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

BACKGROUND INFORMATION

Application No.:	R13-3080A
Plant ID No.:	017-00056
Applicant:	Antero Midstream LLC
Facility Name:	Pennington Compressor Station
Location:	Near Smithburg, Doddridge County
NAICS Code:	221210
Application Type:	Modification
Received Date:	November 9, 2016
Engineer Assigned:	Jonathan Carney
Fee Amount:	$4,500
Date Fee Received:	November 14, 2016
Complete Date:	December 8, 2016
Due Date:	March 14, 2016
Applicant Ad Date:	November 11, 2016
Newspaper:	The Doddridge Independent
UTM's:	Easting: 527.952 Northing: 4348.901 Zone: 17
Description:	Application to update reduction efficiencies for the engine catalyst based on new catalyst information and compressor specifications modified. The dehydrator throughput has been increased to 70 MMscfd. A fuel conditioning heater will be added. Other emission sources at the facility have been updated using more recent data such as the storage tanks and compressor engines. A primary and backup VRU have been added as a control devices on the storage tanks rather than the flare. The flare will continue to be used to control emissions from the dehydrator still vent.

DESCRIPTION OF PROCESS

The following process description is from the application for modification permit R13-3080A:

The existing Pennington Compressor Station is located in Doddridge County, West Virginia approximately 5.4 miles east of West Union, WV. Gas from surrounding wells enters the facility and is immediately metered before reaching the inlet separator. Any

produced liquids from the inlet separator are sent to two (2) 400 barrel storage tanks (TK-1 and TK-2). Gas from the inlet separator is sent to three (3) 1680 hp Waukesha compressor engines (COMP-1 – COMP-3). The three (3) compressor engines are controlled with non-selective catalytic reduction (NSCR) catalysts (1C-3C). Fuel gas for the compressor engines will be treated prior to the engines by a fuel conditioning skid with a 0.5 MMBtu/hr heater (FUEL1) to allow more complete combustion. From there, the compressed gas is routed to a coalescing filter separator, where the gas is further separated from fluids. Produced fluids are sent to the storage tanks (TK-1 and TK-2) and gas is sent to the dehydration system (DEHY1 and DFLSH1) where excess fluids are extracted from the gas stream. Fluids from the dehydration system are routed to the storage tanks (TK-1 and TK-2), and the dry gas is sent to the sales pipeline.

The TEG dehydrator system contains a flash gas tank (DFLSH1) and 0.75 MMBtu/hr reboiler (DREB1). The dehydrator has a design rate of 70 MMscf/day. Within the dehydrator unit, vent gas from the flash gas tank (DFLSH1) is routed to the reboiler (DREB1) and used as fuel. In the case where the flash tank gas cannot be used by the reboiler due to excess gas or the reboiler is offline, the gas will be sent to the VRUs (VRU-100 and VRU-200) via the storage tanks (TK-1 and TK-2) and thus controlled by 98%. Emissions from each reboiler are routed to the atmosphere. The dehydrator still vent (DEHY1) is controlled by a flare with at least 98% control efficiency (FLARE1).

As stated, all produced fluids from process operation enter two (2) 400 barrel storage tanks (TK-1 and TK-2). Fluids include either condensate or produced water, with the majority of the fluids expected to be condensate. Flashing occurs at the storage tanks as the produced fluids will be pressurized prior to entering the storage tanks. Vent gas from the storage tanks are directed to the main vapor recovery unit (VRU-100) where tank vapors are collected and recycled back into the gas system righ before the initial filter scrubber. A second vapor recovery unit (VRU-200) is also connected to the tanks as a backup unit. The produced fluids are trucked out via tanker trucks as needed (LDOUT1). The anticipated production is approximately 212 barrels per day.

Two (2) primary natural gas fired microturbine generators (GEN1-GEN2) supply power to the facility. Fugitive emissions from component leaks and emissions from venting or blowdown events also occur.

Compressor Engines

The permittee is increasing the horsepower rating of the compressor engines (COMP1 – COMP3) based on using site specific gas analysis which increases the horsepower rating. The permittee is seeking to update the compressor engine emissions to reflect catalyst data based on a new catalyst.

Storage Tanks

The permittee is seeking to update the storage tank emissions based on a ProMax 4.0 model.

Fuel Conditioning Heater

The permittee plans to install a 0.5 MMBtu/hr fuel conditioning heater

Haul Road Emissions

The permittee has included haul road emissions with this application.

