

INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name Williams OVM - Nechase 051-00165

Permitting Action Number 13-3262 Total Days 97 DAQ Days 69

Permitting Action:

- | | | |
|---|---|--------------------------------------|
| <input type="radio"/> Permit Determination | <input type="radio"/> Temporary | <input type="radio"/> Modification |
| <input type="radio"/> General Permit | <input type="radio"/> Relocation | <input type="radio"/> PSD (Rule 14) |
| <input type="radio"/> Administrative Update | <input checked="" type="radio"/> Construction | <input type="radio"/> NNSR (Rule 19) |

Documents Attached:

- | | |
|--|--|
| <input checked="" type="radio"/> Engineering Evaluation/Memo | <input type="radio"/> Completed Database Sheet |
| <input checked="" type="radio"/> Draft Permit | <input type="radio"/> Withdrawal |
| <input checked="" type="radio"/> Notice | <input type="radio"/> Letter |
| <input type="radio"/> Denial | <input type="radio"/> Other (specify) _____ |
| <input type="radio"/> Final Permit/General Permit Registration | _____ |

Date	From	To	Action Requested
11-5-15	Steven Pursley	Ba	please review.
11/24	Ba	Steve	Go to Notice

NOTE: Retain a copy of this manifest for your records when transmitting your document(s).

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On July 31, 2015, Williams Ohio Valley Midstream applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to construct a natural gas compression facility located off of Wolf Run Road, near Cameron, Marshall County, WV at latitude 39.9189 and longitude -80.5734. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3262.

The following potential emissions will be authorized by this permit action: Particulate Matter less than 10 microns, 0.15 tons per year (TPY); Particulate Matter, 0.15 TPY; Oxides of Nitrogen, 3.96 TPY; Carbon Monoxide, 3.95 TPY; Volatile Organic Compounds, 62.00 TPY; Hazardous Air Pollutants, 8.39 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on **DRAFT**. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed construction will meet all State and Federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Steven R. Pursley, PE
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304/926-0499, ext. 1218
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx



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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3262
Plant ID No.: 051-00165
Applicant: Williams Ohio Valley Midstream LLC
Facility Name: Neehouse Compressor Station
Location: Marshall County
NAICS Code: 213112
Application Type: Construction
Received Date: July 31, 2015
Engineer Assigned: Steven R. Pursley, PE
Fee Amount: \$3,500.00
Date Received: August 7, 2015
Complete Date: August 28, 2015
Due Date: November 25, 2015
Applicant Ad Date: July 30, 2015
Newspaper: *Moundsville Daily Echo*
UTM's: Easting: 536.42 Northing: 4,418.82 Zone: 17
Description: Application to install a produced water tank and increase Dehy
the glycol recirculation rate at an existing but unpermitted facility.

DESCRIPTION OF PROCESS

Williams Ohio Valley Midstream (OVM) has submitted a permit application for the modification of an existing but unpermitted 5 mmscf/day triethylene glycol (TEG) GDU located approximately 0.4 miles north-northeast of 236 Wolf Run Rd, Cameron, Marshall County, WV. The facility began operation in 2013. According to information submitted to WVDAQ, and reviewed by James Jarrett of the Compliance and Enforcement Section, in October of 2014, emissions from the existing facility were less than permitting thresholds. However, with this modification, emissions will exceed 6 pounds per hour and 10 tons per year of VOCs (additionally, HAP emissions will exceed 5 tons per year).

The modification includes the installation of a 210 bbl produced water tank. Additionally, Williams is proposing to increase the dehydration unit glycol circulation rate from 0.67 gpm to 1.5 gpm.

One natural gas fueled compressor engine is utilized at the facility. The lean-burn engine drives a natural gas compressor to increase the pressure of the natural gas.

One triethylene glycol dehydrator is utilized at the facility. The dehydrator is comprised of a contactor/absorber tower and a regenerator/still vent. The dehydrator is used to remove water vapor from the inlet wet gas stream to meet pipeline specifications.

In the dehydration process, the wet inlet gas stream flows through a contactor tower where the gas is contacted with lean glycol. The lean glycol absorbs the water in the gas stream and becomes rich glycol laden with water and trace amounts of hydrocarbons. The rich glycol is then sent to the regenerator/still where the TEG is heated to drive off the water vapor and any remaining hydrocarbons. Once boiled, the glycol is returned to a lean state and used again in the process. A reboiler is utilized to supply the heat for the regenerator/still vent.

The new produced water tank will receive liquid from the dehydrator and inlet separator. Liquids removed through the dehydration process are cooled, condensed and sent to the tank. The inlet separator removes produced fluids and these liquids are also sent to the tank. This produced water will be removed from the tank by truck.

SITE INSPECTION

On October 9, 2014, Mr. James Jarrett of the DAQ Compliance/Enforcement Section conducted an inspection of the Neehouset facility. The facility is located at the end of an access road just off of Wolf Run Road near Cameron, Marshall County. The location is fairly rural in nature, with the nearest occupied residence located approximately (as based on Google Earth) 0.5 miles to the south along Wolf Run Road. Attached is a picture of the facility taken on October 9, 2014.



