Permit Writer	Jonathan Carney
Email Address	Jonathan.W.Carney@wv.gov
Company Name	EQM Gathering Opco, LLC
Company ID	017-00058
Facility Name	Pandora Compressor Station
Permit Number	R13-3095B
County	Doddridge
Newspaper	The Herald Record ok to publish
Company Contact & Email	Dianna Charletta dcharletta@eqt.com
Environmental Contact Email Address	Regina Henry rhenry@eqt.com
Regional Office (if applicable)	~~NPRO~~
New or Modified Source?	modified
Construction, Modification, or Relocation?	Modification
Type of Facility	natural gas transmission facility
"Located" or "To Be Located"?	located
Place where I can find electronic versions of your notice, engineering evaluation, and draft permit	Q:\AIR_QUALITY\J_Carney\017-00058 EQM Gathering Opco, LLC

publish Tues Jan 31, 2017
30 days Thurs Mar 2, 2017

everything ready to send

INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name EQM Gathering Opco, LLC

Permitting Action Number R13-3095B Total Days 68 DAQ Days 41

Permitting Action:

- ❍ Permit Determination
- ❍ General Permit
- ❍ Administrative Update
- ❍ Temporary
- ❍ Relocation
- ❍ Construction
- ❍ Modification
- ❍ PSD (Rule 14)
- ❍ NNSR (Rule 19)

Documents Attached:

- ☑ Engineering Evaluation/Memo
- ☑ Draft Permit
- ☑ Notice
- ❍ Denial
- ❍ Final Permit/General Permit Registration
- ❍ Completed Database Sheet
- ❍ Withdrawal
- ❍ Letter
- ❍ Other *(specify)*

Date	From	To	Action Requested
12-21-2016	Jonathan Carney	Bev McKeone	Review to go to Public Notice
12/23	Bev	Jonathan	See comments - Address - Return.
12/29/16	Jonathan Carney	Bev McKeone	Addressed comments ~~and added~~ Review to go to Pub. Notice
1/10	Bev	Jonathan	See comments - Address - Return Rewrite permit to look like G35-D
1/13/17	Jonathan Carney	Bev McKeone	Addressed additional comment Rewrote permit Review to go to Pub. N
1/25/17	Bev	Jonathan	Go to Notice!
1/25/17	Jonathan Carney	Sandie Adkins	Go to Notice

NOTE: Retain a copy of this manifest for your records when transmitting your document(s).

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On, October 14, 2016 EQM Gathering Opco, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a compressor station facility located on Doddridge County, WV at 39.363482 latitude and -80.706130 longitude. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as Permit R13-3095B.

The following changes in potential emissions will be authorized by this permit action: Carbon Monoxide, 2.58 TPY decrease; Nitrogen Oxides, 8.27 TPY decrease; Particulate Matter less than 10 microns, 0.14 tons per year (TPY) increase; Particulate Matter, 0.14 TPY increase; Sulfur Dioxide, 0.01 TPY increase; Volatile Organic Compounds, 39.32 TPY increase; Total Hazardous Air Pollutants, 0.67 TPY increase.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on TBD by Sandra. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed modification will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Jonathan Carney
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304/926-0499, ext. 1203
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx

west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
Fax: (304) 926-0479

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Application No.:	R13-3095B
Plant ID No.:	017-00058
Applicant:	EQM Gathering Opco, LLC
Facility Name:	Pandora Station
Location:	Doddridge County
NAICS Code:	211111
Application Type:	Modification
Received Date:	October 14, 2016
Engineer Assigned:	Jonathan Carney
Fee Amount:	$4,500.00
Date Received:	October 17, 2016
Complete Date:	November 10, 2016
Due Date:	February 8, 2017
Applicant Ad Date:	October 18, 2017
Newspaper:	*The Herald Record*
UTM's:	Easting: 525.316+ km Northing: 4,357.155 km Zone: 17
Description:	Application to increase the emissions limits on two (2) compressor engines, update the permit regarding horsepower for two (2) engines not yet constructed, revise the number of tanks at the site and include emissions from pigging operations.

DESCRIPTION OF PROCESS

The following description is from the R13-3095B application:

Natural gas will enter the station via a distribution pipeline system and is first compressed, using one of four natural gas fired compressors. Two of the natural gas compressors are rated at 4,735 hp. Two of the natural gas compressors are rated at 2,370 hp . The compressed natural gas stream will then be processed through one of two triethylene glycol (TEG) dehydration units (each rated at 120 mmscfd) with associated reboilers and controlled with enclosed vapor combustors (each rated at 3 mmbtu/hr). The dehydration unit introduces TEG to the gas stream in a contact tower to absorb water vapor from the gas to a level not exceeding 7 pounds per million cubic feet. The glycol is then sent to the natural gas-fired reboiler, rated at 2.31 mmbtu/hr of

heat input (1.5 MMBtu/hr output). The water is evaporated from the glycol in the reboiler and exhausted and then the glycol is sent back to the contact tower. The natural gas stream from the contact tower flows into the pipeline to be transported further along the distribution system via the sales pipeline. The station will also be equipped with seventeen (17) storage tanks for storage of liquids associated with the engines, dehydration unit, and pipeline fluids.

Compressor Engines

The permittee is seeking to increase emission limits on the two (2) 4,735 hp compressor engines, (S1 and S2) in the process description above. The permittee is also seeking to increase the horsepower rating of the 2,370 hp compressor engines (S3 and S4) to 2,500 hp and update the emission limits.

Microturbine

The permittee is seeking to add an existing microturbine that was exempt from permitting at the time it was installed to the equipment list of the permit as emission unit S19.

Storage Tanks

The permittee is seeking to add four (4) 300 gallon lube oil tanks and three (3) 500 gallon methanol tanks to the equipment list.

Pigging Operations

The permittee is seeking to include emissions from pigging operations. The permittee initially proposed one Station ESD Vent event equal to 550,000 scf of vented gas per year, seventy five (75) pig receiver events per year equal to 1,181 scf of vented gas per event from the 16 x 20 receiver, seventy five (75) pig receiver events per year equal to 673 scf of vented gas per event from the 12 x 16 receiver, and forty-eight (48) compressor blowdowns per year equal to 45,000 scf of vented gas per event. The permittee changed the following numbers during the application review:

Five (5) Station ESD Vent events equal to 350,000 scf per year.
125 pig receiver events per year from each receiver.
40,000 scf of gas vented per compressor blowdown event.

Fugitive Emissions

In calculating the fugitive emissions, the permittee changed the number of valves from 308 to 358.

EQM Gathering Opco, LLC - Pandor
Google Earth

SITE INSPECTION

No site inspection of the facility was deemed necessary for this permitting action. However, a site inspection of the proposed site was performed for the original permit application. The following narrative comes directly from Engineering Evaluation R13-3095:

"A site inspection of the facility was performed by the writer on September 5, 2013. The facility will be located in a rural section of Doddridge County along Brush Run Road. There are several residences adjacent to the facility. To get to the facility from Charleston take I-77 north to exit 176. Turn east on US Route 50 and go approximately 43.2 miles. Then turn left on State Route 18 and go approximately 0.5 miles. Turn right and go over the bridge. At the end of the bridge turn right on Smithton Road (County Route 30/50) and go approximately 1.0 mile. Then turn left on Rock Run Road (County Route 5) and go approximately 5.3 miles. At the stop sign turn left on Big Flint Road (County Route 3) and go approximately 1.6 miles. Next, turn right on Brush Run Road (County Route 3/1). Go approximately 1.0 mile and the access road should be on the right. It should be noted that no access road currently exists at this entry point. Since EQT has numerous new and existing wells in the area, there may or may not be existing access roads to the site from other entry points. The following picture of the area was taken on the day of the inspection. The facility will be located at the top of the hill in the background (obscured by trees), not the field in the foreground."

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Existing facility wide emissions are as follows (based on Engineering Evaluation R13-3095A):

CO		NO_x		$PM_{10}/PM_{2.5}$		SO_2		VOCs		HAPs
lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	tpy
13.21	57.90	20.61	90.22	1.54	6.41	0.21	0.52	20.53	59.01	23.10

Emissions from the parts of the facility effected by this modification are as follows.

Existing S1 and S2 (4,735 HP each) Compressor engine emissions of each engine:

Existing Pollutant	**Source**	**Hourly (lb/hr)**	**Annual (ton/yr)**
NO_x	Mfg. Data	5.22	22.86
CO	Mfg. Data	2.87	12.57
$PM_{10}/PM_{2.5}$[1]	AP-42	0.36	1.56
VOCs	AP-42	2.24	9.83

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
SO_x	AP-42	0.02	0.09
Formaldehyde	Mfg. Data	0.27	1.19

(1) Filterable + Condensable.

New S1 and S2 (4,735 HP each) Compressor engine emissions of each engine:

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Mfg. Data	5.22	22.86
CO	Mfg. Data	2.87	12.57
$PM_{10}/PM_{2.5}$[1]	AP-42	0.36	1.56
VOCs(2)	Mfg. Data	4.86	21.31
SO_x	AP-42	0.02	0.09
Formaldehyde	Mfg. Data	0.27	1.19

(1) Filterable + Condensable.
(2) Includes Formaldehyde

S1 and S2 (4,735 HP each) Compressor engine emission increases each engine:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Mfg. Data	0.00	0.00
CO	Mfg. Data	0.00	0.00
$PM_{10}/PM_{2.5}$[1]	AP-42	0.00	0.00
VOC	Mfg. Data	2.62	11.48
SOx	AP-42	0.00	0.00
Formaldehyde	Mfg. Data	0.00	0.00

(1) Filterable + Condensable.

