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ENGINEERING EVALUATION/FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2892D
Plant ID No.:	051-00141
Applicant:	Williams Ohio Valley Midstream, LLC
Facility Name:	Moundsville Fractionation Plant
Location:	Marshall County
SIC/NAICS Code:	1321/211112
Application Type:	Modification
Received Date:	April 17, 2015
Engineer Assigned:	Joe Kessler
Fee Amount:	$2,000
Date Received:	May 11, 2015
Complete Date:	May 14, 2015
Due Date:	August 12, 2015
Applicant Ad Date:	April 20, 2015
Newspaper:	*Moundsville Daily Echo*
UTM's:	Easting: 517.347 km Northing: 4,418.11 km Zone: 17
Latitude/Longitude:	39.9129/-80.7970
Description:	Modification to make various changes at the facility including (1) increasing capacity of natural gasoline tanks and (2) increasing amount of waste gases sent to the flare.

On December 28, 2011, Permit Number R13-2892 was issued to Caiman Eastern Midstream, LLC (CEM) for the construction and operation of the Ohio River Fractionation Plant. The plant was constructed to fractionate natural gas liquids (NGL) into three (3) products: propane, butane, and natural gasoline. On May 15, 2012, CEM changed its name to Williams Ohio Valley Midstream (OVM) and the facility is now referred to as the Moundsville Fractionation Plant. Since that time, the facility has been subject to the following new source review (NSR) permitting actions:

- On February 7, 2013, OVM was issued a Class II Administrative Update (A/U) as R13-2892A to increase the maximum design heat input (MDHI) of the Hot Oil Heater and increase the number of piping components that contribute to fugitive VOC losses;

- On March 5, 2013, OVM was issued Permit Number R13-2892B primarily to expand the capabilities of the facility through the addition of a stabilizer and associated heater that

removes residue methane/ethane in the incoming NGLs to allow the sale of stabilized NGL;

- On May 28, 2013, OVM was issued Permit Number R13-2892C to install a new fractionation train and replace the existing flare; and

- On March 31, 2015, OVM was issued General Permit Registration Number G60-C069 for the installation of a propane-fired emergency generator.

DESCRIPTION OF PROCESS/MODIFICATIONS

Existing Facility

OVM's existing Moundsville Fractionation Plant processes up to a maximum of 42,500 barrels per day (BPD) of natural gas liquids (NGL) and therefrom produces three (3) products: propane, butane, and natural gasoline.

The facility receives raw NGL from area wells and places it in a series of twelve (12) pressure vessels (3S) ranging from 61,400 to 90,000 gallons in capacity. 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. As these tanks are under pressure, there is no escape of vapors from these units. The NGL is then processed through two (2) fractionation trains (1S): each train is a series of distillation processes (de-propanizer and de-butanizer towers) to generate the desired products. The distillation process first removes the propane and then the mixed butanes from the NGL. The remaining liquid is classified as "natural gasoline." The three products are accumulated in a series of nineteen (17) pressurized tanks and two (2) non-pressurized tanks ranging from 60,000 to 454,000 gallons in capacity.

The facility uses one (1) 45.54 mmBtu/hr and two (2) 89.85 mmBtu/hr natural gas-fired Hot Oil Heaters (HTR-1, HTR-2) to precisely control the temperature within certain process equipment. In addition, the facility is capable of loading out products into both trucks and rail cars (2S). Truck and rail loading of the products (and potentially un-processed NGL) is controlled by the flare.

The facility includes a flare that is used to combust NGL or products in the event of an emergency that requires rapid removal of NGL and/or product from one or more portions of the facility. The flare is also used to combust NGL and/or one or more of the products when an area of the plant must be de-pressurized for maintenance/repairs. Additionally, the flare is used to control process gases during normal operation. The flare has a permitted destruction and removal efficiency (DRE) of 99.0% (as originally determined and permitted under R13-2892C).