Flare

The permittee seeks to no longer control emissions from the storage tanks using the flare. The flare will continue to be used to control emissions from the dehydrator still vent.

Vapor Recovery Units (VRU and VRU backup)

The permittee seeks to add a primary VRU and backup VRU to control storage tank emissions rather than using the flare.

Dehydrator

The permittee seeks to increase the throughput of the dehydrator from 30 MMscfd to 70 MMscfd.

Compressor Blowdowns

The permittee has included compressor blowdown emissions with this application.

SITE INSPECTION

The most recent partial inspection of this facility performed on September 22, 2015, found that the facility was in compliance. This inspection was performed following a previous partonsite inspection on September 15, 2015 that found that the facility was out of compliance for leaks around thief hatches of storage tanks. A notice of violation and a consent order was issued for the non-compliance. Both of the aforementioned inspections were performed by inspector Douglas Hammel of DEP

Directions: [Latitude: 39.28903, Longitude: -80.67588] Traveling east from Smithburg, WV on US 50, go approximately 3.3 miles and turn left onto Antioch Road. Proceed on Antioch Road (County Route 50/24) for 0.1 miles and take the first left onto Sullivan Drive. An access road will be the first left heading up to the top of the hill.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Existing facility wide emissions are as follows (based on Engineering Evaluation R13-3080):

CO	NO_x	$PM_{10}/PM_{2.5}$	SO_2	VOCs	HAPs
tpy	tpy	tpy	tpy	tpy	tpy
18.57	8.37	3.84	0.09	51.32	4.65

The new facility wide emission estimates presented by the applicant are as follows:

CO	NOx	$PM_{10}/PM_{2.5}$	SO2	VOCs	HAPs
tpy	tpy	tpy	tpy	tpy	tpy
19.66	17.61	4.37	0.13	45.93	5.59

Change in facility wide emissions:

CO	NOx	$PM_{10}/PM_{2.5}$	SO2	VOCs	HAPs
tpy	tpy	tpy	tpy	tpy	tpy
1.09	9.24	0.53	0.04	-5.39	0.94

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

Existing COMP-1 through COMP-3 (1,627 HP each) Compressor engine emissions of each engine:

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Catalyst Mfg. Data	0.54	2.36
CO	Catalyst Mfg. Data	1.08	4.71
$PM_{10}/PM_{2.5}$[1]	AP-42	0.11	0.48
VOCs	AP-42	1.11	4.87
SO_x	AP-42	0.01	0.04
Formaldehyde	Mfg. Data	1.11	4.87
Total HAPs	AP-42/Mfg. Data	0.21	0.94
CO_2e	40 CFR Part 98	1910	8364

(1) Filterable + Condensable.

Existing COMP-1 through COMP-3 (Output rating increased to 1,680 HP each) Compressor engine emissions of each engine:

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	Catalyst Mfr. Data	1.23	5.39
CO	Catalyst Mfr. Data	1.15	5.03
$PM_{10}/PM_{2.5}$[1]	AP-42	0.27	1.17
VOCs(2)	AP-42	0.28	1.22
SO_x	AP-42	0.008	0.035
Formaldehyde	Mfg. Data	0.019	0.081
Total HAPs	AP-42/Mfg. Data	0.18	0.80
CO_2e	40 CFR Part 98	1946	8524

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

COMP-1 through COMP-3 Compressor engine emission changes of each engine:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
NO_x	0.69	3.03
CO	0.07	0.32
$PM_{10}/PM_{2.5}$[1]	0.16	0.69
VOC	-0.83	-3.65
SOx	-0.002	-0.005
Formaldehyde	-1.09	-4.79
Total HAPs	-0.03	-0.14
CO_2e	36	160

(1) Filterable + Condensable.

Existing DEHY1 (Throughput 30 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	0.53	2.34
Hexane	GLYCalc	0.01	0.06
Benzene	GLYCalc	0.07	0.32
Toluene	GLYCalc	0.14	0.61
Ethyl-benzene	GLYCalc	0.01	0.03
Xylene	GLYCalc	0.06	0.26
Total HAPs		0.31	1.36

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
CH_4	GLYCalc	0.03	0.13
CO_2	GLYCalc	0.16	0.70
CO_2e			3.53

Existing DEHY1 (Throughput increased to 70 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	1.00	4.37
Hexane	GLYCalc	0.059	0.26
Benzene	GLYCalc	0.048	0.21
Toluene	GLYCalc	0.27	1.17
Ethyl-benzene	GLYCalc	0.036	0.160
Xylene	GLYCalc	0.033	0.14
Total HAPx		0.40	1.75
CH_4	GLYCalc	0.0089	0.039
CO_2	GLYCalc	0.062	0.27
CO_2e			1.25

