



**west virginia** department of environmental protection

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**ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Application No.: R13-2892B  
Plant ID No.: 051-00141  
Applicant: Williams Ohio Valley Midstream LLC (Williams)  
Facility Name: Moundsville Fractionation Plant  
Location: Moundsville, Marshall County  
SIC Code: 1321  
NAICS Code: 211112  
Application Type: Modification  
Received Date: December 12, 2012  
Engineer Assigned: Jerry Williams, P.E.  
Fee Amount: \$2,000.00  
Date Received: December 12, 2012  
Complete Date: January 18, 2013  
Due Date: April 18, 2013  
Applicant Ad Date: December 14, 2012  
Newspaper: *Moundsville Daily Echo*  
UTM's: Easting: 517.347 km      Northing: 4418.112 km      Zone: 17  
Description: Williams is proposing to expand the capabilities of the facility through the addition of a stabilizer and associated heater that will remove residue methane and ethane in the incoming natural gas liquids (NGL) to allow the sale of stabilized NGL. Williams is also proposing to have the capability of routing several waste gas/liquids to the existing flare.

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-2892B:

The Moundsville Fractionation Plant receives NGL and processes it through a series of distillation processes (de-propanizer and de-butanizer towers) to generate three (3) products: propane, mixed butanes and heavier weight organics identified as natural gasoline. The fractionation plant will consist of a series of distillation processes where propane and then mixed butanes are removed from the NGL. The remaining liquid is classified as "natural gasoline". The incoming NGL will be accumulated in a series of six (6) 60,000 gallon pressure vessels. The primary purpose of these tanks is to act as a buffer for variations in the rate of NGL receipt

to ensure a steady flow rate through the process, and providing plant storage. In addition, the facility will be capable of loading NGL into both trucks and rail cars. The three (3) products will be accumulated in a series of ten (10) pressure vessels ranging from 60,000 to 140,000 gallons in capacity.

There is currently a single natural gas heater that heats a fluid that is used at various locations throughout the facility to control the temperature within certain process equipment. Williams is seeking to expand the capabilities of the facility through the addition of a stabilizer and associated heater that will remove residue methane and ethane in the incoming NGL to allow sale of stabilized NGL. Williams is also submitting revised estimates of fugitive emissions to reflect an increase in the number of fittings associated with this new equipment.

The facility is equipped with a flare that is used to combust NGL or products in the event of non-routine maintenance that requires removal of NGL and/or product from one or more portions of the facility. While there are no changes being requested in the flare equipment itself or its performance, Williams is seeking to add several waste gas/liquids flow to this flare. More specifically, Williams is seeking to allow the following wastes to be destroyed via the flare:

- Waste gas from the gas blanket system that will be installed for the NGL and Product Tanks.
- Additional waste gas flow anticipated during a 48 hour period for start-up of the proposed stabilizer system.
- Waste gas from truck and railcar loading. Originally, the loading was to be a vapor balance system. As a result of its hazard analysis, Williams determined that the current vapor balance presents an un-due risk for the presence of oxygen in arriving empty trucks to be transferred to the storage tanks, thereby risking an explosive atmosphere. Therefore, Williams is seeking to allow gases generated during this process to be routed to the flare to eliminate this safety risk.
- Waste gas generated during maintenance events on the proposed stabilizer.
- Projected compressor seal leakage in the proposed stabilizer.

The following presents a general overview of the facility operations, including the proposed modifications:

#### Fractionation Process

A fractionation process will be used to separate NGL into three (3) products: propane, mixed butanes and natural gasoline. The process consists of a controlled distillation whereby relatively high purity propane and mixed butanes are separated from the incoming NGL. Heat used in this process is provided by a hot oil heater that will utilize commercially provided natural gas as a fuel source. After removal of propane and butanes, the remaining material will have characteristics very similar to gasoline and will be sold for use in blending into various gasoline products. There are no changes to this process as part of this permit modification application.

#### Stabilizer System

The proposed stabilizer system will remove residual methane and ethane from incoming NGL, generating a more saleable, stabilized NGL. Heat used in this process will be provided by a hot

oil heater that will utilize commercially provided natural gas as a fuel source. The gas removed from this system will be compressed via a compressor with an electric drive and will be routed into a nearby Williams gathering line.

