{2.5}$)	9.44	8.05
Particulate Matter (PM_{10})	9.44	8.05
Total Particulate Matter (TSP)	9.44	8.05
Sulfur Dioxide (SO_2)	0.44	0.39
Volatile Organic Compounds (VOC)	131.21	36.44

PM_{10} is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2023 Actual Emissions
Acetaldehyde	1.62	1.43
Acrolein	1.07	0.91
Benzene	1.00	0.22
1,3-Butadiene	0.10	0.06
Ethylbenzene	0.36	0.18
Formaldehyde	9.26	2.31
n-Hexane	2.23	0.72
Methanol	2.46	0.94
Polycyclic Organic Matter	0.09	0.07
Toluene	1.20	0.24
2,2,4-Trimethylpentane	0.26	0.15
Xylenes	3.25	0.25
Other HAPs	0.07	None Reported
Total HAPs	22.97	7.48

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

Title V Program Applicability Basis

This facility has the potential to emit 101.30 tpy of Carbon Monoxide and 131.21 tpy of Volatile Organic Compounds. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Appalachia Midstream Services, L.L.C. 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, 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	Requirements for Operating Permits.
	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 Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and On or Before September 18, 2015.
	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, and On or Before December 6, 2022.
	40 C.F.R. Part 61	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 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
R13-2831G	January 16, 2024

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

Appalachia Midstream Services, L.L.C.'s Miller Compressor Station is an existing facility that was initially permitted under the NSR Permit R13-2831. With the issuance of R13-2831F, the facility became subject to Title V due to a potential to emit over 100 tpy of carbon monoxide and volatile organic compounds. The NSR permit has since been revised under the Modification Permit R13-2831G which was issued on January 16, 2024.

This section outlines the applicable requirements that have been included in the initial Title V operating permit.

Section 3.0. – Facility-Wide Requirements

The following conditions were added to Section 3.0.:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
3.1.8.	A Risk Management Plan (RMP) is required if the permittee becomes subject to Part 68. Part 68 is currently inapplicable to the Miller Compressor Station as prior to entry into a natural gas processing plant, regulated substances in naturally occurring hydrocarbon mixtures (including condensate, field gas, and produced water) are not considered when determining whether more than a threshold quantity is present at a stationary source, per 40 C.F.R. §68.115(b)(2)(iii).	40 C.F.R. 68	N/A
3.1.9.	Facility-wide HAP emissions are limited to ensure the facility remains a minor source of HAPs.	45CSR13	4.1.2.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
3.1.10.	Operation and Maintenance of Air Pollution Control Equipment.	45CSR13	4.1.3. and 6.1.8.
3.1.11.	Only the permitted emission units and *de minimis* sources are authorized at the facility.	45CSR13	4.1.5.
3.1.12.	Fugitive particulate matter may not be discharged beyond the boundary lines of the facility.	4CSR§17-3.1.	N/A
3.4.1.	Record of Monitoring Information.	45CSR13 45CSR§30-5.1.c.2.A	4.1.1.
3.4.2.	Retention of Records.	45CSR13	3.4.1.
3.4.4.	Record of Malfunctions of Air Pollution Control Equipment.	45CSR13	4.1.4.

Section 4.0. – Compressor Engines and Microturbine

The Miller Compressor Station operates eleven spark ignition (SI) reciprocating internal combustion engines (RICEs) (Emission Units: EUCE-2a, EUCE-3, EUCE-4a, EUCE-5 to EUCE-8, and EUCE-12 to EUCE-15) to drive the natural gas compressors. The engines are fueled by raw natural gas.

1. EUCE-2a and EUCE-4a are Waukesha L7044 GSI engines with a maximum power rating of 1,900 HP. Non-selective catalytic reduction (NSCR) control devices are used with each engine to control emissions of nitrogen oxides with an efficiency of 97.4%, carbon monoxide with an efficiency of 93.9%, volatile organic compounds with an efficiency of 86.7%, and formaldehyde with an efficiency of 76.0%.

2. EUCE-3, EUCE-5, and EUCE-6 are Waukesha L5794 GSI engines with a maximum power rating of 1,380 HP. NSCR control devices are used with each engine to control emissions of nitrogen oxides with an efficiency of 96.5%, carbon monoxide with an efficiency of 93.3%, volatile organic compounds with an efficiency of 84.5%, and formaldehyde with an efficiency of 84.5%.

3. EUCE-7, EUCE-8, and EUCE-12 to EUCE-15 are CAT G3516B engines with a maximum power rating of 1,380 HP. Oxidation catalyst (OxCat) control devices are used with each engine to control emissions of carbon monoxide with an efficiency of 81.5%, volatile organic compounds with an efficiency of 59.3%, and formaldehyde with an efficiency of 76.0%.

The RICEs are subject to the following regulations:

1. **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*

2. **45CSR16** – *Standards of Performance for New Stationary Sources*

3. **40 C.F.R. Part 60 Subpart JJJJ** – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*

   Construction of each of the engines commenced after June 12, 2006; the manufacture date of each engine is after July 01, 2007; and the maximum engine power of each engine is greater than 500 HP (with the maximum

engine power of each lean burn SI ICE being greater than 1,350 HP). Therefore, the compressor engines are subject to Subpart JJJJ per 40 C.F.R. §§60.4230(a)(4) and (a)(4)(i).

EUCE-2a, EUCE-3, EUCE-4a, EUCE-5, and EUCE-6 are non-emergency, 4-stroke rich burn (4SRB) RICEs, and EUCE-7, EUCE-8, EUCE-12, EUCE-13, EUCE-14, and EUCE-15 are non-emergency, 4-stroke lean burn (4SLB) RICEs. As stationary SI ICEs with a maximum engine power greater than 100 HP, each of the compressor engines must comply with the emission standards for NO_X, CO, and VOCs specified in Table 1 to Subpart JJJJ of Part 60, in accordance with §60.4233(e).

The engines are not certified under Subpart JJJJ. Therefore, compliance with the emission standards is demonstrated through periodic performance tests as specified in §60.4244 as well as through the reporting and recordkeeping requirements of §60.4245.

4. **45CSR34** – *Emission Standards for Hazardous Air Pollutants*

5. **40 C.F.R. Part 63 Subpart ZZZZ** – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Combustion Engines*

   According to 40 C.F.R. §63.6590(a)(2)(iii), EUCE-2a, EUCE-3, EUCE-4a, EUCE-5 to EUCE-8, and EUCE-12 to EUCE-15 are considered new stationary RICEs as construction of the engines commenced after June 12, 2006 and the engines are located at an area source of HAPs. Per §§63.6590(c) and (c)(1), these engines demonstrate compliance with the requirements of Subpart ZZZZ through compliance with the requirements of Part 60 Subpart JJJJ.

To generate electric power for equipment, the Miller Compressor Station also operates one Capstone C600 microturbine generator (Emission Unit: EUGEN-1, Emission Point: EPGEN-1) which is comprised of three 200kWhe turbine generators that operate in parallel. The microturbine has an engine power of 805 HP, has a fuel flow HHV of 6.84 mmBTU/hr, and combusts natural gas. Emissions from the microturbine are vented to the atmosphere.

