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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3168A
Plant ID No.:	051-00195
Applicant:	Williams Ohio Valley Midstream LLC (Williams)
Facility Name:	Conner Compressor Station
Location:	Moundsville, Marshall County
SIC Code:	1389
NAICS Code:	213112
Application Type:	Modification
Received Date:	June 15, 2015
Engineer Assigned:	William T. Rothwell II, P.E.
Fee Amount:	$2,000
Date Received:	July 14, 2015
Complete Date:	July 27, 2015
Due Date:	September 15, 2015
Applicant Ad Date:	June 16, 2015
Newspaper:	*Moundsville Daily Echo*
UTM's:	Easting: 521.32 km Northing: 4,414.51 km Zone: 17
Description:	Application for a modification of a natural gas compressor station to include the increased design capacity of both dehydrator reboilers, the thermal oxidizer, and the condensate stabilizer heater along with adding a new station recycle line heater, a new condensate stabilizer heater, and an additional produced water tank.

PROJECT OVERVIEW

Williams is proposing to modify the Conner Compressor Station which is located approximately 2.5 miles southwest of Moundsville in Marshall County. The facility will receive natural gas from local production wells that compress and dehydrate the gas for delivery to a gathering pipeline. The following equipment will be present at the facility:

- Two (2) 1,380 hp Caterpillar G3516B compressor engines, each with Oxidation Catalysts (OxCat) (CE-01, CE02)
- One (1) 203 hp Caterpillar G3306B TA natural gas fired compressor engine (CE-03) controlled with Non Selective Catalytic Reduction (NSCR)
- Two (2) 60.0 million standard cubic feet per day (mmscfd) triethylene glycol (TEG) dehydrators (RSV-1, RSV-2)
- Two (1) 1.7 million British Thermal Units per hour (MMBTU/hr) natural gas fired reboilers (RBV-1, RBV-2)
- One (1) 6.4 MMBTU/hr Thermal Oxidizer (COMB-1)
- One (1) 1.55 MMBTU/hr Heater Treater (HTR-01)
- One (1) 2.55 MMBTU/hr Condensate Stabilizer Heater (HTR-02)
- One (1) 1.7 MMBTU/hr Station Recycle Line Heater (HTR-03)
- One (1) 9.7 MMBTU/hr Condensate Stabilizer Heater (HTR-04)
- One (1) 48 barrel (bbl) produced water storage tank (T01)
- One (1) 210 barrel (bbl) produced water storage tank (T02)
- Produced Water Truck Loadout (TLO-1)
- Condensate Truck Loadout (TLO-2)
- Fugitive emissions (FUG) from process piping and equipment
- Startup/Shutdown/Maintenance (SSM) emissions

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-3168A:

Compressor Engine
Two (2) natural gas fired Caterpillar G3516B compressor engines (CE-01, CE-02) will be utilized at the facility. Each lean burn engine will utilize an OxCat to control pollutant emissions. One (1) natural gas fired Caterpillar G3306B TA rich burn compressor engine (CE-03) will also be utilized at the facility and be equipped with NSCR to reduce pollutant emissions.

The rich burn engine is equipped with non-selective catalytic reduction (NSCR) to control pollutant emissions.

Dehydrator
Two (2) TEG dehydrators (RSV-1, RSV-2) and associated reboilers (RBV-1, RBV-2) will be utilized at the facility. The dehydrators are used to remove water vapor from the inlet wet gas stream to meet pipeline specifications. In the dehydration process, the wet inlet gas stream flows through a contactor tower where the gas is contacted with lean glycol. The lean glycol absorbs the water in the gas stream and becomes rich glycol laden with water and trace amounts of hydrocarbons. The rich glycol is then routed to a flash tank where the glycol pressure is reduced

to liberate the lighter end hydrocarbons. The rich glycol is then sent from the flash tank to the regenerator where the glycol is heated to drive off the water vapor and any remaining hydrocarbons. Once boiled, the glycol is returned to a lean state and used again in the process. The dehydrator's flash tank offgas and still vent vapors will be normally sent to a thermal oxidizer for destruction. There will be times, however, when the flash tank offgas will be used as fuel gas for various equipment at the site.

