

Fact Sheet



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

Permit Number: **R30-01700158-2019**
Application Received: **September 24, 2018**
Plant Identification Number: **017-00158**
Permittee: **EQM Gathering Opco, LLC**
Facility Name: **Janus Compressor Station**
Mailing Address: **625 Liberty Avenue, Suite 1700, Pittsburgh, PA 15222**

Physical Location:	West Union, Doddridge County, West Virginia
UTM Coordinates:	516.776 km Easting • 4345.401 km Northing • Zone 17
Directions:	From Charleston, take I77 to Parkersburg Exit 176 and turn right (east) onto state route 50 towards Clarksburg. Travel approximately 40.6 miles and turn right onto Arnolds Creek Rd. (Rt 11). Travel approximately 0.7 miles and bear left onto Left Fork Run Rd. (RT 11/4). Travel approximately 1.1 miles and turn right onto station road and proceed 0.9 miles up the hill to the Janus Station.

Facility Description

The Janus Compressor Station is an existing natural gas gathering facility covered by Standard Industrial Classification (SIC) 1311. Natural gas and liquids (mostly produced water) from nearby wells undergo compression and dehydration before it is transported to a gas gathering line. The station consists of a total of four (4) natural gas-fired reciprocating engines, two (2) triethylene glycol (TEG) dehydration units each controlled with a flare, two (2) dehydrator reboilers, five (5) natural gas-fired microturbines for generating electricity, two (2) produced fluid tanks controlled with one (1) flare, two (2) natural gas-fired fuel gas heaters, two (2) natural gas-fired suction condensate heaters and other miscellaneous storage tanks of various sizes.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2017 Actual Emissions
Carbon Monoxide (CO)	59.11	31.93
Nitrogen Oxides (NO _x)	127.17	61.87
Particulate Matter (PM _{2.5})	9.19	0.44
Particulate Matter (PM ₁₀)	9.19	0.44
Total Particulate Matter (TSP)	9.19	5.50
Sulfur Dioxide (SO ₂)	0.71	0.41
Volatile Organic Compounds (VOC)	156.98	46.49

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2017 Actual Emissions
Formaldehyde (HCHO)	4.17	2.56
Total of other HAPs (< 10 tpy each)	22.31	3.62

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

Title V Program Applicability Basis

This facility has the potential to emit 127 tpy of NO_x and 157 tpy of VOC. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, EQM Gathering Opco, LLC's Janus 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.
- 45CSR10 To Prevent And Control Air Pollution From The Emission Of Sulfur Oxides
- 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) 45CSR30 45CSR34 40 C.F.R. Part 60, Subpart JJJJ 40 C.F.R. Part 60, Subpart OOOOa 40 C.F.R. Part 61 40 C.F.R. Part 63, Subpart HH 40 C.F.R. Part 63, Subpart ZZZZ 40 C.F.R. Part 82, Subpart F <u>State Only:</u> 45CSR4 45CSR17	The Secretary can request any pertinent information such as annual emission inventory reporting. Operating permit requirement. Emission Standards for Hazardous Air Pollutants Standards of Performance for Stationary Spark Ignition Internal Combustion Engines Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 Asbestos inspection and removal National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines Ozone depleting substances No objectionable odors. To Prevent And Control Particulate Matter Air Pollution From Materials Handling, Preparation, Storage And Other Sources Of Fugitive Particulate Matter
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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>
R13-3269B	August 21, 2018	

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

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

45CSR2 applies to fuel burning units, defined as equipment burning fuel "for the primary purpose of producing heat or power by indirect heat transfer". The reboilers, fuel gas heaters and suction condensate heaters are fuel burning units each with a design heat input under 10 million BTU/hr. Section 11.1 states that any fuel burning unit(s) having a heat input under ten (10) million B.T.U's per hour will be exempt from sections 4, 5, 6, 8 and 9. The reboilers, fuel gas heaters and suction

condensate heaters are subject to the 10 percent opacity limits required by section 3.1 of this rule. Compliance with the visible emission requirements will be satisfied by complying with the fuel type restrictions for permit R13-3269B and in accordance with 40 C.F.R. Part 60, Appendix A, Method 9 at the request of the Director.

2. 45CSR6 - Control Of Air Pollution From Combustion Of Refuse

This rule establishes emission standards for particulate matter and requirements for activities involving incineration of refuse.

The facility has (3) enclosed ground flares (FLARE-001, FLARE-002 and FLARE-003) that are subject to the emission standards for particulate matter and opacity requirements set forth in section 4 of this rule. The opacity from these units shall not exceed 20 percent, except as provided by 4.4. The allowable hourly particulate matter emissions are calculated using the following formula (Section 4.1):

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions.

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

The allowable Particulate Emissions from FLARE-001, FLARE-002 and FLARE-003 are as follows:

Emission Unit ID	Feed to Incinerator (ton/hr)	Allowable Hourly PM Emissions (lb/hr)
FLARE-001	0.14	0.76
FLARE-002	0.14	0.76
FLARE-003	0.43	2.33

The R13-3269B PM permit limit for FLARE-001, FLARE-002 and FLARE-003 is 0.70 lb/hr each. Therefore, the Rule 6 allowable limits will be streamlined with the Rule 13 permit limits.