The microturbine generator is subject to the following regulations:

1. **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*

The table below describes each condition added to Section 4.0. of the Title V operating permit:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
4.1.1.	Emission limitations for NO_X, CO, VOCs, and Formaldehyde from the compressor engines. Compliance with these limits is demonstrated through the performance testing requirements of 40 C.F.R. §60.4244 which was included in the operating permit under Condition 4.3.1.	45CSR13	5.1.1.
4.1.2.	Emission limits for NO_X, CO, VOCs, and Formaldehyde from the microturbine generator. The annual emission limits are based on 8,760 hours of operation.	45CSR13	5.1.2.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
4.1.3.	Emission limitations of Conditions 4.1.1. and 4.1.2. apply at all times except periods of start-up and shutdown.	45CSR13	5.1.3.
4.1.4.	Aggregate engine crankcase emission limitations for NO_X, CO, VOCs, and Formaldehyde.	45CSR13	5.1.4.
4.1.5.	Requirements for use of catalytic reduction devices to control emissions from the RICEs.	45CSR13	5.1.5.
4.1.6.	Applicability of 40 C.F.R. Part 60 Subpart JJJJ to the engines EUCE-2a, EUCE-3, EUCE-4a, EUCE-5 to EUCE-8, and EUCE-12 to EUCE-15.	45CSR13 45CSR16 40 C.F.R. §§60.4230(a), (a)(4), (a)(4)(i), and (a)(5)	11.1.1.
4.1.7.	The emission standards of Table 1 to 40 C.F.R. Part 60 Subpart JJJJ which apply to non-emergency SI engines that are fueled by natural gas, have a maximum engine power greater than or equal to 500 HP, and were manufactured after July 1, 2010.	45CSR13 45CSR16 40 C.F.R. §60.4233(e) Table 1 to Subpart JJJJ of Part 60	11.1.2.
4.1.8.	The engines shall be operated and maintained to achieve the emission standards of 40 C.F.R. §60.4233(e) and Condition 4.1.7. over the life of the engine.	45CSR13 45CSR16 40 C.F.R. §60.4234	11.1.3.
4.1.9.	Deadlines for installing stationary SI ICE with a maximum engine power greater than or equal to 500 HP that do not meet the requirements in 40 C.F.R. §60.4233.	45CSR13 45CSR16 40 C.F.R. §60.4236(b)	11.2.1.
4.1.10.	The requirements of 40 C.F.R. §60.4236 do not apply to SI ICE that have been modified or reconstructed or that have been reinstalled at a new location.	45CSR13 45CSR16 40 C.F.R. §60.4236(e)	11.2.2.
4.1.11.	Propane may be used as an alternative fuel during emergency operations for up to 100 hours.	45CSR16 40 C.F.R. §60.4243(e)	N/A
4.1.12.	An air-to-fuel ratio controller must be used with the operation of three-way catalysts/non-selective catalytic reduction.	45CSR16 40 C.F.R. §60.4243(g)	N/A

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
4.1.13.	For a new or reconstructed RICE located at an area source of HAPs, compliance with 40 C.F.R. Part 63 Subpart ZZZZ must be demonstrated upon startup of the RICE. NOTE: The NSR permit condition contains the date by which an existing SI RICE at an area source of HAPs must be in compliance with the applicable provisions of Subpart ZZZZ, per §63.6595(a)(1). This requirement is inapplicable to the engines at the compressor station which are considered new or reconstructed RICEs at an area source under Subpart ZZZZ and has been replaced with the requirement of §63.6595(a)(7).	45CSR13 45CSR34 40 C.F.R. §63.6595(a)(7)	12.1.1.
4.1.14.	Compliance with 40 C.F.R. Part 63 Subpart ZZZZ is demonstrated through compliance with 40 C.F.R. Part 60 Subpart JJJJ.	45CSR13 45CSR34 40 C.F.R. §§63.6590(c) and (c)(1)	12.1.2.
4.1.15.	VOC emission limits for aggregate rod packing emissions from the engines EUCE-2a, EUCE-3, EUCE-4a, EUCE-5 to EUCE-8, and EUCE-12 to EUCE-15.	45CSR13	13.1.1.
4.2.1.	Monitoring and maintenance requirements for catalytic oxidizer control devices.	45CSR13	5.2.1.
4.2.2.	Compliance demonstration requirements for non-certified stationary SI ICEs. A performance test of each engine must be completed every 8,760 hours or 3 years, whichever comes first.	45CSR13 45CSR16 40 C.F.R. §§60.4243(b), (b)(2), and (b)(2)(ii)	11.3.1.
4.3.1.	Procedures for performance tests conducted in accordance with 40 C.F.R. Part 60 Subpart JJJJ.	45CSR13 45CSR16 40 C.F.R. §60.4244	5.3.1. and 11.4.1.
4.4.1.	Maintain records of maintenance performed on each engine to demonstrate compliance with Condition 4.1.5.	45CSR13	5.4.1.
4.4.2.	Maintain records of maintenance performed on each catalytic reduction device to demonstrate compliance with Condition 4.2.1.	45CSR13	5.4.2.
4.4.3.	Maintain a copy of the site-specific maintenance plan or the manufacturer maintenance plan.	45CSR13	5.4.3.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
4.4.4.	Maintain the records of Conditions 4.4.1. to 4.4.3. in accordance with the requirements for the Retention of Records in Condition 3.4.2.	45CSR13	5.4.4.
4.4.5.	Recordkeeping requirements from 40 C.F.R. Part 60 Subpart JJJJ that are applicable to uncertified engines.	45CSR13 45CSR16 40 C.F.R. §§60.4245(a), (a)(1), (a)(2), and (a)(4)	11.5.1.a.
4.5.1.	Initial notification requirements for SI ICE with a rating greater than or equal to 500 HP that have not been certified to meet the emission standards of 40 C.F.R. §60.4231.	45CSR13 45CSR16 40 C.F.R. §60.4245(c)	11.5.1.c.
4.5.2.	40 C.F.R. Part 60 Subpart JJJJ reporting requirements for each performance test conducted according to Condition 4.3.1.	45CSR13 45CSR16 40 C.F.R. §60.4245(d)	11.5.1.d.

NOTE: Conditions 11.3.1.a. and 11.5.1.a.3. of R13-2831G have not been included in the operating permit. Condition 11.3.1.a. contains the requirement of 40 C.F.R. §60.4243(b)(1), and Condition 11.5.1.a.3. contains the requirement of §60.4245(a)(3). Both of these conditions are applicable to engines that are certified under 40 C.F.R. Part 60 Subpart JJJJ by the manufacturer. However, as all of the engines at the Miller Compressor Station are non-certified, these requirements are inapplicable.