Thermal Oxidizer
One (1) 6.4 MMBTU/hr thermal oxidizer (COMB-1) with 99% VOC/HAPs destruction efficiency will be used to control the dehydrator's flash gas and still vent vapor streams.

Heaters
One (1) 1.55 MMBRU/hr heater treater (HTR-01), one (1) 2.55 MMBTU/hr condensate stabilizer heater (HTR-02), one (1) 1.66 MMBTU/hr station recycle line heater (HTR-03), and one (1) 9.7 MMBTU/hr condensate stabilizer heater (HTR-04) will be used at the site.

Produced Water Tank
One (1) 48 bbl produced water tank (T01) and one (1) 210 bbl produced water tank (T02) will receive liquids from the engine suction scrubbers. The suction scrubbers remove entrained fluids (primarily water) and these liquids are sent to the atmospheric storage tank. A ProMax simulation for the Conner Compressor Station was completed by Williams to predict minimal tank flash emissions.

Truck Loading
Produced water will be loaded into tanker trucks and produce small quantities of VOC emissions. Additionally, under normal operating conditions, stabilized condensate will be sent offsite via pipeline; however, during unforeseen periods of pipeline outage, the stabilized condensate will be offloaded into tanker trucks. The loading of stabilized condensate into tanker trucks will also create VOC emissions.

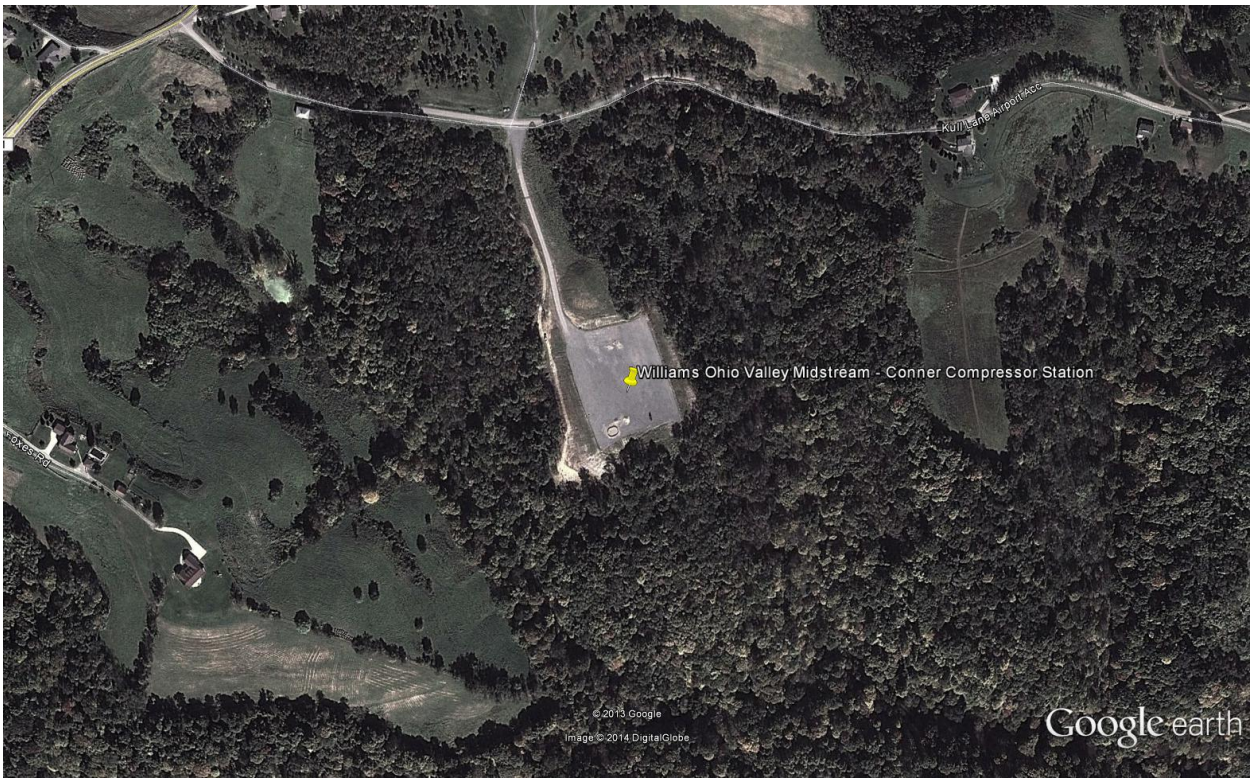
Startup, Shutdown and Maintenance (SSM)
During routine operation of the facility, the compressor engine will undergo periods of startup and shutdown. Often when the engine is shutdown, the natural gas contained within the compressor and associated piping is vented to the atmosphere. Additionally, there will be other infrequent emissions from various maintenance activities at the facility that are not necessarily associated with compressor blowdowns. These emissions are associated with SSM.

