***West Virginia Department of Environmental Protection***
***Division of Air Quality***

*Earl Ray Tomblin*
*Governor*

*Randy C. Huffman*
*Cabinet Secretary*

# Permit to Construct

**R13-3261**

*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**
**Dewhurst Dehydration Station**
**103-00106**

*William F. Durham*
*Director*

*Issued: DRAFT*

| | |
|---|---|
| Facility Location: | Near Jacksonburg, Wetzel County, West Virginia |
| Mailing Address: | Park Place Corporate Center 2, 2000 Commerce Drive, Pittsburgh, PA 15275 |
| Facility Description: | Glycol Dehydration Unit |
| NAICS Codes: | 213112 |
| UTM Coordinates: | Easting: 532.23 km Northing: 4,369.46 km Zone: 17 |
| Latitude/Longitude: | 39.47400/-80.62500 |
| Permit Type: | Construction |
| Desc. of Change: | Construction of a natural gas dehydration station. |

*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.*

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*The source is not subject to 45CSR30.*

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## 1.0 Emission Units

| Emission Unit ID | Emission Point ID | Emission Unit Description | Year Installed | Design Capacity | Control Device |
|---|---|---|---|---|---|
| DFT-01 | 1E | Dehydrator 01 Flash Tank | 2013 | 12.5 MMscf/day | None |
| DSV-01 | 2E | Dehydrator 01 Regenerator/Still Vent | 2013 | 12.5 MMscf/day | None |
| RBV-01 | 3E | Reboiler | 2013 | 0.30 MMBtu/hr | None |
| T-01 | 4E | Produced Water Storage Tank | TBD | 8,820 gallons | None |
| TLO | 5E | Produced Water Truck Load Out | TBD | 105,840 gal/year | None |
| FUG | 1F | Piping and Equipment Fugitives | 2013 | n/a | n/a |

# 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 |
| **CBI** | Confidential Business Information |
| **CEM** | Continuous Emission Monitor |
| **CES** | Certified Emission Statement |
| **C.F.R. *or* CFR** | Code of Federal Regulations |
| **CO** | Carbon Monoxide |
| **C.S.R. *or* CSR** | Codes of State Rules |
| **DAQ** | Division of Air Quality |
| **DEP** | Department of Environmental Protection |
| **dscm** | Dry Standard Cubic Meter |
| **FOIA** | Freedom of Information Act |
| **HAP** | Hazardous Air Pollutant |
| **HON** | Hazardous Organic NESHAP |
| **HP** | Horsepower |
| **lbs/hr** | Pounds per Hour |
| **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 |
| **$PM_{10}$** | Particulate Matter less than 10µm in diameter |
| **Ppb** | Pounds per Batch |
| **pph** | Pounds per Hour |
| **ppm** | Parts per Million |
| **Ppmv or ppmv** | Parts per million by volume |
| **PSD** | Prevention of Significant Deterioration |
| **psi** | Pounds per Square Inch |
| **SIC** | Standard Industrial Classification |
| **SIP** | State Implementation Plan |
| **$SO_2$** | Sulfur Dioxide |
| **TAP** | Toxic Air Pollutant |
| **TPY** | Tons per Year |
| **TRS** | Total Reduced Sulfur |
| **TSP** | Total Suspended Particulate |
| **USEPA** | United States Environmental Protection Agency |
| **UTM** | Universal Transverse Mercator |
| **VEE** | Visual Emissions Evaluation |
| **VOC** | Volatile Organic Compounds |
| **VOL** | Volatile Organic Liquids |

## 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 R13-3261 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 R13-3261, 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, identified as S001, shall meet the following requirements:

a. The maximum dry natural gas throughput to the Glycol Dehydration Unit shall not exceed 12.5 MMscf/day or 109,500 Mmscf/year;

b. The maximum glycol recirculation rate shall not exceed 0.67 gallons per minute limit as listed in permit application R13-3261;

c. The maximum aggregate emissions generated from the Glycol Dehydrator Flash Tank (1E) and Regenerator/Still Vent (2E) and shall not exceed the limits given in the following table:

**Table 4.1.3(a): Glycol Dehydrator Regeneration Still Vent/Flash Tank Emission Limits(1)**

| Pollutant | PPH | TPY |
|---|---|---|
| **VOC** | 3.55 | 15.53 |
| ***Benzene*** | *0.07* | *0.33* |
| ***Ethylbenzene*** | *0.03* | *0.14* |
| ***n-Hexane*** | *0.04* | *0.17* |
| ***Toluene*** | *0.32* | *1.42* |
| ***Xylene*** | *1.61* | *7.07* |
| **Total HAPs** | 2.08 | 9.12 |

(1) Emissions based on GLYCalc Version 4.0 using wet gas throughputs as limited under 4.1.2. and a 20% safety factor.

d. The Glycol Dehydration Unit shall be designed and operated to recycle a minimum of 50% of the vapors from the Glycol Dehydrator Flash Tank as fuel in the Reboiler.

e. **40 CFR 63, Subpart HH: Applicability and Designation of Affected Source**
Any source that has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP (i.e., 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination or October 15, 2012, whichever is later, and each year thereafter, using gas composition data measured during the preceding 12 months.
**[40CFR§63.760(c)]**

f. **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)]**

g. 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 0.30 mmBtu/hr and the unit shall only be fired by natural gas or flash tank off-gas;

b. As the annual emission limits given in Table 4.1.4(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 4.1.4(c): Reboiler Emission Limits**

| Pollutant | PPH | TPY |
|---|---|---|
| **CO** | 0.02 | 0.11 |
| **$NO_x$** | 0.03 | 0.13 |

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 109,500 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 R13-3261.

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. **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(g), 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 $H_2O$/MMscf)
i. Dry gas water content (lbs $H_2O$/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 $H_2O$ / 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 $H_2O$ 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 R13-3261.

4.2.6. For the purposes of demonstrating compliance with visible emissions limitations set forth in, the permittee shall, at such reasonable times as the Secretary may designate, conduct Method 9 emission observations for the purpose of demonstrating compliance with section 4.1.3(d). 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.

## 4.3. 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.

## 4.4. General 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.

# 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.

Signature[1] _ _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name and Title_____ _ _____
(please print or type) Name Title

Telephone No._ _____ Fax No._____

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[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.