

Permit Writer	Edward S. Andrews, P.E.
Email Address	edward.s.andrews@wv.gov
Company Name	Dominion Transmission Inc.
Company ID	103-00006
Facility Name	Hastings Compressor Station
Permit Number	R13-3249
County	Wetzel
Newspaper	<i>Wetzel Chronicle</i>
Company Contact & Email	Rebekah.J.Remick@dom.com
Consultant Email Address	N/A
Regional Office (if applicable)	Jamie Jarrett <i>ok</i>

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# INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name Dominion Transmission Inc. - Hastings C.S.

Permitting Action Number R13-324E Total Days \_\_\_\_\_ DAQ Days \_\_\_\_\_

**Permitting Action:**

- Permit Determination
- General Permit
- Administrative Update
- Temporary
- Relocation
- Construction
- Modification
- PSD (Rule 14)
- NNSR (Rule 19)

**Documents Attached:**

- Engineering Evaluation/Memo
- Draft Permit
- Notice
- Denial
- Final Permit/General Permit Registration
- Completed Database Sheet
- Withdrawal
- Letter
- Other (specify) \_\_\_\_\_

Date	From	To	Action Requested
8/11	EE	Bew	Please Review
8/19	Bew	Ed	See comments - Addendum Cost Notice

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



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

<b>Company:</b>	Dominion Transmission, Inc.		<b>Facility:</b>	Hastings Comp. Sta	
<b>Region:</b>	2	<b>Plant ID:</b>	103-00006	<b>Application #:</b>	13-3249
<b>Engineer:</b>	Andrews, Edward S.			<b>Category:</b>	Gas Comp
<b>Physical Address:</b>	West Side of Route 20 Approx 1 Mi. South of Pine Grove WV 26419			<b>SIC:</b> [4922] ELECTRIC, GAS AND SANITARY SERVICES - NATURAL GAS TRANSMISSION <b>NAICS:</b> [486210] Pipeline Transportation of Natural Gas  <b>SIC:</b> [1311] OIL AND GAS EXTRACTION - CRUDE PETROLEUM & NATURAL GAS <b>NAICS:</b> [211111] Crude Petroleum and Natural Gas Extraction	
<b>County:</b>	Wetzel				
<b>Other Parties:</b>	VICE PRES - Sheppard, Brian 304-627-3733 Contact - Remick, Rebekah 804-273-3536				

<b>Information Needed for Database and AIRS</b>
1. Pending result code (99) more than two months old

<b>Regulated Pollutants</b>		
CO	Carbon Monoxide	5.040 TPY
PM10	Particulate Matter < 10 um	0.060 TPY
SO2	Sulfur Dioxide	0.002 TPY
VOC	Volatile Organic Compounds (Reactive organic gases)	7.240 TPY
PM2.5	Particulate Matter < 2.5 um	0.060 TPY
THAP	Total HAP Pollutants BENZENE-D6	0.860 TPY 0.100 TPY
NOX	Nitrogen Oxides (including NO, NO2, NO3, N2O3, N2O4, and N2O5)	1.440 TPY
CO2E	Carbon Dioxide Equivalents	1308.000 TPY

<b>Summary from this Permit 13-3249</b>		
<b>Air Programs</b>	<b>Applicable Regulations</b>	
TITLE V	02 10 60 KKK 63 HH	
Title V/Major		
<b>Fee Program</b>	<b>Fee</b>	<b>Application Type</b>
8D	\$3,500.00	MODIFICATION

**Notes from Database**  
 Permit Note: This action is for the replacement of existing Dehy and control device. The still vent and flash tank of new unit will be controlled by a Q50 enclosed combustion device.

<b>Activity Dates</b>	
APPLICATION RECEIVED	03/26/2015
APPLICATION FEE PAID	03/27/2015
ASSIGNED DATE	03/27/2015
APPLICANT PUBLISHED LEGAL AD	04/01/2015
ASSIGNED DATE	04/09/2015 Assigned to EA
APPLICATION DEEMED COMPLETE	05/06/2015

**NON-CONFIDENTIAL**

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

Company ID: 103-00006  
 Company: Dominion Transmission, Inc.  
 Printed: 08/10/2015  
 Engineer: Andrews, Edward S.

# AIR QUALITY PERMIT NOTICE

## Notice of Intent to Approve

On March 26, 2015, Dominion Transmission, Inc. applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a natural gas dehydration unit at the Hasting Compressor Station located on Shoreline Highway off of Route 20, near Pine Grove, Wetzel County, WV at latitude 39.550214 and longitude -80.672916. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3249.

The following potential emissions will be authorized by this permit action: Particulate Matter less than 10 microns, 0.06 tons per year (TPY); Particulate Matter, 0.06 TPY; Sulfur Dioxide, 0.002 TPY; Oxides of Nitrogen, 1.44 TPY; Carbon Monoxide, 5.04 TPY; Volatile Organic Compounds, 7.24 TPY; Total Hazardous Air Pollutant, 0.86 TPY, of which Benzene is less than 0.10 tons; and Carbon Dioxide Equivalent, 1,308 TPY.

