west virginia department of environmental protection

Division of Air Quality
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

August 24, 2015

CERTIFIED MAIL
91 7199 9991 7034 1380 3410

Mr. Brian Sheppard, Vice President, Pipeline Operations
Dominion Transmission, Inc.
445 West Main Street
Clarksburg, WV 26301

RE: **Permit Issuance**
Dominion Transmission, Inc.
Craig Station
Permit No. R13-2497A
Plant ID No. 085-00004

Dear Mr. Sheppard:

Your application for a permit as required by Section 5 of 45CSR13 - "Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permit, General Permit, and Procedures for Evaluation" has been approved. The enclosed permit R13-2497A is hereby issued pursuant to Subsection 5.7 of 45CSR13. Please be aware of the notification requirements in the permit which pertain to commencement of construction, modification, or relocation activities; startup of operations; and suspension of operations. Please note that the source, however, is not subject to 45CSR30.

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.

Should you have any questions or comments, please contact me at (304) 926-0499, extension 1219.

Sincerely,

Joe Kessler, PE
Engineer

Enclosures

West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Modify

R13-2497A

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:

Dominion Transmission, Inc.
Craig Compressor Station
085-00004

William F. Durham
Director

Issued: August 24, 2015

This permit will supercede and replace Permit R13-2497 issued on September 27, 2002.

Facility Location:	Near Smithville, Ritchie County, West Virginia
Mailing Address:	445 West Main Street, Clarksburg, WV, 26301
Facility Description:	Compressor Station
SIC/NAICS Codes:	4922/486210
UTM Coordinates:	491.49 km Easting • 4,324.68 km Northing • Zone 17
Latitude/Longitude:	39.07309/-81.098380
Permit Type:	Modification
Desc. of Change:	Replacement/Removal of the existing dehydration unit with a new unit. Existing compressor engines are grandfathered.

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 subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
DEHY02	DEHY02 (2C)	Dehydrator Still Column	2015	18 mmscf/day	Thermal Oxidizer
	n/a	Dehydrator Flash Tank			None(1)
RBR02	RBR02	Reboiler	2015	0.75 mmBtu/hr	None
2C	2C	Thermal Oxidizer	2015	3.2 mmBtu/hr	n/a

(1) Emissions from the flash tank are captured and recycled/returned to the plant by the facility compressor engines.

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	**NO_x**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission Monitor	**PM**	Particulate Matter
CES	Certified Emission Statement	**$PM_{2.5}$**	Particulate Matter less than 2.5μm in diameter
C.F.R. *or* CFR	Code of Federal Regulations	**PM_{10}**	Particulate Matter less than 10μm in diameter
CO	Carbon Monoxide	**Ppb**	Pounds per Batch
C.S.R. *or* CSR	Codes of State Rules	**pph**	Pounds per Hour
DAQ	Division of Air Quality	**ppm**	Parts per Million
DEP	Department of Environmental Protection	**Ppmv or ppmv**	Parts per million by volume
dscm	Dry Standard Cubic Meter	**PSD**	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	**psi**	Pounds per Square Inch
HAP	Hazardous Air Pollutant	**SIC**	Standard Industrial Classification
HON	Hazardous Organic NESHAP	**SIP**	State Implementation Plan
HP	Horsepower	**SO_2**	Sulfur Dioxide
lbs/hr	Pounds per Hour	**TAP**	Toxic Air Pollutant
LDAR	Leak Detection and Repair	**TPY**	Tons per Year
M	Thousand	**TRS**	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	**TSP**	Total Suspended Particulate
MDHI	Maximum Design Heat Input	**USEPA**	United States Environmental Protection Agency
MM	Million	**UTM**	Universal Transverse Mercator
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**VEE**	Visual Emissions Evaluation
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour	**VOC**	Volatile Organic Compounds
NA	Not Applicable	**VOL**	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

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 supercedes and replaces previously issued Permit R13-2497A. 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 R13-2497B 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.** In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a Certified Emissions Statement (CES) and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt 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/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized by this permit. In accordance with the information filed in Permit Application R13-2497A, 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, shall use the specified control devices, and comply with any other information provided under Table 1.0.