Existing S3 and S4 (2,370HP each) Compressor engine emissions of each engine:

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Mfg. Data	2.61	11.44
CO	Mfg. Data	1.44	6.29
$PM_{10}/PM_{2.5}$[1]	AP-42	0.18	0.78
VOCs(2)	Mfg. Data	1.12	4.92
SO_x	AP-42	0.01	0.04

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
Formaldehyde	Mfg. Data	0.14	0.60
HAPs(2)	Mfg. Data/AP-42	0.40	1.74

(1) Filterable + Condensable.
(2) Includes Formaldehyde

New S3 and S4 (2,500 HP each) Compressor engine emissions of each engine:

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Mfg. Data	1.65	7.24
CO	Mfg. Data	1.10	4.82
$PM_{10}/PM_{2.}$(1)	AP-42	0.19	0.83
VOCs(2)	AP-42	1.82	7.97
SO_x	AP-42	0.01	0.04
Formaldehyde	Mfg. Data	0.17	0.73
HAPs(2)	Mfg. Data/AP-42	0.42	1.84

(1) Filterable + Condensable.
(2) Includes Formaldehyde.

S3 and S4 Compressor engine emission changes of each engine:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Mfg. Data	-0.96	-4.2
CO	Mfg. Data	-0.34	-1.47
$PM_{10}/PM_{2.5}$	AP-42	0.01	0.05
VOC	AP-42	0.7	3.05
SOx	AP-42	0.00	0.00
Formaldehyde	Mfg. Data	0.03	0.13
HAPs(2)	Mfg. Data/ AP-42	0.02	0.10

Microturbine Generator engine emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Mfg. Data	0.03	0.13
CO	Mfg. Data	0.08	0.36
$PM_{10}/PM_{2.5}$	AP-42	0.01	0.04
VOC	Mfg. Data	<0.01	0.03
SOx	AP-42	<0.01	0.01
Formaldehyde	AP-42	<0.01	<0.01
HAPs(2)	AP-42	<0.01	<0.01

Lube Oil Tanks emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	E&P Tanks/Tanks 4.0.9d	<0.01	<0.01
HAPs(2)	E&P Tanks/Tanks 4.0.9d	<0.01	<0.01

Methanol Tanks emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	E&P Tanks/Tanks 4.0.9d	<0.01	<0.01
HAPs(2)	E&P Tanks/Tanks 4.0.9d	<0.01	0.01

Pigging and Blowdown emissions*:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	Material Balance	-	10.22
HAPs(2)	Material Balance	-	0.46

*Pigging and Blowdown emissions based on the the following:

- 5 Station ESD Vent events of 350,000 scf vented gas per event
- 125 16x20 Pig receiver events of 1,181 scf vented gas per event
- 125 12x16 Pig receiver events of 673 scf vented gas per event
- 48 Compressor blowdowns of 40,000 scf vented gas per event

Compressor Blowdowns and Pigging

Type of Event	# of Events (event/yr)	Amount Vented per event (scf/event)	Total Emissions (scf/yr)	VOC emissions (ton/yr)
Station ESD Vent	5	350,000	1,750,000	4.58
Pig Receiver	125	1,181	147,625	0.39
Pig Receiver	125	673	84,125	0.22
Compressor	12	40,000	1,920,000	5.03
TOTAL			3,902,000	10.22

The estimated change in facility wide emissions are as follows:

Source	CO		NOx		$PM_{10}/PM_{2.5}$		SO2		VOCs		HAPs	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
S1	--	--	--	--	--	--	--	--	2.62	11.48	--	--
S2	--	--	--	--	--	--	--	--	2.62	11.48	--	--
S3	-0.34	-1.47	-0.96	-4.2	0.01	0.05	0.00	0.00	0.7	3.05	0.02	0.10
S4	-0.34	-1.47	-0.96	-4.2	0.01	0.05	0.00	0.00	0.7	3.05	0.02	0.10
Microturbine	0.08	0.36	0.03	0.13	0.01	0.04	<0.01	0.01	<0.01	0.03	<0.01	<0.01
Lube Oil Tanks	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01
Methanol Tanks	--	--	--	--	--	--	--	--	<0.01	0.01	<0.01	0.01
Pigging/Blow downs	--	--	--	--	--	--	--	--	--	10.22	--	0.46
TOTAL	-0.6	-2.58	-1.89	-8.27	0.03	0.14	0.00	0.01	6.64	39.32	0.04	0.67

The new facility wide emission estimates are as follows:

CO		NOx		$PM_{10}/PM_{2.5}$		SO2		VOCs		HAPs	
lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12.61	55.32	18.72	81.85	1.57	6.55	0..21	0.53	27.17	98.33	-	23.77

REGULATORY APPLICABILITY

The modifications to the proposed Pandora Station are subject to the following substantive state and federal air quality rules:

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*

The proposed modification of the Pandora Station has a potential to emit in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant and, therefore, pursuant to §45-13-2.24, the modification is defined as a "stationary source" under 45CSR13. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction . . . and operation of any stationary source to be commenced without . . . obtaining a permit to construct." Therefore, EQM is required to obtain a permit under 45CSR13 for the modification and operation of the facility.

As required under §45-13-8.3 ("Notice Level A"), EQM placed a Class I legal advertisement in a "newspaper of *general circulation* in the area where the source is . . . located." The ad ran on October 18, 2016 in the *Herald Record* and the affidavit of publication for this legal advertisement was submitted on October 27, 2016.

45CSR30: Requirements for Operating Permits - (NON APPLICABILITY)

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The modified Pandora Station does not meet the definition of a "major source under §112 of the Clean Air Act" as outlined under §45-30-2.26 and clarified (fugitive policy) under 45CSR30b. The proposed facility-wide PTE of any regulated pollutant does not exceed 100 TPY. Additionally, the facility-wide PTE does not exceed 10 TPY of any individual HAP or 25 TPY of aggregate HAPs.

However, as the emission units affected by this modification are subject to two New Source Performance Standard (NSPS) - 40 CFR 60, Subpart JJJJ and Subpart OOOO - and one Maximum Achievable Control Technology (MACT) rules - 40 CFR 63, Subpart ZZZZ, the facility would, in most cases, be subject to Title V as a "deferred source." However, pursuant to §60.4230(c), §60.5370(c), and §63.6585(d) as a non-major "area source," EQM is not required to obtain a Title V permit for the proposed facility. Therefore, the Pandora Station is not subject to 45CSR30.

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)

On April 27, 2012, the USEPA issued a final rule (Federal Register Date: August 16, 2012) that consists of federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level. EPA published amendments to the Subpart on September 23, 2013 and June 3, 2016.

Each potentially applicable section of Subpart OOOO is discussed below.

Compressor Engines

EQM is proposing to install two new compressor engines under this modification. The standards addressed in the previous permit will be carried over into the modification permit.

Pneumatic Controllers

EQM is not proposing to install any pneumatic controllers under this modification.

Storage Tanks

Pursuant to §60.5365(e), for "[e]ach 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" that is constructed after August 23, 2011 and, pursuant to §60.5395 has "VOC emissions equal to or greater than 6 tpy" must meet the control requirements under §60.5395 as of October 15, 2013. The substantive requirement is to "reduce VOC emissions by 95.0 percent or greater."

EQM is proposing to add seven storage tanks to the equipment list of the permit with this modification. These are existing storage tanks. The emissions from each tank will still not exceed 6 tpy.

40 CFR 60 Subpart OOOOa – (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after September 18, 2015)

Fugitive Emissions Components

EQM is proposing to install two new compressor engines. The proposed project is a modification under 40 CFR 60.5365a(j). In addition to the standards addressed in the previous permit that will be carried over into the modification permit, all fugitive emission components, defined in §60.5430a, shall be monitored for fugitive emissions. Fugitive emissions are any visible emission from a fugitive emissions component observed using optical gas imaging or an instrument reading of 500 ppm or greater using Method 21.

40 CFR 60 Subpart JJJJ - (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines)

The two (2) Caterpillar G3616 compressor engines and two (2) Caterpillar G3608 engines are new SI ICE that commenced construction after June 12, 2006. Subpart JJJJ is applicable to the compressor engines. The compressor engines are required by the permit to comply with all applicable requirements in Subpart JJJJ including those not specified in the permit. The permit specifically requires that the compressor engines comply with Table 1 as well as monitoring, compliance demonstration, and recordkeeping requirements of this subpart.

40 CFR 63 Subpart ZZZZ – (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national 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. This section reflects EPA's final amendments to 40 CFR part 63, Subpart ZZZZ that were issued on January 15, 2013 and published in the Federal Register on January 30, 2013.

According to 40 CFR 63.6590(c),

> *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
>
> (c)(1) A new or reconstructed stationary RICE located at an area source.

The compressor engines subject to change by this modification were constructed after June 12, 2006 are new reciprocating internal combustion engines (RICE(s)), as defined in 40 CFR 63.6590(a)(2)(iii), and are located at an area source. These engines must meet the requirements of 40 CFR part 60 subpart JJJJ. No further requirements apply for such engines under this 40 CFR 63 Subpart ZZZZ.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There will be small amounts of various non-criteria regulated pollutants emitted from the combustion of natural gas. However, due to the concentrations emitted, detailed toxicological information is not included in this evaluation.

AIR QUALITY IMPACT ANALYSIS

Since this is a modification to an existing non-major source (as defined in 45CSR14) no modeling was performed.

MONITORING OF OPERATIONS

No monitoring above that which is already required in R13-3095A is deemed necessary except that the same monitoring requirements applicable to the originally proposed engines will also be applied to the new engines.

CHANGES TO PERMIT R13-3095B

The entire format of the permit was changed/updated to a format similar to the GP-35D draft permit.

The VOC emission limits for each compressor engine, engines #1 and #2 (Emissions Units S1 and S2), were increased because manufacturer emissions data changed. Specifically, the control device VOC capture efficiency decreased from 70 % to 44%.

Design capacity of each compressor engine, engines #3 and #4 (Emission Units S3 and S4), were changed from 2,370 HP each to 2,500 HP each. New manufacturer supplied emission factors were used to calculate new emission limits.

An existing thermal electric generator (S19) that was exempt from permitting when it was installed has been added to Table 1.0. A fuel throughput limit for all microturbines was included along with monitoring and recordkeeping requirements.

Four existing lube oil tanks (T011-T014) and three existing methanol tanks (T015-T017) have been added to Table 1.0. In addition to adding these tanks to the permit, limits on the throughput of these tanks was also added along with monitoring and recordkeeping requirements.