Proposed Modifications

OVM is now proposing to modify the existing facility by:

- Increasing the capacity of two (2) of the Natural Gasoline Storage Tanks (3S) from to 420,000 to 454,000 gallons;

- Adding three (3) pressurized 90,000 gallons Stabilized Condensate Tanks (3S) to allow the storage and sale of pre-fractionated NGL;

- Increasing the amount of annual permitted waste gases sent to the flare (5S) from 95 mmscf/yr to 192.66 mmscf/yr;

- Increasing the capacity of the product loadout terminal from 42,500 to 52,500 BPD; and

- Making various revisions to the calculation of facility-wide fugitive emissions based on an increase in the component counts for process and piping fugitives, the addition of electric delivery pumps, and the addition of new (non-emitting) equipment that is in contact with organic vapors.

SITE INSPECTION

Due to the nature of the source and the proposed changes, the writer deemed a site inspection as not necessary. The facility was last "Full On Site" inspected by DAQ Compliance/ Enforcement (C/E) Inspector Steven Sobutka on September 17, 2013. Based on that inspection, the facility was determined to be "Status 30 - In Compliance."

AIR EMISSIONS AND CALCULATION METHODOLOGIES

The following will only discuss the air emissions and calculation methodologies of the emission sources being modified as part of this permitting action.

Flare Products of Combustion

Two sources of air emissions occur at the Flare (5E): VOC/HAP emissions that pass-through the flare uncombusted and the products of combusting the organic vapors sent to the flare for destruction. This section details the products of combustion generated at the flare. Emissions (CO and NO_x) from the products of combustion are primarily based on emission factors as given in Texas Commission on Environmental Quality's (TCEQ) "Flares and Vapor Oxidizers" Report (RG-109: pp. 19). These emission factors are generally accepted for estimating products of combustion from flares at oil and gas processing facilities when combusting high BTU gas streams. Additional emissions (particulate matter, SO_2, formaldehyde, and total HAPs) were based on emission factors given under AP-42 Section 1.4. (AP-42 is a database of emission factors maintained by USEPA). While Section 1.4 of AP-42 is used for estimating emissions from boilers combusting natural gas, in the absence of other factors, it is used to conservatively estimate the nominal amounts of expected emissions from various pollutants from flare combustion.

Hourly emissions from the flare were based on the maximum capacity of the flare of 620.00 mmBtu/hr. Annual emissions were based on the calculated maximum annual HHV of the gases sent to the flare: 613,133 mmBtu/yr. Each calculated heat rate sent to the flare is based on the expected gas volume and heat content of the various waste gas streams sent to the flare for control. An average heat content of the waste gases of 3,183 Btu/scf was used in the calculations.

The following table details the emissions factors and revised post-modification potential-to-emit (PTE) of the products of combustion from the flare:

Table 1: Flaring Combustion Exhaust PTE

Pollutant	Emission Factor	Source	Hourly (lb/hr)	Annual (ton/yr)
CO	0.2755 lb/MMBtu(1)	TCEQ RG-109 (High Btu)	170.81	84.46
NO_X	0.1380 lb/MMBtu(1)	TCEQ RG-109 (High Btu)	85.56	42.31
$PM_{2.5}$(2)	7.6 lb/10^6 lb/scf	AP-42, Table 1.4-2	1.48	0.73
PM_{10}(2)	7.6 lb/10^6 lb/scf	AP-42, Table 1.4-2	1.48	0.73
PM(2)	7.6 lb/10^6 lb/scf	AP-42, Table 1.4-2	1.48	0.73
SO_2	0.60 lb/10^6 lb/scf	AP-42, Table 1.4-2	0.12	0.06
CH_2O	7.5 lb/10^{-2} lb/scf	AP-42, Table 1.4-3	0.01	0.01

(1) Emission factors from TCEQ RG-109 (pp. 19) for combustion of high BTU gas streams at non-steam assist flares. OVM flare is an air-assisted flare and combusting waste gas stream with average heat content of 3,183 Btu.

(2) Includes condensables. However, as a smokeless flare, any particulate matter emissions under normal operations should be nominal.

