

Fact Sheet



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

Permit Number: **R30-01700027-2022**
Application Received: **May 28, 2021**
Plant Identification Number: **03-54-017-00027**
Permittee: **EQM Gathering Opco, LLC**
Facility Name: **Saturn Compressor Station**
Mailing Address: **2200 Energy Drive, Canonsburg, PA 15317**

Physical Location: Central Station, Doddridge County, West Virginia
UTM Coordinates: 515.528 km Easting • 4,349.752 km Northing • Zone 17
Directions: From Parkersburg, WV take US-50 East for approximately 42 miles. Turn left onto Willhelm Run Road and continue onto Stone Valley Road for approximately 2.0 miles. Take a sharp left into the entrance to the station.

Facility Description

The Saturn 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 for additional processing. The station consists of a total of seven (7) natural gas fired reciprocating engines, three (3) triethylene glycol (TEG) dehydration units each controlled with a thermal oxidizer, three (3) dehydrator reboilers, five (5) natural gas fired microturbines for generating electricity, four (4) pipeline liquid (condensate) tanks controlled with one (1) thermal oxidizer, three (3) fuel gas heaters and other miscellaneous storage tanks of various sizes.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2020 Actual Emissions
Carbon Monoxide (CO)	62.10	9.27
Nitrogen Oxides (NO _x)	125.68	57.48
Particulate Matter (PM _{2.5})	8.94	4.96
Particulate Matter (PM ₁₀)	8.94	4.96
Total Particulate Matter (TSP)	8.94	4.96
Sulfur Dioxide (SO ₂)	0.71	0.37
Volatile Organic Compounds (VOC)	222.69*	65.08

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2020 Actual Emissions
Formaldehyde (HCHO)	11.86	7.57
Benzene	1.09	0.57
Toluene	2.25	1.61
Ethylbenzene	1.27	0.11
Xylenes	2.70	2.42
n-hexane	1.21	1.12
Miscellaneous other minor HAPs	13.37	1.54
Total HAPs	33.75	14.94

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

*The increase in VOC potential emissions is due to updating the blowdown and fugitive emissions.

Title V Program Applicability Basis

This facility has the potential to emit 126 tpy of NO_x, 223 tpy of VOC, 12 tpy of formaldehyde and 34 tpy of total HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, EQM Gathering Opco, LLC's Saturn Compressor Station is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:

45CSR2	To Prevent And Control Particulate Air Pollution From Combustion Of Fuel In Indirect Heat Exchangers
45CSR6	Control Of Air Pollution From Combustion Of Refuse.
45CSR11	Standby Plans For Emergency Episodes.
45CSR13	Permits For Construction, Modification, Relocation And Operation Of Stationary Sources Of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, And Procedures For Evaluation
45CSR16	Standards Of Performance For New Stationary Sources
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
45CSR30	Operating permit requirement.
45CSR34	Emission Standards for Hazardous Air Pollutants
40 C.F.R. Part 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
40 C.F.R. Part 60, Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015
40 C.F.R. Part 61	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	Permit Determinations or Amendments That Affect the Permit <i>(if any)</i>
R13-3150B	June 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

This is a renewal of the Title V permit which was issued on November 29, 2016 and modified on October 23, 2018. Substantial changes to the most recent version of the Title V Permit consist of the following:

1) Title V Boilerplate changes

- **Conditions 3.5.3., 3.5.5. and 3.5.6.** - These conditions were revised to require electronic submittal of the Title V compliance certifications (annual and semi-annual), self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols to the WV DAQ.

2) Condition 1.1. - Emission Units Table - As requested by the permittee in the renewal application, table has been updated as follows:

- Each compressor engine has its own oxidation catalyst. However, the emission units table in the Permit R13-3150B and the current Title V permit showed oxidation catalyst "C001" for engines CE001 through CE004 and CE006 and oxidation catalyst "C002" for engines CE007 and CE008, implying that there are only two oxidation catalysts. Therefore, the oxidation catalysts have been renumbered "C001" through "C007" to indicate an oxidation catalyst for each engine. The footnote "*R13-3150 shows Oxidation Catalyst C001 for compressor engines CE001 through CE004 and CE006 and Oxidation Catalyst C002 for engines CE007 and CE008. However, each engine has its own oxidation catalyst. Therefore, the oxidation catalysts have been renumbered in the Title V permit.*" has been added to the table.
- Updated storage tank information by removing "T15A-J" *Cylinder Oil Tanks*; revising the number of *Lube Oil Day Tanks* from two (2) to seven (7) (i.e. from "T20A-B" to "T20A-G"); revising the number of *Cylinder Oil Day Tanks* from four (4) to seven (7) (i.e. from "T21A-D" to "T21A-G"); adding tank "T23"; revising the description for tank T26; adding tank "T28"; adding tanks T29A-C."
- Added the Emission Unit and Emission Point ID "BD" for pigging/blowdown.