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

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

Edward S. Andrews, P.E.  
WV Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
Telephone: 304/926-0499, ext. 1214  
FAX: 304/926-0478

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

[www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx](http://www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx)

*West Virginia Department of Environmental Protection*  
Earl Ray Tomblin  
Governor

*Division of Air Quality*

Randy C. Huffman  
Cabinet Secretary

# Permit to Modify



**R13-3249**

*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 above-referenced facility 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.**  
**Hastings Compressor Station**  
**103-00006**

---

*William F. Durham*  
*Director*

*Issued: **DRAFT***

Facility Location: Off Shortline Highway off of Route 20  
Pine Grove, Wetzel County, West Virginia  
Mailing Address: 445 West Main Street  
Clarksburg, WV 26301-2843  
Facility Description: Production Gas and Transmission Gas Compression Station  
NAICS Codes: 486210  
UTM Coordinates: 528.64 km Easting • 4377.66 km Northing • Zone 17  
Permit Type: Modification  
Description of Change: This action is for the replacement of a dehydration unit with flare that controls the still vent of the dehydration unit.

*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 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**

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Design Capacity</b>	<b>Control Device</b>
005-06	RBR02	Reboiler (0.55 MMBtu/hr) for glycol regenerator	2015	0.55 MMBtu/hr	None
004-02	DEHY1	TEG Dehydration Unit with flash tank	2015	7.5 MMscf/day	DEHY1
DEHY1	DEHY1	Enclosed Combustion Device – Questor Q50	2015	2 MMBtu/hr	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 (45CSR§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

<b>CAAA</b>	Clean Air Act Amendments	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>CBI</b>	Confidential Business Information	<b>NSPS</b>	New Source Performance Standards
<b>CEM</b>	Continuous Emission Monitor	<b>PM</b>	Particulate Matter
<b>CES</b>	Certified Emission Statement	<b>PM<sub>2.5</sub></b>	Particulate Matter less than 2.5 μm in diameter
<b>C.F.R. or CFR</b>	Code of Federal Regulations	<b>PM<sub>10</sub></b>	Particulate Matter less than 10μm in diameter
<b>CO</b>	Carbon Monoxide	<b>Ppb</b>	Pounds per Batch
<b>C.S.R. or CSR</b>	Codes of State Rules	<b>Pph</b>	Pounds per Hour
<b>DAQ</b>	Division of Air Quality	<b>Ppm</b>	Parts per Million
<b>DEP</b>	Department of Environmental Protection	<b>Ppm<sub>v</sub> or ppmv</b>	Parts per Million by Volume
<b>dscm</b>	Dry Standard Cubic Meter	<b>PSD</b>	Prevention of Significant Deterioration
<b>FOIA</b>	Freedom of Information Act	<b>Psi</b>	Pounds per Square Inch
<b>HAP</b>	Hazardous Air Pollutant	<b>SIC</b>	Standard Industrial Classification
<b>HON</b>	Hazardous Organic NESHAP	<b>SIP</b>	State Implementation Plan
<b>HP</b>	Horsepower	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>lbs/hr</b>	Pounds per Hour	<b>TAP</b>	Toxic Air Pollutant
<b>LDAR</b>	Leak Detection and Repair	<b>TPY</b>	Tons per Year
<b>M</b>	Thousand	<b>TRS</b>	Total Reduced Sulfur
<b>MACT</b>	Maximum Achievable Control Technology	<b>TSP</b>	Total Suspended Particulate
<b>MDHI</b>	Maximum Design Heat Input	<b>USEPA</b>	United States Environmental Protection Agency
<b>MM</b>	Million	<b>UTM</b>	Universal Transverse Mercator
<b>MMBtu/hr or mmbtu/hr</b>	Million British Thermal Units per Hour	<b>VEE</b>	Visual Emissions Evaluation
<b>MMCF/hr or mmcf/hr</b>	Million Cubic Feet per Hour	<b>VOC</b>	Volatile Organic Compounds
<b>NA</b>	Not Applicable	<b>VOL</b>	Volatile Organic Liquids
<b>NAAQS</b>	National Ambient Air Quality Standards		
<b>NESHAPS</b>	National Emissions Standards for Hazardous Air Pollutants		

### **2.3. Authority**

This permit is issued in accordance with West Virginia Air Pollution Control Act 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 supersedes and replaces previously issued Permit R13-1801F. 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 other 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 R13-3249, 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 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; and
- 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 emissions, 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 45CSR11.  
[45CSR§11-5.2.]