Emissions resulting from the above changes and emissions from blowdown and pigging operations have been included in the facility wide emission estimates. A condition has been added to the permit that limits compressor blowdowns to 48 events, station shutdowns to 5 events, and pigging to 250 (125 events per receiver). In lieu of these limits, if the permittee can accurately determine the quantity of gas released during each event, the permittee may comply by limiting the quantity of gas released to 3,902 MSCF per year. Recordkeeping

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-3095B for the modification of the Pandora Station near, West Union, Doddridge County, be granted to EQM Gathering Opco, LLC.

Jonathan Carney
Permit Writer

1/5/2017
DATE

West Virginia Department of Environmental Protection

Jim Justice
Governor

Division of Air Quality

Austin Caperton
Cabinet Secretary

Permit to Modify

R13-3095B

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
EQM Gathering Opco, LLC
Pandora Station
017-00058

William F. Durham
Director

Issued: DRAFT

This permit will supercede and replace Permit R13-3095A.

Facility Location:	West Union, Doddridge County, West Virginia
Mailing Address:	625 Liberty Avenue, Suite 1700 Pittsburgh, PA 15222
Facility Description:	Natural Gas Gathering Facility
NAICS Codes:	211111
UTM Coordinates:	525.316 km Easting • 4,357.16 km Northing • Zone 17S
Permit Type:	Modification
Description of Change:	Increase emission limits for the existing compressor engines (S1-S2), increase the horsepower for two engines (S3-S4) from 2,370 hp (each) to 2,500 hp (each). Update the equipment list to include an exempt microturbine (S19) and additional storage tanks and update emissions to include pigging emissions.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The source is not subject to 45CSR30.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S1	E1	Caterpillar 3616 Compressor Engine #1	2016	4,735 hp	Cat. Ox. (C1)
S2	E2	Caterpillar 3616 Compressor Engine #2	2016	4,735 hp	Cat. Ox.(C2)
S3	E3	Caterpillar 3608 Compressor Engine #3	TBD	2,500 hp	Cat. Ox.(C3)
S4	E4	Caterpillar 3608 Compressor Engine #4	TBD	2,500 hp	Cat. Ox.(C4)
S5	E5	Dehydration Unit	2015	120 MMscfd	Vapor combustor (C5)
S6	E6	Dehydration Unit Reboiler	2015	2.31 MMbtu/hr	N
S7	E7	Dehydration Unit	2015	120 MMscfd	Vapor combustor (C6)
S8	E8	Dehydration Unit Reboiler	2015	2.31 MMbtu/hr	N
S9	E9	Capstone C65 NG Standard Micro Turbine Generator #1	2015	65 KW	N
S10	E10	Capstone C65 NG Standard Micro Turbine Generator #2	2015	65 KW	N
S11	E11	Capstone C65 NG Standard Micro Turbine Generator #3	2015	65 KW	N
S12	E12	Capstone C65 NG Standard Micro Turbine Generator #4	2015	65 KW	N
S13	E13	Capstone C65 NG Standard Micro Turbine Generator #5	2015	65 KW	N
S14	E14	Capstone C65 NG Standard Micro Turbine Generator #6	2015	65 KW	N

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S15	E15	Capstone C65 NG Standard Micro Turbine Generator #7	2015	65 KW	N
S16	E16	Capstone C65 NG Standard Micro Turbine Generator #8	2015	65 KW	N
S17	E17	Fuel Gas Heater	2015	0.77 MMbtu/hr	N
S18	E28	Fuel Gas Heater	2015	0.77 MMbtu/hr	N
S19	E29	Capstone C65 NG Standard Micro Turbine Generator #9	2016	65 kW	N
T001	E18	Produced Fluids Tank	2015	8,820 gal	Vapor combustor (C7)
T002	E19	Produced Fluids Tank	2015	8,820 gal	Vapor combustor (C7)
T003	E20	Engine Lube Oil Tank	2015	2,000 gal	N
T004	E21	Compressor Lube Oil Tank	2015	2,000 gal	N
T005	E22	Used Oil Tank	2015	4,200 gal	N
T006	E23	New MEG Tank	2015	2,000 gal	N
T007	E24	Used MEG Tank	2015	2,000 gal	N
T008	E25	New TEG Tank	2015	2,000 gal	N
T009	E26	Used TEG Tank	2015	2,000 gal	N
T010	E27	Methanol Tank	2015	2,000 gal	N
T011-T014	E30-E33	Four (4) Lube Oil Tanks	2015	300 gallon (each)	N
T015-T017	E34-E36	Three (3) Methanol Tanks	2015	500 gallon (each)	N

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C5	E5	Enclosed Flare	2013	3 MMbtu/hr	N
C6	E7	Enclosed Flare	2013	3 MMbtu/hr	N
C7	E18&E19	Enclosed Flare	2015	41 MMbtu/hr	N

1.1 Control Devices

Emission Unit	Pollutant	Control Device	Control Efficiency
4,735 hp Caterpillar 3616 4SLB RICE (1S and 2S)	Carbon Monoxide	Oxidation Catalyst (C1 and C2)	97.07 %
	Volatile Organic Compounds		43.61%
	Formaldehyde		92.25%
2,500 hp Caterpillar 3608 4SLB RICE (3S and4S)	Carbon Monoxide	Oxidation Catalyst (C3 and C4)	92.52 %
	Volatile Organic Compounds		44.63 %
	Formaldehyde		80.68 %
120 MMscfd TEG Dehydrator Still Vent (S5 and S7)	Volatile Organic Compounds	Enclosed Combustor (C5 and C6)	98 %
	Hazardous Air Pollutants		98 %
Produced Fluids Tank (T001 and T002)	Volatile Organic Compounds	Enclosed Flare (C7)	98 %
	Hazardous Air Pollutants		98 %

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NO_X**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission	**PM**	Particulate Matter
CES		**$PM_{2.5}$**	Particulate Matter less than

C.F.R. *or* CFR	Monitor Certified Emission Statement
CO	Carbon Monoxide
C.S.R. *or* CSR	Code of Federal Regulations Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
dscm	Dry Standard Cubic Meter
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr	Pounds per Hour
LDAR	Leak Detection and Repair
M	Thousand
MACT	Maximum Achievable Control Technology
MDHI	Maximum Design Heat Input
MM	Million
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
	2.5 µm in diameter
PM_{10}	Particulate Matter less than 10µm in diameter
Ppb	Pounds per Batch
Pph	Pounds per Hour
Ppm	Parts per Million
Ppm_V or ppmv	Parts per Million by Volume
PSD	Prevention of Significant Deterioration
Psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds
VOL	Volatile Organic Liquids

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*;

2.4. Term and Renewal

2.4.1. This permit supersedes and replaces previously issued Permit R13-3095A. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or

otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3095, R13-3095A, and R13-3095B, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 10.3.]

2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.

2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13.
[45CSR§13-10.1.]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.3.0. Facility-Wide Requirements

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of

40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. **[45CSR§4-3.1]** ***[State Enforceable Only]***

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where

appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State Enforceable Only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

If to the US EPA:
Associate Director
Office of Air Enforcement and Compliance Assistance
(3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Operating Fee**

3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.4.0. Source-Specific Requirements

4.0 Source-Specific Requirements

4.1. Limitations and Standards

4.1.1 **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

4.1.2. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the facility is a minor HAP source.

4.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. **[45CSR§13-5.11.]**

4.1.4. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.1.5. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility. In accordance with the information filed in Permit Applications R13-3095, R13-3095A, and R13-3095B, the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, shall use the specified control devices, and comply with any other information provided under Table 1.0.

4.1.6 The permittee shall meet all applicable requirements, including those not specified below, as given under 45CS2, 45CSR6, 40 CFR 60, Subpart JJJJ, and Subpart OOOO, and 40 CFR 63, Subpart HH and Subpart ZZZZ.

5.0 Source-Specific Requirements (Engines, S1-S4)

5.1 Limitaions and Standards

5.1.1 The compressor engines, identified as S1 through S4, shall meet the following requirements:

a. Units S1 and S2 shall be Caterpillar 3616 4,735 hp compressor engines. Units S3 and S4 shall be Caterpillar 3608 2,500 hp engines. All engines shall only be fired by natural gas;

b. At all times each engine is in operation, a catalytic oxidizer shall be used for emissions control;

c. The maximum emissions from each engine, as controlled by the catalytic oxidizers specified under 5.1.2, shall not exceed the limits given in the following table:

Pollutant	Caterpillar 3616 S1		Caterpillar 3616 S2		Caterpillar 3608 S3		Caterpillar 3608 S4	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
CO	2.87	12.57	2.87	12.57	1.10	4.82	1.10	4.82
NO_X	5.22	22.86	5.22	22.86	1.65	7.24	1.65	7.24
PM_{10}/ $PM_{2.5}$(1)	0.36	1.56	0.36	1.56	0.29	1.25	0.29	1.25
PM(1)	0.36	1.56	0.36	1.56	0.29	1.25	0.29	1.25
VOCs	4.86	21.31	4.86	21.31	1.67	7.30	1.67	7.30
Formaldehyde	0.27	1.19	0.27	1.19	0.17	0.73	0.17	0.73

(1) Includes condensables.

d. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis;

5.1.2. The use of the catalytic converters, identified as C1 through C4 in the table in section 1.1, shall be in accordance with the following requirements:

a. The automatic air/fuel ratio controller or closed-loop automatic feedback controller shall provide a warning or indication to the operator and/or be interlocked with the engine ignition system to cease engine operation in case of a masking, poisoning or overrich air/fuel ratio situation which results in performance degradation or failure of the catalyst element;

b. The permittee shall monitor the temperature to the inlet of the catalyst and in accordance with manufacturer's specifications a high temperature alarm shall shut off the engine before thermal deactivation of the catalyst occurs. The permittee shall maintain these records for five (5) years;

c. No person shall knowingly:

(1) Remove or render inoperative any air pollution or auxiliary air pollution control device installed subject to the requirements of this permit;

(2) Install any part or component when the principal effect of the part or component is to bypass, defeat or render inoperative any air pollution control device or auxiliary air pollution control device installed subject to the requirements of this permit; or

(3) Cause or allow engine exhaust gases to bypass any catalytic reduction device; and

d. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:

(1) Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller;

(2) Following operating and maintenance recommendations of the catalyst element manufacturer.