#### NGL Tanks

It is projected that on an annual basis, up to 4,560,000 barrels of NGL will be received by the facility per year. The NGL will be temporarily accumulated in six (6) pressurized 61,400 gallon tanks. As these are pressure vessels operating well above atmospheric pressure with no atmospheric vents other than emergency relief vents, no emissions are anticipated during normal operation. No changes in the number, capacity of the NGL tanks are being requested as part of this permit modification application. However, two (2) of the NGL tanks will be dedicated to storage of stabilized NGL.

#### Product Tanks

It is projected that on an annual basis, up to 2,035,000 barrels of propane, 1,048,000 barrels of mixed butanes and 1,475,000 barrels of natural gasoline will be produced by the facility per year. The propane will be temporarily accumulated in four (4) pressurized 90,000 gallon tanks and two (2) 114,000 gallon tanks prior to transportation to markets. Again, as these are pressure vessels operating well above atmospheric pressure with no atmospheric vents other than emergency relief vents, no emissions are anticipated during normal operation.

In a similar manner mixed butanes will be accumulated in two (2) 140,000 gallon pressure vessels and natural gasoline will be accumulated in two (2) 60,000 gallon pressure vessels prior to transportation to markets. As with the NGL tanks, these pressure vessels will operate above atmospheric pressure with no atmospheric vents other than emergency relief vents. Consequently, no emissions are anticipated during normal operation other than blanket gas routed to the flare.

#### Rail and Truck Loading

Products accumulated in the various tanks discussed above will be routinely removed and transported to markets. Williams is seeking approval to allow waste gases from the truck and rail loading operations to be routed to the flare rather than being returned to the tanks as in the currently permitted vapor balance system. This modification is being requested to minimize risks during the loading process.

#### Flare

The facility is equipped with a flare. This flare is used for combustion of NGL/NGL products during when any non-routine maintenance operations require depressurization of parts of the facility. Emissions are comprised of combustion by-products from commercial natural gas for the pilot light and combustion by-products from combustion of NGL or specific NGL components during the infrequent depressurizations of portions of the facility and routine management of waste gases. The flare is equipped with a pilot burner rated at 25 MMBTU/hr. There are no modifications being requested to the flare equipment itself or the performance standards of the flare. Williams is seeking approval to allow additional waste gas streams to be routed to this flare.

## SITE INSPECTION

A site inspection was conducted by the writer on November 8, 2011, when the original application was under review. The writer did not see any problems with locating the facility at the proposed site.

Directions as given in the permit application are as follows:

*From Moundsville, take WV Route 2 south approximately 2 miles. Site is on the right at the site of the former Olin Factory in Round Bottom.*



ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this permit will consist of a fractionation plant, product loading, NGL accumulation tanks, propane accumulation tanks, butane accumulation tanks, natural gasoline accumulation tanks, hot oil heater, stabilizer heater, and a flare. The estimated emission calculations were performed by Williams and checked for accuracy and completeness by the writer. The following tables include the emission source, and controlled emission rate:

Emission Point ID#	Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
1E	45.54 MMBTU/hr Hot Oil Heater	Nitrogen Oxides	4.51	19.76
		Carbon Monoxide	3.79	16.60
		Particulate Matter-10	0.35	1.51
		Sulfur Dioxide	0.03	0.12
		Volatile Organic Compounds	0.25	1.09
		Carbon Dioxide Equivalent	5,414	23,714
2E	29.35 MMBTU/hr Stabilizer Heater	Nitrogen Oxides	1.34	5.85
		Carbon Monoxide	1.10	4.81
		Particulate Matter-10	0.22	0.97
		Sulfur Dioxide	0.02	0.08
		Volatile Organic Compounds	0.16	0.70
		Carbon Dioxide Equivalent	3,489	15,280
1S	Fractionation Plant Fugitive Emissions	Volatile Organic Compounds	6.92	30.29
		Hazardous Air Pollutants	0.03	0.12
6S	Stabilizer Fugitive Emissions	Volatile Organic Compounds	3.55	15.56
		Hazardous Air Pollutants	<0.01	<0.01
4E	Flare	Nitrogen Oxides	37.44	20.04
		Carbon Monoxide	23.47	16.02
		Particulate Matter-10	0.78	1.40
		Sulfur Dioxide	1.68	0.21
		Volatile Organic Compounds	201.05	13.04
		Carbon Dioxide Equivalent	37,691	23,616
Fugitive	Unpaved Haulroads	Particulate Matter-10	2.20	9.62

In regards to greenhouse gases (GHG) the only sources of methane are from the combustion of natural gas for the Hot Oil Heater (1E), Stabilizer Heater (2E) and the flare (4E). Fugitive emissions from the process equipment will contain a variety of volatile organics, but since the feedstock (raw NGL) is essentially methane free, these fugitive emissions as well as the flare emissions, do not contain methane. There are insignificant amounts of other GHG components.