#### 3.2. Monitoring Requirements

*[Reserved]*

#### 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 57<sup>th</sup> Street  
Charleston, WV 25304-2345

**If to the US EPA:**  
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 45CSR30 – Operating Permit Program, the permittee shall submit a certified emissions statement 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. The limitations set forth in this condition are hereby established to ensure that the permittee operates and maintains the glycol dehydration unit (affected source) with associated control device(s) that limit hazardous air pollutant emissions to below the major source threshold value of HAPs as defined in 40 CFR §63.761 (Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities) as follows:

- a. The maximum amount of wet natural gas processed through the dehydration unit shall not exceed 7.5 MMscf per day. Compliance with this limit shall be determined using a 12-month rolling total.
- b. The effluent generated by the flash tank of the dehydration unit shall be routed through a closed vent system to the control device identified as DEHY1 at all times while the dehydration unit is in operation.
- c. The effluent generated by the still vent shall be routed through a closed vent system to the control device (DEHY1) at all times while the dehydration unit is in operation.
- d. The control device (DEHY1) shall be operated and maintained in accordance with Condition 4.1.2.
- e. The re-boiler shall be operated and maintained in accordance with Condition 4.1.3.
- f. The closed vent system as required in this condition shall meet the following:
  - i. The system shall be constructed of hard piping
  - ii. The system shall be constructed and maintained free of leaks. A leaking component is defined as a measured instrument reading greater than 500 ppm above background or by visual inspection.
  - iii. Detected leaks shall be repaired as soon as practicable with the first attempt at repair within 5 calendar days after detecting the leak. Repair shall be completed no later than 15 calendar days after the leak is detected.

[45 CSR §13-5.11.]

4.1.2. The permittee shall operate and maintain the control device (DEHY1) for the dehydration unit in accordance with the following emission limitations and operating parameters.

- a. Emissions of VOC from DEHY1 shall not exceed 1.64 pounds per hour. Annual VOC emissions from the DEHY1 shall not exceed 7.17 tons per year.
- b. Total hazardous air pollutants (HAPs), which include BTEX, from the flare shall not exceed 0.22 pounds per hour. Annual HAP emissions from the DEHY1 shall not exceed 0.98 tons per year.
- c. Compliance determination with the emission limits in items a & b of this condition shall be made by using GYCALC™ 3.0 or higher.

- d. Particulate matter emissions from the flare shall not exceed 0.01 pounds per hour. Compliance with this limit is satisfied by complying with requirements of Condition 4.1.2.f. [45 CSR §6-4.3.]
  - e. The effluent routed to DEHY1 shall not contain hydrogen sulfide greater than 50 grains per 100 cubic feet of gas. Compliance with this limit is satisfied by limiting the hydrogen sulfide (H<sub>2</sub>S) loading of the incoming natural gas to the facility to no greater than 10 grains of H<sub>2</sub>S per 100 cubic feet of natural gas. [45 CSR §10-5.1.]
  - f. The permittee shall operate and maintain DEHY1 in a manner to minimize emissions. Such operation of the control device shall constitute the following:
    - i. DEHY1 shall not exhibit any visible emissions, except for periods not to exceed a total of 5 minutes during two consecutive hours. [45 CSR §6-4.3.]
    - ii. The pilot flame for DEHY1 shall be lit at all times when the dehydration unit is operating. The fuel source for the pilot light shall be either natural gas, flash tank off gas, or a combination of the two fuels.
    - iii. The actual flowrate of effluent to DEHY1 shall not exceed 35 standard cubic feet per minute, which is the maximum flowrate rated by the manufacturer. Compliance with this limit is satisfied by using the predicted flowrates from the GLYCALC results.
  - g. The flare shall be constructed, operated, and maintained to achieve, at the minimum, 95% destruction efficiency for VOCs and volatile HAPs.
- 4.1.3. The permittee shall operate and maintain the reboiler (005-06) for the dehydration unit in accordance with the following emission limitations and operating parameters.
- a. Visible emissions from the emission point RBR02 shall not exceed 10% opacity on a 6-minute block average. Compliance with this requirement is satisfied by complying with the fuel type restriction in Condition 4.1.3.b. [45 CSR §2-3.1]
  - b. The reboiler shall only be fueled with natural gas.
- 4.1.4. The permittee shall implement leak detection and repair program for the dehydration unit in wet gas service:
- a. For pressure relief devices:
    - i. The pressure relief devices for the flash tank and glycol reboiler shall be equipped with at the least a visual indicator that indicates that a pressurized release has occurred.
    - ii. The pressure relief devices for the flash tank and glycol reboiler shall be monitored to determine if the device has completely seated within 5 days after each pressure release to detect leaks.
  - b. The equipment, to include connectors, for the dehydration unit shall be free of defects including, 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. If using Method 21, an instrument reading of 10,000 ppm or greater is classified as a leak.

- c. When a defect or leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected.
- d. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- e. Sampling connection systems are exempt from the requirements of this condition.