4.1.2. The maximum wet natural gas throughput to the Inegral triethylene glycol (TEG) Glycol Dehydration Unit (GDU), identified as DEHY02, shall not exceed 18 mmscf/day or 6,570 mmscf/year.

4.1.3. The Glycol Dehydration Unit, identified as DEHY02, shall meet the following requirements:

a. The maximum emissions from the Glycol Dehydrator Regeneration Still Vent, as emitted after combustion at the thermal oxidizer (2C), shall not exceed the limits given in the following table:

Table 4.1.3(a): Glycol Dehydrator Regeneration Still Vent Controlled Emission Limits(1)

Pollutant	PPH	TPY
VOC	6.83	29.91
Benzene	*0.05*	*0.20*
Ethylbenzene	*0.04*	*0.19*
n-Hexane	*0.05*	*0.23*
Toluene	*0.26*	*1.14*
Xylene	*1.79*	*7.82*
Total HAPs	2.27	9.94

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

b. Vapors captured from the Glycol Dehydrator Flash Tank shall be captured by the plant compression and recycled back into the plant using a closed vent process; and

c. **40 CFR 63, Subpart HH: General Standard**
Except as specified in paragraph (e)(1) of this section, the owner or operator of an affected source located at an existing or new area source of HAP emissions shall comply with the applicable standards specified in paragraph (d) of this section.
[40 CFR §63.764(d)]

(1) Each owner or operator of an area source located within an UA plus offset and UC boundary (as defined in §63.761) shall comply with the provisions specified in paragraphs (d)(1)(i) through (iii) of this section.
[40 CFR §63.764(d)(1)]

(i) The control requirements for glycol dehydration unit process vents specified in §63.765;
[40 CFR §63.764(d)(1)(i)]

(ii) The monitoring requirements specified in §63.773; and
[40 CFR §63.764(d)(1)(ii)]

(iii) The recordkeeping and reporting requirements specified in §§63.774 and 63.775.
[40 CFR §63.764(d)(1)(iii)]

(2) Each owner or operator of an area source not located in a UA plus offset and UC boundary (as defined in §63.761) shall comply with paragraphs (d)(2)(i) through (iii) of this section.
[40 CFR §63.764(d)(2)]

(i) Determine the optimum glycol circulation rate using the following equation:

L_{OPT} = [1.15*(3.0 gal TEG/lb H_2O)]*[F*[I-O]/(24 hr/day)]

Where:

L_{OPT} = Optimal circulation rate, gal/hr.

F = Gas flowrate (MMSCF/D).

I = Inlet water content (lb/MMSCF).

O = Outlet water content (lb/MMSCF).

3.0 = The industry accepted rule of thumb for a TEG-to water ratio (gal TEG/lb H_2O).

1.15 = Adjustment factor included for a margin of safety.
[40 CFR §63.764(d)(2)(i)]

(ii) Operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate determined in accordance with paragraph (d)(2)(i) of this section. If the TEG dehydration unit is unable to meet the sales gas specification for moisture content using the glycol circulation rate determined in accordance with paragraph (d)(2)(i), the owner or operator must calculate an alternate circulation rate using GRI-GLYCalcTM, Version 3.0 or higher. The owner or operator must document why the TEG dehydration unit must be operated using the alternate circulation rate and submit this documentation with the initial notification in accordance with §63.775(c)(7).
[40 CFR §63.764(d)(2)(ii)]

(iii) Maintain a record of the determination specified in paragraph (d)(2)(ii) in accordance with the requirements in §63.774(f) and submit the Initial Notification in accordance with the requirements in §63.775(c)(7). If operating conditions change and a modification to the optimum glycol circulation rate is required, the owner or operator shall prepare a new determination in accordance with paragraph (d)(2)(i) or (ii) of this section and submit the information specified under §63.775(c)(7)(ii) through (v).
[40 CFR §63.764(d)(2)(iii)]

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)]