Sections 5.0. and 6.0. – 40 C.F.R. Part 60 Subparts OOOO and OOOOa Requirements

Sections 5.0. and 6.0. contain the applicable requirements from the NSPS regulating greenhouse gas (GHG), volatile organic compound (VOC), and sulfur dioxide (SO_2) emissions from facilities in the Crude Oil and Natural Gas source category. These standards include:

1. Subpart OOOO which contains the standards for the control of VOC and SO_2 from the affected facilities, located at a natural gas facility, that commenced construction, modification, or reconstruction after August 23, 2011, and on or before September 18, 2015.

2. Subpart OOOOa which contains the standards for the control of VOC, SO_2, and GHG emissions from affected facilities in the natural gas source category that commenced construction, modification, or reconstruction after September 18, 2015, and on or before December 6, 2022.

3. Subpart OOOOb which contains the standards for the control of VOC, SO_2, and GHG emissions from affected facilities in the natural gas source category that commenced construction, modification, or reconstruction after December 6, 2022. At the time of writing this permit, no equipment located at the Miller Compressor Station is subject to this rule.

Potential affected facilities at the Miller Compressor Station include the following:

1. Reciprocating Compressors under §60.5365(c) and §60.5365a(c):

   The engines EUCE-3, EUCE-5, and EUCE-6 were constructed prior to the applicability dates of each of the rules. Therefore, these reciprocating compressors are not subject to Subparts OOOO or OOOOa.

   The engines EUCE-7 and EUCE-8 were constructed within the applicability dates of Subpart OOOO and are located prior to the point of custody transfer as defined in §60.5430. Therefore, the reciprocating compressors associated with these engines are subject to Subpart OOOO.

   The engines EUCE-12 to EUCE-15 were constructed within the applicability dates of Subpart OOOOa. Therefore, the reciprocating compressors associated with these engines are subject to Subpart OOOOa.

   Under 40 C.F.R. §60.2, commenced means "that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification". Although the engines EUCE-2a and EUCE-4a were installed at the facility in 2023, the permittee has stated that modification of EUCE-2a and EUCE-4a commenced prior to the Subpart OOOOb applicability date of December 6, 2022 due to purchase orders with the manufacturer for the engines dated October 2022. Therefore, the reciprocating compressors driven by EUCE-2a and EUCE-4a are also subject to Subpart OOOOa.

   The requirements applicable to the reciprocating compressors associated with EUCE-2a, EUCE-4a, EUCE-7, EUCE-8, and EUCE-12 to EUCE-15 have been included in Section 5.0. of this operating permit.

2. Pneumatic Controllers under §60.5365(d)(2) and §60.5365a(d)(1):

   A pneumatic controller that is not located at a natural gas processing plant is considered an affected facility under Subpart OOOO or OOOOa only if the unit is natural gas-driven and operates at a natural gas bleed rate greater than 6 scfh. The pneumatic controllers located at the Miller Compressor Station were either constructed outside the applicability dates of these subparts, are compressed air-driven, or have a bleed rate less than or equal to 6 scfh. Therefore, the Miller Compressor Station is not subject to the standards for pneumatic controllers under Subpart OOOO or OOOOa.

3. Storage Vessels under §60.5365(e) and §60.5365a(e):

   The stabilized condensate storage tanks EUTK-1 to EUTK-10 and the produced water storage tanks EUTK-11 and EUTK-12 were installed at the Miller Compressor Station in 2010. Therefore, the storage tanks were installed prior to the applicability dates of the subparts and are not subject to the requirements of Subparts OOOO and OOOOa.

4. Fugitive Emissions Components under §60.5365a(j):

   The collection of fugitive emissions components at a compressor station is an affected facility under Subpart OOOOa. For the purposes of §60.5397a, a modification to a compressor station occurs when either an additional compressor is installed at the compressor station or one or more compressors at a compressor station is replaced by one or more compressors of greater total horsepower. The compressor engines EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15 were constructed within the applicability dates of Subpart OOOOa.

   The compressor engines EUCE-12 to EUCE-15 replaced four compressor engines with the same total horsepower. Therefore, the construction of EUCE-12 to EUCE-15 was not considered a modification of the

compressor station under §60.5365a(j) and did not trigger the Subpart OOOOa requirements for the collection of fugitive emissions components.

The compressor engines EUCE-2a and EUCE-4a replaced two compressor engines with a smaller total horsepower. Therefore, the construction of EUCE-2a and EUCE-4a is considered a modification of the compressor station under §60.5365a(j), and the collection of fugitive emissions components at the Miller Compressor Station are subject to Subpart OOOOa. The applicable requirements have been included in Section 6.0. of this operating permit.

Section 5.0. – 40 C.F.R. Part 60 Subparts OOOO and OOOOa Requirements for the Reciprocating Compressors Associated with EUCE-2a, EUCE-4a, EUCE-7, EUCE-8, and EUCE-12 to EUCE-15

The reciprocating compressors associated with the engines EUCE-2a, EUCE-4a, EUCE-7, EUCE-8, and EUCE-12 to EUCE-15 are subject to the following regulations:

1. **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*

2. **45CSR16** – *Standards of Performance for New Stationary Sources*

3. **40 C.F.R. 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* (EUCE-7 and EUCE-8)

4. **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 and On or Before December 6, 2022* (EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15)

The table below describes each condition added to Section 5.0. of the Title V operating permit:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
5.1.1.	Affected facilities under Subparts OOOO and OOOOa must be operated in a manner consistent with good air pollution control practice for minimizing emissions.	45CSR16 40 C.F.R. §60.5370(b) 40 C.F.R. §60.5370a(b)	N/A
5.1.2.	Subpart OOOO applicable standards for reciprocating compressor affected facilities associated with EUCE-7 and EUCE-8.	45CSR13 45CSR16 40 C.F.R. §60.5385	13.1.2.
5.1.3.	Subpart OOOOa applicable standards for reciprocating compressor affected facilities associated with EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15.	45CSR13 45CSR16 40 C.F.R. §60.5385a	13.1.3.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
5.2.1.	Requirements to demonstrate initial compliance with Subpart OOOO for the reciprocating compressors associated with EUCE-7 and EUCE-8.	45CSR13 45CSR16 40 C.F.R. §60.5410(c)	13.2.1.
5.2.2.	Requirements to demonstrate continuous compliance with Subpart OOOO for the reciprocating compressors associated with EUCE-7 and EUCE-8.	45CSR13 45CSR16 40 C.F.R. §60.5415(c)	13.3.1.
5.2.3.	Requirements to demonstrate initial compliance with Subpart OOOOa for the reciprocating compressors associated with EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15.	45CSR13 45CSR16 40 C.F.R. §60.5410a(c)	13.2.2.
5.2.4.	Requirements to demonstrate continuous compliance with Subpart OOOOa for the reciprocating compressors associated with EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15.	45CSR13 45CSR16 40 C.F.R. §60.5415a(c)	13.3.2.
5.4.1.	Applicable Subpart OOOO recordkeeping requirements for the reciprocating compressors associated with EUCE-7 and EUCE-8.	45CSR16 40 C.F.R. §§60.5420(c), (c)(3), and (c)(6) to (c)(9)	N/A
5.4.2.	Applicable Subpart OOOOa recordkeeping requirements for the reciprocating compressors associated with EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15.	45CSR13 45CSR16 40 C.F.R. §§60.5420a(c), (c)(3), (c)(6) to (c)(8), and (c)(17)	13.4.6.
5.5.1.	Applicable Subpart OOOO reporting requirements for the reciprocating compressors associated with EUCE-7 and EUCE-8. Conditions 13.4.3. and 13.4.5. of R13-2831G both contain the reporting requirements of §§60.5420(b)(1) and (b)(4). Condition 13.4.5.v. references Condition 4.4.4. which was included in a previous NSR permit with the Subpart OOOO requirements for reciprocating compressors but was not carried forward to the current NSR permit.	45CSR13 45CSR16 40 C.F.R. §§60.5420(b), (b)(1), and (b)(4)	13.4.3. and 13.4.5.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
5.5.2.	Applicable Subpart OOOOa reporting requirements for the reciprocating compressors associated with EUCE-2a, EUCE-4a, and EUCE-12 to EUCE-15.	45CSR13 45CSR16 40 C.F.R. §§60.5420a(b), (b)(1), (b)(4), (b)(11), and (b)(12)	13.4.4. and 13.4.6.