**4.1.5. 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 Requirements**

- 4.2.1. The permittee shall monitor and record the following parameters for the purpose of demonstrating compliance with Conditions 4.1.1., 4.1.2., and 4.1.3.:
  - a. The throughput of wet natural gas processed through the dehydration unit on a daily basis, days the dehydration unit operated, and annual natural gas flowrate.  
[40 CFR §63.774(d)(1)]
  - b. Determine actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) by converting the annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.  
[40 CFR §63.772(b)(1)(i)]
  - c. Identify any periods there was no flame present for the pilot of the flare when the dehydration unit was in operation.
  - d. Determination of the actual average benzene emissions from the dehydration unit shall be made using the model GRIGLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ 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).  
[40 CFR §63.772(b)(2)(i) & 63.774(d)(1)(ii)]
  - e. Records of such monitoring shall be maintained in accordance with Condition 3.4.1.
- 4.2.2. For the purpose of demonstrating compliance with Condition 4.1.2.e., the permittee shall conduct gas sampling at a point that is representative of the incoming natural gas to the facility and analyzing the sample to determine the hydrogen sulfide content of the sample. At a minimum, such sampling and analysis shall be conducted once per calendar year. Records of such monitoring shall be maintained in accordance with Condition 3.4.1. of this permit.  
[45 CSR §10-8.3.a.]
- 4.2.3. For the purpose of demonstrating proper operation of the flare, the permittee shall conduct a visible emission observation using Section 11 of Method 22 for one hour once every calendar

quarter in which the dehydration unit operates. If during the first 30 minutes of the observation there were no visible emissions observed, the permittee may stop the observation.

If at the end of the observation and visible emission were observed for more than 2.5 minutes, then the permittee shall follow manufacturer's repair instructions, if available or best combustion engineering practice as outline in the unit inspection and maintenance plan. To return the flare to compliant operation, the permittee shall repeat the visible emission observation. Records of such monitoring and repair activities shall be maintained in accordance with Condition 3.4.1.

4.2.4. For the purposes of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.1., the permittee shall conduct the following:

- a. 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.
- b. After the initial, subsequent annual visual, olfactory, and auditory inspections shall be conducted for defect 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.
- c. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.1f.iii.
- d. Records of such inspections shall be maintained in accordance with 3.4.1.
- e. The use of the procedures listed as Alternative Methods to Method 21 (i.e. soapy water) to determine a leak or a leak has been repaired is acceptable.

4.2.5. The permittee shall monitor the dehydration unit for equipment leaks in accordance with the following requirements:

- a. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days of start-up of the dehydration unit.
- b. After the completion of the initial inspection, subsequent inspections shall be conducted in accordance with the following:
  - i. Visual inspection of the glycol circulating pumps for visual indicators of leaking seals once per month.
  - ii. Visual determination of the visual indicator of the pressure relief device to determine if a release has occurred on a daily basis.
  - iii. Conduct a visual, olfactory, and auditory inspection for defects that could result in air emissions within 12 months of the previous inspection of the dehydration unit.
- c. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.4.
- d. Records of such inspections and any repaired made shall be maintained in accordance with 3.4.1.
- e. The use of the procedures listed as Alternative Methods to Method 21 (i.e. soapy water) to determine a leak or a leak has been repaired is acceptable.

### **4.3. Testing Requirements**

- 4.3.1. For the purposes of demonstrating proper operation of the flare, the permittee shall conduct an initial performance test within 180 days after initial startup of the flare. Permittee shall conduct a Method 22 of Appendix A to Part 60 to determine if the flare is operating within compliance of Condition 4.1.2.f.i. The observation period for this demonstration is 2 hours. During the observation, the dehydration unit shall be operated at 90 percent of the unit's design capacity or the maximum anticipated rate. Such demonstration shall be conducted in accordance with the applicable portions of Condition 3.3.1. Records of such demonstration shall be maintained in accordance with Condition 3.4.1.

### **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 maintain records of the analysis that is used to indicate compliance is in accordance with items a. b. and f.iii. of Conditions 4.1.2. Such records shall include the source of data used in the analysis and be maintained in accordance with Condition 3.4.1.

[40 CFR 63.774(d)(2)(ii)]

#### **4.5. Reporting Requirements**

4.5.1. The permittee shall report to the Director any leaks of the closed vent system that were not repaired in accordance with Condition 4.1.1. Such report shall be included with the facility's semiannual or annual compliance report as required in 45 CSR 30.

### 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<sup>1</sup> \_\_\_\_\_ Date \_\_\_\_\_  
(please use blue ink) Responsible Official or Authorized Representative

Name & Title \_\_\_\_\_  
(please print or type) Name Title

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

<sup>1</sup> 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 U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.

**TENTATIVE AGENDA FOR  
HPAI INCIDENT MEETING WITH  
KEY STAKEHOLDERS**

**WEDNESDAY SEPTEMBER 2, 2015**

- 1:00 PM-1:20 PM Welcome/introductions/objectives of meeting: 1) Awareness of HPAI 2) Plans for Preparing and Response 2) Stakeholders Roles and Responsibilities. Jimmy Gianato remarks.
- 1:20-1:35 Overview of HPAI by Dr. Plumley.
- 1:35-1:50 Overview of USDA HPAI Response Plan-Dr. Meade or his designee.
- 1:50-2:05 Overview of how Annex W (Highly Contagious Animal & Poultry Diseases and the WV Poultry Disease Avian Influenza Protocol)-Roy McCallister
- 2:05-2:20 Update on WVDA/WVDHHR worker safety/medical follow up.
- 2:20-3:45 Discuss individual agencies roles and responsibilities and seek their input.
- 3:45-4:00 Closing comments and what is next.