Fugitive Emissions
During routine operation of the facility there are occasional leaks from process piping components such as valves, flanges, connectors, etc. Leaks from the process piping components results in VOC and HAP emissions to the atmosphere. Miscellaneous equipment leaks include leaks from the sealed surfaces, such as packing and gaskets, resulting from the wear of mechanical joints, seals and rotating surfaces over time. These also include reciprocating compressor crankcase leaks.

SITE INSPECTION

A site inspection was conducted on February 18, 2014 by Michael Wade of the DAQ Enforcement Section. According to Mr. Wade, the site location is appropriate for the proposed facility.

Latitude: 39.880375
Longitude: -80.750669



ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this construction application consist of the combustion emissions from three (3) natural gas fired compressor engines (1E, 2E, 3E), two (2) TEG dehydrator reboilers (4E, 7E), two (2) TEG dehydrator still vents (5E, 8E), two (2) dehydrator flash tanks (6E, 9E), one (1) thermal oxidizer (10E), one (1) heater treater (11E), one (1) stabilizer heater (12E), one station recycle line heater (19E), one condensate stabilizer heater (20E), two (2) produced water storage tanks (13E & 21E), one (1) produced water truck loadout (14E), one (1) stabilized condensate truck loadout (15E), SSM emissions (16EE), fugitive piping emissions (17E), and miscellaneous equipment leaks (18E). Fugitive emissions for the facility are based on calculation methodologies presented in EPA Protocol for Equipment Leak Emission Estimates. The following table indicates which methodology was used in the emissions determination:

Emission Point ID#	**Process Equipment**	**Calculation Methodology**
1E, 2E	1,380 hp Caterpillar G3516B Reciprocating Internal Combustion Engine (RICE) w/ OxCat	Manufacturer's Data, EPA AP-42 Emission Factors
3E	203 hp Caterpillar G3306B TA Reciprocating Internal Combustion Engine (RICE) w/ NSCR	Manufacturer's Data, EPA AP-42 Emission Factors
4E, 7E	1.66 MMBtu/hr TEG Dehydrator Reboiler	EPA AP-42 Emission Factors
5E, 8E	60 mmscfd TEG Dehydrator Still Vent controlled by Thermal Oxidizer	GRI-GlyCalc 4.0
6E, 9E	60 mmscfd TEG Flash Tank Vent controlled by Thermal Oxidizer	GRI-GlyCalc 4.0
10E	6.4 MMBTU/hr Thermal Oxidizer	EPA AP-42 Emission Factors
11E	1.55 MMBTU/hr Heater Treater	EPA AP-42 Emission Factors
12E	2.55 MMBTU/hr Stabilizer Heater	EPA AP-42 Emission Factors
19E	1.66 MMBTU/hr Station Recycle Line Heater	EPA AP-42 Emission Factors
20E	9.70 MMBTU/hr Condensate Stabilizer Heater	EPA AP-42 Emission Factors
13E	48 bbl (2,016 gal) Produced Water Storage Tank	ProMax Emission Estimation Software
21E	210 bbl (8,820 gal) Produced Water Storage Tank	ProMax Emission Estimation Software
14E, 15E	Truck Loadout Racks	EPA AP-42 Emission Factors
16E	SSM Emissions	Engineering Estimate
17E	Process Piping Fugitive Emissions	EPA AP-42 Emission Factors
18E	Miscellaneous Equipment Leaks	Engineering Estimate