DEHY1 Emission Change:

Existing Pollutant	Hourly (lb/hr)	Annual (ton/yr)
VOC	0.47	2.03
Hexane	0.05	0.2
Benzene	-0.02	0.11
Toluene	0.13	0.56
Ethyl-benzene	0.03	0.13
Xylene	-0.03	-0.12
Total HAPs	0.09	0.39
CH_4	-0.02	-0.09
CO_2	0.46	-0.43
CO_2e	0.01	-2.28

Existing DFLSH1 (Throughput 30 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	1.03	4.51
Hexane	GLYCalc	0.02	0.09
Benzene	GLYCalc	0.00	0.01
Toluene	GLYCalc	0.00	0.02
Ethyl-benzene	GLYCalc	0.00	0.00
Xylene	GLYCalc	0.00	0.00
Total HAPs		0.03	0.13
CH_4	GLYCalc	2.05	8.98
CO_2	GLYCalc	0.32	1.40
CO_2e			189.99

Existing DFLSH1 (Throughput increased to 70 MMscfd):

Existing Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	GLYCalc	0.96	4.19
Hexane	GLYCalc	0.06	0.25
Benzene	GLYCalc	0.00	0.02
Toluene	GLYCalc	0.01	0.05
Ethyl-benzene	GLYCalc	0.00	0.00
Xylene	GLYCalc	0.00	0.00
Total HAPx		0.06	0.25
CH_4	GLYCalc	2.14	9.37
CO_2	GLYCalc	0.84	3.69
CO_2e			238.02

DFLSH1 Emission Change:

Existing Pollutant	Hourly (lb/hr)	Annual (ton/yr)
VOC	-0.07	0.32
Hexane	0.04	0.16
Benzene	0.00	0.01
Toluene	0.01	0.03
Ethyl-benzene	0.00	0.00
Xylene	0.00	0.00

Existing Pollutant	Hourly (lb/hr)	Annual (ton/yr)
Total HAPs	0.03	0.12
CH_4	0.09	0.39
CO_2	0.52	2.29
CO_2e		48.03

Existing DREB1:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.09	0.40
CO	AP-42	0.08	0.34
VOC	AP-42	0.01	0.02
$PM_{10}/PM_{2.5}$	AP-42	0.01	0.03
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.00
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	0.00	0.00
CO_2e		109.90	481.36

Existing DREB1 (Updated from previous application):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.07	0.32
CO	AP-42	0.06	0.27
VOC	AP-42	0.00	0.02
$PM_{10}/PM_{2.5}$	AP-42	0.01	0.02
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.01
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	87.90	385.20
CO_2e		88.00	385.60

DREB1 Changes in emissions:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
NO_x	-0.02	-0.08
CO	-0.02	-0.07
VOC	0.00	0.00
$PM_{10}/PM_{2.5}$	0.01	0.02
SOx	0.00	0.00
CH_4	0.00	0.01
N_2O	0.00	0.00
CO_2	87.90	385.20
CO_2e	88.00	385.60

New FUEL1 (0.5 MMBtu/hr fuel conditioning heater):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.049	0.21
CO	AP-42	0.041	0.18
VOC	AP-42	0.00	0.01
$PM_{10}/PM_{2.5}$	AP-42	0.00	0.02
SOx	AP-42	0.00	0.00
Formaldehyde	AP-42	0.00	0.00
HAPs including HCHO	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.00
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	58.63	256.80
CO_2e		58.69	256.80

Existing FLARE1 (Controlling tank (TK-1 and TK-2) emissions and DFLSH1 emissions):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.14	0.63
CO	AP-42	0.78	3.40
VOC	AP-42	0.01	0.03
$PM_{10}/PM_{2.5}$	AP-42	0.00	0.00
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.00
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	167.33	732.88
CO_2e		167.33	732.88

Existing FLARE1 (Controlling DFLSH1 emissions):

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
NO_x	AP-42	0.14	0.63
CO	AP-42	0.78	3.41
VOC	AP-42	0.00	0.00
$PM_{10}/PM_{2.5}$	AP-42	0.00	0.00
SOx	AP-42	0.00	0.00
CH_4	40 CFR Part 98	0.00	0.02
N_2O	40 CFR Part 98	0.00	0.00
CO_2	40 CFR Part 98	248.40	1088.00
CO_2e		248.40	1088.02