Emissions from the NGL and Product Tanks are not intended, as these are pressure vessels operating well above atmospheric pressure with no atmospheric vents other than emergency relief vents. Therefore, no emissions are anticipated during normal operation. Similarly, products accumulated in the various tanks discussed above will be routinely removed and transported to markets via rail and/or truck. Emissions of VOCs from this operation are routed to the flare as part of waste gases.

The flare emissions consist of flare pilot and purge gas, fractionation plant maintenance liquids, stabilizer maintenance liquids, additional gas from blanket gas purge, stabilizer start-up, truck and rail loadout, and compressor seal leaks of stabilizer.

The following table represents the current and proposed emissions associated with these changes:

Pollutant	Maximum Pre-Modification Annual Facility Wide Emissions (tons/year)	Maximum Post-Modification Annual Facility Wide Emissions (tons/year)	Net Facility Wide Emissions Changes (tons/year)
Nitrogen Oxides	21.06	45.69	24.63
Carbon Monoxide	17.35	37.47	20.12
Volatile Organic Compounds	39.98	60.68	20.70
Particulate Matter	11.13	13.49	2.36
Sulfur Dioxide	0.19	0.40	0.21
Total HAPs	0.12	0.18	0.06
Carbon Dioxide Equivalent	24,977	62,688	37,711

## 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 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers) is to establish emission limitations for smoke and particulate matter which are discharged from fuel burning units.

45CSR2 classifies the hot oil heater (1E) as a 'type b' unit. The allowable PM emission rate for the hot oil heater (1E) would be the product of 0.09 and the total design heat input of the heater (45.54 MMBTU/hr). This equates to a maximum allowable PM emission rate of 4.10 lb/hr. According to Williams' permit application, the proposed PM emission rate is 0.34 lb/hr. Therefore, Williams would meet this rule.

45CSR2 classifies the stabilizer heater (2E) as a 'type b' unit. The allowable PM emission rate for the stabilizer heater (2E) would be the product of 0.09 and the total design heat input of the heater (29.35 MMBTU/hr). This equates to a maximum allowable PM emission rate of 2.64 lb/hr. According to Williams' permit application, the proposed PM emission rate is 0.22 lb/hr. Therefore, Williams would meet this rule.

Williams also would 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 a flare at the facility. The flare is subject to section 4, emission standards for incinerators. The flare has an allowable emission rate of 19.1 pounds of particulate matter per hour (assuming a worst case scenario of 20,000 gallons of propane over a 12 hour period would be routed to the flare (assuming a propane density of 4.22 lb/gal). The flare has less than 1 lb/hr of particulate matter per hour. Therefore, the facility's flare will demonstrate compliance with this section. The facility will demonstrate compliance by maintaining the amount of natural gas consumed by the flare and the hours of operation. The facility will also monitor the flame of the flare and record any malfunctions that may cause no flame to be present during operation. In addition, the facility will also monitor visible emissions from the flare on a monthly basis.

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

The purpose of this rule is to establish standards for emissions of sulfur oxides from fuel burning units, manufacturing operations and gas streams.

45CSR10 classifies the hot oil heater (1E) as a ‘type b’ unit. The allowable SO<sub>2</sub> emission rate for the hot oil heater (1E) would be the product of 3.1 and the total design heat input of the heater (45.54 MMBTU/hr). This equates to a maximum allowable SO<sub>2</sub> emission rate of 141.17 lb/hr. According to Williams’ permit application, the proposed SO<sub>2</sub> emission rate is 0.03 lb/hr. Therefore, Williams would meet this rule.

45CSR10 classifies the stabilizer heater (2E) as a ‘type b’ unit. The allowable SO<sub>2</sub> emission rate for the stabilizer heater (2E) would be the product of 3.1 and the total design heat input of the heater (29.35 MMBTU/hr). This equates to a maximum allowable SO<sub>2</sub> emission rate of 90.99 lb/hr. According to Williams’ permit application, the proposed SO<sub>2</sub> emission rate is 0.02 lb/hr. Therefore, Williams would meet this rule.