5.1.3. **40 CFR 60, Subpart JJJJ**

Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. **[40 CFR §60.4233(e)]**

5.1.4. 40 CFR 60, Subpart OOOO/OOOOa

[The permittee] must comply with the standards in paragraphs (a) through (d) of this section for each reciprocating compressor affected facility.

(1) [The permittee] must replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2) of this section.

(i) Before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of [The permittee's] reciprocating compressor affected facility, or October 15, 2012, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.
[40 CFR §60.5385(a)(1); 40 CFR §60.5385a(a)(1)]

(ii) Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.
[40 CFR §60.5385(a)(2); 40 CFR §60.5385a(a)(2)]

5.1.5 43 CFR 63, Subpart ZZZZ

An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
[40 CFR §63.6590(c)]

(1) A new or reconstructed stationary RICE located at an area source;
[40 CFR §63.6590(c)(1)]

5.2 Monitoring and Recordkeeping Requirements

5.2.1 40 CFR 60, Subpart JJJJ

The permittee shall comply with all applicable monitoring, compliance demonstration and record-keeping requirements as given under 40 CFR 60, Subpart JJJJ including the following:

If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.
[40 CFR §60.4243(b)]

a. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.
[40 CFR §60.4243(b)(2)]

(1) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.
[40 CFR §60.4243(b)(2)(ii)]

5.3 Recordkeeping Requirements

5.3.1 To demonstrate compliance with permit condition 5.1.2, the permittee shall maintain records of all catalytic reduction device maintenance. Said records shall be kept in accordance with permit condition 3.4.1.

5.4 Testing Requirements

5.4.1 At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

5.4.2. The permittee shall, pursuant to the timing and other requirements of 40 CFR 60, Subpart JJJJ, conduct, or have conducted, performance testing on the compressor engines to determine the emission rates of CO, NOx, and VOCs. The testing shall, in addition to meeting all applicable requirements under 40 CFR 60, Subpart JJJJ, be in accordance with 3.3.1. Results of this performance testing shall, unless granted in writing a waiver by the Director, be used to determine compliance with the emission limits given in a table under 5.1.1(c).

5.5 Reporting Requirements

5.5.1 All reporting required under 5.4 shall be submitted in accordance with section 3.5 of this permit.

5.5.2 Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed. **[40CFR§60.4245(d)]**

6.0 Source-Specific Requirements (Microturbines, S9 through S16 and S19)

6.1 Limitations and Standards

6.1.1. The Microturbines, identified as S9 through S16 and S19, shall meet the following requirements:

a. Each unit shall be a Capstone C65 NG Standard 65kWe (output) Microturbine and shall only be fired by natural gas;

b. The maximum emissions from each Microturbine shall not exceed the limits given in the following table:

Pollutant	lb/hr	TPY
CO	0.08	0.36
NOx	0.03	0.13

c. As the annual emissions are based on 8,760 hours of operation, there are no annual limits on hours of operation or natural gas combusted on an annual basis.

d. The annual maximum fuel consumption of the turbines shall not exceed 58.5 MMscf.

6.2 Monitoring Requirements

6.2.1 The permittee shall determine the total fuel consumption of all of the microturbines for each month. The permitte shall determine the annual total fuel consumption of all of the microturbines on a rolling 12-month basis. Compliance with the yearly throughput limitation shall be determined monthly based on the 12-month rolling total.

6.3 Recordkeeping Requirements

6.3.1 In order to demonstrate compliance with 6.1.1d and 6.2.1 of this permit, the permittee shall keep records of fuel consumption of the microturbines for each month and keep records of the annual fuel consumption of the microturbines calculated monthly on a rolling 12-month basis. Said records shall be maintained in accordance with section 3.4 of this permit.

7.0 Source-Specific Requirements (Glycol Dehydration Units, S5 and S7)

7.1 Limitations and Standards

7.1.1 The maximum wet natural gas throughput to each of the two Glycol Dehydration Unit shall not exceed 120 MMscf/day or 43,800 MMscf/year.

7.1.2 The Glycol Deydration Units shall meet the following requirements:

7.1.2.1 The maximum emissions from each of the Glycol Dehydrator Regeneration Still Vents and flash tanks, as emitted after combustion at the vapor combustors (5C and 6C), shall not exceed the limits given in the following table:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
VOC(1)	2.25	9.87
Hexane(1)	0.04	0.16

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
Benzene(1)	0.09	0.41
Toluene(1)	0.22	0.96
Ethyl-benzene(1)	0.41	1.80
Xylene(1)	0.35	1.53
Total HAPs (1)	1.14	4.98

(1) Emissions based on GLYCalc Version 4.0 using wet gas throughputs as limited under 4.1.4.

7.1.2.2 **43 CFR 63, Subpart HH**

Exemptions. The owner or operator of an area source is exempt from the requirements of paragraph (d) of this section if the criteria listed in paragraph (e)(1)(i) or (ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in § 63.774(d)(1).
[40 CFR §63.764(e)(1)]

(1) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in § 63.772(b)(2) of this subpart.
[40 CFR §63.764(e)(1)(ii)]

The permittee shall comply with all applicable monitoring, compliance fedemonstration and record-keeping requirements as given under 40 CFR 63, Subpart HH including the following:

Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.
[40 CFR §63.772(b)]

(a) The determination of actual average benzene or BTEX emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.
[40 CFR §63.772(b)(2)]

(1) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalcTM , Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or

[40 CFR §63.772(b)(2)(i)]

(2) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in § 63.772(a)(1)(i) or (ii), or an alternative method according to § 63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.
[40 CFR §63.772(b)(2)(ii)]

7.1.2.3 Maximum Glycol Recirculation Rate. The maximum glycol recirculation rate shall not exceed the gallons per minute limit listed in the permittee's permit application.

7.2 Monitoring Requirements

7.2.1 For the purposes of demonstrating compliance with the maximum wet gas throughput limit set forth in 7.1.1., the permittee shall monitor daily, monthly and rolling twelve month records of the wet gas throughput of the Glycol Dehydration Unit. Compliance with the yearly throughput limitation shall be determined monthly based on the 12-month rolling total.

7.2.2 In order to demonstrate compliance with 7.1.2.1 and 7.1.2.2, upon request of the Director, the permittee shall demonstrate compliance with the VOC/HAP emissions thresholds using GLYCalc Version 4.0 or higher. The permittee shall sample in accordance with GPA Method 2166 and analyze the samples utilizing the extended GPA Method 2286 as specified in the GRI-GLYCalc V4 Technical Reference User Manual and Handbook. If permittee is required by the Director to demonstrate compliance with section 7.2.2, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.

The WV Division of Air Quality requires the following actual operating parameters be measured or assumed to equal the default values listed below in order to satisfy this monitoring requirement when using the Gas Analysis and Process Data, GLYCalc emission modeling method:

a Natural Gas Flowrate:
- i Operating hours per quarter
- ii Quarterly throughput (MMscf/quater)
- iii Annual daily average (MMscf/day, and
- iv Maximum design capacity (MMscf/day)

b Absorber temperature and pressure

c Lean glycol circulation rate

d Glycol pump type and maximum design capacity (gpm)

e Flash tank temperature and pressure, if applicable

f Stripping Gas flow rate, if applicable

g Wet gas composition (upstream of the absorber - dehydration column) Sampled in accordance with GPA method 2166 and analyzed consistent with GPA extended method 2286 as well as the procedures presented in the GRI-GLYCalc Technical Reference User Manual and Handbook V4.

h Wet gas water content (lbs H2O/MMscf)

i Dry gas water content (lbs H2O/MMscf) at a point directly after exiting the dehydration column and before any additional separation points.

The following operating parameter(s) may be assigned default values when using GRI-GLYCalc:

a Dry Gas water content can be assumed to be equivalent to pipeline quality at 7 lb H2O/mmscf.

b Wet gas water content can be assumed to be saturated.

c Lean glycol water content if not directly measured may use the default value of 1.5% water as established by GRI.

d Lean glycol circulation rate may be estimated using the TEG recirculation ratio of 3 gal TEG/lb H2O removed.

Note: If the permittee is measuring and using actual wet or dry gas water content, then the permittee should also measure the glycol circulation rate rather than using the default TEG recirculation ratio.

7.2.3 In order to demonstrate compliance with the Maximum Glycol Recirculation Limitation in 7.1.2 (c), the permittee shall determine the glycol recirculation rate using an average of a minimum of quarterly readings of the actual glycol pump(s) rate. If more than one pump is operating simultaneously, the rate of each operating pump shall be recorded and totaled for compliance purposes.

7.3 Recordkeeping Requirements

7.3.1 The permittee shall maintain records of the monthly natural gas throughput through the glycol dehydration unit(s), all monitoring data, wet gas sampling, and GRI-GLYCalc emission estimates. Said records shall be maintained in accordance with section 3.4 of this permit.

7.4 Testing Requirements

7.4.1 At such reasonable time(s) as the Secretary may designate the permittee shall sample wet natural gas in accordance with the Gas Processor Association (GPA) Method 2166 and analyze the samples in accordance with GPA Method 2286. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test.

Note: The DAQ defines a representative wet gas sample to be one that is characteristic of the average gas composition dehydrated throughout a calendar year. If an isolated sample is not indicative of the annual average composition, then a company may opt to produce a weighted average based on throughput between multiple sampling events, which can be used to define a more representative average annual gas composition profile.

7.5 Reporting Requirements

7.5.1. The permittee shall submit the wet gas analysis report required by section 7.4.1 of this permit within 60 days of conducting the sampling of the wet gas stream as required. This report shall include a potential to emit (PTE) estimate using GRI-GLYCalc Version 3.0 or higher, incorporating the specific parameters measured, as well as a copy of the laboratory analysis. Said reporting shall be in accordance with section 3.5 of this permit.