Pass-Through Emissions at the Flare

Organic vapors are captured from various equipment and processes (and during various short-term scenarios) and sent to the flare for control during non-emergency operation. This includes both continuous streams and intermittent streams. OVM included in their emissions calculations an estimate of the maximum amount and characteristics of the streams sent to the flare from each piece of equipment, process, or event (it was from this data the values used to calculate the combustion exhaust emissions above was determined) . From this data (supplied in Attachment H of the permit application), OVM calculated the total annual uncontrolled VOCs and speciated HAPs sent to the flare for destruction (192.66 mmscf/yr) and the average amount of each pollutant per mmscf. The hourly amount of waste gases sent to the flare was based on the very conservative maximum capacity of the flare of 28,000 lbs-waste gases/hr.

Controlled emissions were then based on the flare achieving a DRE of 99.0%. A DRE of 99.0% was reviewed and permitted for the original flare permitted under R13-2892 and for the replacement flare under R13-2892C. During the review of this permitting action, OVM supplied a letter from Zeeco - the manufacturer of the flare - that they guarantee a DRE of 99% from the OVM flare when operated within the guidelines given in the Zeeco Operating Manual.

The following table details the post-modification pass-through organic emissions at the flare generated by a various continuous and intermittent waste gas streams:

Table 2: Flaring Organics Pass-Through PTE

Pollutant	Weight %[1]	lb/mmscf [1]	Uncontrolled		Controlled @ 99%	
			lb/hr[2]	ton/yr[3]	lb/hr	ton/yr
VOCs	100.00	145,500	28,000.00	14,016.02	280.00	140.16
Benzene	*0.07*	*100*	*19.60*	*9.63*	*0.20*	*0.10*
Ethylbenzene	*0.03*	*50*	*8.40*	*4.82*	*0.08*	*0.05*
n-Hexane	*4.01*	*6,050*	*1,122.80*	*582.80*	*11.23*	*5.83*
Toluene	*0.19*	*280*	*53.20*	*26.97*	*0.53*	*0.27*
2,2,4-TMP	*0.14*	*210*	*39.20*	*20.23*	*0.39*	*0.20*
Xylenes	*0.66*	*1,000*	*184.80*	*96.33*	*1.85*	*0.96*
Total HAPs	5.10	7,690	1,428.00	740.78	14.28	7.41

(1) These values based on actual stream data taken from the Moundsville Plant and summarized in Attachment H of the permit application.
(2) Based on the maximum capacity of the flare of 28,000 lbs/hour.
(3) Based on the estimated maximum annual amount of waste gases sent to the flare: 192.66 scf/yr.

Fugitive Emissions

Process and Piping Components

OVM based their uncontrolled fugitive process and piping components leak calculations (1S) on emission factors taken from the document EPA-453/R-95-017 - "Protocol for Equipment Leak Emission Estimates." Emission factors were taken from Table 2-4 and controlled emissions were based on the Table 5-2 and the use of a Leak Detection and Repair (LDAR) protocol that meets the minimum requirement of a 10,000 ppm_v leak definition and monthly monitoring. VOC emissions were conservatively based on all light liquid and gas streams having 100% VOC contents. HAP emissions were based on the actual speciated weight percentages of the HAPs in the applicable streams. Component counts were based on actual counts and design estimates.

Other Equipment Leaks

OVM estimated fugitive leaks of natural gas/propane from other potential sources such as packing and gaskets, resulting from the wear of mechanical joints, seals, and rotating surfaces over time. This estimate was based on a loss of 34.50 scf/hr of natural gas for 2,000 hours/year. VOC losses were based on the weight percentage of VOC in propane.

Emissions Summary

Based on the above estimation methodology, which is determined to be appropriate, the revised post-modification PTE of the Moundsville Fractionation Plant is given in Attachment A. The change in annual facility-wide PTE as a result of the modifications evaluated herein is given in the following table:

Table 3: Change in Facility-Wide Annual PTE (in tons/year)

Pollutant	Pre-Modification[(1)]	Post-Modification	Change
CO	96.68	146.38	49.70
NO_X	54.35	79.17	24.82
$PM_{2.5}/PM_{10}/PM$	5.49	5.74	0.25
SO_2	0.41	0.46	0.05
VOCs	118.94	216.58	97.64
Total HAPs	7.50	11.62	4.12

(1) Emissions taken from R13-2892C and G60-C069 Engineering Evaluation/Fact Sheet.