Recommended attendees from USDA: Dr. Barry Meade, Dr. Bill Casto, Dr. Carter Hounsel, Area Emergency Coordinator, Kim Cullen, Ross Free, Wildlife Services, NRCS: Kathy Allen & Jared Beard @ Morgantown-and USDA poultry specialist and epidemiologist, appraisers and others??

Recommended attendees from WVDA: Chris Ferro, Dr. Jewell Plumley, Chad Linton, Jerry Ours, Butch Antolini, Jason Dalrymple, Matt Monroe, Grant Bishop Alan Clemans Roy McCallister, Libby Erb (to take notes) and others? This represents one person from each of the eight (8) Incident Management Team positions for an HPAI incident.

From Key Stakeholders: WV Division of Homeland Security & Emergency Management, WV DHHR-they decide who/what groups; they will also represent health depts.), State Police, WV Division of Highways, WV Division of Natural Resources, WV Dept. of Environmental Protection, Dept. of Military Affairs and Public Safety (Secretary's Office), WV Intelligence Fusion Center, National Guard, Division of Forestry, Public Service Commission, WV University Extension, and others?? These agencies are listed in Annex W. I recommend that if we think there is a remote possibility we will use them, they need to be invited to the planning; do not ask them to perform a role when they were not a part of the planning.

Jimmy Gianato will send out the invitation to the meeting to the key WV state agency key stake holders.



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west virginia department of environmental protection

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Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345  
Phone: 304 926 0475 • Fax: 304 926 0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## ENGINEERING EVALUATION/FACT SHEET

### B BACKGROUND INFORMATION

Application No.:	R13-3249
Plant ID No.:	103-00006
Applicant:	Dominion Transmission, Inc.
Facility Name:	Hastings Compressor Station
Location:	Pine Grove
NAICS Code:	486210
Application Type:	Modification
Received Date:	March 26, 2015
Engineer Assigned:	Edward S. Andrews, P.E.
Fee Amount:	\$3,500.00
Date Received:	March 30, 2015
Complete Date:	May 6, 2015
Due Date:	August 4, 2015
Applicant Ad Date:	April 1, 2015
Newspaper:	Wetzel Chronicle
UTM's:	Easting: 528.62 km      Northing: 4,377.66 km      Zone: 17
Description:	The application is for the replacement of existing production gas dehydration unit with an enclosed combustion device.

### FACILITY DESCRIPTION

The Hastings Compressor Station is located off Route 20 in Pine Grove, Wetzel County, WV. The facility receives gas from nearby well sites and provides compression and dehydration of the gas. Hastings Compressor Station is classified as a production facility in its construction permit. The Title V operating permit for the site is aggregated with the nearby Mockingbird Hill Compressor Station and the Lewis-Wetzel Compressor Station. The existing source consist of the following:

- Two (2) Cooper GMXE-6 engines each rated at 500 hp;
- One (1) Generac QT080 Auxiliary Generator rated at 128 hp (80 kW);

Promoting a healthy environment.

- One (1) NATCO Dehydration Unit rated at 7.5 MMscf/day;
- One (1) NATCO Reboiler rated at 0.38 MMBtu/hr;
- One (1) NATCO Heater rated at 10.0 MMBtu/hr;
- One (1) Dehydration Unit Flare rate at 73 scf/min; and
- Four (4) Tanks of various sizes for the storage of fluids.

The proposed modification would include the decommissioning of the NATCO Dehydration Unit, the NATCO Reboiler, and the Dehydration Unit Flare. To replace these units, Dominion is seeking approval to install:

- One (1) Integral Dehydration Unit rated at 7.5 MMscf/day;
- One (1) Diverse Energy Systems Reboiler rated at 0.55 MMBtu/hr; and
- One (1) Questor Technologies Q50 Enclosed Combustion Device.

#### DESCRIPTION OF PROCESS

The wet gas is first routed through an absorber, which uses lean glycol to remove water from the gas. Dry gas from the absorber leaves the station via pipeline. Rich glycol from the absorber flows to an uncontrolled flash gas tank and then to a heat exchanger. The exchanger transfers heat from both the flashed glycol and the Reboiler Heater (RB02) to the lean and makeup glycol stream. The flashed glycol continues to the Regenerator, which separates the overheads (moisture and any absorbed hydrocarbons) from the glycol. Overheads are released as off gas from the Dehy Unit and routed to the Enclosed Combustion Device (DEHY1) for incineration. Glycol leaving the Regenerator is pumped and returned to the absorber after passing through the heat exchanger.

#### SITE INSPECTION

The Hastings Compressor Station is a major source and subject to the Operating Permit Program of Title V. Thus, the facility is regularly inspected to ensure compliance with this air program. The facility was last inspected by Mr. James Jarrett, P.E., a compliance engineer assigned to the Compliance & Enforcement Section, on February 25, 2014. Mr. Jarrett found the facility to be operating in compliance with the facility Title V Operating Permit.