3) Conditions 4.1.9., 4.1.10. and 4.1.11 – These conditions are marked "Reserved" in the current permit and therefore have been deleted from the renewal permit. The subsequent conditions have been renumbered.

4) Section 4 Subpart ZZZZ conditions – In the current permit, several permit conditions containing 40 CFR 63 Subpart ZZZZ requirements were identified as being applicable to CE007 and CE008 and becoming applicable to CE001, CE002, CE003, CE004 and CE006 on December 12, 2017. Since all of the engines are now subject to these Subpart ZZZZ requirements, the notation, which appeared at the end of the citation of authority, "(CE007, CE008) (becomes applicable to CE001, CE002, CE003, CE004 and CE006 on December 12, 2017)" has been deleted from each of the conditions in the renewal permit

40 CFR Part 64 – Compliance Assurance Monitoring (CAM)

There are no "large pollutant-specific emissions units (PSEU)" (i.e., units with post-control potential emissions greater than the major threshold) at the Saturn Compressor Station. Pursuant to §64.5(b), for all "other PSEU" (i.e., units with post-control potential emissions less than the major threshold), the owner or operator shall submit the information required under §64.4 as part of an application for a renewal of the Title V permit. CAM has been reviewed for this renewal. The following emission units are equipped with control devices and are potential PSEU as defined in the CAM rule for the pollutants listed below:

Compressor Engines CE001, CE002, CE003, CE004, CE006, CE007 and CE008

Each of the Compressor Engines CE001, CE002, CE003, CE004 and CE006 is equipped with an oxidation catalyst control device which controls carbon monoxide (CO), formaldehyde (HCHO) and nonmethane nonethane hydrocarbon (NMNEHC) emissions. Each engine has post control emission limits for CO and HCHO. The uncontrolled (i.e., pre-control device) potential emissions of CO (62.93 tpy) and HCHO (9.15 tpy) are below the major source threshold (i.e., 100 tpy and 10 tpy respectively). Therefore, these engines do not meet the applicability requirements of 40 CFR §64.2(a) and are not subject to CAM.

Each of the Compressor Engines CE007 and CE008 is equipped with an oxidation catalyst control device which controls CO, HCHO and NMNEHC emissions. Each engine has post control emission limits for CO and HCHO. The uncontrolled (i.e., pre-control device) potential emissions of CO (125.73 tpy) and HCHO (11.89 tpy) are above the major source threshold (i.e., 100 tpy and 10 tpy respectively). Each engine is a potential PSEU for CO and HCHO with post control emissions less than the major source threshold. However, each engine is subject to 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ which were both proposed by the Administrator after November 15, 1990. Therefore, pursuant to 40 CFR §64.2(b)(1)(i) the engines are exempt from CAM.

Produced Fluids Tanks T10, T12, T16 and T17

Each of the Produced Fluids Tanks T10, T12, T16 and T17 vent emissions to a thermal oxidizer (TO-4) which controls hydrocarbon (HC), volatile organic compounds (VOC) and hazardous air pollutants (HAP) emissions. The thermal oxidizer has an emission limit for VOC and benzene. However, the uncontrolled (i.e., pre-control device) VOC and HAP (i.e., benzene) potential emissions from each of the tanks are below the major source threshold (i.e., 100 tpy and 10 tpy respectively). Therefore, these tanks do not meet the applicability requirements of 40 CFR §64.2(a) and are not subject to CAM.