NOTE: Conditions 13.4.1. and 13.4.2. of R13-2831G have not been included in this operating permit. These conditions require the permittee to submit the notifications specified in §§60.5420(a)(1) and (2) and §§60.5420a(a)(1) and (2). However, §60.5420(a)(1) does not require the notifications of §§60.7(a)(1), (a)(3), and (a)(4) for reciprocating compressors; §60.5420a(a)(1) does not require the notifications of §§60.7(a)(1), (a)(3), and (a)(4) and §60.15(d) for reciprocating compressors; and the notifications of §60.5420(a)(2) and §60.5420a(a)(2) are applicable to well affected facilities.

Section 6.0. – 40 C.F.R. Part 60 Subpart OOOOa Requirements for Fugitive Emissions Components

Under §60.5430a, a fugitive emissions component is defined as "any component that has the potential to emit fugitive emissions of methane or VOC at a compressor station, including valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed vent systems not subject to §60.5411 or §60.5411a, thief hatches or other openings on a controlled storage vessel not subject to §60.5395 or §60.5395a, compressors, instruments, and meters. Devices that vent as part of normal operations such as natural gas-driven pneumatic controllers or natural gas-driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device's vent is not considered a fugitive emission. Emissions originating from other than the device's vent, such as the thief hatch on a controlled storage vessel, would be considered fugitive emissions."

As the Miller Compressor Station has been modified as described in §60.5365a(j)(2) within the applicability dates of Subpart OOOOa, the collection of fugitive emissions components is subject to the standards of §60.5397a. The table below describes each condition added to Section 6.0. of the Title V operating permit:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
6.1.1.	Affected facilities under Subpart OOOOa must be operated in a manner consistent with good air pollution control practice for minimizing emissions.	45CSR16 40 C.F.R. §60.5370a(b)	N/A
6.1.2.	GHG and VOC standards for fugitive emissions components affected facilities.	45CSR13 45CSR16 40 C.F.R. §§60.5397a(a) to (e), (f)(2), (g), (g)(2) to (g)(4), and (h) to (j)	14.1.1.
6.2.1.	Initial compliance demonstration requirements for the collection of fugitive emissions components.	45CSR16 40 C.F.R. §60.5410a(j)	N/A

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
6.2.2.	Continuous compliance demonstration requirements for the collection of fugitive emissions components.	45CSR16 40 C.F.R. §60.5415a(h)	N/A
6.4.1.	Recordkeeping requirements for the collection of fugitive emissions components.	45CSR16 40 C.F.R. §§60.5420a(c), (c)(15), and (c)(15)(i), (vi) to (ix)	N/A
6.5.1.	Reporting requirements for the collection of fugitive emissions components.	45CSR16 40 C.F.R. §§60.5420a(b), (b)(1), (b)(7), (b)(7)(i)(A), (b)(7)(i)(B), (b)(7)(ii) to (iv), and (b)(11)	N/A

Section 7.0. – Natural Gas Dehydration Units

Three triethylene glycol (TEG) dehydration units are operated at the facility to remove water vapor from the natural gas inlet stream. Each dehydrator is comprised of a contactor/absorber tower (no vented emissions), a flash tank (Emission Units: EUDFT-1 to EUDFT-3), and a regenerator/still vent (Emission Units: EUDSV-1 to EUDSV-3) with a condenser. Each dehydration unit is also associated with a reboiler (Emission Units: EURBL-1 to EURBL-3), which have applicable requirements in Section 8.0. of this operating permit.

In the dehydration process, the inlet wet gas stream flows through a contactor tower where the gas is contacted with lean glycol. The lean glycol absorbs the water in the gas stream and becomes rich glycol ladened with water and trace amounts of hydrocarbons. The rich glycol is routed to a flash tank where the pressure is reduced to liberate the lighter hydrocarbons, primarily methane, and then to the regenerator/still where it is heated to drive off the water vapor and any remaining hydrocarbons. The lean glycol is then recirculated through the contactor tower to absorb the water in the gas stream.

The regenerator/still overhead gases are processed through a condenser (Control Device: APCCOND-1 to APCCOND-3). The condensed liquids (primarily water) are routed to the produced fluid/water storage tanks (Emission Units: EUTK-11 and -12). The condenser overhead gases are routed to the reboilers for fuel. The condenser controls VOC and HAP emissions from the still vents with a control efficiency of 95%.

The lighter hydrocarbons from the flash tanks are routed to the dehydrator/stabilizer flare (Control Device: APCFLARE). Overheads from the condensate stabilizer may also be sent to the flare for up to 120 hours per year (see Section 9.0. of this Fact Sheet). The flare has a 98% control efficiency for VOC and HAP emissions from these processes.

The TEG dehydration units, condensers, and flares are subject to the following regulations:

1. **45CSR6** – *Control of Air Pollution from Combustion of Refuse*

   This rule establishes standards to control the particulate matter emissions from the combustion of refuse. Under 45CSR§6-2.8., incineration is defined as "the destruction of combustible refuse by burning in a furnace designed for that purpose. For the purposes of this rule, the destruction of any combustible liquid or gaseous

material by burning in a flare or flare stack, thermal oxidizer, or thermal catalytic oxidizer stack shall be considered incineration". As APCFLARE combusts waste vapors from the flash tanks and condensate stabilizer, the emission standards of 45CSR§6-4 are applicable.

a. Per 45CSR§6-4.1., the PM emission limits for each unit are established using the following formula:

$$F \times Incinerator\ Capacity\ (tons/hr) = Emissions\ (lbs/hr)$$

The maximum rate at which the gas/waste gas is routed to the flare is 770 lbs/hr (0.385 tons/hr). Since the incinerator capacity of the flare is less than 15,000 lbs/hr, the factor F is 5.43 in accordance with Table I of 45CSR§6-4.1.