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	Volatile Organic Compounds (lb/hr)		Total HAPs (lb/hr)		BTEX (lb/hr)	
	Flash Tank Vent	Still Vent	Flash Tank Vent	Still Vent	Flash Tank Vent	Still Vent
Applicant's	1.86	25.43	0.06	3.67	0.01	3.21
Applicant's plus 20%	2.23	30.52	0.07	4.40	0.01	3.85
Writer's Run	0.72	16.61	0.02	1.68	<0.01	1.39

BTEX – Benzene, Toluene, Ethylbenzene, and Xylene, which are all classified as HAPs.

Both of these streams are routed to the enclosed combustion device. The applicant configured GLYCalc to predicted these stream being vented to a control device that has a minimum destruction efficiency of 95%. Applicant had provided information that indicates that the proposed control device is capable of achieving 98% destruction efficiency in accordance with 40 CFR §60.18. Thus, the writer agrees with the applicant's proposed means of estimating VOCs, Total HAPs, and BTEX from the enclosed combustion device.

The applicant used AP-42 to account for the combustion related emissions from the enclosed combustion device.

Source	DEHY1	
Pollutant	Hourly Rates (lb/hr)	Annual (tpy)
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.01	0.04
Oxides of Nitrogen (NO <sub>x</sub> )	0.05	0.22
Carbon Monoxide (CO)	0.04	0.18
Sulfur Dioxide (SO <sub>2</sub> )	0.001	0.004
Volatile Organic Compounds (VOCs)	1.65	7.23
Total Hazardous Air Pollutants (HAPs)	0.22	0.96
Carbon Dioxide Equivalent (CO <sub>2e</sub> )	234.20	1,025.80

The writer re-estimated the CO and NO<sub>x</sub> from the enclosed combustion device using emission factors published in RG-360A/11 dated February 2012 by the Texas Commission on Environmental Quality. The writer selected the low Btu emission factors after modeling the still vent and flash tank off gas using ProMax 3.2 by Bryan Research & Engineering Inc. A 2-phase separator was used to represent a knock-out pot then it was mixed with the flash tank off gas. The Net ideal gas heating value of this stream was determined to be 769 Btu/hr, which is less

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than 1000 Btu/ft<sup>3</sup>. According to this guidance, the stream is a low Btu stream. The selected emission factors were for non-assisted flare combusting a low Btu gas stream. Questor Technology Inc. has specified a maximum heat input of 2.0 MMBtu/hr for the Q50 enclosed combustion device, which was used in the following estimation. The CO emissions were predicted to be 1.10 pounds per hour and 4.82 tpy. NO<sub>x</sub> emissions were predicted to be 0.28 pounds per hour and 1.2 tpy.

Based on the GLYCalc results and fuel properties from ProMax, the total heat input from the still vent and flash tank streams is 861,679 Btu/hr, which equates to CO and NO<sub>x</sub> emissions rates of 0.47 and 0.06 pounds per hour.

The reboiler is using fuel from pipeline TL-420, which is pipeline quality natural gas. Thus, the use of emission factors from AP-42 is appropriate for estimating emissions from the reboiler.

Source Pollutant	Reboiler	
	Hourly Rates (lb/hr)	Annual (tpy)
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.004	0.02
Oxides of Nitrogen (NO <sub>x</sub> )	0.054	0.24
Carbon Monoxide (CO)	0.05	0.22
Sulfur Dioxide (SO <sub>2</sub> )	0.0003	0.001
Volatile Organic Compounds (VOCs)	0.003	0.01
Total Hazardous Air Pollutants (HAPs)	0.007	0.03
Carbon Dioxide Equivalent (CO <sub>2e</sub> )	64.40	282.07

The following table lists the potential emission after controls from this proposed new dehydration unit.

Pollutant	Annual (tpy)	PSD Significance Level (tpy)	PSD Triggered
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.06	25/15/10	No
Oxides of Nitrogen (NO <sub>x</sub> )	1.44	40	No
Sulfur Dioxide (SO <sub>2</sub> )	0.002	40	No
Carbon Monoxide (CO)	5.04	100	No
Volatile Organic Compounds (VOCs)	7.24	40	No
Total Hazardous Air Pollutants (HAPs)	0.86	N/A	N/A
Carbon Dioxide Equivalent (CO <sub>2e</sub> )	1,307.87	N/A	N/A

## REGULATORY APPLICABILITY

The proposed station will be a minor source for criteria pollutants and classified as an area source for HAPs. Benzene emissions from the dehydration unit will be less than 1 ton per year, which means that Subpart HH – National Emissions Standard for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities of Part 63 would not be applicable to the emission standards of this subpart (40 CFR §63.764(e)(1)(ii)).