Furthermore, 45CSR10A exempts fuel burning units that combust natural gas from testing and monitoring requirements.

**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 Subpart OOOO).

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

45CSR16 applies to this source by reference of 40CFR60, Subparts A, Dc, KKK, and OOOO. Williams is subject to the recordkeeping, monitoring, and testing required by 40CFR60 Subparts A, Dc, KKK, and OOOO.

**45CSR22** (Air Quality Management Fee Program)

Williams is not subject to 45CSR30. The Moundsville Fractionation Plant is subject to 40CFR60 Subpart 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 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<sub>2</sub>) 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 Moundsville Fractionation Plant. 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 no reciprocating internal combustion engines located at the Moundsville Fractionation Plant. Therefore, all 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 which commenced construction after August 23, 2011, and is located at a natural gas processing plant.

*There will be applicable pneumatic controllers at the Moundsville Fractionation Plant. Therefore, the requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOO would apply. Williams would be required to perform the following:*

- Each pneumatic controller affected facility at a natural gas processing plant must have a bleed rate of zero.
  - Each pneumatic controller at a natural gas processing plant must be tagged with the month and year of installation, reconstruction, or modification, and identification information that allows traceability to the records for that pneumatic controller.
  - Submit the appropriate start up notifications.
  - Submit the applicable annual reports for pneumatic controllers.
  - Maintain records of the date, location and manufacturer specifications for each pneumatic controller.
- 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 Moundsville Fractionation Plant emit 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 Moundsville Fractionation Plant is a natural gas processing plant that was modified after August 23, 2011. Therefore, Leak Detection and Repair (LDAR) requirements for onshore natural gas processing plants would apply to the Moundsville Fractionation Plant.*

- 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<sub>2</sub>S) 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 Moundsville Fractionation Plant. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.*

The following rules do not apply to the facility:

#### **45CSR30** (Requirements for Operating Permits)

Williams is not subject to 45CSR30. The Moundsville Fractionation Plant is subject to 40CFR60 Subpart 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)

40CFR60 Subpart Dc applies to steam generating units. The rule further defines a *steam generating unit* as a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. However, this term does not include process heaters as defined in this subpart. *Process heater* is defined as a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst. Therefore this rule does not apply to the proposed process heaters.

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

The affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters ( $m^3$ ) (19,813 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. This subpart does not apply to storage vessels with a capacity greater than or equal to 151  $m^3$  storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75  $m^3$  but less than 151  $m^3$  storing a liquid with a maximum true vapor pressure less than 15.0 kPa. This subpart also does not apply to pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

Some of the tanks that Williams has at the Moundsville Fractionation Plant are greater than the volume threshold in the rule, however these tanks will operate at a maximum allowable working pressure of approximately 1,724 kPa each. Therefore, this subpart would not apply, since they will be pressure vessels operating in excess of 204.9 kPa.

**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. This modification to the Moundsville Fractionation Plant occurred after August 23, 2011. Williams will be required to meet the LDAR requirements of Subpart OOOO for natural gas processing facilities. Therefore, Williams will no longer be subject to 40CFR60 Subpart KKK and will be subject to 40CFR60 Subpart OOOO.

**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)

<b>Pollutant</b>	<b>PSD (45CSR14) Threshold (tpy)</b>	<b>NANSR (45CSR19) Threshold (tpy)</b>	<b>Moundsville PTE (tpy)</b>	<b>45CSR14 or 45CSR19 Review Required?</b>
Carbon Monoxide	250	NA	37.47	No
Nitrogen Oxides	250	100	45.69	No
Sulfur Dioxide	250	100	0.40	No
Particulate Matter 10	250	NA	13.49	No
Ozone (VOC)	250	NA	60.68	No
Greenhouse Gas	100,000	NA	62,688	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.

1. The Moundsville Fractionation Plant will operate under SIC code 1321 (Natural Gas Liquid Extraction), while the existing Fort Beeler Processing Facility also operates under SIC Code 1321. Therefore, the two (2) facilities do belong to the same industrial grouping.
2. Both the Moundsville Fractionation Plant and Fort Beeler Processing Facility are owned and operated by Williams.
3. The Moundsville Fractionation Plant will be located approximately 11 miles from the Fort Beeler Processing Facility. This is not considered to be on contiguous or adjacent property as Williams does not own the land in between the facilities, and the facilities are not mutually dependent.