Fact Sheet R13-3262
Williams Ohio Valley Midstream LLC
Neehouse Compressor Station

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Glycol Regenerator Column/GDU Flash Tank Emissions

Uncontrolled VOC and Hazardous Air Pollutant (HAP) emissions from the glycol regenerator are based on the emissions calculation program GRI-GLYCalc Version 4.0. GRI-GLYCalc is a well-known program for estimating air emissions from glycol units using TEG. Included in the application is a copy of the appropriate GLY-Calc analysis sheets. A site-specific gas analysis taken on June 27, 2014 was used to provide inputs to GLY-Calc and was included in the permit application. A 50% flash tank recycle rate was used in the calculations.

Reboiler Exhaust Emissions

Combustion exhaust emissions from the 0.14 mmBtu/hr reboiler were based on the emission factors provided for natural gas combustion as given in AP-42 Section 1.4. (AP-42 is a database of emission factors maintained by USEPA). Hourly emissions were based on the maximum design heat input (MDHI) of the unit (0.14 mmBtu/hr) and annual emissions were based on an annual operation of 8,760 hours. A natural gas heat content value of 1,020 Btu/ft³ was used in the calculations.

Storage Tanks

Air emissions from produced water storage tank were based on VOC/HAP emission factors taken from the document EPA-450/3-85-001a – "Volatile Organic Compound Emissions from Petroleum Refinery Wastewater Systems - Background Information for Proposed Standards" (for working/breathing losses) and based on ProMax Simulation Software. ProMax software is chemical process simulator for design and modeling of amine gas treating, glycol dehydration units, and other natural gas components. Based on a detailed input gas analysis and the components of the facility, the software can simulate and model the inputs and outputs of a facility. It is noted that any VOC/HAP emissions from produced water storage tanks is expected to be minimal as these constituents are not expected to be present in large percentages.

Truck Loadout

Air emissions from produced water truck loading operations occur as fugitive emissions generated by displacement of vapors when loading trucks. The emission factor used to generate the VOC emissions is based on Equation (1) of AP-42 Section 5.2-1. In this equation, OVM used variables specific to the liquids loaded and to the method of loading - in this case "splash loading." Additionally, worst-case annual emissions were based on a maximum loading rate of 106,000 gal/year of produced-water. As no maximum hourly pumping rate was provided, hourly emissions were based on 100 hours of loading per year. It is noted that any VOC/HAP emissions from a produced water loadout is expected to be minimal as these constituents are not expected to be present in large percentages.

Fugitives

OVM based their fugitive equipment leak calculations 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.

Compressor Engine

The engine is a 203 hp, natural gas fired Caterpillar model G3306TA engine. Emissions of CO, NO_x, formaldehyde and NMNEHCs were based on vendor guarantees. VOC emissions were assumed to equal formaldehyde +NMNEHC. SO₂, PM/PM₁₀/PM_{2.5} and hall HAPs (except formaldehyde) were based on AP-42 Chapter 3. Rod packing leaks and crankcase emissions were based on manufacturers data. Blowdown emissions are based on an engineering estimate of 6.22 scf of gas per bhp per event. Hourly emissions for blowdowns/startups were based on 208 events per year.

Emissions Summary

The aggregate emissions associated with the Neehouse Dehydration Station is given in the following tables:

Facility-Wide Aggregate Hourly (lb/hr) PTE Summary

Source	CO	NO _x	PM/PM _{2.5}	SO ₂	VOCs	HAPs
GDU Still Vent	0.00	0.00	0.00	0.00	10.71	1.58
Reboiler	0.01	0.01	~0.00	~0.00	~0.00	~0.00
Storage Tank	0.00	0.00	0.00	0.00	0.02	<0.01
Truck Loadout	0.00	0.00	0.00	0.00	1.60	0.60
Compressor Engine	0.89	0.89	0.04	~0.00	0.14	0.07
CE Rod Packing/Crankcase	0.00	0.00	0.00	0.00	0.54	0.01
Blowdown	0.00	0.00	0.00	0.00	23.75	0.29
Equipment Leaks	0.00	0.00	0.00	0.00	2.15	0.24
Facility-Wide Totals →	0.90	0.90	0.04	0.00	38.91	2.80

Facility-Wide Aggregate Annual (tpy) PTE Summary

Source	CO	NO _x	PM/PM _{2.5}	SO ₂	VOCs	HAPs
GDU Still Vent	0.00	0.00	0.00	0.00	46.92	6.93
Reboiler	0.05	0.06	~0.00	~0.00	~0.00	~0.00
Storage Tank	0.00	0.00	0.00	0.00	0.13	0.02
Truck Loadout	0.00	0.00	0.00	0.00	0.08	0.03
Compressor Engine	3.90	3.90	0.15	~0.00	0.61	0.29
CE Rod Packing/Crankcase	0.00	0.00	0.00	0.00	2.37	0.06
Blowdown	0.00	0.00	0.00	0.00	2.47	0.03
Equipment Leaks	0.00	0.00	0.00	0.00	9.42	1.03
Facility-Wide Totals →	3.95	3.96	0.15	0.00	62.00	8.39

REGULATORY APPLICABILITY

This section will address the potential regulatory applicability/non-applicability of substantive state and federal air quality rules relevant to the Neehouse Compressor Station.