### **45 CSR 2 & 10**

The only rules that are applicable to the dehydration unit are Rules 2 & 10, which established allowable emissions for PM, visual emissions, and sulfur dioxide. These rules are focused on the reboiler portion of the dehydration unit. The proposed dehydration unit will have a design heat input of less than 10 MMBtu/hr which excludes the PM and SO<sub>2</sub> allowable limitations for fuel burning units from the proposed reboiler (45 CSR §2-11.1 and 45 CSR §10-10.1). Since the reboiler will be consuming a gaseous fuel with little to no ash content, the visual emission standard (10% opacity limit) should be achieved without the use of add-on controls.

The still vent and flash tank stream are considered as process gas under Rule 10 and subject to 45 CSR §10-5.1. 45 CSR §10-5.1. limits the amount of hydrogen sulfide in process gas streams to 50 grains per 100 cubic feet of gas being combusted. Typical natural gas produced in West Virginia has a low concentration of hydrogen sulfide. The hydrogen sulfide content of the produced natural gas will be measured. To correlate the future measured values to the concentration that the reboiler would see, the writer conducted several additional runs of GLYCALC to predict the concentration at the flash tank off gas by inputting values of hydrogen sulfide in the wet gas inputs (trial and error approach) with a target set at the 50 grain standard.

The results of this approach determined that incoming natural gas with a hydrogen sulfide concentration of 65 ppm (10 grains per 100 cubic feet of gas) to the proposed dehydration units would generate flash gas that has a hydrogen sulfide concentration of 48 grains per 100 cubic feet of gas.

### **45 CSR 6**

The enclosed combustion device is an incinerator and subject to 45 CSR 6 (Rule 6). Rule 6 establishes allowable PM and visual emission rates from incinerators. The allowable PM for the proposed enclosed combustion device is 0.03 pounds per hour and 20% opacity. The enclosed combustion device should operate in a smokeless mode for this application and generate little to no particulate matter. Thus, the proposed enclosed combust device should meet the emission standards of Rule 6.

### **Subpart HH to Part 63**

Dominion elected to file this application to ensure that the proposed control device is recognized in a federally enforceable document. Thus, the potential to emit for applicability to Subpart HH of Part 63 is determined after controls. The enclosed combustion device reduces the potential to emit of Total HAPs to less than major source threshold levels according to 40 CFR §63.761, which is less than 1 tpy of total HAPs from the new dehydration unit. Therefore, the

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new dehydration unit at the Hastings Compressor Station would be classified as an area source of HAPs and potentially subject to Subpart HH as an area-source.

Due to the level of control provided by the enclosed combustion device, projected actual benzene is to be less than 0.1 tpy, which is less than 1.0 tpy benzene exemption in 40 CFR §63.763(e)(ii). Therefore, this dehydration unit would be exempt from the applicable requirements of 40 CFR §63.763 in accordance with 40 CFR §63.763(e)(ii). Dominion will be required to determine actual benzene emissions in accordance with 40 CFR §63.

#### **45CSR 13 & 14**

The Hastings Compressor Station is an existing major source under 45 CSR 14. Thus, an applicability determination must be made to determine if the proposed modification represents a major modification as defined in 45 CSR §14- 2.40., which means that the project (modification) results in a significant emissions increase and a significant net emission increase. The proposed modification does not represent a significant emission increase (See Table #5). Therefore, no further review of this modification under 45 CSR 14 is necessary.

This main purpose of this application is for Dominion to make the enclosed combustion device enforceable, to avoid the requirements of Subpart HH to Part 63. Therefore, a modification permit is required to establish such requirements. Dominion prepared and submitted a complete application, paid the filing fee, and published a Class I Legal ad in the *Wetzel Chronicle* on April 1, 2015, which is required under Rule 13 for a modification permit. The facility will be an 8D source and subject to Title V. The applicant included Attachment S with this application to be processed as a Significant Modification to the Facility's Title V Operation Permit.

#### **TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS**

There will be small amounts of various non-criteria regulated pollutants emitted from the combustion of natural gas. However, due to the small concentrations emitted, detailed toxicological information is not included in this evaluation. The dehydration unit will be classified as an area-source of HAPs with a potential to emit of total HAP of less than 1 tons per year with benzene being less than 0.1 ton per year.

#### **AIR QUALITY IMPACT ANALYSIS**

The writer deemed that an air dispersion modeling study or analysis was not necessary, because the proposed modification does not meet the definition of a major modification of a major source as defined in 45CSR14.

## MONITORING OF OPERATIONS

The dehydration unit needs to ensure that benzene emissions are being minimized to less than 1.0 ton per year. Subpart HH requires a source using the 1.0 ton of benzene exclusion to determine actual average benzene emissions in accordance with 40 CFR 63.772(b)(2)(i). Thus, the source will have to track actual wet gas throughput and determine benzene emission using GLYCalc Version 3.0 or higher.

Dominion provided an evaluation of the proposed control device using the performance criteria outlined in 40 CFR §60.18. Dominion determined that the heat content of the effluent to be 606.40 Btu/scf and the tip velocity to be 0.9 feet per second, which satisfies 40 CFR §§60.18(c)(3)(ii) and (c)(4)(i). The writer determined the heat content of the effluent to be 769 Btu/scf and the tip velocity of 0.32 feet per second, which satisfies the design criteria of §60.18.