The PM emission limit of each thermal oxidizer is:

$$5.43 \times 0.385\ tons/hr = 2.09\ lbs/hr$$

The flare has the potential-to-emit particulate matter (PM) at a maximum rate of 0.15 lbs/hr and an average rate of 0.04 lbs/hr. Therefore, as the limit established above is much greater than the maximum potential emissions from the flare, compliance should be demonstrated through the NSR permit requirements to route vapors to the flare at all times (Condition 7.1.4.a.), to operate the flare with a flame present (Condition 7.1.4.b.), and to continuously monitor for the presence of a pilot flame (Condition 7.2.1.).

b. Although the facility is located in Marshall County, 45CSR§6-4.2. is inapplicable to APCFLARE because flares are exempt from the requirement.

c. The flare must also meet the 20% opacity limit of 45CSR§6-4.3., except as specified in 45CSR§6-4.4. Compliance with the requirements should be demonstrated by operating the flare with a flame present at all times (Condition 7.1.4.b.), by operating the units with no visible emissions except for periods not to exceed five minutes in any two-hour period (Condition 7.1.4.e.), and by conducting a Method 22 opacity test (Condition 7.3.1.).

d. The flare is also subject to the standards in 45CSR§§6-4.5. and -4.6. which prohibit the emission of unburned refuse and require the prevention of objectionable odors from the combustor, respectively.

e. At the discretion of the Secretary, the permittee may also be required to conduct stack testing to determine particulate matter loading in accordance with 45CSR§§6-7.1. and -7.2.

2. **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*

3. **45CSR34** – *Emission Standards for Hazardous Air Pollutants*

4. **40 C.F.R. Part 63 Subpart HH** – *National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities*

Subpart HH of the NESHAP is applicable to facilities in the oil and natural gas production source category, which includes compressor stations that transport natural gas prior to a natural gas processing plant or the point of custody transfer. As the Miller Compressor Station is located prior to this point, the compressor station is a "production field facility" subject to Subpart HH.

Per the definition of a major source in 40 C.F.R. §63.761, the major source determination for production field facilities is determined by aggregating HAP emissions from only the glycol dehydration units and the storage vessels. The potential-to-emit of these units are below major source thresholds. Therefore, the Miller Compressor Station is an area source of HAPs under this subpart, and, per 40 C.F.R. §63.760(b)(2), the TEG dehydration unit is the only affected source subject to Subpart HH.

Provided that the actual average benzene emissions from each TEG dehydration unit remain less than 1 tpy, 40 C.F.R. §§63.764(e)(1) and (e)(1)(ii) exempt the TEG dehydration units from the standards set forth in §63.764(d). With this exemption, the permittee is subject to the general requirement of §63.764(j), the monitoring requirement of §63.772(b)(2)(i), and the recordkeeping requirements of §§63.774(d)(1) and (d)(1)(ii). The conditional requirement of 40 C.F.R. §63.760(c) has also been included in the operating permit; the permittee is subject to this requirement if actual emissions of HAPs exceed or previously exceeded 5 tpy for a single HAP or 12.5 tpy for a combination of HAPs.

The table below describes each condition added to Section 7.0. of the Title V operating permit:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
7.1.1.	Maximum dry natural gas throughput for each of the glycol dehydration units.	45CSR13	6.1.1.
7.1.2.	Each still vent shall be vented to a condenser through a closed vent system. The non-condensable gas shall be vented back to the reboiler.	45CSR13	6.1.2.
7.1.3.	Requirements for each dehydration unit's BTEX condenser.	45CSR13	6.1.3.
7.1.4.	Design and operation requirements for the flare which controls VOC and HAP emissions from the flash tanks. The applicable emission standards of 45CSR6 have been added as paragraphs g.1. through g.5. of this condition. NOTE: In R13-2831G, Condition 6.1.4.d. is stated to demonstrate compliance with the nonexistent Condition 6.1.2.2.(iv). The flare requirements included in 6.1.4.a. through f. of R13-2831G are derived from the flare requirements in the Natural Gas Compressor Station General Permit, with 6.1.4.d. being similar to 7.1.2.2.v. of the current general permit G35-E. As 7.1.2.2.v. of G35-E ensures compliance with the requirement to operate a flare at all times that emissions are vented to it (7.1.2.2.iv.) by monitoring for the presence of a pilot flame (7.2.1), the requirement in 6.1.4.d. of R13-2831G has been similarly updated in the operating permit. Therefore, Condition 7.1.4.d. of the operating permit states that compliance with the requirement to operate the flare at all times that emissions are vented to it (7.1.4.c.) will be demonstrated by monitoring for the presence of a pilot flame (7.2.1.).	45CSR13 45CSR§§6-4.1. and -4.3. through -4.6.	6.1.4.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
7.1.5.	Maximum hourly and annual limits for NO_X, CO, VOC, and aggregate HAP emissions from the flare.	45CSR13	6.1.5.
7.1.6.	Major source determination must be updated annually if actual emissions are greater than 5 tpy for a single HAP or 12.5 tpy for aggregate HAPs.	45CSR13 45CSR34 40 C.F.R. §63.760(c)	6.1.6.
7.1.7.	Exemption to the requirements of 40 C.F.R. §63.764(d) if actual average emissions of benzene from the TEG dehydration unit are less than 0.90 megagram per year (1 tpy).	45CSR13 45CSR34 40 C.F.R. §§63.764(e), (e)(1), and (e)(1)(ii)	6.1.7.
7.1.8.	Any affected source must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions.	45CSR34 40 C.F.R. §63.764(j)	N/A
7.2.1.	Compliance with the flare's operation requirements in Conditions 7.1.4.b. and d. is demonstrated by continuously monitoring the pilot flame with a thermocouple.	45CSR13	6.2.1.
7.2.2.	The throughput of dry natural gas fed to each dehydration unit must be monitored.	45CSR13	6.2.2.
7.2.3.	Each BTEX condenser must be regularly inspected and maintained according to the manufacturer's recommendations.	45CSR13	6.2.3.
7.3.1.	Method 22 visible emissions testing must be conducted for the flare to demonstrate compliance with the requirements of Condition 7.1.4.e.	45CSR13	6.3.1.
7.3.2.	Upon request of the Director, compliance shall be demonstrated with the VOC and HAP emission limits of Condition 7.1.5. using GLYCalc Version 3.0 or higher.	45CSR13	6.3.2.
7.3.3.	Procedure to determine the actual average benzene emissions from the glycol dehydration units.	45CSR13 45CSR34 40 C.F.R. §§63.772(b)(2) and (b)(2)(i)	6.3.3.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
7.3.4.	Parameters that must be included if the ProMax model is used as an alternative to the GLYCalc model.	45CSR13	6.3.4.
7.3.5.	The permittee must notify the responsible agency before the use of an alternative model.	45CSR13	6.3.5.
7.3.6.	The permittee must continue to use the ProMax model as an alternative until approved to use another method.	45CSR13	6.3.6.
7.3.7.	Particulate matter emissions testing for the combustor.	45CSR13 45CSR§§6-7.1. and -7.2.	6.1.4.g.
7.4.1.	To demonstrate compliance with the VOC and HAP emission limits of Condition 7.1.5. and the testing requirements of Condition 7.3.2., maintain records of testing conducted according to Condition 7.3.2. NOTE: In R13-2831G, Condition 6.4.1. specifies that this recordkeeping requirement demonstrates compliance with the condenser requirements of Condition 6.1.3. and the testing requirements of Condition 6.3.2. However, as the testing requirements of 6.3.2. demonstrate compliance with the flare's emission limits in Condition 6.1.5., this reference has been updated in the operating permit. Therefore, Condition 7.4.1. of the operating permit states that the records of the testing conducted under 7.3.2. shall demonstrate compliance with the flare emission limits of 7.1.5.	45CSR13	6.4.1.
7.4.2.	Maintain the corresponding records specified by the monitoring requirements of Section 7.2. and the testing requirements of Section 7.3.	45CSR13	6.4.2.
7.4.3.	Maintain records of the PTE HAP calculations for the entire affected facility, including the natural gas compressor engines and ancillary equipment.	45CSR13	6.4.3.
7.4.4.	Maintain records of the dry natural gas throughput through the dehydration system.	45CSR13	6.4.4.
7.4.5.	Maintain records of the actual average benzene emissions to demonstrate that the permittee is exempt from the requirements of 40 C.F.R. §63.764(d).	45CSR13 45CSR34 40 C.F.R. §§63.764(e), 63.774(d)(1) and (d)(1)(ii)	6.4.5.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
7.4.6.	Maintain records on-site or in a readily accessible off-site location for at least five years.	45CSR13	6.4.6.
7.5.1.	If testing is required to demonstrate compliance with Condition 7.3.3., the permittee must submit testing protocol at least thirty days prior and a notification at least fifteen days prior to testing.	45CSR13	6.5.1.
7.5.2.	The permittee must report any deviations from the allowable visible emission requirements.	45CSR13	6.5.2.
7.5.3.	The permittee must report any deviations from the flare design and operation criteria of Condition 7.1.4.	45CSR13	6.5.3.
7.5.4.	Exemption to the reporting requirements for area sources meeting the benzene exemption and subject to 40 C.F.R. Part 63 Subpart HH.	45CSR34 40 C.F.R. §§63.775(c) and (c)(8)	N/A

