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

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3090A
Plant ID No.:	051-00133
Applicant:	Williams Ohio Valley Midstream LLC (Williams)
Facility Name:	Bardall Compressor Station
Location:	Moundsville, Marshall County
SIC Code:	1389
NAICS Code:	213112
Application Type:	Modification
Received Date:	February 9, 2016
Engineer Assigned:	David Keatley
Fee Amount:	$3,500
Date Fees Received:	February 11, 2016
Complete Date:	January 26, 2017
Due Date:	April 26, 2017
Applicant Ad Date:	February 9, 2016
Newspaper:	*Moundsville Daily Echo*
UTM's:	Easting: 527.664 km Northing: 4,420.070 km Zone: 17
Description:	Permit R13-3090A will supersede and replace permit R13-3090. Williams is modifying emissions for the triethylene glycol (TEG) dehydration unit & associated reboiler, produced liquid tank, and tank truck loading.

PROJECT OVERVIEW

Williams is proposing to modify the Bardall Compressor Station which is located approximately 3 miles from 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:

- One (1) 5.0 million standard cubic feet per day (mmscfd) triethylene glycol (TEG) dehydrator (RSV-1)
- One (1) 0.20 million British Thermal Units per hour (MMBTU/hr) natural gas fired reboiler (RBV-1)
- One (1) 210 barrel (bbl) produced water storage tank (T01)

- Truck Loadout (TLO) equipment
- Fugitive emissions (FUG) from process piping and equipment

DESCRIPTION OF PROCESS

Natural gas will enter the facility via pipeline and will be compressed to a higher pressure. The compressor is powered by one (1) 500-bhp Caterpillar G398NA (CE-01) natural gas fired reciprocating internal compression engine RICE will be utilized at the facility. The engine is equipped with non-selective catalytic reduction (NSCR) to control pollutant emissions.

The compressed natural gas will be sent to TEG dehydration unit to reduce the water content to meet pipeline specifications. The wet inlet gas stream flows through a contactor tower at a maximum rate of 5 mmscfd where the gas is contacted with circulating 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 (DFT-01) where the glycol pressure is reduced to liberate the lighter end hydrocarbons. The lighter end hydrocarbons are routed from the flash tank for use as reboiler fuel. The liquid from the flash tank 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 through the still vent (DSV-01). The regenerator is heated by one (1) 0.2-mmBtu/hr reboiler (RBV-01).

The produced water tank receives liquids from the dehydrator and suction scrubber. Liquids removed through the dehydration process are cooled, condensed, and sent to the 210 bbl atmospheric storage tank (T01). The suction scrubber removes produced liquids (primarily water) and these liquids are also sent to the 210 bbl atmospheric storage tank. A ProMax simulation for the Bardall Compressor Station was completed by Williams to predict minimal tank flash emissions.

Loading of produced water into tanker trucks will produce small quantities of Volatile Organic Compounds (VOC) emissions from the displacement of vapors inside the tanker trucks.

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. This facility has two pig launchers, but the pig receivers are over 0.25 miles away and therefore no requirements for pigging will be included in this permit. These emissions are associated with SSM.

SITE INSPECTION

A site inspection was conducted by Angela Carey of the DAQ NPRO Enforcement Section on February 11, 2016 and the facility was deemed in compliance.

Latitude: 39.930286°
Longitude: -80.676242°

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Table 1: Calculation Methodology for Modified Emission Units

Emission Point ID#	Process Equipment	Calculation Methodology
4E	5 mmscfd TEG Dehydrator Flash Tank (At least 50% of Flash Tank Vapors Will be Used in Reboiler as Fuel)	GRI-GLYCalc 4.0
5E	5.0 mmscfd TEG Dehydrator Still Vent	GRI-GlyCalc 4.0
4E	210 bbl Produced Water Storage Tank	ProMax 3.2
5E	Truck Loadout Rack	AP-42 Emission Factors

Table 2: Estimated Maximum Controlled Modified Emission Units PTE

Emission Point ID	Unit ID	Emission Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
4E	DFT-1	Flash Tank (minimum of 50% used as fuel in reboiler)	Volatile Organic Compounds	8.78	38.44
			Benzene	0.03	0.12
			Toluene	0.03	0.13
			Xylenes	0.03	0.13
			n-Hexane	0.23	1.00
			CO_2e	429	1,879
5E	DSV-01	Still Vent	Volatile Organic Compounds	2.34	10.25
			Benzene	0.17	0.75
			Ethylbenzene	0.03	0.15
			Toluene	0.28	1.21
			Xylenes	0.61	2.66
			n-Hexane	0.06	0.27
			CO_2e	4	16
7E	T-01	Produced Water Tank	Volatile Organic Compounds	0.02	1.22
8E	TLO	Produced Water Truck Load-Out	Volatile Organic Compounds	-	0.08

Table 3: Summarized Estimated Maximum Controlled Modified PTE

Pollutant	Facility Wide Point Source PTE (tons/year)	Increase in Facility Wide PTE (tons/year)
Nitrogen Oxides	9.90	-0.01
Carbon Monoxide	18.59	-0.01
Volatile Organic Compounds	64.72	37.28
Particulate Matter-10	0.37	-0.01
Sulfur Dioxide	0.01	0
Formaldehyde	0.39	0
Benzene	0.94	0.81
Ethylbenzene	0.19	0.05
n-Hexane	1.50	1.15
Toluene	1.38	0.49
Xylenes	2.83	-1.97
Total HAPs	7.44	0.66
CO_2e	5,851	1,579

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 input of the proposed reboiler (RBV-1) is below 10 MMBTU/hr. Therefore, this unit is 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)

This facility shall not cause the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. 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.

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 input of the proposed reboiler (RBV-1) is below 10 MMBTU/hr. Therefore, this unit is 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).