The facility will demonstrate compliance with this rule by R13-3269B operational parameters, monitoring the amount of gas combusted in the thermal oxidizers and by conducting quarterly Method 22 visual emission checks of the Flares.

3. 45CSR10 - To Prevent and Control Air Pollution From The Emission Of Sulfur Oxides

Section 5.1 of this rule establishes that “No person shall cause, suffer, allow or permit the combustion of any refinery process gas stream or any other process gas stream that contains hydrogen sulfide in a concentration greater than 50 grains per 100 cubic feet of gas...” The effluent routed to FLARE-001, FLARE-002 and FLARE-003 is subject to this requirement.

Compliance with this limit is satisfied by limiting the hydrogen sulfide (H₂S) loading of the incoming natural gas to the facility to no greater than 10 grains of H₂S per 100 cubic feet of natural gas and demonstrated by conducting gas sampling at a point that is representative of the incoming natural gas to the facility and analyzing the sample to determine the hydrogen sulfide

content of the sample. At a minimum, such sampling and analysis shall be conducted once per calendar year.

4. 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*

Permit R13-3269B was issued on August 21, 2018. The applicable requirements of Permit R13-3269B have been incorporated into the Title V permit.

5. 45CSR16 - *Standards of Performance for New Stationary Sources*

This rule establishes and adopts standards of performance for new stationary sources promulgated by the U.S. EPA pursuant to section 111(b) of the federal Clean Air Act, as amended.

The facility is subject to 40 CFR 60 Subpart JJJJ and Subpart OOOOa. See below.

6. 45CSR34 - *Emission Standards for Hazardous Air Pollutants*

This rule establishes and adopts a program of national emission standards for hazardous air pollutants and other regulatory requirements promulgated by the U.S. EPA pursuant to 40 CFR Part 61, 63 and section 112 of the federal Clean Air Act, as amended.

The facility is subject to 40 CFR 63 Subpart ZZZZ and Subpart HH. See below.

7. 40CFR60 Subpart JJJJ - *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*

The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of 40 CFR §60.4230. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

Engines ENG-001, ENG-002, ENG-003 and ENG-004, are Caterpillar G3616 Compressor Engines that are 4-stroke, lean burn, spark ignition RICE, manufactured after July 1, 2007. They are non-emergency engines rated at 5,350 HP each and are fueled by natural gas. All of the engines are equipped with oxidation catalysts. The engines must meet the emissions limits of 40 CFR §60.4233(e). The engines will demonstrate compliance with the emission standards set forth in this Subpart JJJJ with the installed catalyst.

EQM will demonstrate compliance with this subpart for the non-certified engines in accordance with §60.4243(b)(2)(ii), which requires the facility to keep a maintenance plan and records of conducted maintenance and to maintain and operate the engines in a manner consistent with good air pollution control practices for minimizing emissions. Additionally, EQM has conducted the initial performance tests and is required to conduct subsequent compliance testing every 8,760 hours or three years, whichever comes first to demonstrate compliance with the emissions standards. Testing will be conducted in accordance with §60.4244.

Records of all notifications submitted to comply with this subpart, maintenance conducted on the engines, and performance testing will be maintained in accordance with §60.4245(a). Initial notifications have been submitted. Performance testing results will be reported as required in §60.4245(d).

8. 40CFR60 Subpart OOOOa - Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015

40 CFR 60 Subpart OOOOa establishes emission standards and compliance schedules for the control of the pollutant greenhouse gases (GHG). The greenhouse gas standard in this subpart is in the form of a limitation on emissions of methane from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after September 18, 2015. This subpart also establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO₂) emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification or reconstruction after September 18, 2015.:

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

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

- b. Centrifugal compressors located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment.

There are no centrifugal compressors at the Janus Compressor Station. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOOa do not apply.

- c. Reciprocating compressors located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment.

There are reciprocating compressors located at the Janus Compressor Station that were constructed after September 18, 2015. Therefore, the requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOOa do apply. There are no cover and closed vent systems for the reciprocating compressors. The facility will be required to perform the following:

- Replace the reciprocating compressor rod packing at least every 26,000 hours of operation or 36 months.
- Submit the appropriate start up notifications.
- Maintain records of hours of operation since last rod packing replacement, records of the date and time of each rod packing replacement, and records of deviations in cases where the reciprocating compressor was not operated in compliance.

- d. Pneumatic Controllers and Pneumatic Pumps

The Janus Compressor Station does not have any gas driven pneumatic controllers or pneumatic pumps. Therefore, all requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOOa do not apply.

- e. Each storage vessel affected facility, which is a single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment.

The produced fluids tanks are not subject to the requirements of this rule because they have the potential to emit less than 6 tpy of VOC from each tank. Each tank has a VOC emission limit of less than 6 tpy through permit R13-3269B.