45CSR2: To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers

The GDU Reboiler has been determined to meet the definition of a "fuel burning unit" under 45CSR2 and is, therefore, subject to the applicable requirements therein. However, pursuant to the exemption given under §45-2-11, as the MDHI of the GDU Reboiler is less than 10 mmBtu/hr, the unit is not subject to sections 4, 5, 6, 8 and 9 of 45CSR2. The only remaining substantive requirement is under Section 3.1 - Visible Emissions Standards.

Pursuant to 45CSR2, Section 3.1, the reboiler is subject to an opacity limit of 10%. Proper maintenance and operation of the reboiler (and the use of natural gas as fuel) should keep the opacity of the unit well below 10% during normal operations.

45CSR10: To Prevent and Control Air Pollution from the Emission of Sulfur Oxides (NON APPLICABILITY)

45CSR10 has requirements limiting SO₂ emissions from "fuel burning units," limiting in-stack SO₂ concentrations of "manufacturing processes," and limiting H₂S concentrations in process gas streams. The only potential applicability of 45CSR10 to the Neehouse Compressor Station is the limitations on fuel burning units. The GDU Reboiler has been determined to meet the definition of a "fuel burning unit" under 45CSR10. However, pursuant to the exemption given under §45-10-10.1, as the MDHI of the GDU Reboiler is less than 10 mmBtu/hr, the unit is not subject to the limitations on fuel burning units under 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

The Neehouse Compressor Station has a maximum emission rate of a regulated pollutant (VOCs in this case) in excess of six (6) lbs/hour and ten (10) and, therefore, pursuant to §45-13-2.24, the facility is defined as a "stationary source" under 45CSR13. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction . . . 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 construction and operation of the natural gas production 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 July 30, 2015 in the Moundsville Daily Echo and the affidavit of publication for this legal advertisement was submitted on August 6, 2015.

Potential Source Aggregation

Classifying multiple facilities as one "stationary source" under 45CSR13, 45CSR14, and 45CSR19 is based on the definition of "Building, structure, facility, or installation" as given in §45-14-2.13 and §45-19-2.12. The definition states:

"Building, Structure, Facility, or Installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities are a part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same two (2)-digit code) as described in the Standard Industrial Classification Manual, 1987 (United States Government Printing Office stock number GPO 1987 0-185-718:QL 3).

The Neehouse Compressor Station is co-located on a site with a well-pad (and associated production facility) owned and operated by Chevron Appalachia, LLC. The application included an analysis of a potential "one-source" classification of the existing well-pad and the dehydration station. The Williams' analysis, determined to be reasonable by the DAQ, indicates that while the two facilities do belong to the same industrial grouping and are located on one or more contiguous or adjacent properties, the facilities are not under control of the same person (or persons under common control).

45CSR14: 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 (NON APPLICABILITY)

The facility-wide PTE of the Neehouse Compressor Station is below the levels that would define the source as "major" under 45CSR14 and, therefore, the construction evaluated herein is not subject to the provisions of 45CSR14.

45CSR30: Requirements for Operating Permits - (NON APPLICABILITY)

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The facility does not meet the definition of a "major source under § 112 of the Clean Air Act" as outlined under §45-30-2.26 and clarified (fugitive policy) under 45CSR30b. Therefore, the Neehouse Compressor Station is not subject to 45CSR30. However, as the facility is subject to a Maximum Achievable Control Technology (MACT) rule - 40 CFR 63, Subpart HH - the facility would, in most cases, be subject to Title V as a "deferred source." Pursuant to §63.760(h), as a non-major "area source," OVM is not required to obtain a Title V permit for the proposed facility. Therefore, the Neehouse Compressor Station is not subject to 45CSR30.

40 CFR 63 Subpart HH: National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

On June 1, 2013, the DAQ took delegation of the area source provisions of 40 CFR 63, Subpart HH. Pursuant to §63.760(a)(3), as the Neehouse Compressor Station - an area source of HAPs - "process[es], upgrade[s], or store[s] natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user," it is defined as an area source subject to the applicable provisions under Subpart HH.

Pursuant to §63.760(b)(2), each TEG GDU located at an area source that meets the requirements under §63.760(a)(3) is defined as an affected facility under Subpart HH. The requirements for affected sources at area sources are given under §63.764(d). However, for a GDU, exemptions to these requirements are given under §63.764(e): if (1) "actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters [3 mmscf/day] per day" or (2) "actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram [1 TPY] per year."

Pursuant to information in the permit application, the maximum aggregate PTE of benzene emissions from the GDU process vent is 0.56 TPY. Therefore, the GDU is exempt from the Subpart HH requirements given under §63.764(d).

40 CFR 63 Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

Because the engine was constructed after June 6, 2006 it is a new engine under Subpart ZZZZ. Therefore, to comply with ZZZZ the engine need only comply with 40 CFR 60 Subpart JJJJ. However, as can be seen below, there are no requirements in JJJJ applicable to the engine.

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

The compressor engine is not subject to Subpart JJJJ because it is a spark ignition engine less than 500 hp and was manufactured before July 1, 2008.