Williams paid the appropriate application fee and published the required legal advertisement for a modification 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 the respectively regulations below.

45CSR22 (Air Quality Management Fee Program)

As can be seen in Table 3, Bardall Station is not a major source. This facility is subject to 40CFR60 Subparts JJJJ, however they are exempt from the obligation to obtain a Title V permit under 40 CFR part 70 or 40 CFR part 71. This facility is therefore not subject to 40CSR30. This facility has a total reciprocating engine capacity less than 1,000 hp and is a 9M source and is required to pay a $200 annual fee. Williams is required to keep their Certificate to Operate current.

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 Bardall 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 (0.87 TPY estimated) 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 Bardall Compressor Station is subject to the area source requirements for non-emergency spark ignition engines.

The 500 hp Caterpillar G3306TA RICE (1E) was manufactured in 1985. This would classify the RICE as an "existing" RICE because it commenced construction before June 12, 2006 (§63.6590 (a)(1)(iii)). The RICE must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013. Williams must comply with the requirements in Table 2d to this subpart and the applicable operating limitations in Table 2b to this subpart. However, the proposed engine does not have any applicable requirements under Table 2b.

Table 2d requires Williams to do the following:

For each . . .	You must meet the following requirement, except during periods of startup . . .
Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

The following rules and regulations do not apply to the facility:

45CSR30 (Requirements for Operating Permits)

Williams is not subject to 45CSR30. The Bardall 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 regulation 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 regulation.

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 Bardall Compressor Station is not a natural gas processing facility, therefore, Williams is not subject to this rule.

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 500 hp Caterpillar G3306TA RICE (1E) was manufactured in 1985 which is prior to the July 1, 2007 applicability date for engines that are greater than or equal to 500 hp. Therefore, Williams would not be subject to this rule.

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 Bardall 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 Bardall Compressor Station. However, they were constructed before the August 23, 2011 applicability date. 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 Bardall Compressor Station potential to emit to less is 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 Bardall 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 Bardall Compressor Station. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.

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

This subpart establishes emission standards and compliance schedules for the control of the pollutant greenhouse gases (GHG). The greenhouse gas standard in this subpart is in the form of a limitation on emissions of methane from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after September 18, 2015. This subpart also establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO2) emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after September 18, 2015. The effective date of the rule is August 2, 2016.

No potential affected facility under this subpart was constructed or modified after September 18, 2015 and therefore this facility is not subject to this subpart.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

This section provides an analysis for those regulated pollutants that may be emitted from this facility and that are not classified as "criteria pollutants." Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NO_x), Ozone, Particulate Matter (PM), Particulate Matter less than 10 microns (PM_{10}), Particulate Matter less than 2.5 microns ($PM_{2.5}$), and Sulfur Dioxide (SO_2). These pollutants have National Ambient Air Quality Standards (NAAQS) set for each that are designed to protect the public health and welfare. Other pollutants of concern, although designated as non-criteria and without national concentration standards, are regulated through various federal programs designed to limit their emissions and public exposure. These programs include federal source-specific Hazardous Air Pollutants (HAPs) standards promulgated under 40 CFR 61 (NESHAPS) and 40 CFR 63 (MACT). Any potential applicability to these programs were discussed above under REGULATORY APPLICABILITY.

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. Antero included the following HAPs as emitted in substantive amounts in their emissions estimate: Benzene, n-Hexane, Toluene, Xylene, and Ethylbenzene. The following table lists each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

Potential HAPs - Carcinogenic Risk

HAPs	Type	Known/Suspected Carcinogen	Classification
n-Hexane	HAP	No	Inadequate Data
Benzene	TAP/HAP	Yes	Category A - Known Human Carcinogen
Formaldehyde	TAP/HAP	Yes	Category B1 - Probable Human Carcinogen
Toluene	HAP	No	Inadequate Data
Xylene	HAP	No	Inadequate Data
Ethylbenzene	HAP	No	Category D - Not classifiable as to human carcinogenicity

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health affects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at *www.epa.gov/iris*.

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.

1. The Bardall 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.

2. Williams operates under their parent company, The Williams Companies, Inc. and is the sole operator of the Bardall Compressor Station. The production wells that send natural gas to the Bardall Compressor Station are owned and operated by Chevron. Williams has no ownership stake in any production well that may send natural gas to the Bardall Compressor Station. In addition, no work forces are shared between the two (2) companies. 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.

3. The location of the Bardall Compressor Station was chosen because of suitable construction characteristics (flat grade, accessibility of large trucks and equipment). The Bardall Compressor Station is located in close proximity to the initial production well, which is owned and operated by Chevron. There are no other Williams facilities located within 0.5 miles of the Bardall Compressor Station.

The Bardall Compressor Station and Chevron wells share the same industrial grouping and are located on contiguous or adjacent properties. However, the two (2) facilities are not under common control. 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 and recordkeeping:

- Maintain records of testing conducted in accordance with the permit.
- 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 engine and ancillary equipment.
- Maintain records of all applicable requirements of 40CFR60 Subparts JJJJ.
- 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.

CHANGES TO PERMIT R13-3090

Section 5, natural gas throughput limitation removed on engine CE-01 because emissions were estimated at 8,760 hrs/year. Section 6, natural gas throughput limitation removed on reboiler RBV-01 because emissions were estimated at 8,760 hrs/year and emission limits were included. Section 6, Monitoring, Testing, Recordkeeping, and Reporting were changed to updated language to be more consistent with more recent permitting actions. Section 7, emission limits from the TEG dehydration unit have been updated. The storage tank section and truck loading section have been combined into section 8.

RECOMMENDATION TO DIRECTOR

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

David Keatley
Permit Writer – NSR Permitting

January 27, 2017

Date