The following table indicates the control device efficiencies that are required for this facility:

Emission Unit	Pollutant	Control Device	Control Efficiency
1,380 hp Caterpillar G3516B RICE (1E, 2E)	Carbon Monoxide	OxCat	94.6 %
	Volatile Organic Compounds		86.9 %
	Formaldehyde		75.7 %
203 hp Caterpillar G3306TA RICE (3E)	Nitrogen Oxides	NSCR	97 %
	Carbon Monoxide		87 %
60 mmscfd TEG Dehydrator Still Vent / Flash Tank (5E, 6E, 8E, 9E)	Volatile Organic Compounds	Thermal Oxidizer	99 %
	Hazardous Air Pollutants		

On January 1, 2014 (effective date of rule) there will be revisions to the Greenhouse Gas (GHG) Rule that will affect the Global Warming Potential (GWP) values of several pollutants. The GWP for methane will increase from 21 to 25 and nitrous oxide will decrease from 310 to 298. Crestwood utilized these revised factors in this permit application in the calculation of their GHG potential.

The total facility PTE (Existing and Proposed) for the Conner Compressor Station is shown in the following table:

Pollutant	Existing Facility Wide PTE (tons/year)	Proposed Facility Wide PTE (tons/year)	Proposed Change (tons/year)
Nitrogen Oxides	20.20	24.20	3.29
Carbon Monoxide	13.31	23.78	9.86
Volatile Organic Compounds	92.54	130.07	37.53
Particulate Matter-10	1.53	1.98	0.39
Sulfur Dioxide	0.10	0.13	0.02
Formaldehyde	2.82	2.82	0.00
Total HAPs	13.29	12.68	(1.41)
Carbon Dioxide Equivalent	26,854	33,808	6,789

Maximum detailed controlled point source emissions were calculated by Williams and checked for accuracy by the writer and are summarized in the table on the next page.

Williams Ohio Valley Midstream, LLC – Conner Compressor Station (R13-3168A)