7.5.2 If the results of the compliance determination conducted as required in Section 7.1.2.b of this permit predict the emissions to be at or above 95% of HAPs major source levels or 0.95 tons per year benzene, the permittee shall submit such determination and all supporting documentation to the Secretary within 15 days after making such determination.

8.0 Source-Specific Requirements (Glycol Dehydrator Reboilers, S6 and S8)

8.1 Limitations and Standards

8.1.1. Each of the two Glycol Dehydrator Reboilers shall meet the following requirements:

a. The MDHI shall not exceed 2.31 mmBtu/hr and the unit shall only be fired by natural gas;

b. The maximum emissions from each of the Reboiler combustion exhausts shall not exceed the limits given in the following table;

Pollutant	PPH	TPY
CO	0.17	0.75
NOx	0.20	0.89

c. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis.

d. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average. **[40CSR§2-3.1]**

8.2 Monitoring Requirements

8.2.1 For the purposes of demonstrating compliance with visible emissions limitations set forth in 8.1.1(d) the permittee shall:

a. Conduct an initial Method 22 visual emission observation on the Reboiler exhaust to determine the compliance with the visible emission provisions. The permittee shall take a minimum of two (2) hours of visual emissions observations on the units. The initial observation must be completed within 60 days of permit issuance or initial startup whichever is later.

b. Conduct monthly Method 22 visible emission observations of the Reboiler exhaust to ensure proper operation for a minimum of one (1) minutes each month the units are in operation.

c. In the event visible emissions are observed in excess of the limitations given under 8.1.1(d), the permittee shall take immediate corrective action.

8.3 Recordkeeping Requirements

8.3.1 Maintain records of the visible emission opacity tests conducted per Section 8.2.1. Said records shall be maintained in accordance with section 3.4 of this permit.

8.4 Reporting Requirements

8.4.1 Any deviation(s) from the allowable visible emission requirement in Section 8.2.1 discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned. Said reporting shall be in accordance with section 3.5 of this permit.

9.0 Source-Specific Requirements (Vapor Combustors, 5C, 6C, and 7C)

9.1 Limitations and Standards

9.1.1 The Vapor Combustors, identified as 5C, 6C, and 7C shall operate according to the following requirements:

a. The maximum capacity of each combustor shall not exceed 3 mmBtu/hr for combustors 5C and 6C and 41 mmBtu/hr for combustor 7C;

b. The combustors shall be designed, operated, and maintained according to good engineering practices or manufacturing recommendations so as to achieve, at a minimum, a hydrocarbon combustion rate of 95.0%;

c. The combustors shall be operated at all times when emissions may be vented to it.

d. The combustors shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

e. The combustor shall be operated with a pilot flame present at all times. The presence of a pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

f. The permittee shall not cause, suffer, allow or permit particulate matter to be discharged from the vapor combustor into the open air in excess of the quantity determined by use of the following formula:

Emissions (lb/hr) = F x 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

[45CSR§6-4.1]

9.2 Monitoring Requirements

9.2.1 For the purposes of demonstrating compliance with visible emissions limitations set forth in 9.1.d, the permittee shall:

a. Conduct an initial Method 22 visual emission observation on each of the vapor combustors to determine the compliance with the visible emission provisions. The permittee shall take a minimum of two (2) hours of visual emissions observations on the units. The initial observations must be completed within 60 days of permit issuance or initial startup whichever is later.

b. Conduct monthly Method 22 visible emission observations of the vapor combustors to ensure proper operation for a minimum of one (1) minutes each month the units are in operation.

c. In the event visible emissions are observed in excess of the limitations given under 9.1.1(d), the permittee shall take immediate corrective action.

9.3 Recordkeeping Requirements

9.3.1 Maintain records of the visible emission opacity tests conducted per Section 9.2.1.

9.3.2 The permittee shall maintain records of all startups, shutdowns, and/or malfunctions of the vapor combustors. These records shall include the date, time, and duration of each event.

9.3.3 The permittee shall maintain records of the date, time, and duration each time the permittee does not detect the presence of a pilot flame in the vapor combustors.

9.4 Reporting Requirements

9.4.1 Any deviation(s) from the vapor combustor design and operation criteria in Section 9.1.1. shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.

9.4.2 Any deviation(s) from the allowable visible emission requirement in Section 9.1.1 discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

10.0 Source-Specific Requirements (Tanks, T001 through T010)

10.1 Limitations and Standards

10.1.1. The annual throughput of liquids through the storage tanks shall not exceed the throughput limits listed in the following table:

Emission Unit ID	Tank Description	Annual Throughput Limit (gal)
T001	Produced Fluids Tank	105,000
T002	Produced Fluids Tank	105,000
T003	Engine Lube Oil Tank	1,596
T004	Compressor Lube Oil Tank	5,460
T005	Used Oil Tank	4,200
T006	New MEG Tank	756
T007	Used MEG Tank	756
T008	New TEG Tank	630
T009	Used TEG Tank	630
T010	Methanol Tank	8,400
T011 – T014	Four Lube Oil Tanks	3,600 (each tank)
T015 – T017	Three Methanol Tanks	6,000 (each tank)

10.1.2. Use of storage tanks, identified as T001 through T017, shall be in accordance with the following:

a. Tank size and material stored shall be limited as specified in the table in section 1.0 of this permit; and

b. VOC emissions (working/breathing/flashing) generated in the storage tanks T001 and T002 shall not exceed 0.58 TPY (combined).

c. Emissions from T001 and T002 shall be sent to flare, C7.

10.2 Monitoring Requirements

10.2.1 For the purposes of demonstrating compliance with the annual tank throughput limits set forth in 10.1.1., the permittee shall monitor monthly and rolling twelve month records of the tank throughputs. Compliance with the yearly throughput limitations shall be determined monthly based on the 12-month rolling total.

10.3 Recordkeeping Requirements

10.3.1 In order to demonstrate compliance with 10.1.1 and 10.2.1 of this permit, the permittee shall keep tank throughput records for each tank listed in the table in 10.1.1. The records shall include the monthly throughput of each tank and the annual throughput of each tank calculated monthly on a rolling 12-month basis. Said records shall be maintained in accordance with section 3.4 of this permit.

11.0 Source-Specific Requirements (Truck Loading, 5C and 6C)

11.1 Limitations and Standards

11.1.1. The Truck Loading operations shall be in accordance with the following requirements:

a. VOC emissions generated from the loadout of liquids from the Produced Fluids Tanks to haul trucks shall not exceed 0.01 TPY.

b. All trucks shall be loaded using the submerged-fill method; and

c. The maximum loadout of liquids from the Produced Fluids Tanks (T001 and T002) shall not exceed 210,000 gallons/year (combined).

11.2 Monitoring Requirements and Recordkeeping Requirements

11.2.1 For the purposes of demonstrating compliance with the truck loadout throughput limit set forth in 11.1.10(b), the permittee shall monitor and maintain monthly and rolling twelve month records of the amount of liquids loaded out. Said records shall be maintained in accordance with section 3.4 of this permit.

12.0 Source-Specific Requirements (Fugitives)

12.1 Limitations and Standards and Recordkeeping Requirements

12.1.1. The permittee shall not exceed the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3095B and additional information provided via e-mail dated January 4, 2017 that increases the number of valves to 358.

12.1.2 The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.

12.1.3 For each affected facility under 40 CFR §60.5365a(i) and (j), [the permittee] must reduce GHG (in the form of a limitation on emissions of methane and VOC emissions by complying with the requirements of paragraphs (a) through (j) of this section. These requirements are independent of the closed vent system and cover requirements in 40 CFR §60.5411a.

(1) [The permittee] must monitor all fugitive emission components, as defined in §60.5430a, in accordance with paragraphs (b) through (g) of this section. [The permittee] must repair all sources of fugitive emissions in accordance with paragraph (h) of this section. [The permittee] must keep records in accordance with paragraph (i) of this section and report in accordance with paragraph (j) of this section. For purposes of this section, fugitive emissions are defined as: Any visible emission from a fugitive emissions component observed using optical gas imaging or an instrument reading of 500 ppm or greater using Method 21.
[40 CFR §60.5397a(a)]

13.0 Source-Specific Requirements (Pigging and Blowdown Events)

13.1 Limitations and Standards

13.1.1. The number of compressor blowdowns, station shutdown events, and pigging events at the facility shall not exceed, 48, 5, and 250 (125 events per receiver) respectively. Compliance with this annual limitation shall be determined using a twelve (12) month rolling total. A twelve (12) month rolling total shall mean the sum of the events from the previous twelve (12) consecutive calendar months. However, in lieu of the event limits given in this section, if the permittee can accurately determine the quantity of gas released during each event (ESD's, blowdowns, pigging and any other maintenance), the permittee may show compliance by limiting the total annual gas released to less than 3,902 MSCF.

13.2 Recordkeeping Requirements

13.2.1 To demonstrate compliance with permit condition 13.1.1 of this permit, the permittee shall maintain a record of the pigging and blowdown events and estimate volume per event (scf) on a monthly basis and rolling twelve month total. Said records shall be maintained in accordance with section 3.4 of this permit.

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title _____ _____
(please print or type) Name Title

Telephone No. _____ Fax No._____

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[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On, October 14, 2016 EQM Gathering Opco, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a compressor station facility located on Doddridge County, WV at 39.363482 latitude and -80.706130 longitude. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as Permit R13-3095B.

The following changes in potential emissions will be authorized by this permit action: Carbon Monoxide, 2.58 TPY decrease; Nitrogen Oxides, 8.27 TPY decrease; Particulate Matter less than 10 microns, 0.14 tons per year (TPY) increase; Particulate Matter, 0.14 TPY increase; Sulfur Dioxide, 0.01 TPY increase;l Volatile Organic Compounds, 39.32 TPY increase; Total Hazardous Air Pollutants, 0.67 TPY increase.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on TBD by Sandra. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed modification will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Jonathan Carney
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304/926-0499, ext. 1203
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx

Carney, Jonathan W

From: Henry, Regina <RHenry@eqt.com>
Sent: Wednesday, January 4, 2017 4:17 PM
To: Carney, Jonathan W
Cc: Henry, Regina
Subject: EQM Comments on Pandora Draft Permit
Attachments: 2017-0104_Pandora_Revised Site_Em Calcs.pdf; S3_S4 Catalyst Spec Sheet.pdf

Jonathan,

Thanks for giving us some extra time to review the draft permit language. We worked on it yesterday and were able to come up with comments for you today – ahead of our planned schedule. During our review, we determined that we would like to request in increase in valve counts, pigging events and ESD events. The revised counts and volumes and the emissions increase is detailed below.