40 CFR 60, Subpart OOOO: Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution - (NON APPLICABILITY)

The Neehouse Compressor Station does not include any gas wells, compressor engines manufactured after August 23, 2011 (the compressor engine was manufactured in July of 2007), pneumatic controllers with a bleed rate of ≥ 6 scfh, or storage tanks with a PTE of 6 TPY. Therefore, the facility is not subject to any substantive provision of 40 CFR 60, Subpart OOOO.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

This section provides an analysis for those regulated pollutants that may be emitted from the Neehouse Compressor Station and that are not classified as "criteria pollutants." Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NOx), Ozone, Particulate Matter (PM), Particulate Matter less than 10 microns (PM10), Particulate Matter less than 2.5 microns (PM2.5), and Sulfur Dioxide (SO2). These pollutants (with the exception of PM) 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 and programs designed to limit their emissions and public exposure. These programs include federal source-specific Hazardous Air Pollutants (HAPs) limits 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 Neehouse Compressor Station has the potential to emit the following HAPs in substantive amounts: Formaldehyde, Methanol, 2,2,4-TMP, n-Hexane, Benzene, Toluene, Ethyl-benzene, and Xylene. The following table lists each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

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

AIR QUALITY IMPACT ANALYSIS

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

MONITORING OF OPERATIONS

The following substantive monitoring, compliance demonstration, reporting, and record-keeping requirements (MRR) shall be required:

- * For the purposes of demonstrating compliance with the maximum dry gas throughput limit set forth in 4.1.2(a) of the draft permit, OVM shall be required to monitor and maintain monthly and rolling twelve month records of the dry gas throughput of the Glycol Dehydration Unit.
- * Compliance with the Maximum Glycol Recirculation Limitation set forth in 4.1.2(b) of the draft permit shall be determined using an average of a minimum of quarterly readings of the actual glycol pump(s) rate. If more than one pump is operating simultaneously then the rate of each operating pump shall be recorded and totaled for compliance purposes.
- * For the purposes of demonstrating compliance with visible emissions limitations set forth in 4.1.3(d) of the draft permit, OVM shall be required to, at such reasonable times as the Secretary may designate, conduct Method 9 emission observations. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.
- * For the purposes of demonstrating compliance with the maximum truck loadout limits set forth in 4.1.4 of the draft permit, OVM shall be required to monitor and record the monthly and rolling twelve month amount of produced water loaded into trucks.

- * The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
 1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.
 2. Following the catalyst manufacturer emissions related operating and maintenance recommendations, or develop, implement, or follow a site-specific maintenance plan.
- * The permittee shall maintain records of the maintenance performed on the compressor engine.

PERFORMANCE TESTING OF OPERATIONS

The following substantive performance testing requirements shall be required:

With respect to any wet gas sampling, OVM shall be required to sample wet natural gas in accordance with the Gas Processor Association (GPA) Method 2166 and analyze the samples in accordance with GPA Method 2286. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test date.

The permittee shall verify that the closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to ensure a fuel-rich mixture and a resultant exhaust oxygen content of less than or equal to 2% during any performance testing.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-3262 indicates that compliance with all applicable state and federal air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of Permit Number R13-3262 to Williams Ohio Valley Midstream for the construction and operation of the Neehouse Compressor Station located near Cameron, Marshall County, WV.



Steven R. Pursley, PE
Engineer

11-2-15

November 2, 2015

Fact Sheet R13-3262
Williams Ohio Valley Midstream LLC
Neehouse Compressor Station

Permit to Construct



R13-3262

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45 C.S.R. 13 — Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
Williams Ohio Valley Midstream
Neehouse Compressor Station
051-00165

William F. Durham
Director

Issued: **DRAFT**

Facility Location: Near Cameron, Marshall County, West Virginia
Mailing Address: Park Place Corporate Center 2, 2000 Commerce Drive, Pittsburgh, PA 15275
Facility Description: Natural Gas Compressor Station with Glycol Dehydration Unit
NAICS Codes: 213112
UTM Coordinates: Easting: 536.42 km Northing: 4,418.82 km Zone: 17
Latitude/Longitude: 39.9189/-80.5734
Permit Type: Construction

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

The source is not subject to 45CSR30.