Emission	Source	NO_x		CO		VOC		PM 10/2.5		SO_2		Formaldehyde		Total HAPs		CO_2e	
Point ID#		lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year
1E	CAT G3516B RICE w/OxCat	1.52	6.66	0.5	2.2	0.56	2.47	0.11	0.5	0.01	0.03	0.27	1.17	0.29	1.25	1721	7536
2E	CAT G3516B RICE w/OxCat	1.52	6.66	0.5	2.2	0.56	2.47	0.11	0.5	0.01	0.03	0.27	1.17	0.29	1.25	1721	7536
3E	CAT G3306B TA RICE w/NSCR	0.20	0.90	0.89	3.89	0.20	0.86	0.02	0.08	<0.01	<0.01	0.09	0.39	0.13	0.55	259	1135
4E	Dehydrator Reboiler	0.16	0.72	0.14	0.60	<0.01	0.04	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	197	862
5E	Dehydrator Still Vent	0	0	0	0	0.68	2.97	0	0	0	0	0	0	0.33	1.44	1	1
6E	Dehydrator Flash Tank	0	0	0	0	0.43	1.88	0	0	0	0	0	0	0.01	0.06	5	24
7E	Dehydrator Reboiler	0.16	0.72	0.14	0.60	<0.01	0.04	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	197	862
8E	Dehydrator Still Vent	0	0	0	0	0.68	2.97	0	0	0	0	0	0	0.33	1.44	1	1
9E	Dehydrator Flash Tank	0	0	0	0	0.43	1.88	0	0	0	0	0	0	0.01	0.06	5	24
10E	Themal Oxidizer	0.44	1.91	1.99	8.71	0	0	0.05	0.21	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	758	3322
11E	Heater Treater	0.15	0.67	0.13	0.56	0.01	0.04	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	184	805
12E	Stabilizer Heater	0.25	1.10	0.21	0.92	0.01	0.06	0.02	0.08	<0.01	0.01	<0.01	<0.01	<0.01	0.02	302	1322
13E	Produced Water Tank (01)	0	0	0	0	0.03	0.14	0	0	0	0	0	0	0.01	0.04	0	0
14E	Truck Loadout - Produced Water	0	0	0	0	NA	0.45	0	0	0	0	0	0	NA	0.13	0	0
15E	Truck Loadout-Condensate	0	0	0	0	NA	2.47	0	0	0	0	0	0	NA	0.21	0	0
16E	Startup, Shutdown, Maintenance	0	0	0	0	NA	42.84	0	0	0	0	0	0	NA	1.89	431	1886
17E	Process Piping Fugitives	0	0	0	0	9.12	39.93	0	0	0	0	0	0	0.65	2.86	198	866
18E	Miscellaneous Equipment Leaks	0	0	0	0	6.32	27.66	0	0	0	0	0	0	0.24	1.05	397	1738
19E	Station Recycle Line Heater	0.16	0.71	0.14	0.6	0.01	0.04	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	197	862
20E	Condensate Stabilizer Heater	0.95	4.17	0.8	3.5	0.05	0.24	0.07	0.32	0.01	0.03	<0.01	<0.01	0.02	0.08	1148	5029
21E	Produced Water Tank (02)	0	0	0	0	0.14	0.62	0	0	0	0	0	0	0.04	0.18	0	0
Total	**Total Facility PTE**	**5.51**	**24.22**	**5.44**	**23.78**	**19.23**	**130.07**	**0.42**	**1.89**	**0.03**	**0.12**	**0.63**	**2.73**	**2.35**	**12.55**	**7722.02**	**33811.07**

REGULATORY APPLICABILITY

The following rules apply to the facility:

45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)

The purpose of 45CSR2 is to establish emission limitations for smoke and particulate matter which are discharged from fuel burning units. 45CSR2 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat inputs of the proposed reboilers (RBV-1, RBV-2) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR2.

Williams would also be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average.

45CSR4 (To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors)

45CSR4 states that an objectionable odor is an odor that is deemed objectionable when in the opinion of a duly authorized representative of the Air Pollution Control Commission (Division of Air Quality), based upon their investigations and complaints, such odor is objectionable. No odors have been deemed objectionable.

45CSR6 (To Prevent and Control Air Pollution from the Combustion of Refuse)

The purpose of this rule is to prevent and control air pollution from combustion of refuse.

Williams has proposed to have one (1) thermal oxidizer at the facility. The thermal oxidizer is subject to section 4, emission standards for incinerators. The thermal oxidizer has an allowable emission rate of 283 pounds of particulate matter per hour (assuming a natural gas density of 0.044 lb/ft^3). The thermal oxidizer has negligible hourly particulate matter emissions. Therefore, the thermal oxidizer should demonstrate compliance with this section. The facility will demonstrate compliance by maintaining records of the amount of natural gas consumed by the thermal oxidizer and the hours of operation. The facility will also monitor the flame of the thermal oxidizer and record any malfunctions that may cause no flame to be present during operation.

45CSR10 (To Prevent and Control Air Pollution from the Emissions of Sulfur Oxides)

The purpose of 45CSR10 is to establish emission limitations for sulfur dioxide which are discharged from fuel burning units. 45CSR10 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 3 (weight emission standard), 6 (registration), 7 (permits), and 8 (testing, monitoring, recordkeeping, reporting). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat inputs of the proposed reboilers (RBV-1, RBV-2) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR10.