Section 8.0. – Reboilers and Hot Oil Heater

Each TEG dehydration unit is associated with a 1.0 mmBTU/hr reboiler (EURBL-1 to -3) which supplies heat to the regenerator/still. The reboilers are fueled by the overhead gases from the condenser.

The facility also operates a 3.35 mmBTU/hr hot oil heater (EUOH-01) which supplies heat to the condensate stabilizer. The hot oil heater is fueled by natural gas.

The reboilers and hot oil heater are subject to the following regulations:

1. **45CSR2** – *To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers*

   45CSR2 establishes particulate matter emission standards and requirements for fuel burning units. Per 45CSR§2-2.10., a fuel burning unit includes 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. Therefore, the reboilers and the hot oil heater are subject to the particulate matter emission standards of this rule.

   The reboilers and hot oil heater are subject to the visible emissions standards in 45CSR§2-3. The 10% opacity limit of 45CSR§2-3.1. has been included in the operating permit as Condition 8.1.3. Compliance with this limit is demonstrated through visible emission checks conducted in accordance with Method 9 of 40 C.F.R. Part 60 Appendix A, as designated by the Director. The permittee is also required to maintain records of each visible emission check and to report any deviations discovered during the observations.

   As each of the reboilers and the hot oil heater have a design heat input less than 10 mmBTU/hr, the permittee is exempt from the weight emission standards of Section 4; the fugitive emissions control standards of Section 5; the registration standards of Section 6; the testing, monitoring, recordkeeping, and reporting requirements

of Section 8; and the start-up, shutdown, and malfunction requirements of Section 9 of this rule per 45CSR§2-11.1.

2. **45CSR10** – *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides*

   45CSR10 establishes sulfur oxides emission standards and requirements for fuel burning units. Per 45CSR§10-2.8., a fuel burning unit includes any furnace used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. Therefore, the reboilers and the hot oil heater are subject to the emission standards of this rule.

   However, per 45CSR§10-10.1., fuel burning units with a design heat input of less than 10 mmBTU/hr are exempt from the weight emission standards of Section 3; the registration requirements of Section 6; the permit requirements of Section 7; and the testing, monitoring, recordkeeping, and reporting requirements of Section 8. Furthermore, Section 4 is inapplicable because neither the reboilers nor the hot oil heater are part of a manufacturing process, and Section 5 is inapplicable because neither of the units combust a refinery or other process gas stream.

   Therefore, although the reboilers and the hot oil heater are subject to 45CSR10, the emission units currently have no applicable requirements under this rule.

3. **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*

The table below describes each condition added to Section 8.0. of the Title V operating permit:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
8.1.1.	Maximum design heat input of the reboilers.	45CSR13	7.1.1.
8.1.2.	Maximum design heat input of the hot oil heater.	45CSR13	7.1.2.
8.1.3.	45CSR2 visible emission limit.	45CSR13 45CSR§2-3.1.	7.1.3.
8.2.1.	Method 9 visible emissions observations shall be conducted at times designated by the Secretary.	45CSR13	7.2.1.
8.3.1.	Testing methods for visible emissions observations.	45CSR13 45CSR§2-3.2.	7.3.1.
8.4.1.	Compliance with Condition 8.2.1. shall be demonstrated by maintaining records of each visible emissions check.	45CSR13	7.4.1.
8.5.1.	The permittee must report any deviations from the allowable visible emissions limit.	45CSR13	7.5.1.

Section 9.0. – Condensate Stabilizer and Storage Tanks

The condensate stabilizer (Emission Unit: EUSTAB) uses hot oil to heat the raw condensate and drive off the high volatility components. The stabilized condensate is routed to the ten stabilized condensate storage tanks (Emission Units: EUTK-1 to EUTK-10) which each have a design capacity of 400 bbl. The overheads are generally routed to the facility inlet by the vapor recovery unit (Control Device: VRU) but may be routed to the dehydrator/stabilizer flare (Control Device: APCFLARE) during upsets and maintenance.

Two produced water storage tanks (Emission Units: EUTK-11 and -12) are used to hold the produced fluid/water from the inlet separator and the dehydrators. The produced water storage tanks each have a design capacity of 400 bbl.

Gas vapors from the storage tanks EUTK-1 to EUTK-12 are routed to the VRU to control VOC and HAP emissions with a 98% control efficiency. During upsets and maintenance of the VRU, these emissions may be vented to the atmosphere.