Dehydration Units/Still Columns RSV-1, RSV-2, and RSV-3

Each of the dehydration units/still columns RSV-1, RSV-2, and RSV-3 is equipped with a thermal oxidizer combustor (TO-1, TO-2, and TO-3) which controls HC, VOC and HAP emissions. The thermal oxidizers each have an emission limit for VOC and several HAPs. The uncontrolled potential emissions of VOC (104.40 tpy, 186.40 tpy, and 186.40 tpy respectively for each oxidizer) are above the major source threshold (i.e., 100 tpy). The uncontrolled potential emissions of individual HAP are below the major source threshold (i.e., 10 tpy). Each dehydrator therefore is a potential PSEU for VOC with post control emissions less than the major source threshold. The current Title V permit requires that each combustor be designed and operated to achieve a minimum guaranteed control efficiency of 95% for VOC and HAP emissions. Condition 7.1.3.b. of the current Title V permit requires the thermal oxidizers to be operated with a minimum combustion chamber temperature of 1400 °F and that the combustion chamber be monitored by a system to continuously measure and record the temperature. This condition of the permit also allows for the establishment of a new minimum temperature through testing in accordance with condition 7.3.1. of the permit. Condition 7.2.5. requires that the combustion chamber temperature be monitored and recorded in four (4) equally spaced periods per each hour the incinerator is operated. Records of the ongoing monitoring requirements of condition 7.2.5. and the testing requirements of 7.3.1. shall be documented and maintained in accordance with condition 7.4.5. and any deviations in the thermal oxidizer design and/or operation shall be reported in writing in accordance with condition 7.5.3. Since the existing Title V permit specifies a continuous compliance determination method, the thermal oxidizers are exempt from CAM pursuant to 40 CFR §64.2(b)(1)(vi).

Non-Applicability Determinations

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

1. 45 CSR 10 - *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.*

This rule potentially applies to fuel burning units, including glycol dehydration unit reboilers and fuel gas heaters. Per 45CSR§10-10.1, units rated less than 10 MMBtu/hr are exempt from the SO₂ emission limitations and testing, monitoring, recordkeeping, and reporting requirements of this rule. The reboilers and fuel gas heaters at the station are each rated less than 10 MMBtu/hr and as such are exempt from this rule.

2. 40 CFR 60 Subparts D, Da, Db, and Dc - *Standards of Performance for Fossil-Fuel-Fired Steam Generators, Electric Utility Steam Generating Units, for Industrial-Commercial-Institutional Steam Generating Units and for Small Industrial-Commercial-Institutional Steam Generating Units.*

These subparts apply to steam generating units of various sizes, all greater than 10 MMBtu/hr. The station does not include any steam generating units with a heat input greater than 10 MMBtu/hr, therefore the requirements of these subparts do not apply.

3. 40 CFR 60 Subpart GG - *Standards of Performance for Stationary Gas Turbines.*

Pursuant to 40 CFR §60.330, this subpart is applicable to 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, which commenced construction, modification, or reconstruction after October 3, 1977. The microturbines at the station have a heat input rating less than 10 MMBtu/hr. Therefore, this subpart is not applicable to the microturbines.

4. 40 CFR 60 Subpart KKKK - *Standards of Performance for Stationary Combustion Turbines.*

Pursuant to 40 CFR §60.4305, this subpart is applicable to stationary combustion 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, which commenced construction, modification, or reconstruction after February 18, 2005. The microturbines at the station have a heat input rating less than 10 MMBtu/hr. Therefore, this subpart is not applicable to the microturbines.

5. 40 CFR 60 Subparts IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

This subpart applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines (CI ICE) that have been constructed, reconstructed, or modified after various dates, the earliest of which is July 11, 2005. The compressor engines at the Saturn Compressor Station are spark-ignition internal combustion engines. Therefore, the requirements of this subpart do not apply.

6. 40 CFR 60 Subparts K, Ka, and Kb - *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, for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 and for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.*

These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods. Subpart K applies to storage tanks constructed, reconstructed, or modified prior to 1978, and Subpart Ka applies to those constructed, reconstructed, or modified prior to 1984. Subpart Kb applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984 with a capacity equal to or greater than 75m³ (19,813 gallons). The natural gas liquids tanks at the station have a capacity greater than 19,813 gallons. However, these are pressurized vessels that operate without emissions to the atmosphere and are specifically exempted from the rule under §60.110b(d)(2). The methanol tanks,

produced fluids tanks, and other miscellaneous tanks at the Saturn Compressor Station each have capacities less than 19,813 gallons. Therefore, Subparts K, Ka, and Kb do not apply to the storage tanks at the station.