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)

45CSR13 applies to this source due to the fact that Williams exceeds the regulatory emission threshold for criteria pollutants of 6 lb/hr and 10 ton/year, and they are also subject to a substantive requirement of an emission control rule promulgated by the Secretary (40CFR60 Subparts JJJJ and OOOO, 40CFR63 Subparts HH and ZZZZ).

Williams paid the appropriate application fee and published the required legal advertisement for a construction permit application.

45CSR16 (Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60)

45CSR16 applies to this source by reference of 40CFR60, Subparts JJJJ and OOOO. These requirements are discussed under that rule below.

45CSR22 (Air Quality Management Fee Program)

Williams is not subject to 45CSR30. The Conner Compressor Station is subject to 40CFR60 Subparts JJJJ and OOOO, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source.

Williams is required to pay the appropriate annual fees and keep their Certificate to Operate current.

40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE))

40CFR60 Subpart JJJJ establishes emission standards for applicable SI ICE.

The 1,380 hp Caterpillar G3516B RICE (1E, 2E) and 203 hp Caterpillar G3306TA RICE (3E) were manufactured after July 1, 2010 and it is subject to emission standards, operating standards, performance testing, and notification and recordkeeping. The following emission standards must be met:

Pollutant	**Emission Standard**
Nitrogen Oxides	1 grams per HP-hour
Carbon Monoxide	2 grams per HP-hour
Volatile Organic Compounds	0.7 grams per HP-hour

According to the manufacturer's data, the engines will meet these standards.

Because these engines will not be certified by the manufacturer, Williams will be required to perform an initial performance test within 180 days from startup, and subsequent testing every 8,760 hours or 3 years, whichever comes first for CE-01 and CE-02. Williams will be required to perform a one time performance test within 180 days from startup for CE-03.

40CFR60 Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution)

EPA published in the Federal Register new source performance standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. 40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO_2) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The following affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this subpart:

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

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

b. Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals that is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. For the purposes of this subpart, your centrifugal compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

There are no centrifugal compressors at the Conner Compressor Station. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOO would not apply.

c. Each reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. For the purposes of this subpart, your reciprocating compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. A reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

There are reciprocating internal combustion engines located at the Conner Compressor Station. However, they were constructed before the August 23, 2011 applicability date and operated at another location prior to August 23, 2011. Relocation to another facility does not constitute a modification. Therefore, the requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOO would not apply.

d. Pneumatic Controllers

- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 scfh which commenced construction after August 23, 2011, and is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not located at a natural gas processing plant.

- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller which commenced construction after August 23, 2011, and is located at a natural gas processing plant.

There are no applicable pneumatic controllers with natural gas bleed rates greater than 6 scfh which commenced construction after August 23, 2011. Therefore, all requirements regarding applicable pneumatic controllers under 40 CFR 60 Subpart OOOO would not apply.

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

40CFR60 Subpart OOOO defines a storage vessel as a unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of liquids or other materials. The following are not considered storage vessels:

- Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be located at a site for less than 180 consecutive days. If the source does not keep or are not able to produce records, as required by §60.5420(c)(5)(iv), showing that the vessel has been located at a site for less than 180 consecutive days, the vessel described herein is considered to be a storage vessel since the original vessel was first located at the site.

- Process vessels such as surge control vessels, bottoms receivers or knockout vessels.

- Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

This rule requires that the permittee determine the VOC emission rate for each storage vessel affected facility utilizing a generally accepted model or calculation methodology within 30 days of startup, and minimize emissions to the extent practicable during the 30 day period using good engineering practices. For each storage vessel affected facility that emits more than 6 tpy of VOC, the permittee must reduce VOC emissions by 95% or greater within 60 days of startup. The compliance date for applicable storage vessels is October 15, 2013.

The storage vessels located at the Conner Compressor Station have a potential to emit of less than 6 tpy of VOC. Therefore, Williams is not required by this section to reduce VOC emissions by 95%.

f. The group of all equipment, except compressors, within a process unit is an affected facility.