REGULATORY APPLICABILITY

This section will address the potential regulatory applicability/non-applicability of substantive state and federal air quality rules relevant to the emission units/sources modified at the Moundsville Fractionation Plant.

45CSR6: To Prevent and Control Particulate Air Pollution from Combustion of Refuse

OVM's flare is defined as an "incinerator" under 45CSR6 and is, therefore, subject to the requirements therein. The substantive requirements applicable to the units are discussed below.

45CSR6 Emission Standards for Incinerators - Section 4.1

Section 4.1 limits PM emissions from incinerators to a value determined by the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

Based on information included in the application, the capacity of the flare is 28,000 lb/hr (14 tons/hour). Pursuant to the above equation, the particulate matter limit of the flare is 38.08 lbs/hr. When properly operated, particulate matter emissions from the flare are expected to be negligible and in compliance with the limit calculated under Section 4.1. However, OVM did include a particulate matter emission estimate for the flare based on the use of an AP-42 emission factor for natural gas combustion. This emission factor produced a particulate matter emission rate of 1.48 lb/hr which is far below the 45CSR6 limit.

45CSR6 Opacity Limits for - Section 4.3, 4.4

Pursuant to Section 4.3, and subject to the exemptions under 4.4, the flare has a 20% limit on opacity during operation. Proper design and operation of the "smokeless" flare should prevent any opacity from the flare.

45CSR13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed changes to the Moundsville Fractionation Plant have the potential to increase the PTE of the facility in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant (see Table 3 above) and, therefore, pursuant to §45-13-2.17, the changes are defined as a "modification" under 45CSR13. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without . . . obtaining a permit to construct." Therefore, OVM is required to obtain a permit under 45CSR13 for the modification of the facility.

As required under §45-13-8.3 ("Notice Level A"), OVM placed a Class I legal advertisement in a "newspaper of *general circulation* in the area where the source is . . . located." The ad ran on April 20, 2015 in *Moundsville Daily Echo* and the affidavit of publication for this legal advertisement was submitted on May 8, 2015.

45CSR14: Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration - (NON APPLICABILITY)

The Moundsville Fractionation Plant is located in Marshall County, WV. Marshall County is classified as "in attainment" with all National Ambient Air Quality Standards (NAAQS) except for, in certain tax districts, SO_2. The Clay Tax District, where the Moundsville facility is located, is classified as "non-attainment" for SO_2. Therefore, applicability to major New Source Review (NSR) for all pollutants except for SO_2 is determined under 45CSR14.

As the facility is not a "listed source" under §45-14-2.43, the individual major source applicability threshold for all criteria pollutants (with the exception of SO_2) is 250 TPY. As given above in Attachment A, the facility-wide post-modification PTE of the Moundsville Extraction and Fractionation Plant is less than 250 TPY for all criteria pollutants. Therefore, the facility is not defined as a "major stationary source" under 45CSR14.

45CSR19: Requirements fo Pre-Construction Review, Determination of Emission Offsets for Proposed New or Modified Stationary Sources of Air Pollutants and Emission Trading for Intrasource Pollutants - (NON APPLICABILITY)

Pursuant to §45-19-3.1, 45CSR19 "applies to all major stationary sources and major modifications to major stationary sources proposing to construct anywhere in an area which is designated non-attainment." As noted above, the Moundsville Fractionation Plant is located in Marshall County, WV which is classified as in attainment with all NAAQS; with the exception for

SO_2 in the areas defined as the Clay (where the source is located) , Washington, and Franklin Tax Districts. Pursuant to §45-14-2.35, the individual major source applicability threshold for all non-attainment pollutants is 100 TPY. As given in Attachment A, the facility-wide post-modification SO_2 PTE of the Moundsville Fractionation Plant is less than 100 TPY. Therefore, the facility is not defined as a "major stationary source" under 45CSR19.