The condensate stabilizer, stabilized condensate storage tanks, and produced water storage tanks are subject to the following regulations:

1. **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*

The table below describes each condition added to Section 9.0. of the Title V operating permit.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
9.1.1.	Overheads from the condensate stabilizer will be captured by the VRU and routed to the facility inlet. For up to 120 hours per year, overheads may be routed to the flare.	45CSR13	8.1.1.
9.1.2.	Maximum combined annual throughput of stabilized condensate tanks and produced fluid/water tanks.	45CSR13	8.1.2.
9.1.3.	Maximum VOC emissions from storage tank battery.	45CSR13	8.1.3.
9.1.4.	Requirements for the operation of the vapor recovery unit.	45CSR13	8.1.4.
9.1.5.	Cover requirements for the storage tanks. NOTE: In R13-2831G, Condition 8.1.5.b.(iv) requires that the closed-vent system be designed and operated in accordance with the nonexistent Condition 8.1.7. As 8.1.5.b.(iv) references the design and operation requirements of the closed-vent system, this reference has been corrected in the Title V permit to Condition 9.1.4. which contains the requirements for the VRU which must be operated with the storage tanks as a closed vent system.	45CSR13	8.1.5.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
9.2.1.	The throughput of the storage tanks must be monitored.	45CSR13	8.2.1.
9.4.1.	To demonstrate compliance with Condition 9.1.1., the permittee must record the hours the stabilizer overheads were sent to the flare.	45CSR13	8.3.1.
9.4.2.	To demonstrate compliance with Conditions 9.1.2. and 9.1.3., the permittee must record the aggregate throughput to the storage tanks.	45CSR13	8.3.2.
9.4.3.	To demonstrate with the operational availability requirement of Condition 9.1.4.b., the permittee must maintain records of any downtime hours associated with the VRU system.	45CSR§30-5.1.c.	N/A

Section 10.0. – Truck Loading

The stabilized condensate and produced fluids collected in the storage tanks are removed from the facility via tanker truck (Emission Unit: EULOR, Emission Point: EPLOR). A 70% capture efficiency of VOC and HAP emissions has been assumed for tanker trucks that do not pass either the MACT-level annual leak test or the NSPS-level annual leak test, in accordance with AP-42 Section 5.2. Activated carbon cannisters are used to control the captured emissions of VOCs and HAPs from truck loading operations with an efficiency of 95% in order to achieve an overall control efficiency of 66.5% (70% $\times$ 95% = 66.5%).

The truck loading operations are subject to the following regulations:

1. **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*

The table below describes each condition added to Section 10.0. of the Title V operating permit.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
10.1.1.	Maximum annual throughput of condensate and produced fluid/water to the storage tanks.	45CSR13	9.1.1.
10.1.2.	Maximum annual VOC and aggregate HAP emissions from the product loadout rack. NOTE: A footnote was added to these limits to clarify that the overall control efficiency of VOC and HAP emissions from EPLOR is 66.5% which is based on an assumed 70% capture efficiency and a 95% control efficiency of the activated carbon canisters.	45CSR13 45CSR§30-5.1.c.	9.1.2.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
10.1.3.	Requirements for truck loading operations.	45CSR13	9.1.3.
10.1.4.	The truck loading shall be operated in accordance with the plans and specifications filed in the application for R13-2831F. NOTE: The specifications for truck loading operations were last modified under R13-2831F. Therefore, the referenced application has been revised.	45CSR13	9.1.4.
10.2.1.	The permittee shall monitor the throughput of the truck loading on a monthly basis.	45CSR13	9.2.1.
10.4.1.	Records required under Section 10.4. must be kept in accordance with Condition 3.4.2.	45CSR13	9.3.1.
10.4.2.	Records of the aggregate throughput for the truck loading must be maintained to demonstrate compliance with Conditions 10.1.1. and 10.1.2.	45CSR13	9.3.2.

Section 11.0. – Compressor Blowdowns, Engine Startups, and Pigging Operations

Compressor blowdowns (Emission Unit: EUBD, Emission Point: EPBD), engine startups (Emission Unit: EUESU, Emission Point: EPESU), and pigging operations (Emission Unit: EUPIG, Emission Point: EPPIG) are conducted at the facility. Emissions of VOCs and HAPs from these operations are vented to the atmosphere.

The compressor blowdowns, engine startups, and pigging operations are subject to the following regulations:

1. **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*

The table below describes each condition added to Section 11.0. of the Title V operating permit:

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
11.1.1.	The annual limit for the number and volume of compressor blowdown events.	45CSR13	10.1.1.
11.1.2.	The annual limit for the number and volume of engine startup events.	45CSR13	10.1.2.
11.1.3.	The annual limit for the number and volume of emergency plant shutdown tests.	45CSR13	10.1.3.

Title V Permit Condition	Summary of Permit Condition	Regulatory Citation	R13-2831G Condition
11.1.4.	The annual limit for the number and volume of pigging events.	45CSR13	10.1.4.
11.4.1.	Records required in Section 11.4. must be kept in accordance with Condition 3.4.2.	45CSR13	10.2.1.
11.4.2.	Compliance with Conditions 11.1.1. through 11.1.4. is demonstrated by maintaining records of the compressor blowdown, engine startup, emergency plant shutdown, and pigging events and the estimated volume per event.	45CSR13	10.2.2.
11.5.1.	Any exceedances of the limitations in Conditions 11.1.1. through 11.1.4. must be reported to the Director of the DAQ within ten calendar days.	45CSR13	10.3.1.

Non-Applicability Determinations

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

1. **45CSR21** – *Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds* – This rule applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The facility is located in Marshall County, and, therefore, the rule is inapplicable.

2. **45CSR27** – *To Prevent and Control the Emissions of Toxic Air Pollutants* – This rule does not apply to the Miller Compressor Station because, per 45CSR§27-2.4., the equipment used in the production and distribution of petroleum products is not considered a chemical processing unit, provided that such equipment does not produce or contact materials containing more than 5% benzene by weight.

3. **40 C.F.R. Part 60 Subparts D, Da, Db, and Dc** – *Standards of Performance for Steam Generators* – As there are no steam generating units with a maximum design heat input equal to or greater than 10 mmBTU/hr operated at the facility, Subparts D, Da, Db, and Dc do not apply to the Miller Compressor Station per 40 C.F.R. §§60.40(a), 60.40Da(a), 60.40b(a), and 60.40c(a), respectively.

4. **40 C.F.R. Part 60 Subparts K, Ka, and Kb** – *Standards of Performance for Storage Vessels for Petroleum Liquids/Volatile Organic Liquids* – Subparts K and Ka do not apply to the Miller Compressor Station because construction of the storage vessels used at the facility began after the applicability dates of each subpart (Subpart K – after June 11, 1973 and prior to May 19, 1978; Subpart Ka – after May 18, 1978 and prior to July 23, 1984). Per 40 C.F.R. §60.110b(a), Subpart Kb does not apply to the facility because each volatile organic liquid storage vessel has a capacity less than 75 m^3 (471.73 bbl).

5. **40 C.F.R. Part 60 Subpart GG** – *Standards of Performance for Stationary Gas Turbines* – Per 40 C.F.R. §60.330(a), Subpart GG does not apply because no stationary gas turbines with a heat input at peak load equal to or greater than 10 mmBTU/hr, based on the lower heating value of the fuel fired, are operated at the facility.

6. **40 C.F.R. 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* – The Miller Compressor Station is not a natural gas processing plant as defined in 40 C.F.R. §60.631 and, therefore, is not subject to the provisions of Subpart KKK.