- Addition or replacement of equipment for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

- Equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage vessel, field gas gathering system, or liquefied natural gas unit is covered by §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart if it is located at an onshore natural gas processing plant. Equipment not located at the onshore natural gas processing plant site is exempt from the provisions of §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart.

- The equipment within a process unit of an affected facility located at onshore natural gas processing plants and described in paragraph (f) of this section are exempt from this subpart if they are subject to and controlled according to subparts VVa, GGG or GGGa of this part.

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

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

- Each sweetening unit that processes natural gas is an affected facility; and
- Each sweetening unit that processes natural gas followed by a sulfur recovery unit is an affected facility.
- Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H_2S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423(c) but are not required to comply with §§60.5405 through 60.5407 and paragraphs 60.5410(g) and 60.5415(g) of this subpart.
- Sweetening facilities producing acid gas that is completely reinjected into oil-or-gas-bearing geologic strata or that is otherwise not released to the atmosphere are not subject to §§60.5405 through 60.5407, 60.5410(g), 60.5415(g), and 60.5423 of this subpart.

There are no sweetening units at the Conner Compressor Station. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.

40CFR63 Subpart HH (National Emission Standards for Hazardous Air Pollutants for Oil and Natural Gas Production Facilities)

Subpart HH establishes national emission limitations and operating limitations for HAPs emitted from oil and natural gas production facilities located at major and area sources of HAP emissions. The glycol dehydration unit at the Conner Compressor Station is subject to the area source requirements for glycol dehydration units. However, because the facility is an area source of HAP emissions and the actual average benzene emissions from the glycol dehydration unit is below 0.90 megagram per year (1.0 tons/year) it is exempt from all requirements of Subpart HH except to maintain records of actual average flowrate of natural gas to demonstrate a continuous exemption status.

40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. The engine (1E) at the Conner Compressor Station is subject to the area source requirements for non-emergency spark ignition engines.

The applicability requirements for new stationary RICE located at an area source of HAPs, is the requirement to meet the standards of 40CFR60 Subpart JJJJ. These requirements were outlined above. The proposed engine meets these standards.

Because these engines will not be certified by the manufacturer, Williams will be required to perform an initial performance test within 180 days from startup, and subsequent testing every 8,760 hours or 3 years, whichever comes first.

The following rules do not apply to the facility:

45CSR30 (Requirements for Operating Permits)

Williams is not subject to 45CSR30. The Conner Compressor Station is subject to 40CFR60 Subparts JJJJ and OOOO, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source.

40CFR60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

This rule applies to steam generating units with a heat input capacity of 100 MMBTU/hr or less, but greater than or equal to 10 MMBTU/hr for which construction commenced after June 9, 1989. Williams does not have an applicable unit, therefore, Williams would not be subject to this rule.

40CFR60 Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels)

40CFR60 Subpart Kb does not apply to storage vessels with a capacity less than 75 cubic meters. The largest tanks that Williams has proposed to install are 33.39 cubic meters each. Therefore, Williams would not be subject to this rule.

40CFR60 Subpart KKK (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants)

40CFR60 Subpart KKK applies to onshore natural gas processing plants that commenced construction after January 20, 1984, and on or before August 23, 2011. The Conner Compressor Station is not a natural gas processing facility, therefore, Williams is not subject to this rule.

45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants)

45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment)

On September 30, 2013, EPA approved a redesignation request and State Implementation Plan (SIP) revision submitted by the State of West Virginia. The West Virginia Department of Environmental Protection (WVDEP) requested that the West Virginia portion of the Wheeling, WV–OH fine particulate matter ($PM_{2.5}$) nonattainment area (''Wheeling Area'' or ''Area'') be redesignated as attainment for the 1997 annual $PM_{2.5}$ national ambient air quality standard (NAAQS).

The Conner Compressor Station is located in Marshall County, which is located in this metropolitan statistical area and is an attainment county for all pollutants. Therefore the Pinecone Compressor Station is not subject to 45CSR19.