Table of Contents

1.0. Emission Units 3

2.0. General Conditions 4

 2.1. Definitions 4

 2.2. Acronyms 4

 2.3. Authority 5

 2.4. Term and Renewal 5

 2.5. Duty to Comply 5

 2.6. Duty to Provide Information 5

 2.7. Duty to Supplement and Correct Information 5

 2.8. Administrative Permit Update 5

 2.9. Permit Modification 5

 2.10. Major Permit Modification 6

 2.11. Inspection and Entry 6

 2.12. Emergency 6

 2.13. Need to Halt or Reduce Activity Not a Defense 7

 2.14. Suspension of Activities 7

 2.15. Property Rights 7

 2.16. Severability 7

 2.17. Transferability 7

 2.18. Notification Requirements 7

 2.19. Credible Evidence 7

3.0. Facility-Wide Requirements 8

 3.1. Limitations and Standards 8

 3.2. Monitoring Requirements 8

 3.3. Testing Requirements 8

 3.4. Recordkeeping Requirements 9

 3.5. Reporting Requirements 10

4.0. Source-Specific Requirements 11

 4.1. Limitations and Standards 11

 4.2. Monitoring Requirements 13

 4.3. Testing Requirements 14

 4.4. Recordkeeping Requirements 15

CERTIFICATION OF DATA ACCURACY 16

1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CE-01	1E	Compressor Engine	2013	203 bhp	NSCR
RPC	2E	Rod Packing and Engine Crankcase	2013	203 bhp	None
SSM	3E	Startup/Shutdown/Maintenance	2013	203 bhp	None
RSV-01	4E	TEG Dehydrator - Still Vent	2013	5.0 mmscfd	None
RBV-01	5E	TEG Dehydrator - Reboiler	2013	0.14 MMbtu/hr	None
T-01	6E	Produced Water Storage Tank	TBD	8,820 gallons	None
TLO	7E	Produced Water Truck Load Out	TBD	105,840 gal/yr	None

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45 CSR § 30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	ppmv	volume
CBI	Confidential Business Information	PSD	Prevention of Significant Deterioration
CEM	Continuous Emission Monitor	psi	Pounds per Square Inch
CES	Certified Emission Statement	SIC	Standard Industrial Classification
C.F.R. or CFR	Code of Federal Regulations	SIP	State Implementation Plan
CO	Carbon Monoxide	SO₂	Sulfur Dioxide
C.S.R. or CSR	Codes of State Rules	TAP	Toxic Air Pollutant
DAQ	Division of Air Quality	TPY	Tons per Year
DEP	Department of Environmental Protection	TRS	Total Reduced Sulfur
dscm	Dry Standard Cubic Meter	TSP	Total Suspended Particulate
FOIA	Freedom of Information Act	USEPA	United States Environmental Protection Agency
HAP	Hazardous Air Pollutant	UTM	Universal Transverse Mercator
HON	Hazardous Organic NESHAP	VEE	Visual Emissions Evaluation
HP	Horsepower	VOC	Volatile Organic Compounds
lbs/hr	Pounds per Hour	VOL	Volatile Organic Liquids
LDAR	Leak Detection and Repair		
M	Thousand		
MACT	Maximum Achievable Control Technology		
MDHI	Maximum Design Heat Input		
MM	Million		
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour		
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour		
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		
NSPS	New Source Performance Standards		
PM	Particulate Matter		
PM_{2.5}	Particulate Matter less than 2.5µm in diameter		
PM₁₀	Particulate Matter less than 10µm in diameter		
Ppb	Pounds per Batch		
pph	Pounds per Hour		
ppm	Parts per Million		
Ppmv or	Parts per million by		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Law W.Va. Code §§22-5-1 et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation.*

2.4. Term and Renewal

- 2.4.1. This permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any applicable legislative rule.

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3262 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 13-10.3]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses and/or approvals from other agencies; i.e., local, state and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the

procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10. Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and,
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emission, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5. The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45 C.S.R. 11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

- 3.2.1. **Emission Limit Averaging Time.** Unless otherwise specified, compliance with all annual limits shall be based on a rolling twelve month total. A rolling twelve month total shall be the sum of the measured parameter of the previous twelve calendar months. Compliance with all hourly emission limits shall be based on the applicable NAAQS averaging times or, where applicable, as given in any approved performance test method.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§4. *State-Enforceable only.*]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304-2345

If to the USEPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance
(3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Operating Fee.**

- 3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Only those emission units as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility. In accordance with the information filed in Permit Application R13-3262 the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, and shall use (if applicable) the specified control devices.

4.1.2. The Glycol Dehydration Unit, shall meet the following requirements:

- a. The maximum dry natural gas throughput to the Glycol Dehydration Unit shall not exceed 5 MMscf/day or 1,825 Mmscf/year;
- b. The maximum glycol recirculation rate shall not exceed 1.5 gallons per minute limit as listed in permit application R13-3262;
- c. The maximum aggregate emissions generated from the Glycol Dehydrator Regenerator/Still Vent (4E) and shall not exceed the limits given in the following table:

Table 4.1.2(c): Glycol Dehydrator Regeneration Still Vent Emission Limits⁽¹⁾

Pollutant	PPH	TPY
VOC	10.71	46.92
<i>Benzene</i>	<i>0.13</i>	<i>0.56</i>
<i>Ethylbenzene</i>	<i>0.03</i>	<i>0.11</i>
<i>n-Hexane</i>	<i>0.22</i>	<i>0.96</i>
<i>Toluene</i>	<i>0.57</i>	<i>2.50</i>
<i>Xylene</i>	<i>0.64</i>	<i>2.79</i>
Total HAPs	1.58	6.93

(1) Emissions based on GLYCalc Version 4.0 using wet gas throughputs as limited under 4.1.2.

d. **40 CFR 63, Subpart HH: Exemptions**

Exemptions. The owner or operator of an area source is exempt from the requirements of paragraph (d) of this section if the criteria listed in paragraph (e)(1)(i) or (ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in § 63.774(d)(1).