Our preliminary comments:

1. Typo on page 5 of 29. Emission point ID for Emission Unit ID C6 should be E7.
2. Page 15 of 29, Condition 4.1.1. Typo. Should be R13-3095A and R13-3095B.
3. Page 15 of 29, Condition 4.1.2.c (Table). CO emissions from Cat 3608 engines should be 1.10 lb/hr in accordance with the application and catalyst manufacturer guarantee. See attached documentation from application package.
4. Page 17 of 29, Condition 4.1.3. S19 should be added to this condition.
5. Page 19 of 29, Condition 4.1.8. There is a typo. The catalytic converters are C1 through C4.
6. Page 21 of 29, Condition 4.1.11. EQM would like to increase the valve count from 308 to 358. The increase in valve count is shown on the attached pdf. The VOC increases by 0.27 tpy and the HAP by 0.02 tpy.
7. Page 21 of 29, Condition 4.1.12. The total number of compressor blowdowns should be 48. The application counted 12 events per engine or 48 events. There is no change in emissions.
8. Page 21 of 29, Conditions 4.1.12 and 4.1.13. EQM has re-evaluated the station ESD, compressor blowdown volumes and pigging frequencies and would like to propose that permit allow for the flexibility to monitor the total annual gas released in lieu of counting events. Suggested language is below, and very similar to a recent permit for EQM's Janus Compressor Station (R13-3269). The new language can eliminate Condition 4.1.13.

4.1.12 The number of compressor blowdowns, station shutdown events and pigging events at the facility shall not exceed 48, 5 and 250 (125 events per receiver). Compliance with this annual limitation shall be determined using a twelve (12) month rolling total. A twelve (12) month rolling total shall mean the sum of the events from the previous twelve (12) consecutive calendar months. However, in lieu of the event limits given in this section, if the permittee can accurately determine the quantity of gas released during each event (ESD's, blowdowns, pigging and any other maintenance), the permittee may show compliance by limiting the total annual gas released to less than 3,902 MSCF.

Note that the revised volume is based on increasing the ESD count to 5; revising the ESD volume to 350,000 scf per event; increasing the number of pigging events from 75 to 125 per receiver; and decreasing compressor blowdown volumes to 40,000 per compressor. See screen shot below and the emissions are detailed in the attached PDF.

VOC and HAP Vented Blowdown Emissions

Blowdown Emissions Sources	Number of Units	Volume Per Blowdown Event (scf)	Number of Blowdown Events per year	Total Volume NG Emited (scf/yr)	Potential VOC Emissions (tpy)
Station ESD Vent	1	350,000	5	1,750,000	4.58
Pig Receiver	1	1,181	125	147,625	0.39
Pig Receiver	1	673	125	84,125	0.22
Compressors	4	40,000	12	1,920,000	5.03
Total				3,901,750	10.22

Notes: (increase of 2.76 tpy

1. Density of natural gas 0.05 lb/ft^2 @ STP (www.engineeringtoolbox.com)
2. Volume of pigging vented volume is calculated at 250 psig for one 16 x 20 receiver and one 12 x 16 receiver.

These requested changes will increase station VOC emissions by 3.04 tpy and station HAP emissions by 0.14 tpy a summary is found in the attached file.

In regards to the Fact Sheet:

1. The table of emissions identified as "Existing S3 and S4 (2,370 hp each) Compressor engine emissions of each engine" does not reflect the current permit limits (R13-3095A) for these engines. This table should be updated.
2. The table of emissions identified as "S3 and S4 Compressor engine emission increases each engine" should be updated.
3. The table of emissions identified as "the estimated change in facility wide emissions" should be updated.
4. The table summarizing new facility wide emission estimates should be updated.

If you have any questions regarding these comments, please do not hesitate to contact me via email or phone below.

Best regards,
Gina

Regina Henry | Supervisor, Environmental | EQT Corporation
T: 412.553.7848 | C: 412.328.3245
EQT Plaza, 625 Liberty Avenue, Suite 1700, Pittsburgh, PA 15222-3111
rhenry@eqt.com

Prepared For:
Jacob Barry
EQT

Date: October 3, 2016

APPLICATION INFORMATION

DRIVER

Make:	CATERPILLAR
Model:	G3608 A4
Horsepower:	2500
RPM:	1000
Compression Ratio:	7.6
Exhaust Flow Rate:	16058
Exhaust Temperature:	826°F
Reference:	EM1410-03-001
Fuel:	Fuel Analysis
Annual Operating Hours:	8760

UNCONTROLLED EMISSIONS DATA

	g/bhp-hr	lb/hr	Tons/Year
NO_x:	0.30	1.65	7.24
CO:	2.67	14.72	64.46
THC:	4.48	24.69	108.15
NMHC:	1.33	7.33	32.11
NMNEHC:	0.54	2.98	13.04
HCHO:	0.16	0.88	3.86
Oxygen:	11.60%		

CATALYST ELEMENT

Model:	RT-3615-Z
Catalyst Type:	Oxidation, Standard Precious Metals Group
Substrate Type:	BRAZED
Element Size:	Rectangle, 36"x15"x3.5"
Element Quantity:	3

POST CATALYST EMISSIONS DATA

	g/bhp-hr	lb/hr
NO_x:	Unaffected by Oxidation Catalyst	
CO	< 0.20	1.10
VOC	< 0.30	1.65
HCHO	< 0.03	0.17

Company Name: EQM Gathering Opco, LLC
Facility Name: Pandora Station
Project Description: R-13 Permit Application

	Pandora Station												
	Compressor Engine CAT 3616	Compressor Engine CAT 3608	Dehy with Associated Flare	Dehy Associated Reboiler	C65 Microturbine	Enclosed Flare	Fuel Gas Heater	Miscellaneous Storage Tanks	Produced Water Storage Tanks	Road Emissions	Liquid Loading	Fugitives Pigging & Blowdowns	Pandora Station TOTAL
Fuel Type	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	N/A	N/A				
Capacity	4,735	2,500	120	2.31	0.07	41	0.77		210				
Unit	HP	HP	MMscfd	MMBtu/hr	MW	MMBtu/hr	MMBtu/hr	gallons	bbl				
Status	*Modified*	*Modified*	*Existing*	*Existing*	*Modified*	*Existng*	*Existing*	*Existing*	*Existing*	*Existing*	*Existing*	*Modified*	
Operating Hours (hrs)	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	
# of Emission Units	2	2	2	2	9	1	2	8	2	N/A	N/A	N/A	
Pollutant	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
PM_{10}	3.10	1.66	0.18	0.14	0.22	1.21	0.05	--	--	0.48	--	--	7.02
$PM_{2.5}$	3.10	1.66	0.18	0.14	0.22	1.21	0.05	--	--	0.05	--	--	6.59
SO_X	0.18	0.10	0.01	0.01	0.11	0.10	3.6E-03	--	--	--	--	--	0.52
CO	25.15	9.66	1.95	1.50	3.20	13.37	0.50	--	--	--	--	--	55.33
NO_X	45.72	14.48	2.32	1.79	1.18	15.92	0.60	--	--	--	--	--	82.01
VOC	42.61	15.93	19.73	0.10	0.26	--	0.03	0.02	0.58	--	0.05	19.09	98.41
CO_2	40,144	20,761	3,094	2,365	3,895	21,062	788.38	--	0.02	--	--	0.49	92,109
CH_4	405.1	152.08	14.65	0.04	0.256	0.00	0.01	--	0.06	--	--	117.74	690
N_2O	0.07	0.04	0.01	0.00	0.01	0.04	1.5E-03	--		--	--		0.16
CO_2e[1]	50,291	24,574	3,462	2,368	3,903	21,073	789.20	--	1.42	--	--	2,944	109,406
Formaldehyde	2.38	1.45	--	1.3E-03	0.024	--	4.5E-04	--	--	--	--	--	3.85
Total HAPs (including HCHO)	8.39	4.66	9.96	0.03	0.03	--	0.01	0.02	0.01	--	--	0.85	23.98

1. Conversion to CO_2e based on CH_4 GWP = 25 and N_2O GWP = 298, per 40 CFR 98.
2. VOC includes Formaldehyde.

Company Name: EQM Gathering Opco, LLC
Facility Name: Pandora Station
Project Description: R-13 Permit Application

Fugitive Emissions Calculations

Fugitive Component Information:

Component Type	Estimated Component Count	Gas Leak Emission Factor (lb/hr/component)	Factor Source	Average Gas Leak Rate (lb/hr)	Max Gas Leak Rate (tpy)	Potential VOC Emissions (tpy)	Potential HAP Emissions (tpy)
Connectors	654	0.0004	EPA Protocol, Table 2-4	0.29	1.52	0.16	0.01
Flanges	600	0.001	EPA Protocol, Table 2-4	0.52	2.71	0.28	0.01
Open-Ended Lines	12	0.004	EPA Protocol, Table 2-4	0.05	0.28	0.03	0.00
Pump Seals	0	0.005	EPA Protocol, Table 2-4	<0.01	<0.01	<0.01	<0.01
Valves	358	0.010	EPA Protocol, Table 2-4	3.55	18.67	1.96	8.7E-02
Other	36	0.019	EPA Protocol, Table 2-4	0.70	3.67	0.38	0.02
Total				**5.11**	**26.84**	**2.81**	**0.13**
						(increase of 0.27 tpy)	**(increase of 0.02 tpy)**

Notes:
1. The component type "Other" includes any equipment type other than connectors, flanges, open-ended lines, pumps and valves that have fugitive emissions.
2. The component count is a preliminary estimate based on the proposed design of a similar station.
3. *Table 2-4 :Oil & Gas Production Operations Average Emission Factors* , Protocol for Equipment Leak Emission Estimates, EPA 453/R-95-017, November 1995.
4. Assumes maximum leak rate 20% greater than measured average leak rate.