As shown in the following table, Williams is not subject to 45CSR14 or 45CSR19 review. According to 45CSR14 Section 2.43.e, fugitive emissions are not included in the major source determination because it is not listed as one of the source categories in Table 1. Therefore, the fugitive emissions are not included in the PTE below.

Pollutant	**PSD (45CSR14) Threshold (tpy)**	**NANSR (45CSR19) Threshold (tpy)**	**Conner PTE (tpy)**	**45CSR14 or 45CSR19 Review Required?**
Carbon Monoxide	250	NA	23.78	No
Nitrogen Oxides	250	NA	24.20	No
Sulfur Dioxide	250	NA	0.13	No
Particulate Matter 10	250	NA	1.98	No
Ozone (VOC)	250	NA	89.52	No
Greenhouse Gas	100,000	NA	33,808	No

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

Modeling was not required of this source due to the fact that the facility is not subject to 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) or 45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment) as seen in the table listed in the Regulatory Discussion section under 45CSR14/45CSR19.

SOURCE AGGREGATION DETERMINATION

"Building, structure, facility, or installation" is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.

- The Conner Compressor Station will operate under SIC code 1389 (Oil and Gas Field Services, Not Classified Elsewhere). The upstream gas production wells will operate under SIC code 1311 (Crude Petroleum and Natural Gas). Therefore, both share the same two-digit major SIC code of 13. Therefore, the two (2) entities do belong to the same industrial grouping.

- Williams operates under their parent company, The Williams Companies, Inc. and is the sole operator of the Conner Compressor Station. The production wells that send natural gas to the Conner Compressor Station are not owned or operated by Williams. Williams has no ownership stake in any production well that may send natural gas to the Conner Compressor Station. Williams has no operational control over any equipment owned or operated by any natural gas producer upstream of the Conner Compressor Station. All employees at the Conner Compressor Station are under the exclusive direction of Williams and have no reporting authority to any other entity. In addition, no work forces are shared between the Conner Compressor Station and the production wells. Contracts are in place for the Conner Compressor Station to handle gas from the aforementioned wells. Futuristically, Williams will not have ownership or control of future wellhead activities. The producers are and will be responsible for any decisions to produce or shut-in wellhead facilities and no control over the equipment installed, owned, and operated by Williams. Therefore, these facilities are not under common control.

- There are no other Williams facilities located within 0.5 miles of the Conner Compressor Station. The closest Williams facility is the Oak Grove Gas Plant which is approximately 2.9 miles from the Conner Compressor Station. The land between these sites is not owned or managed by Williams. Operations separated by these distances do not meet the common sense notion of a plant. Therefore, the properties in question are not considered to be on contiguous or adjacent property.

The Conner Compressor Station and production wells share the same industrial grouping. However, the two (2) facilities are not under common control and the facilities are not contiguous or adjacent. Therefore, the emissions from these two (2) facilities should not be aggregated in determining major source or PSD status.

MONITORING OF OPERATIONS

Williams will be required to perform the following monitoring:

- Monitor and record quantity of natural gas consumed for all engines and combustion sources.
- Monitor all applicable requirements of 40CFR60 Subparts JJJJ and OOOO.
- Monitor the presence of the flare pilot flame with a thermocouple or equivalent.

Williams will be required to perform the following recordkeeping:

- Maintain records of the amount of natural gas consumed and hours of operation for all engines and combustion sources.
- Maintain records of testing conducted in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location
- Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
- Maintain records of the visible emission opacity tests conducted per the permit.
- Maintain a record of all potential to emit (PTE) HAP calculations for the entire facility. These records shall include the natural gas compressor engines and ancillary equipment.
- Maintain records of all applicable requirements of 40CFR60 Subparts JJJJ and OOOO.
- Maintain records of the flare design evaluation.
- The records shall be maintained on site or in a readily available off-site location maintained by Williams for a period of five (5) years.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates that Williams meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the Conner Compressor Station should be granted a 45CSR13 construction permit for their facility.

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William T. Rothwell II, P.E.
Engineer

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Date