7. 40 CFR §63 Subpart HHH - *National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities*

The glycol dehydration units are potentially subject to Subpart HHH. This subpart is applicable to such units at natural gas transmission and storage facilities that are major sources of HAP emissions located downstream of the point of custody transfer (after processing and/or treatment in the production sector), but upstream of the distribution sector. The Saturn Station is a gathering station that is not a transmission or storage facility. Therefore, the requirements of this subpart do not apply to the station.

8. 40 CFR §63 Subpart YYYY - *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines*

This subpart is applicable to stationary combustion turbines located at a major source of HAP emissions. Pursuant to §63.6090(b)(3), an existing, new, or reconstructed stationary combustion turbine with a rated peak power output of less than 1.0 megawatt (MW) at International Organization for Standardization (ISO) standard day conditions, which is located at a major source, does not have to meet the requirements of this subpart and of subpart A of 40 CFR Part 63. This determination applies to the capacities of individual combustion turbines, whether or not an aggregated group of combustion turbines has a common add-on air pollution control device. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification. The microturbines are each rated for 200 KW (0.2 MW). Therefore, the requirements of this subpart do not apply to the station.

9. 40 CFR 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*

This subpart is applicable to industrial, commercial, and institutional boilers and process heaters of various sizes and fuel types located at major sources of HAP. For purposes of this subpart, a major source of HAP for oil and natural gas production facilities, is as defined in §63.7575. The Saturn Compressor Station is a production field facility and therefore the following definition (§63.7575(3)) is applicable to the station:

Major source for oil and natural gas production facilities, as used in this subpart, shall have the same meaning as in §63.2, except that:

(3) For facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions shall be aggregated for a major source determination. For facilities that are not production field facilities, HAP emissions from all HAP emission units shall be aggregated for a major source determination.

The aggregated HAP emissions from the glycol dehydration units and storage vessels with the potential for flash emissions at the station do not trigger the major source threshold. Therefore, the requirements of this subpart do not apply to the station.

10. 40 CFR Part 64 – *Compliance Assurance Monitoring (CAM)*

Each of the Compressor Engines CE001, CE002, CE003, CE004 and CE006 is equipped with an oxidation catalyst control device which controls carbon monoxide (CO), formaldehyde (HCHO) and nonmethane nonethane hydrocarbon (NMNEHC) emissions. Each engine has post control emission limits for CO and HCHO. The pre-control device potential emissions of CO and HCHO are below the major source threshold. Therefore, these engines do not meet the applicability requirements of 40 CFR §64.2(a) and are not subject to CAM

Each of the Compressor Engines CE007 and CE008 is equipped with an oxidation catalyst control device which controls carbon monoxide (CO), formaldehyde (HCHO) and nonmethane nonethane hydrocarbon (NMNEHC) emissions. Each engine has post control emission limits for CO and HCHO. The pre-control device potential emissions of CO and HCHO are above the major source threshold. Each engine is a potential PSEU for CO and HCHO with post control emissions less than the major source threshold. However, each engine is subject to 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ which were both proposed by the Administrator after November 15, 1990. Therefore, pursuant to 40 CFR §64.2(b)(1)(i) the engines are exempt from CAM.

Each of the Produced Fluids Tanks T10, T12, T16 and T17 vent emissions to a thermal oxidizer (TO-4) which controls hydrocarbon (HC), volatile organic compounds (VOC) and hazardous air pollutants (HAP) emissions. The thermal oxidizer has an emission limit for VOC and benzene. However, the pre-control device VOC and HAP (i.e., benzene) potential emissions from each of the tanks are below the major source threshold. Therefore, these tanks do not meet the applicability requirements of 40 CFR §64.2(a) and are not subject to CAM.

Each of the dehydration units/still columns RSV-1, RSV-2, and RSV-3 is equipped with a thermal oxidizer combustor (TO-1, TO-2, and TO-3 respectively) which controls HC, VOC and HAP emissions. The thermal oxidizers each have an emission limit for VOC and several HAPs. The pre-control device potential emissions of VOC are above the major source threshold for each dehydration unit. The pre-control device potential emissions of individual HAP are below the major source threshold. Each dehydrator therefore is a potential PSEU for VOC with post control emissions less than the major source threshold. The current Title V permit specifies a continuous compliance determination method for the dehydration units and therefore they are exempt from CAM pursuant to 40 CFR §64.2(b)(1)(vi).

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: March 9, 2022

Ending Date: April 8, 2022

Point of Contact

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

Frederick Tipane
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Division of Air Quality
601 57th Street SE
Charleston, WV 25304
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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.