4.1.4. The Glycol Dehydrator Reboiler, identified as RBR02, shall meet the following requirements:

a. The MDHI of the unit shall not exceed 0.75 mmBtu/hr and shall only be fired by natural gas;

b. The maximum emissions from the Reboiler's combustion exhaust shall not exceed the limits given in the following table;

Table 4.1.4(b): Reboiler Emission Limits

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
CO	0.09	0.41
NO_x	0.11	0.48

c. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or natural gas combusted on an annual basis for the Reboiler; and

d. **45CSR2**
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]

4.1.5. The permittee shall operate the Questor Q100 Thermal Oxidizer, identified as 2C, according to the following requirements:

a. The combustion exhaust emissions from the Thermal Oxidizer (does not include pass-through VOC/HAP emissions from the GDU Regenerator Still Vent) shall not exceed the following limits:

Table 4.1.5(a): Thermal Oxidizer Emission Limits

Pollutant	Hourly (lb/hr)	Annual (ton/yr)
CO	0.99	4.35
NO_x	0.22	0.98

b. The Thermal Oxidizer shall have an MDHI not to exceed 3.2 mmBtu/hr;.

c. The pilot flame shall be present at all times when the thermal oxidizer is operating, as determined by the methods specified in section 4.2.3.;

d. The Thermal Oxidizer shall be designed for and operated with no visible emissions as determined by the methods specified in permit section 4.2.5. except for either (1) or (2):

(1) periods not to exceed a total of one minute during any 15 minute period, determined on monthly basis; or

(2) periods not to exceed a total of 2 minutes during any hour, determined on a quarterly basis if the enclosed combustion device installed was a model tested under §60.5413(d) which meets the criteria in §60.5413(d)(11).

e. The Thermal Oxidizer shall be operated at all times when emissions may be vented to it. To ensure compliance with 4.1.5(e), the permittee shall monitor in accordance with 4.2.3.;

f. The Thermal Oxidizer shall be designed, operated, and maintained according to good engineering practices or manufacturing recommendations so as to achieve, at a minimum, a hydrocarbon combustion rate of 95.0%; and

g. The permittee shall operate and maintain the Thermal Oxidizer according to the manufacturer's specifications for operating and maintenance requirements to maintain the guaranteed control efficiency given under 4.1.5(f). To demonstrate compliance with section 4.1.5(g), the permittee shall maintain records of the manufacturer's specifications for operating and maintenance requirements to maintain the control efficiency; and

h. **45CSR6**
The Thermal Oxidizer is subject to 45CSR6. The applicable requirements of 45CSR6 include but are not limited to the following:

(1) The permittee shall not cause, suffer, allow or permit particulate matter to be discharged from the flares into the open air in excess of the quantity determined by use of the following formula:

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

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

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

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

[45CSR§6-4.1]

(2) No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.
[45CSR6 §4.3]

(3) The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.
[45CSR6 §4.4]

(4) No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR6 §4.5]

(5) Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR6 §4.6]

(6) Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR6 §8.2]

4.1.6. **Closed Vent Requirements**
The permittee shall meet the following requirements for delivering vapors to the Thermal Oxidizer:

a. The closed vent system shall be designed and operated: (a) with no detectable emissions as determined using olfactory, visual, and auditory inspections; and (b) to route all gases, vapors, and fumes emitted from the system to the applicable control device in order to be in compliance with minimum control efficiency requirements for each control device; or (c) route all gases, vapors, and fumes emitted from the system to a process as required;

b. If a bypass line exists, the permittee shall either: (a) secure the bypass valve with a car-seal or a lock-and-key type configuration in the non-diverting position to prevent inadvertent bypass; or (b) install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere that sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the bypass device is open such that the stream is being, or could be, diverted away from the control device or process to the atmosphere; and

c. Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to requirement (b).

4.1.7. The existing GDU shall cease operating upon startup of the new GDU and the existing GDU shall be rendered inoperable by cutting all fuel and process gas lines to the unit within ninety (90) days of the startup of the new GDU.