FLARE1 Changes in emissions:

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
NO_x	0.00	0.00
CO	0.00	0.01
VOC	-0.01	-0.03
$PM_{10}/PM_{2.5}$	0.00	0.00
SOx	0.00	0.00
CH_4	0.00	0.02
N_2O	0.00	0.00
CO_2	81.07	355.12
CO_2e	81.07	355.12

Truck Loadout (LDOUT1) emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	AP-42	-	11.45

Truck Loadout (LDOUT1) emissions new estimate:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	ProMax	-	8.15

Truck Loadout(LDOUT1) emission change:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	AP-42	-	-3.30

Tank (TK-1 and TK-2) emissions working/breathing:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	TANKS 4.09d	-	11.36

Tank (TK-1 and TK-2) emissions working/breathing new estimate:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	ProMax	-	0.15

Tank (TK-1 and TK-2) emissions change:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	AP-42	-	-11.21

Blowdown emissions:

Pollutant	Source	Hourly (lb/hr)	Annual (ton/yr)
VOC	Material Balance	-	17.00
Benzene	Material Balance	-	0.02
Toluene	Material Balance	-	0.09
Ethylbenzene	Material Balance	-	0.01
Xylene	Material Balance	-	0.01
n-Hexane	Material Balance	-	0.63

* Blowdown emissions based on the the following:
- 936 Compressor Blowdown events of 2,429 scf vented gas per event
- 936 Compressor Startup events of 1,050 scf vented gas per event
- 2 Plant Shutdown events of 100,000 scf vented gas per event

REGULATORY APPLICABILITY

The proposed modifications to the existing Pennington 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 Pennington Station results in an emissions increase in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant and, therefore, pursuant to §45-13-2.16, the modification is defined as a modification to a "stationary source" under 45CSR13. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction, modification . . . and operation of any stationary source to be commenced without . . . obtaining a permit to construct." Therefore, Antero Midstream, LLC 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"), Antero Midstream, LLC placed a Class I legal advertisement in a "newspaper of *general circulation* in the area where the source is . . . located." The ad ran on November 11, 2016 in the *The Doddridge Independent* and the affidavit of publication for this legal advertisement was submitted on November 17, 2016. The application fee of $4,500 was received on November 14, 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 Pennington Compressor 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," Antero Midstream, LLC is not required to obtain a Title V permit for the proposed facility modification. Therefore, the Pennington 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

Antero Midstream LLC is proposing to increase the horsepower rating of the existing compressor engines under this modification. The standards addressed in the previous permit will be carried over into the modification permit and include increased pollutant limits as a result of the increased horsepower ratings.

Pneumatic Controllers

Antero Midstream LLC is not proposing to install any pneumatic controllers under this modification. The facility has existing pneumatic controllers but none have a bleed rate that exceeds the 6 standard cubic feet per hour exemption rate of Subpart OOOO.

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."

Antero Midstream LLC is proposing to install a vapor recovery unit and a back-up vapor recovery unit to control emissions from the existing storage tanks. The control efficiency remains 98%. 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

Antero Midstream, LLC is proposing to increase the horsepower rating of the Pennington Station compressor engines, increase the throughput the dehydration unit form 30 MMscfd to 70 MMscfd. The proposed project is not a modification under 40 CFR 60.5365a(j). Subpart OOOOa does not apply.

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

The three Waukesha 7044 GSI compressor 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 R13-3080 is deemed necessary.

CHANGES FROM PERMIT R13-3080 to Permit R13-3080A

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

The table in Section 1.0 was updated to reflect the increased horsepower of the compressor engines (COMP1 through COMP3), the increased design capacity of the dehydration units (DEHY1 and DFLSH1), the addition of the fuel conditioner (FUEL1) and the vapor recovery units (VRU-100 and VRU-200).

Emission limits were changed for COMP1 through COMP3 as a result of the increased horsepower rating.

Emissions limits for the dehydration units (DEHY1 and DFLSH1) were changed to account for the increased wet gas throughput.

A section was added to address scheduled venting operations that include compressor blowdown emissions, compressor startups, and plant shutdowns.

A section was added to address emissions from the Fuel Conditioner (FUEL1) unit.

Emissions resulting from the above changes and emissions from venting operations have been included in the facility wide emission estimates.

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 R13-3080A for the modification of the Pennington Station near, West Union, Doddridge County, be granted to Antero Midstream, LLC.

Jonathan Carney
Permit Writer

4/5/2017
DATE