VOC and HAP Vented Blowdown Emissions

Blowdown Emissions Sources	Number of Units	Volume Per Blowdown Event (scf)	Number of Blowdown Events per year	Total Volume NG Emited (scf/yr)	Potential VOC Emissions (tpy)	Potential HAP Emissions (tpy)
Station ESD Vent	1	350,000	5	1,750,000	4.58	0.20
Pig Receiver	1	1,181	125	147,625	0.39	0.02
Pig Receiver	1	673	125	84,125	0.22	0.01
Compressors	4	40,000	12	1,920,000	5.03	0.22
Total				**3,901,750**	**10.22**	**0.456**
					(increase of 2.76 tpy)	**(increase of 0.123 tpy)**

<-- This is a total of 48 events

Notes:
1. Density of natural gas: 0.05 lb/ft^3 @ STP (www.engineeringtoolbox.com)
2. Volume of pigging vented volume is calculated at 250 psig for one 16 x 20 receiver and one 12 x 16 receiver.

GHG Vented Blowdown Emissions

Blowdown Emissions Sources	Number of Units	Volume Per Blowdown Event (scf)	Number of Blowdown Events per year	Total Volume NG Emited (scf/yr)	Potential CH_4 Emissions[1] (tpy)	Potential CO_2 Emissions[1] (tpy)	Potential CO_2e Emissions (tpy)
Station ESD Vent	1	350,000	5	1,750,000	32.5	0.14	811
Pig Receiver	1	1,181	125	147,625	2.7	0.01	68
Pig Receiver	1	673	125	84,125	1.6	0.01	39
Compressors	4	40,000	12	1,920,000	35.6	0.15	890
Total					**72.4**	**0.303**	**1809**

1. Calculated in accordance with Equations W-35, and W-36 in Subpart W of 40 CFR 98.

EQT Plaza
625 Liberty Avenue, Ste. 1700
Pittsburgh PA 15222
www.eqt.com

TEL: (412) 553-7848

Regina Henry
Supervisor, Environmental

RECEIVED
OCT 27 2016
WV DEP / DIV OF AIR QUALITY

October 25, 2016

Via Certified Mail
Return Receipt Requested
No. 7015 3430 0000 8534 3992

WVDEP
Division of Air Quality
Attn: Mr. Jonathan Carney
601 57th Street, SE
Charleston, WV 25304

RE: EQM Gathering Opco, LLC
Pandora Compressor Station
Plant ID. 017-00058
Application No. R13-3095B

Dear Mr. Carney,

Please find attached an original Affidavit of Publication of the Class I legal advertisement regarding our permit application for the above referenced facility. Also attached for your reference is a copy of the sales receipt for the associated $4,500 application fee paid via credit card.

If you have any questions, please feel free to contact me at (412) 553-7848 or by email at rhenry@eqt.com.

Sincerely,
EQM Gathering Opco, LLC

Regina Henry

Regina Henry
Supervisor, Environmental

Legal Advertisement

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is hereby given that EQM Gathering Opco, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a modification at an existing natural gas gathering station (Pandora Station) located 4 miles southwest Center Point, in Doddridge County, West Virginia. The latitude and longitude coordinates are 39.36349, -80.70613. The facility is permitted under R13-3095A.

The applicant estimates the potential increase to discharge the following Regulated Air Pollutants as a result of the change will be:

Particulate Matter (PM) = 0.11 tpy
Sulfur Dioxide (SO2) = 0.02 tpy
Volatile Organic Compounds (VOC) = 35.13 tpy
Carbon Monoxide (CO) = <0.01 tpy
Nitrogen Oxides (NO x) = 1.38 tpy
Hazardous Air Pollutants (HAPs) = 0.68 tpy
Formaldehyde = 0.26 tpy
Greenhouse Gases (CO2e)= <100 tpy

This application seeks to increase the emissions limits for the existing compressor engines (S1-S4) and increase the horsepower of two compressor engines (S3-S4) at the Pandora Station. Startup will begin upon issuance of the permit. Written comments wi' be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the 18th day of October, 2016.

By: EQM Gathering Opco, Llc
Diana Charletta, Vice President
625 Liberty Avenue Suite 1700
Pittsburgh, PA 15222

10-18-1xb

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
TAMELA B. BEAMER
RR 2 BOX 208 SALEM, WV 26426
MY COMMISSION EXPIRES OCTOBER 9, 2018

STATE OF WEST VIRGINIA,
COUNTY OF DODDRIDGE, TO WIT
I, Virginia Nicholson, Editor of THE HERALD RECORD, a certified weekly newspaper published regularly, in Doddridge County, West Virginia, Do Hereby Certify Upon Oath That the Accompanying Legal Notice Entitled:

Air Quality Permit

was published in said paper for 1

successive weeks beginning with the issue

of October 18th 2016 and ending

with the issue of ——— 2016 and

that said notice contains 357

WORD SPACE AT .115 cents per word and

amounts to the sum of $ 41.06

FOR FIRST PUBLICATION, SECOND PUBLICATION IS 75% OF THE FIRST PUBLICATION

$ 0

and each publication thereafter

$ 41.06 TOTAL

EDITOR

Virginia Nicholson

SWORN TO AND SUBSCRIBED

BEFORE ME THIS THE 26th DAY

OF October 2016

NOTARY PUBLIC

Tamela B. Beamer

WV DEP
601 57TH ST SE
CHARLESTON, WV 25304

SALE

MID: 5990 Store: 5430 Term: 7501
REF#: 00000001
Batch #: 196 RRN: 629115000392
10/17/16 11:14:06
AVS: ZIP MATCH CK: U
Invoice #: 00058
Trans ID: 386291548478376
APPR CODE: 034979
VISA Manual CNP
**********9741 **/**

AMOUNT $4,500.00

APPROVED

I AGREE TO PAY ABOVE TOTAL AMOUNT
IN ACCORDANCE WITH CARD ISSUER'S
AGREEMENT
(MERCHANT AGREEMENT IF CREDIT VOUCHER)
RETAIN THIS COPY FOR STATEMENT
VERIFICATION

MERCHANT COPY

Carney, Jonathan W

From: Henry, Regina <RHenry@eqt.com>
Sent: Sunday, December 11, 2016 8:57 PM
To: Carney, Jonathan W
Cc: Charletta, Diana
Subject: RE: Information Request for EQM Gathering Opco, LLC - Pandora Compressor Station

Mr. Carney,

Please see the responses below in blue. If you have any additional questions, please do not hesitate to contact me.

Best regards,
Gina

Regina Henry | Supervisor, Environmental | EQT Corporation
T: 412.553.7848 | C: 412.328.3245
EQT Plaza, 625 Liberty Avenue, Suite 1700, Pittsburgh, PA 15222-3111
rhenry@eqt.com

From: Carney, Jonathan W [mailto:Jonathan.W.Carney@wv.gov]
Sent: Friday, December 09, 2016 8:42 AM
To: Charletta, Diana <DCharletta@eqt.com>; Henry, Regina <RHenry@eqt.com>
Subject: Information Request for EQM Gathering Opco, LLC - Pandora Compressor Station

EQM Gathering Opco, LLC - Pandora Compressor Station
Permit Application R13-3095B
Plant ID No. 017-00058

Ms. Chartletta,

I'm trying to sort out what appear to be some inconsistencies in the proposed changes.

In your cover letter it is written:

> The purpose of this application is to increase the emission limits on two compressor engines, update the permit regarding horsepower for two engines not yet constructed, revise the number of tanks at the site and include emissions from pigging operations.

On page 3 Section 1. Introduction 1.1. Facility Description it is written:

> As part of this application, EQM seeks to:
> - Increase the current emission limits of the existing Caterpillar G3616 compressor engines (S1 & S2) at the facility;

- Replace the existing Caterpillar G3608 engines with a larger Caterpillar G3608 engine and update the associated emissions limits;(It reads like you're replacing multiple engines with a single engine. Is this correct? The cover letter seems to indicate that the horsepower ratings of two engines are being increased) The number of engines is not being changed in this modification application. Attachment C indicates that Engines 3 & 4 (the CAT G3608 engines) will have increased horsepower rating. Additionally, Attachment F Process Flow Diagram shows four engines and the emission summary spreadsheet in Attachment N indicates four engines and increased horsepower. The G3608 engines were previously permitted for 2,370 hp each. We are requesting an increase to 2,500 hp each.
- Update the current permit to include one additional microturbine (S19) to the equipment list. This equipment was installed at the site last year and was determined to be exempt from permitting; and(I saw no mention of the turbine in the cover letter). This piece of equipment is a microturbine for power generation – not a natural gas compression turbine. The microturbine is installed and is considered exempt, however, we have included the piece of equipment in this application as an update to the site equipment inventory.
- Update the current permit to include four (4) lube oil tanks (each 300 gallon capacity) and three (3) methanol tanks (each 500 gallon capacity). The tanks are currently located at the facility. (No mention of the pigging operations.) Pigging emissions are included in the emission summary spreadsheet at Attachment N in the application.

On page 2 of 4 of the revised application page item number 13 it is written:

> This application seeks to increase the emissions limits for the existing compressor engines (S1-S2) and replace two compressor engines (rated 2,370 HP) to ADEM 4 packages (rated 2,500HP) at the Pandora Station.
> Here there is no mention of the microturbine, the tanks or the pigging operations and no description of what ADEM 4 packages are. Are these ADEM 4 packages two (2) Caterpillar G3608 engines with 2,500 HP each? The microturbine, the tanks and the pigging emissions were considered to be very minor additions to the permit application. ADEM 4 (or A4) refers to the electronic controller used by Caterpillar to control combustion variables. Caterpillar has moved to the A4 controller and has discontinued their previous A3 controller. The A4 control package increases the standard hp in the G3608 engines to 2,500 hp each in this application. EQM is proposing replacing the two previously permitted G3608 engines (2,370 hp each) with two G3608 engines rated at 2,500 hp each since the A3 controller is no longer available.