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, Recording and Reporting Requirements

4.2.1. GDU Wet Gas Throughput

For the purposes of demonstrating compliance with the maximum wet gas throughput limit set forth in 4.1.2., the permittee shall monitor daily, monthly and rolling twelve month records of the wet gas throughput of the Glycol Dehydration Unit.

4.2.2. Fuel Burning Unit Visibility Compliance (RBR02)

For the purposes of demonstrating compliance with the visible emission standard set forth in 4.1.4(d), the permittee shall do the following:

a. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with 4.1.4(d) of this permit. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

b. The permittee shall maintain records of all monitoring data required by section 4.2.2 of this permit documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80EF, 6 - 10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9.

c. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

4.2.3. Thermal Oxidizer Pilot Flame Monitoring

To demonstrate compliance with the pilot flame requirements of section 4.1.5(c), the permittee shall follow both (a) and (b), or as an alternative, follow just (c). Further, the permittee is eligible for an exemption to the requirements under (a) through (c) as given under (d):

a. At a minimum frequency of once per calendar month when the GDU operates at least one consecutive 24 hour period during the month, conduct visual inspections to confirm that the pilot is lit when vapors are being routed to the enclosed combustion device and that the continuous burning pilot flame is operating properly;

b. For any absence of pilot flame, or other indication of smoking or improper equipment operation, you must ensure the equipment is returned to proper operation as soon as practicable after the event occurs. At a minimum, you must: (1) Check the air vent for obstruction. If an obstruction is observed, you must clear the obstruction as soon as practicable. (2) Check for liquid reaching the combustor;

c. As an alternative, the permittee may demonstrate compliance with the pilot flame requirements of 4.1.5(c) by continuously monitoring using a thermocouple or any other equivalent device to detect the presence of a flame when emissions are vented to it; and

d. The permittee is exempt from the pilot flame requirements of paragraphs (a) and (b) of this section if the permittee installed an enclosed combustion device model that was tested under §60.5413(d) which meets the criteria in § 60.5413(d)(11). To demonstrate compliance with section 4.2.3(d), the permittee shall maintain a record of the performance test results conducted by the manufacturer.

4.2.4. **Thermal Oxidizer Pilot Flame Record-keeping**

For the purpose of demonstrating compliance with the continuous pilot flame requirements in 4.1.5(c), the permittee shall maintain records of the times and duration of all periods when the pilot flame was not present and that vapors were vented to the device:

a. If the permittee is demonstrating compliance to 4.2.3. with visual inspections, the permittee shall maintain records of the inspections; and

b. If the permittee is demonstrating compliance to 4.2.3 with an enclosed combustion device model that was tested under the conditions of §60.5413(d), a record shall be maintained of the performance test results.

4.2.5. **Thermal Oxidizer Visibility Monitoring**

To demonstrate compliance with the visible emissions requirements of section 4.1.5(d), the permittee shall conduct the following checks and / or opacity monitoring and recordkeeping:

a. The visible emission check shall determine the presence or absence of visible emissions. The observations shall be conducted according to Section 11 of EPA Method 22. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course. The observation period shall be:

(1) *[reserved]*
(2) a minimum of 15 minutes if demonstrating compliance with 4.1.5(d)(1); or
(3) a minimum of 1 hour if demonstrating compliance with 4.1.5(d)(2)

b. The visible emission check shall be conducted initially within 180 days of start-up to demonstrate compliance;

c. If during this visible emission check or at any other time visible emissions are observed, compliance with section 4.1.5(d) shall be determined by conducting opacity tests in accordance with Method 9 or 40 CFR 60, Appendix A; and

d. For the purpose of demonstrating compliance with the visible emissions and opacity requirements, the permittee shall maintain records of the visible emission opacity tests and checks. The permittee shall maintain records of all monitoring data required by section 4.2.10 documenting the date and time of each visible emission check, the emission point or equipment / source

identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6-10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9. For an emission unit out of service during the evaluation, the record of observation may note "out of service" (O/S) or equivalent.