[40 CFR §63.764(e)(1)]

- (1) The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in §63.772(b)(1) of this subpart; or
[40 CFR §63.764(e)(1)(i)]
 - (2) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in § 63.772(b)(2) of this subpart.
[40 CFR §63.764(e)(1)(ii)]
- e. For the purposes of determining actual average benzene emissions, the methods specified in § 63.772(b) of 40 CFR 63, Subpart HH shall be used if the permittee is exempt from § 63.764(d).

- 4.1.3. The Reboiler shall operate according to the following requirements:
- a. The MDHI shall not exceed 0.14 mmBtu/hr and the unit shall only be fired by natural gas.
 - b. As the annual emission limits given in Table 4.1.3(c) are based on operating 8,760 hours/year, there is no limit on the annual hours of operation or fuel usage of the Reboiler;
 - c. The maximum combustion exhaust emissions from the Reboiler shall not exceed the limits given in the following table;

Table 4.1.3(c): Reboiler Emission Limits

Pollutant	PPH	TPY
CO	0.01	0.05
NO _x	0.01	0.06

- d. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[40CSR§2-3.1]
- 4.1.4. The permittee shall not load out more than 106,000 gallons of produced water per year in the truck loadout (TLO).
- 4.1.5. The permittee shall not exceed the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3262.
- 4.1.6. The Company shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.
- 4.1.7. The compressor engine shall operate according to the following requirements:

- a. Compressor engine CE-01 shall be fitted with a closed-loop, automatic air/fuel ratio controller to ensure emissions of regulated pollutants do not exceed the emission limit listed in Table 4.1.7. The closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to ensure a fuel-rich mixture and a resultant exhaust oxygen content of less than or equal to 2%.

Table 4.1.7(a): Compressor Engine Emission Limits

Pollutant	PPH	TPY
CO	0.89	3.90
NO _x	0.89	3.90

- b. The permittee shall monitor the temperature to the inlet of the catalyst in accordance with manufacturer's specifications; a high temperature alarm shall shut off the engine before thermal deactivation of the catalyst occurs. If the engine shuts off due to high temperature, the permittee shall also check for thermal deactivation of the catalyst before normal operations are resumed.
- c. The permittee shall follow a written operation and maintenance plan that provides the periodic and annual maintenance requirements.
- d. Periods of start-up and shut-down shall not exceed 30 minutes per occurrence. The permittee shall operate the engine in a manner consistent with good air pollution control practices for minimizing emissions at all times, including periods of start-up and shut-down.

- 4.1.8. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.2. **Monitoring, Compliance Demonstration and Source-Specific Recordkeeping and Reporting Requirements**

- 4.2.1. For the purposes of demonstrating compliance with the maximum dry gas throughput limit set forth in 4.1.2(a), the permittee shall monitor and maintain monthly and rolling twelve month records of the dry gas throughput of the Glycol Dehydration Unit.
- 4.2.2. Compliance with the Maximum Glycol Recirculation Limitation set forth in 4.1.2(b) shall be determined using an average of a minimum of quarterly readings of the actual glycol pump(s) rate. If more than one pump is operating simultaneously then the rate of each operating pump shall be recorded and totaled for compliance purposes.
- 4.2.3. To demonstrate compliance with area source status and the benzene exemption in 4.1.2(d), the following parameters shall be measured at a minimum frequency of once per quarter, with the exception of natural gas flowrate annual daily average, natural gas flowrate maximum design capacity and wet gas composition, in order to define annual average values or, if monitoring is not practical, some parameters may be assigned default values as listed below.
- a. Natural Gas Flowrate
 - i. Operating hours per quarter
 - ii. Quarterly throughput (MMscf/quarter)
 - iii. Annual daily average (MMscf/day), and
 - iv. Maximum design capacity (MMscf/day)
 - b. Absorber temperature and pressure
 - c. Lean glycol circulation rate
 - d. Glycol pump type and maximum design capacity (gpm)
 - e. Flash tank temperature and pressure, if applicable
 - f. Stripping Gas flow rate, if applicable
 - g. Wet gas composition (upstream of the absorber – dehydration column) sampled in accordance with GPA method 2166 and analyzed consistent with GPA extended method 2286 as well as the procedures presented in the GRI-GLYCalc™ Technical Reference User Manual and Handbook V4
 - h. Wet gas water content (lbs H₂O/MMscf)
 - i. Dry gas water content (lbs H₂O/MMscf) at a point directly after exiting the dehydration column and before any additional separation points

The following operating parameter(s) may be assigned default values when using GRI-GLYCalc:

- a. Dry gas water content can be assumed to be equivalent to pipeline quality at 7 lb H₂O / MMscf
- b. Wet gas water content can be assumed to be saturated
- c. Lean glycol water content if not directly measured may use the default value of 1.5 % water as established by GRI
- d. Lean glycol circulation rate may be estimated using the TEG recirculation ratio of 3 gal TEG / lb H₂O removed.

Note: If you are measuring and using actual wet or dry gas water content, then you should also measure the glycol circulation rate rather than using the default TEG recirculation ratio.

- 4.2.4. **40 CFR 63, Subpart HH: Test methods, Compliance Procedures, and Compliance Demonstrations** The determination of actual average benzene or BTEX emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (ii) of this section.

Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

- (i) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalcTM, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or
- (ii) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

[40 CFR §63.772(b)(2)]

- 4.2.5. The permittee shall monitor and maintain quarterly records of the temperature and pressure upstream of the produced water storage tank at the appropriate separation unit based on the calculation methodology or model being used by the permittee to calculate their VOC flash emissions in Permit Application R13-3262.
- 4.2.6. For the purposes of demonstrating compliance with visible emissions limitations set forth in 4.1.3(d), the permittee shall, at such reasonable times as the Secretary may designate, conduct Method 9 emission observations. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.
- 4.2.7. For the purposes of demonstrating compliance with the maximum truck loadout limits set forth in 4.1.4, the permittee shall monitor and record the monthly and rolling twelve month amount of produced water loaded into trucks.
- 4.2.8 Catalytic Reduction Devices (Compressor Engine)
 - a. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
 1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.
 2. Following the catalyst manufacturer emissions related operating and maintenance recommendations, or develop, implement, or follow a site-specific maintenance plan.

4.3. Testing Requirements

- 4.3.1. In any wet gas sampling required by the Secretary, the permittee shall sample wet natural gas in accordance with the Gas Processor Association (GPA) Method 2166 and analyze the samples in accordance with GPA Method 2286. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test date.

Note: The DAQ defines a representative wet gas sample to be one that is characteristic of the average gas composition dehydrated throughout a calendar year. If an isolated sample is not indicative of the annual average composition, then a company may opt to produce a weighted average based on throughput between multiple sampling events, which can be used to define a more representative average annual gas composition profile.

- 4.3.2 To demonstrate compliance with condition 4.1.7(a), the permittee shall verify that the closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to ensure a fuel-rich mixture and a resultant exhaust oxygen content of less than or equal to 2% during any performance testing.

4.4. Recordkeeping Requirements

- 4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
- a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- 4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
- a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
 - f. Steps taken to correct the malfunction.
 - g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
- 4.4.4 To demonstrate compliance with condition 4.1.7, the permittee shall maintain records of the maintenance performed on the compressor engine.
- 4.4.5 To demonstrate compliance with condition 4.2.8, the permittee shall maintain a copy of the site specific maintenance plan or manufacturer maintenance plan.

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature¹

(please use blue ink)

Responsible Official or Authorized Representative

Date

Name and Title

(please print or type)

Name

Title

Telephone No. _____

Fax No. _____

¹ This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.



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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

September 23, 2015

Don Wicburg
Williams Ohio Valley Midstream, LLC
Park Place Corporate Center 2
2000 Commerce Drive
Pittsburgh, PA 15275

RE: Application Status: Complete
Williams Ohio Valley Midstream LLC
Neehouse Compressor Station
Permit Application R13-3262
Plant ID No. 051-00165

Dear Mr. Wicburg:

Your application for a construction permit for a compressor station was received by this Division on July 31, 2015 and assigned to the writer for review. Upon review of said application, it has been determined that the application is complete as submitted and, therefore, the statutory review period commenced on August 28, 2015.

This determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit determination.

Should you have any questions, please contact me at (304) 926-0499 ext. 1218.

Sincerely,

Steven R. Pursley, PE
Engineer

c: NCRO

Danell Zawaski, Williams

NON-CONFIDENTIAL

Pursley, Steven R

From: Adkins, Sandra K
Sent: Friday, August 07, 2015 11:18 AM
To: don.wicburg@williams.com
Cc: McKeone, Beverly D; Pursley, Steven R
Subject: WV DAQ Permit Application Status for William Ohio Valley Midstream LLC; Neehouse

Categories: Red Category

**RE: Application Status
Williams Ohio Valley Midstream LLC
Neehouse Station
Plant ID No. 051-00219
Application No. R13-3262**

Mr. Wicburg,

Your application for a construction permit for the Neehouse Station was received by this Division on July 31, 2015, and was assigned to Steve Pursley.

Within 30 days, you should receive a letter from Steve stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Steve Pursley, at 304-926-0499, extension 1218.

NON CONFIDENTIAL



Williams Ohio Valley Midstream LLC
Park Place Corporate Center 2
2000 Commerce Drive
Pittsburgh, PA 15275
(412) 787-7300
(412) 787-6006 fax

August 4, 2015

WVDEP – Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

051-0065

FILE:	
COMPANY	Williams OVM
FACILITY	Neehouse
REGION	1 REG. 13-3262

Fedex Tracking number 7742 0511 9032

Subject: Legal Notice for Neehouse Compressor Station

Dear DEP:

Attached is the original legal affidavit for Neehouse Compressor Station that Williams ran the Moundsville Daily Echo newspaper on July 30, 2015. Please contact me with any questions at (505)787-7926 or at Danell.Zawaski@williams.com.