45CSR30: Requirements for Operating Permits

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. As a result of the changes made under Permit Number R13-2892C, the Moundsville Fractionation Plant was thereafter defined as a major source under Title V and was required to submit a Title V (45CSR30) application within twelve (12) months after the commencement date of any operation authorized by R13-2892C. This Title V permit application (R30-05100141-2015) was submitted on November 13, 2014. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit (or permit application, if the permit is not yet issued). Commencement date of any operation authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

40 CFR60, Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Subpart Kb of 40 CFR 60 is the NSPS for storage tanks containing Volatile Organic Liquids (VOLs) which construction commenced after July 23, 1984. The Subpart applies to storage vessels used to store volatile organic liquids with a capacity greater than or equal to 75 m^3 (19,813 gallons). However, storage tanks with a capacity greater than or equal to 151 m^3 (39,890 gallons) 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 are exempt from Subpart Kb. Additionally, pursuant §60.110b(b)(2), "[p]ressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere" are exempt from Subpart Kb.

Therefore, based on the above, the three (3) new pressurized 90,000 gallons Stabilized Condensate Tanks are exempt from Subpart Kb. The two (2) modified 454,000 gallons natural gasoline storage tanks are, however, subject to the applicable provisions therein (natural gasoline has a vapor pressure ~ 85 kPa). Pursuant to §60.112b(b)(1) the natural gasoline storage tanks are required to be equipped with a "closed vent system and control device as specified in §60.112b(a)(3)." The use of a closed vent system to capture and vent the vapors to the flare meets the requirements of §60.112b(a)(3). Additionally, OVM will be required to meet all applicable monitoring, recordkeeping, and reporting requirements in Subpart Kb.

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

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 Moundsville Fractionation Plant was constructed after August 23, 2011. OVM is required to meet all applicable LDAR requirements of Subpart OOOO for natural gas processing facilities (see below).

40 CFR 60, Subpart OOOO: Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution

On April 27, 2012, the USEPA issued a final rule (with amendments finalized on August 16, 2012) that consists of federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently were previously not regulated at the federal level. Each section of Subpart OOOO potentially applicable to a new or modified source is discussed below.

Storage Tanks (NON-APPLICABILITY)

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 is potentially applicable to the storage tank requirements of Subpart OOOO. Subpart OOOO defines a storage vessel as a unit that is constructed primarily of non-earthen 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 tons/year of VOCs, the permittee must reduce VOC emissions by 95% or greater within 60 days of startup. Based on a letter from USEPA to the American Petroleum Instituted dated September 28, 2012, the applicability of storage vessels to this reduction requirement of Subpart OOOO is based on each individual tank's PTE (which includes federally enforceable control devices) as compared to the 6

tons/year.

Therefore, based on the above, the three (3) new pressurized 90,000 gallons Stabilized Condensate Tanks are exempt from Subpart OOOO as these tanks are designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere. The two (2) modified 454,000 gallons natural gasoline storage tanks have VOC emissions, after control by the flare, of less than 6 tons/year of VOCs. Therefore, Williams is not required by Subpart OOOO to reduce VOC emissions by 95%.

Leak Detection and Repair Requirements (LDAR)

The substantive requirement for affected facilities at a natural gas processing plant is to meet the applicable LDAR conditions under Subpart VVa. The Moundsville Fractionation Plant is a natural gas processing plant that was modified after August 23, 2011. Therefore, LDAR requirements for onshore natural gas processing plants will continue to apply to the facility.

TOXICITY ANALYSIS OF NON-CRITERIA REGULATED POLLUTANTS

This section provides an analysis for those regulated pollutants that may be emitted from the Moundsville Fractionation Plant 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_{10}, and $PM_{2.5}$), 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. The Moundsville Fractionation Plant has the potential to emit the following HAPs as in substantive amounts: Formaldehyde, n-Hexane, Benzene, Toluene, Ethylbenzene, and Xylenes. The following table lists each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