4.2.6. **Closed Vent Monitoring**

To demonstrate compliance with the closed vent system requirements of section 4.1.6, the permittee shall:

a. Initial requirements

Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days of start-up. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.

i. The annual inspection shall include the bypass inspection, conducted according to paragraph (c) of this section.

ii. In the event that a leak or defect is detected, you must repair the leak or defect as soon as practicable. Grease or another applicable substance must be applied to deteriorating or cracked gaskets to improve the seal while awaiting repair.

iii. Delay of repair of a closed vent system for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, or if you determine that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. You must complete repair of such equipment by the end of the next shutdown.

b. Continuous requirements

Conduct an annual visual, olfactory, and auditory inspection for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.

i. The annual inspection shall be conducted within 365 calendar days from the date of the previous inspection or earlier.

ii. The annual inspection shall include the bypass inspection, conducted according to paragraph (c) of this section.

c. Bypass inspection

Visually inspect the bypass valve during the initial and annual inspection for the presence of the car seal or lock-and-key type configuration to verify that the valve is maintained in the non-diverting position to ensure that the vent stream is not diverted through the bypass device. If an alternative method is used, conduct the inspection of the bypass as described in the operating procedures.

d. Unsafe to inspect requirements

You may designate any parts of the closed vent system as unsafe to inspect if the requirements

in paragraphs (i) and (ii) of this section are met. Unsafe to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.

i. You determine that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with the requirements.

ii. You have a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

e. Difficult to inspect requirements
You may designate any parts of the closed vent system as difficult to inspect, if the requirements in paragraphs (i) and (ii) of this section are met. Difficult to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.

i. You determine that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface.

ii. You have a written plan that requires inspection of the equipment at least once every 5 years.

4.2.7. **Closed Vent Recordkeeping**
To demonstrate compliance with the closed vent monitoring requirements in 4.2.6, records shall be maintained of:

a. The initial compliance requirements;

b. Each annual visual inspection conducted to demonstrate continuous compliance, including records of any repairs that were made as a result of the inspection;

c. If you are subject to the bypass requirements, the following records shall also be maintained:

(i) Each inspection or each time the key is checked out or a record each time the alarm is sounded; and

(ii) Each occurrence that the control device was bypassed. If the device was bypassed, the records shall include the date, time, and duration of the event and shall provide the reason that the event occurred. The record shall also include the estimate of emissions that were released to the environment as a result of the bypass.

d. Any part of the system that has been designated as "unsafe to inspect" in accordance with 4.2.6(d) or "difficult to inspect" in accordance with 4.2.6(e).

4.2.8. The permittee shall meet all applicable monitoring, compliance demonstration, recording and reporting requirements given in 45CSR2, 45CSR6, and 40 CFR 63, Subpart HH.

4.3. Testing Requirements

4.3.1. At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations or minimum control device efficiencies established in this permit and/or applicable regulations.

4.3.2. In order to demonstrate compliance with 4.1.3(a), upon request of the Director, the permittee shall demonstrate compliance with the VOC/HAP emissions limits using GLYCalc Version 3.0 or higher. The permittee shall sample in accordance with GPA Method 2166 and analyze the samples utilizing the extended GPA Method 2286 as specified in the GRI-GLYCalc V4 Technical Reference User Manual and Handbook.

4.3.3. The permittee shall meet all applicable performance testing requirements given in 45CSR2, 45CSR6, and 40 CFR 63, Subpart HH.

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. The permittee shall meet all applicable record-keeping requirements given in 45CSR2, 45CSR6, and 40 CFR 63, Subpart HH.

4.5. General Reporting Requirements

4.5.1. Any deviation of the allowable visible emission requirement for any emission source discovered during observation using 40CFR Part 60, Appendix A, Method 9 per section 4.2.5 must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

4.5.2. Any bypass event of the registered control device must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the date of the bypass, the estimate of VOC emissions released to the atmosphere as a result of the bypass, the cause or suspected cause of the bypass, and any corrective measures taken or planned.

4.5.3. Any time the air pollution control device is not operating when emissions are vented to it, shall be reported in writing to the Direction of the Division of Air Quality as soon as practicable, but within ten (10) calendar days of the discovery.

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.