Williams currently operates the Fort Beeler Processing Facility under Permit R13-2826D. The original Fort Beeler permit was issued on March 29, 2010. Therefore, Williams was operating the Fort Beeler facility independent of the Moundsville Fractionation Plant.

The purpose of the Fort Beeler facility is to remove natural gas liquids (NGL) including ethane, propane, butane and other higher molecular weight organics from the raw natural gas stream produced from nearby wells. This brings the quality of the natural gas to within contractual standards making it suitable for sale to and distribution by interstate pipelines.

The purpose of the Moundsville Fractionation Plant is to take the NGL removed from the produced gas and separate them into individual components such as propane and butane. Williams does not own the natural gas; they only provide a third party service and further process the gas for these parties.

The Fort Beeler facility currently trucks the NGL to either third party fractionators or to a rail car loading facility. Approximately 98% of the NGL product produced at Fort Beeler is owned by customers for whom Williams provides natural gas processing services. This product is marketed for the customers by an independent, third party company that has been contracted to market the product for customers that do not desire to market it on their own. The third party marketing company determines how the product will be transported, where it will be transported, negotiates the contracts under which third party fractionators perform their NGL processing, and then markets the final product. Williams' only connection will be that that they will attempt to serve the needs of these customers by offering the use of the Moundsville Fractionation Plant.

Of this 98%, approximately one half of the product being produced at the Fort Beeler facility is controlled by one entity which has sole control regarding the manner in which

the product is marketed and has no specific tie to Williams. Its product is currently delivered to a third party fractionator in Pennsylvania.

The Moundsville Fractionation Plant will initially possess the capability to receive 210,000 gallons per day of raw condensate or NGL product by truck, and 100,000 gallons per day of raw condensate or NGL product by rail. Williams is also constructing two (2) pipelines to the Moundsville Fractionation Plant. One will be a pipeline for condensate from producing well locations with a capacity of 250,000 gallons per day. The second pipeline will be from the Fort Beeler facility for NGL product with a capacity of 2,100,000 gallons per day. Therefore, the Moundsville Fractionation Plant will be able to receive product from three (3) sources other than Fort Beeler initially, with the possibility for others in the future.

The Moundsville site was chosen based on transportation access (highway and rail), land availability, and suitable size. The Fort Beeler facility and the Moundsville Fractionation Plant do not share facilities or equipment.

The Fort Beeler and Moundsville Fractionation Plant do have the same industrial grouping and are owned by the same company and are under common control. However, the two (2) facilities are not considered “contiguous or adjacent”. The facilities are separated by 11 miles and Williams does not own the land in between the two (2) facilities. Furthermore, the facilities are not mutually dependent. The Fort Beeler facility has been in operation more than one (1) year currently and could continue to operate without the Moundsville Fractionation Plant. In addition, as explained in item 3, the Moundsville Fractionation Plant also has the capability of operating without the Fort Beeler facility. Williams will market the ability to use both facilities. However, Williams will not have an ownership interest in the product and will have no control over the Fort Beeler product unless the owner chooses Williams to utilize its services further.

Because of the reasons listed above, 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:

1. Monitor and record quantity of natural gas consumed for all combustion sources.
2. Monitor and record quantity of product throughput (NGL, propane, butane, natural gasoline).
3. Monitor the presence of the flare pilot flame with a thermocouple or equivalent.
4. Establish a Leak Detection and Repair (LDAR) program for all equipment in VOC or wet gas service according to 40CFR60 Subparts OOOO, KKK and VV.

Williams will be required to perform the following recordkeeping:

1. Maintain records of the amount of natural gas consumed in the hot oil heater, stabilizer heater, and flare.
2. Maintain records of the amount of product throughput (NGL, propane, butane, natural gasoline).
3. Maintain records of the flare design evaluation.
4. 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
5. Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
6. Maintain records of the visible emission opacity tests conducted per the permit.
7. 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.
8. 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 R13-2892A

Williams is proposing to expand the capabilities of the facility through the addition of a stabilizer and associated heater (HTR-2) that will remove residue methane and ethane in the incoming natural gas liquids (NGL) to allow the sale of stabilized NGL. Williams is also proposing to have the capability of routing several waste gas/liquids to the existing flare.

#### 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 Marshall County location should be granted a 45CSR13 modification for their facility.

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Jerry Williams, P.E.  
Engineer

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Date