Please send me a paragraph describing the proposed changes that will go in the **Description of Change:** section of your permit.

> Increase emission limits for the existing compressor engines (S1-S2), increase the horsepower for two engines (S3-S4) from 2,370 hp (each) to 2,500 hp (each). Update the equipment list to include an exempt microturbine (S19), additional storage tanks and include pigging emissions.

Jonathan Carney

Jonathan Carney, P.E.
Environmental Protection
NSR Air Permitting

(304) 926-0499 ext. 1203
Jonathan.W.Carney@wv.gov
601 57th St SE
Charleston, WV 25304

Carney, Jonathan W

From: Carney, Jonathan W
Sent: Thursday, November 10, 2016 2:27 PM
To: 'rhenry@eqt.com'; 'dcharletta@eqt.com'
Cc: McKeone, Beverly D
Subject: WV DAQ Permit Application Incomplete for EQM Gathering Opco, LLC - Pandora Compressor Station

RE: Application Status: Complete
EQM Gathering Opco, LLC - Pandora Compressor Station
Permit Application R13-3095B
Plant ID No. 017-00058

Ms. Charletta:

Your application for a modification permit for a Natural Gas Compressor Station was received by this Division on October 14, 2016 and assigned to the writer for review. Upon review of said application, it has been determined that the application is complete and, therefore, the statutory review period commenced on November 10, 2016.

In the case of this application, the agency believes it will take approximately 90 days to make a final permit determination.

This determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit determination.

Should you have any questions, please contact Jonathan Carney at (304) 926-0499 ext. 1203 or reply to this email.

Jonathan Carney, P.E.
Environmental Protection
NSR Air Permitting

(304) 926-0499 ext. 1203
Jonathan.W.Carney@wv.gov
601 57th St SE
Charleston, WV 25304

Carney, Jonathan W

From: Adkins, Sandra K
Sent: Monday, October 17, 2016 10:21 AM
To: dcharletta@eqt.com; rhenry@eqt.com
Cc: McKeone, Beverly D; Carney, Jonathan W; Ward, Beth A; Rice, Jennifer L
Subject: WV DAQ Permit Application Status for EQT Gathering, LLC; Pandora Station

RE: Application Status
EQT Gathering, LLC
Pandora Station
Facility ID No. 017-00058
Application No. R13-3095B

Ms. Charletta,

Your application for a modification permit for the Pandora Compressor Station was received by this Division on October 14, 2016, and was assigned to Jon Carney. The following items were not included in the initial application submittal:

Original affidavit for Class I legal advertisement not submitted.

Application fee AND/OR additional application fees:
**$1,000 Construction, Modification, Relocation or Temporary Permit*
**$1,000 NSPS*
**$2,500 NESHAP*
(You may contact the Accounts Receivable section at 304 926-0499 ext. 4888 or Beth Ward at ext. 1846 to pay via credit card. DEP accepts Visa and MasterCard only.)

These items are necessary for the assigned permit writer to continue the 30-day completeness review.

Within 30 days, you should receive a letter from Jon stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Please submit one original and two electronic versions for future applications. Electronic versions should contain signatures.

Should you have any questions, please contact the assigned engineer, Jon Carney, at 304-926-0499, extension 1203.

Our records indicate the name associated with facility id 017-00058 is EQT Gathering, LLC; however, on the application the name is EQM Gathering Opco, LLC. Please refer to the Change of Ownership section on our website:

http://www.dep.wv.gov/daq/permitting/Pages/Change-of-Ownership.aspx

Permit / Application Information Sheet
Division of Environmental Protection
West Virginia Office of Air Quality

Company:	EQT Gathering, LLC			**Facility:**	Pandora Station
Region:	8	**Plant ID:**	017-00058	**Application #:**	13-3095B
Engineer:	Carney, Jonathan			**Category:**	
Physical Address:	County Route 3/1 Brush Fork Road West Union WV 26456			**SIC:** [1311] OIL AND GAS EXTRACTION - CRUDE PETROLEUM & NATURAL GAS **NAICS:** [211111] Crude Petroleum and Natural Gas Extraction	
County:	Doddridge				
Other Parties:	ENV_CONT - Henry, Regina C. 412-553-7848 VICE PRES - Charletta, Diana 304-348-7661				

Information Needed for Database and AIRS
No required information is missing.

Regulated Pollutants

Summary from this Permit 13-3095B

Air Programs		**Applicable Regulations**
Fee Program	**Fee**	**Application Type**
	$0.00	MODIFICATION

Notes from Database

Activity Dates

APPLICATION RECIEVED	10/14/2016
ASSIGNED DATE	10/17/2016

NON-CONFIDENTIAL

Please note, this information sheet is not a substitute for file research and is limited to data entered into the AIRTRAX database.

Company ID: 017-00058
Company: EQT Gathering, LLC
Printed: 10/17/2016
Engineer: Carney, Jonathan

Permit / Application Information Sheet
Division of Environmental Protection
West Virginia Office of Air Quality

Company:	EQT Gathering, LLC			**Facility:**	Pandora Station
Region:	8	**Plant ID:**	017-00058	**Application #:**	13-3095B
Engineer:	Carney, Jonathan			**Category:**	
Physical Address:	County Route 3/1 Brush Fork Road West Union WV 26456			**SIC:** [1311] OIL AND GAS EXTRACTION - CRUDE PETROLEUM & NATURAL GAS **NAICS:** [211111] Crude Petroleum and Natural Gas Extraction	
County:	Doddridge				
Other Parties:	ENV_CONT - Henry, Regina C. 412-553-7848 VICE PRES - Charletta, Diana 304-348-7661				

Information Needed for Database and AIRS
No required information is missing.

Regulated Pollutants

Summary from this Permit 13-3095B

Air Programs		**Applicable Regulations**
Fee Program	**Fee**	**Application Type**
	$0.00	MODIFICATION

Notes from Database

Activity Dates

APPLICATION RECIEVED	10/14/2016
ASSIGNED DATE	10/17/2016

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Company ID: 017-00058
Company: EQT Gathering, LLC
Printed: 10/17/2016
Engineer: Carney, Jonathan

Adkins, Sandra K

From: Adkins, Sandra K
Sent: Monday, October 17, 2016 10:21 AM
To: 'dcharletta@eqt.com'; 'rhenry@eqt.com'
Cc: McKeone, Beverly D; Carney, Jonathan W; Ward, Beth A; Rice, Jennifer L
Subject: WV DAQ Permit Application Status for EQT Gathering, LLC; Pandora Station

RE: Application Status
EQT Gathering, LLC
Pandora Station
Facility ID No. 017-00058
Application No. R13-3095B

Ms. Charletta,

Your application for a modification permit for the Pandora Compressor Station was received by this Division on October 14, 2016, and was assigned to Jon Carney. The following items were not included in the initial application submittal:

Original affidavit for Class I legal advertisement not submitted.

Application fee AND/OR additional application fees:
**$1,000 Construction, Modification, Relocation or Temporary Permit*
**$1,000 NSPS*
**$2,500 NESHAP*
(You may contact the Accounts Receivable section at 304 926-0499 ext. 4888 or Beth Ward at ext. 1846 to pay via credit card. DEP accepts Visa and MasterCard only.)

These items are necessary for the assigned permit writer to continue the 30-day completeness review.

Within 30 days, you should receive a letter from Jon stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Please submit one original and two electronic versions for future applications. Electronic versions should contain signatures.

Should you have any questions, please contact the assigned engineer, Jon Carney, at 304-926-0499, extension 1203.

Our records indicate the name associated with facility id 017-00058 is EQT Gathering, LLC; however, on the application the name is EQM Gathering Opco, LLC. Please refer to the Change of Ownership section on our website:

http://www.dep.wv.gov/daq/permitting/Pages/Change-of-Ownership.aspx

Entire Document
NON-CONFIDENTIAL

R13-3095B modification
017-00058 Jonathan

45CSR13 Administrative Update, Construction, Modification, Relocation, Temporary Permit or General Permit Registration Incomplete Application

A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a 45CSR13 permit application. Any submittal will be considered incomplete if the required information is not included. The applicant must submit a complete application in order to receive a 45CSR13 permit.

- ☒ Class I legal advertisement ~~not~~ published in a newspaper certified to accept legal advertisements and original affidavit submitted.
- ☒ Application fee AND/OR additional application fees not included:
  - ☐ $250 Class I General Permit
  - ☐ $300 Class II Administrative Update
  - ☒ $1,000 Construction, Modification, Relocation or Temporary Permit
  - ☐ $500 Class II General Permit
  - ☒ $1,000 NSPS
  - ☒ $2,500 NESHAP
  - ☐ $2,500 45CSR27 Pollutant
  - ☐ $5,000 Major Modification
  - ☐ $10,000 Major Construction
- ☐ Original and two (2) copies of the application not submitted.
- ☐ File organization – application pages are not numbered or in correct order, application is not bound in some way, etc.
- ☐ Confidential Business Information is not properly identified.
- ☐ General application forms not completed and signed by a responsible official.
- ☐ Authority of Corporation form not included – required if application is signed by someone other than a responsible official.
- ☐ Applicant is not registered with the West Virginia Secretary of State's Office.
- ☐ Copy of current Business Registration Certificate not included.
- ☐ Process description, including equipment and emission point identification numbers, not submitted.
- ☐ Process flow diagram, including equipment and emission point identification numbers, not submitted.
- ☐ Plot plan, including equipment and emission point identification numbers, not submitted.
- ☐ Applicable technical forms not completed and submitted:
  - ☐ Emission Point Data Summary Sheets
  - ☐ Air Pollution Control Device Sheets
  - ☐ Emission Unit Data Sheets
  - ☐ Equipment List Form
- ☐ Emission calculations not included – emission factors, references, source identification numbers, etc.
- ☐ Electronic submittal diskette not included.