Table 4: Potential HAPs - Carcinogenic Risk

HAPs	Type	Known/Suspected Carcinogen	Classification
n-Hexane	VOC	No	Inadequate Data
Formaldehyde	VOC	Yes	B1 - Probable Human Carcinogen
Benzene	VOC	Yes	Category A - Known Human Carcinogen
Toluene	VOC	No	Inadequate Data
Ethyl-benzene	VOC	No	Category D - Not Classifiable
Xylenes	VOC	No	Inadequate Data
2,2,4-Trimethylpentane	VOC	No	Inadequate Data

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

The proposed modification does not meet the definition of a "major modification" pursuant to 45CSR14 and, therefore, an air quality impact (computer modeling) analysis was not required. Additionally, based on the nature of the proposed modification, modeling was not required under 45CSR13, Section 7.

MONITORING, COMPLIANCE DEMONSTRATIONS, RECORD-KEEPING, AND REPORTING REQUIREMENTS

The following changes to substantive monitoring, compliance demonstration, and record-keeping requirements shall be required relevant to the emission units/sources modified at the Moundsville Fractionation Plant:

- In order to determine compliance with 6.1.4. of the draft permit, OVM shall be required to monitor and record the monthly and rolling twelve (12) month total aggregate waste gases sent to the flare (in mmscf) from the sources identified under 6.1.1. of the draft permit; and

- In order to determine compliance with the emission limitations under 6.1.2. and 6.1.3. of the draft permit, OVM shall be required to, by the end of each calendar month, calculate and record the actual monthly and rolling twelve (12) month total of the emissions (in tons) at the

flare (both combustion exhaust and pass-through) of the previous 12 full months. This calculation shall be based on the same methodology used to calculate emissions in Attachment N of permit application R13-2892D and based on the most recent determination of the average hourly and annual heat value (in Btu/scf) and (2) the per-pollutant concentrations (lb-pollutant/mmscf) of the gas streams identified under 6.1.1. of the draft permit.

PERFORMANCE TESTING OF OPERATIONS

The following changes to substantive performance testing requirements shall be required relevant to the emission units/sources modified at the Moundsville Fractionation Plant:

- At a minimum of once every twelve (12) months, OVM shall be required to determine the (1) average hourly and annual heat value (in Btu/scf) and (2) the per-pollutant concentrations (lb-pollutant/mmscf) of the gas streams identified under 6.1.1. of the draft permit. These values will be generated by appropriate waste gas stream sampling and estimating the hourly and annual flow rates to flare as based on projecting operations and throughputs.

CHANGES TO R13-2892C

The following substantive changes were made to Permit Number R13-2892C:

- The Emissions Units Table 1.0 was revised to reflect the changes evaluated herein;
- The Control Devices Table 1.1 was revised to list the updated emission units and sources sent to the flare for control;
- Requirement 6.1.1. was revised to list the updated emission units and sources sent to the flare for control;
- Table 6.1.2. was revised by removing the CO_2e emission limits and the VOC pass-through emission limits. Additionally, the combustion exhaust emissions of the flare were revised to reflect the new emission calculations;
- Table 6.1.3. was added with the revised VOC pass-through emissions and the speciated HAP pass-through emissions;
- Requirement 6.1.4. was added to limit the maximum annual waste-gas flow rate to the flare;
- Requirement 6.1.5. was revised to include more specific model and operating data of the flare;
- Requirement 6.2.2. was revised to require OVM to monitor and record the aggregate waste-gas flow rate to the flare specifically to show compliance with the limit under 6.1.4.;
- Requirement 6.2.3. was added to require OVM to calculate actual emissions from the flare on

a rolling twelve month basis based on the most recent gas sampling data;

- Requirement 6.3.3. was added to require OVM to, at a minimum of once every twelve (12) months, conduct gas sampling on which to base the calculations required under 6.2.3. of the draft permit; and

- The throughput limits and emission limit under requirement 7.1.1. and 7.1.3, respectively, were revised in accordance with the changes.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-2892D indicates that compliance with all applicable federal and state air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of a Permit Number R13-2892D to Williams Ohio Valley Midstream, LLC for the modifications discussed herein at the Moundsville Fractionation Plant located in Moundsville, Marshall County, WV.

Joe Kessler, PE
Engineer

Date