- 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 Janus Compressor Station is not a natural gas processing plant. Therefore, Leak Detection and Repair (LDAR) requirements for onshore natural gas processing plants do not apply.

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

The Janus Compressor Station is not a natural gas processing plant nor are there any sweetening units at the Janus Compressor Station. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOOa do not apply.

- h. Collection of GHG (in the form of methane) and VOC fugitive emissions components at a compressor station (40 CFR§60.5397a).

This standard requires a source to establish a plan to monitor equipment leaks at compressor stations on a quarterly basis either using EPA Method 21 or an optical gas imaging camera. The standard requires detected leaks to be repaired within 30 days of detecting the leak or if the repair is technically infeasible, would require a vent blowdown or a compressor station shutdown, or would be unsafe to repair during operation of the unit, the repair or replacement must be completed during the next scheduled compressor station shutdown, after a planned vent blowdown or within 2 years, whichever is earlier.

The standard applies to any component that has the potential to emit fugitive emissions of methane or VOC at a compressor station, including but not limited to valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed vent systems not subject to §60.5411a, thief hatches or other openings on a controlled storage vessel not subject to §60.5395a, compressors, instruments, and meters.

This standard applies to all components at the Janus Compressor Station.

9. 40CFR63 Subpart HH - *National Emissions Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities*

This subpart applies to the owners and operators of the emission points, specified in paragraph (b) of 40 CFR §63.760 that are located at oil and natural gas production facilities that meet the specified criteria in paragraphs 40 CFR §§63.760(a)(1) and either (a)(2) or (a)(3) of §63.760. The Janus Compressor Station is subject to this subpart. However, because the facility is an area source of HAP emissions and the actual average emissions of benzene from each glycol dehydration unit process vent to the atmosphere is < 0.90 megagram per year (1.0 tpy), the dehydration units (DEHY-001 and DEHY-002) are exempt. The only requirement is to maintain records of the actual average benzene emissions per year as specified in 40 CFR §63.774(d)(1).

Since the facility is an area source of HAP emissions, pursuant to 40 CFR §63.760(b)(2), the affected source for this subpart includes each dehydration unit. Therefore, this rule does not apply to storage vessels (tanks), compressors, or ancillary equipment.

10. 40CFR63 Subpart ZZZZ - *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Subpart ZZZZ establishes emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

The four CAT G3616 compressor engines (ENG-001, ENG-002, ENG-003 and ENG-004) at the Janus Compressor Station are classified as new spark ignition engines located at an area source of HAP emissions. The engines must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for these engines under this Subpart.

Non-Applicability Determinations

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

- a. **45CSR21 - *Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds.*** The Janus Compressor Station is not located in Cabell, Kanawha, Putnam, Wayne, nor Wood counties.
- b. **45CSR27 - *To Prevent and Control the Emissions of Toxic Air Pollutants.*** Natural gas is included as a petroleum product and contains less than 5% benzene by weight. 45CSR§27-2.4 exempts equipment “used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight.”
- c. **40 C.F.R 60 Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.*** This subpart applies to steam generating units greater than 10 MMBtu/hr and less than 100 MMBtu/hr. Janus Compressor Station does not have any steam generating units greater than 10 MMBtu/hr.
- d. **40 CFR 60 Subpart GG - *Standards of Performance for Stationary Gas Turbines.*** There are no turbines at the Janus Compressor Station equal to or greater than 10 MMBtu/hr.

- e. **40 CFR 60 Subpart K - *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.*** All tanks at the Janus Compressor Station are below 40,000 gallons in capacity.
- f. **40 CFR 60 Subpart Ka - *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984.*** All tanks at the Janus Compressor Station are below 40,000 gallons in capacity.
- g. **40 CFR 60 Subpart Kb - *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.*** All tanks at the Janus Compressor Station are below 75 cubic meters (19,813) gallons in capacity.
- h. **40 CFR 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.*** Janus Compressor Station is not a “Natural Gas Processing Plant” as defined in §60.631.
- i. **40 CFR 60 Subpart LLL - *Standards of Performance for SO₂ Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011.*** There are no sweetening units at the Janus Compressor Station.
- j. **40 CFR 60 Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.*** All engines at Janus Compressor Station are spark ignition engines.
- k. **40 CFR 60 Subpart KKKK – *Standards of Performance for Stationary Combustion Turbines.*** There are no turbines at the Janus Compressor Station equal to or greater than 10 MMBtu/hr.
- l. **40 CFR 60 Subparts 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 the Janus Station was installed after September 18, 2015. Therefore, 40 CFR 60 Subpart OOOO does not apply.
- m. **40 C.F.R 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.*** This MACT standard applies to industrial, commercial, and institutional boilers and process heaters at major sources of HAPs. Janus Compressor Station is not major for HAPS.
- n. **40 CFR 63 Subpart JJJJJ - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.*** All boilers at the Janus Compressor Station fire natural gas exclusively. Natural gas boilers are exempt from this subpart per 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: August 2, 2019
Ending Date: September 3, 2019

Point of Contact

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

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Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.