7. **40 C.F.R. Part 60 Subpart LLL** – *Standards of Performance for SO_2 Emissions from Onshore Natural Gas Processing for which Construction, Reconstruction, or Modification Commenced after January 20, 1984 and on or before August 23, 2011* – Per 40 C.F.R. §60.640(a), Subpart LLL does not apply because no sweetening units are operated at the compressor station.

8. **40 C.F.R. Part 60 Subpart IIII** – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* – This subpart does not apply because only spark ignition internal combustion engines are operated at the Miller Compressor Station.

9. **40 C.F.R. Part 60 Subpart KKKK** – *Standards of Performance for Stationary Combustion Turbines* – Per 40 C.F.R. §60.4305(a), Subpart KKKK does not apply because no stationary combustion turbines with a heat input at peak load equal to or greater than 10 mmBTU/hr, based on the higher heating value of the fuel, are operated at the facility.

10. **40 C.F.R. Part 63 Subpart HHH** – *National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities* – The Miller Compressor Station is not a natural gas transmission and storage facility located prior to a local distribution company or to a final end user. Additionally, the facility is not a major source of HAP emissions. Therefore, per 40 C.F.R. §63.1270(a), the Miller Compressor Station is not subject to Subpart HHH.

11. **40 C.F.R. Part 63 Subpart YYYY** – *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines* – Per 40 C.F.R. §63.6080, Subpart YYYY does not apply because the Miller Compressor Station is not a major source of hazardous air pollutants.

12. **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* – Per 40 C.F.R. §63.7485, Subpart DDDDD does not apply because the Miller Compressor Station is not a major source of hazardous air pollutants.

13. **40 C.F.R. Part 63 Subpart CCCCCC** – *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities* – The Miller Compressor Station is not a gasoline dispensing facility (GDF) as defined in 40 C.F.R. §63.11132. Therefore, per 40 C.F.R. § 63.11111(a), the Miller Compressor Station is not subject to Subpart CCCCCC.

14. **40 C.F.R. Part 63 Subpart JJJJJJ** – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* – Per 40 C.F.R. §63.11195(e), gas-fired boilers are exempt from the standards of Subpart JJJJJJ. Therefore, the natural gas-fired reboilers (EURBL-1 through EURBL-3) operated at the Miller Compressor Station are not subject to Subpart JJJJJJ.

15. **40 C.F.R. Part 64** – *Compliance Assurance Monitoring (CAM)*

    The compressor engines EUCE-7, EUCE-8, and EUCE-12 to EUCE-15; the dehydration unit flash tanks EUDFT-1 to EUDFT-3; the condensate stabilizer EUSTAB; the condensate storage tanks EUTK-1 to EUTK-10; the produced water storage tanks EUTK-11 and EUTK-12; and the truck loadout operations EULOR do not have pre-control device emissions that exceed the Title V major source thresholds. Therefore, per 40 C.F.R. §64.2(a)(3), these emission units are not subject to CAM.

    The CAM rule is applicable to the compressor engines EUCE-2a, EUCE-3, EUCE-4a, EUCE-5, and EUCE-6 for emissions of NO_X and CO as well as the dehydration unit still vents EUDSV-1 to EUDSV-3 for emissions of VOCs.

a. The compressor engines EUCE-2a, EUCE-3, EUCE-4a, EUCE-5, and EUCE-6 have pre-control device NO_X and CO emissions which surpass the Title V major source threshold for criteria pollutants. EUCE-2a and EUCE-4a have pre-control device NO_X emissions of 212 tpy and pre-control device CO emissions of 177 tpy, and EUCE-3, EUCE-5, and EUCE-6 have pre-control device NO_X emissions of 185 tpy and pre-control device CO emissions of 117 tpy. Therefore, these engines meet the CAM applicability requirement of §64.2(a)(3).

   Additionally, emissions of NO_X and CO from these engines are controlled through non-selective catalytic reduction (NSCR) (§64.2(a)(2)) and are subject to emission limits for NO_X and CO under Conditions 5.1.1.a. and 5.1.1.b. of R13-2831G (§64.2(a)(1)). Therefore, the engines EUCE-2a, EUCE-3, EUCE-4a, EUCE-5, and EUCE-6 meet the CAM applicability criteria of §64.2(a).

   Although these compressor engines are subject to the provisions of 40 C.F.R. Part 60 Subpart JJJJ and 40 C.F.R. Part 63 Subpart ZZZZ which were both proposed by the Administrator after November 15, 1990, the NO_X and CO emission limits of the NSR permit are more stringent. Therefore, the CAM exemption of 40 C.F.R. §64.2(b)(1)(i) is inapplicable to the emission limits of the NSR permit, and EUCE-2a, EUCE-3, EUCE-4a, EUCE-5, and EUCE-6 are subject to CAM for emissions of NO_X and CO.

   As the post-control device NO_X and CO emissions are below the Title V major source threshold for criteria pollutants, the engines are considered "Other Pollutant-Specific Emission Units" in accordance with §64.5(b), and the submission of a CAM Plan is deferred until the renewal application is submitted for this operating permit.

   NSCR also controls emissions of VOCs and Formaldehyde from the engines. However, the engines' pre-control device emissions of VOCs and Formaldehyde are below the Title V major source thresholds for criteria and individual HAPs, respectively. Therefore, the engines are not subject to CAM for emissions of VOCs and Formaldehyde in accordance with §64.2(a)(3).

b. Emissions from each of the still vents are controlled by a dedicated condenser (§64.2(a)(2)), each still vent has pre-control device VOC emissions of 151.56 tpy which exceeds the Title V major source thresholds (§64.2(a)(3)), and the still vents and condensers are subject to operational requirements under the NSR permit R13-2831G (§64.2(a)(1)). However, as the post control device VOC emissions of the dehydration unit still vents are below Title V major source thresholds, each of these units are considered "Other Pollutant-Specific Emission Units" in accordance with §64.5(b). Therefore, the submission of a CAM Plan is deferred until the renewal application is submitted for this operating permit.

   The dehydration unit still vents also meet the CAM applicability requirements for emissions of Xylenes and aggregate HAPs. However, as the dehydration units are subject to Subpart HH of the NESHAP, the dehydration unit still vents are exempt from CAM for emissions of aggregate HAPs per §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: October 25, 2024
Ending Date: November 25, 2024

Point of Contact

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

Sarah Barron
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/414-1915
sarah.k.barron@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)

No comments were received, and no changes have been made to the operating permit. However, paragraph 15. of the fact sheet's Non-Applicability Determinations was updated due to an error in the CAM applicability determination for the compressor engines EUCE-2a, EUCE-3, EUCE-4a, EUCE-5 to EUCE-8 and EUCE-12 to EUCE-15. In the draft/proposed fact sheet, these engines were stated to be subject to the requirements of 40 C.F.R. Part 60 Subpart JJJJ and 40 C.F.R. Part 63 Subpart ZZZZ and, thus, exempt from CAM per 40 C.F.R. §64.2(b)(1)(i). However, because the engines are subject to more stringent emission limits under the NSR permit, this CAM determination was incorrect and has been updated in this final fact sheet.