Sincerely,

Danell Zawaski
Environmental Specialist

NON-CONFIDENTIAL



(304) 845-2660
P.O. BOX 369
MOUNDSVILLE
WEST VIRGINIA
26041

AFFIDAVIT OF PUBLICATION

STATE OF WEST VIRGINIA,
COUNTY OF MARSHALL, to wit

I, Melanie S. Murdock being first duly sworn upon my oath, do depose and say:

- that I am Legal Advertising Manager of the MOUNDSVILLE DAILY ECHO, a Republican newspaper;
- that I have been duly authorized to execute this affidavit;
- that such newspaper has been published for over 119 years, is regularly published afternoons daily except Saturdays and Sundays, for at least fifty weeks during the calendar year, in the municipality of Moundsville, Marshall County, West Virginia.
- that such newspaper is a newspaper of "general circulation" as defined in Art. 3, Chap. 59 of the Code of West Virginia 1931 as amended, within Moundsville and Marshall County;
- that such newspaper averages in length four or more pages, exclusive of any cover, per issue;
- that such newspaper is circulated to the general public at a definite price or consideration;
- that such newspaper is a newspaper to which the general public resorts for passing events of a political, religious, commercial and social nature and for current happenings, announcements, miscellaneous reading matters, advertisements and other notices;
- and that the annexed notice described as follows:

Legal Advertisement

PARTY(ies)

Air Quality Public Notice / Neehouse CS

NATURE (and agency if heard before one)

CERTIF-BILL TO

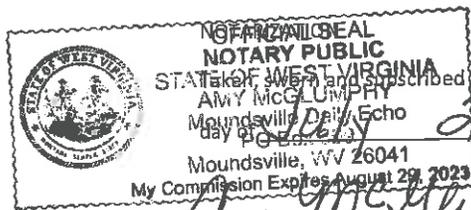
Williams Ohio Valley Midstream, LLC
Park Place Corporate Center 2
2000 Commerce Drive
Pittsburgh, PA 15275

WAS PUBLISHED IN-SAID NEWSPAPER AS FOLLOWS

Times	Dates
1	July 30, 2015

BY WORDS	PUBLICATION CHARGES
379	\$43.59

(signed) Melanie S. Murdock



STATE OF WEST VIRGINIA
Amy McClellum
Moundsville Daily Echo
Moundsville, WV 26041
My Commission Expires August 29, 2023
3/1st
Notary Public

LEGAL ADVERTISEMENT

AIR QUALITY PUBLIC NOTICE
Notice of Application

Notice is given that Williams Ohio Valley Midstream LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a 45CSR13 New Source Review (NSR) Permit for the existing Neehouse Compressor Station; located 0.4 Miles Northeast of Cross Roads/Wolf Run Rd., ~8.0 Miles East of Moundsville, in Marshall County, West Virginia. The latitude and longitude coordinates are 39.9187° North x -80.5739° West.

The applicant estimates the potential to discharge the following regulated air pollutants will be:

- 3.99 tons of nitrogen oxides per year
- 3.98 tons of carbon monoxide per year
- 45.96 tons of volatile organic compounds per year
- 0.01 tons of sulfur dioxide per year
- 0.16 tons of particulate matter per year
- 0.68 tons of benzene per year
- 0.14 tons of ethylbenzene per year
- 0.25 tons of formaldehyde per year
- 1.27 tons of n-hexane per year
- 2.56 tons of toluene per year
- 0.14 tons of 2,2,4-trimethylpentane per year
- 2.97 tons of xylenes per year
- 0.04 tons of other hazardous air pollutants per year
- 8.05 tons of total hazardous air pollutants per year
- 3,763 tons of carbon dioxide equivalent per year

Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this 27th day of July 2015.

By: Williams Ohio Valley Midstream LLC

Mr. Don Wicburg
Vice President and General Manager

100 Teletech Drive, Suite 2
Moundsville, WV 26041
PUBLISH: July 30, 2015.

NON CONFIDENTIAL



Permit / Application Information Sheet
Division of Environmental Protection
West Virginia Office of Air Quality

Company:	Williams Ohio Valley Midstream LLC	Facility:	Neehouse Station
Region:		Plant ID:	051-00165
Engineer:	Pursley, Steve	Application #:	13-3262
Physical Address:	.4 miles NE of 236 Wolf Run Rd Cameron WV 26033	Category:	SIC: [1382] OIL AND GAS EXTRACTION - OIL AND GAS EXPLORATION SERVICE NAICS: [213112] Support Activities for Oil and Gas Operations
County:	Marshall		
Other Parties:	VICE PRES - Wicburg, Don 412-787-7300 ENV_CONT - Zawaski, Danell 412-787-4259		

Information Needed for Database and AIRS
 1. Need valid physical West Virginia address with zip

Regulated Pollutants

Summary from this Permit 13-3262		
Air Programs	Fee	Applicable Regulations
Fee Program	\$3,500.00	Application Type
		CONSTRUCTION

Notes from Database

Activity Dates
 APPLICATION RECEIVED 07/31/2015
 APPLICATION FEE PAID 08/07/2015
 ASSIGNED DATE 08/07/2015

NON-CONFIDENTIAL

Please note, this information sheet is not a substitute for file research and is limited to data entered into the AIRTRAX database.

Company ID: 051-00165
 Company: Williams Ohio Valley
 Midstream
 Printed: 08/18/2015
 Engineer: Pursley, Steve

NON-CONFIDENTIAL