Questor has rated the flow rate for the Q50 at 50,000 scf/d, which equates to 2,083 scf per hour. The maximum predicted flow rate of effluent is 1,120 scf/h, which is less than the manufacturer's rated flow rate of the device. Using ProMax, the writer predicted the maximum temperature of the enclosed combustion device at 1,636<sup>0</sup>F, which is within the operational range determined by the manufacturer. This evaluation of the proposed Q50 indicates that this control device has been sized correctly for the proposed application.

To ensure proper operation of the enclosed combustion device, the permittee will be required to conduct an initial visual emission observation in accordance with EPA Method 22 for 2 hours. After that initial observation, verification of proper operation will rely on conducting quarterly visible emission checks and monitoring the presence of a pilot flame. The permittee will be required to verify that the close vent system routing the effluent is being maintained in a leak free condition by conducting an initial Method 21 with annual checks using visible, audible, or olfactory methods to identify equipment leaks.

## RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates the proposed modification of the facility will meet all the requirements of the applicable rules and regulations when operated in accordance with the permit application. Therefore, the writer recommends granting Dominion Transmission Inc. a Rule 13 Modification Permit for their Hastings Compressor Station located near Pine Grove, WV.



Edward S. Andrews, P.E.  
Engineer

August 31, 2015  
Date

Engineering Evaluation of R13-3249  
Dominion Transmission, Inc.  
Hastings Compressor Station  
Non-confidential



August 19, 2015

**BY: U.S. CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

7014 3490 0000 0448 4365

Ed Andrews  
Permit Engineer  
WVDEP  
601 57<sup>th</sup> Street  
Charleston, WV 25304

ID # 103-6  
Reg R13-3249  
Company Dominion  
Facility Hastings 3 Initials SPK

RE: **Dominion Transmission, Inc.**  
**Hastings Compressor Station**  
**Comments on Draft R13 Permit – R13-3249**

Dear Mr. Andrews:

Below, please find Dominion Transmission, Inc.'s (DTI) comments on the draft R13 permit terms and conditions for Hastings Compressor Station.

**Page 4, Equipment List:**

- Reboiler – Please change the Emission Point ID to **RBR02**.
- Dehy Unit – Please change the Emission Point ID to **DEHY1**.
- Enclosed Combustion Device –
  - Please change the Emission Point ID to **DEHY1**.
  - We request to change the design capacity from 35 scfm to **2 MMBtu/hr**.

**Page 14, Condition 4.1.1.f.iii:** Please change wording to:

“Detected leaks shall be repaired as soon as practicable with the first at-repair attempt at repair made within 5 calendar days ~~calendar~~ after detecting the leak. Repair shall be completed no later than 15 calendar days after the leak is detected.”

**Page 14, Condition 4.1.2:**

- Item a – The hourly limit for VOC for DEHY1 should be 1.64 lbs/hr and 7.17 tons/yr.
- Item b – The hourly and annual limits for total HAPs for DEHY1 should be 0.22 lbs/hr and 0.98 tons/yr.

*Entire Document*  
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- Item d – Please change wording to:

“...with requirements of Condition 4.1.2.e.”

- Item e – Request to change wording to:

“The fuel routed to DEHY1 shall not contain hydrogen sulfide greater than 50 grains per 100 cubic feet of gas. Sulfur dioxide emissions from the flare shall not exceed 0.07 pounds per hour. Compliance with this emission limit is satisfied by burning pipeline natural gas, limiting the hydrogen sulfide (H<sub>2</sub>S) loading of the incoming natural gas to the dehydration unit to no greater than 10 grains of H<sub>2</sub>S per 100 cubic feet of natural gas.”

**Page 14, Condition 4.1.3:** Please change wording to:

“Visible emission from the emission point RBR02 shall not exceed 10% opacity of a 6-minute block average. Compliance with this requirement is satisfied by complying with fuel type restriction in Condition 4.1.3.b.”

**Page 14, Condition 4.1.4:** In response to your comments in your email dated 7/31/15 sent with the draft permit:

*Here is how I believe that the dehy is subject to the LDAR program as required in Subpart KKK:*

*The Hastings Extraction Plant is connected to Hastings Compressor Station. The extraction plant is dependent on the wet gas compressor at the compressor station. Per 40 CFR 60.630(e) a compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart. The DAQ considers the Hastings Compressor Station and Extraction Plant as the same site even though there has been separate facility ID issued.*

Per NSPS Subpart KKK applicability (§60.630), it states:

*“The provisions of this subpart apply to affected facilities in onshore natural gas processing plants.”*

Per NSPS Subpart KKK definitions (§60.631), the definition of “natural gas processing plant” is defined as:

*“Natural gas processing plant (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.”*

The definition of stationary source in 40 CFR 51.166(b) includes the following:

*“(6) Building, structure, facility, or installation means all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more*

*contiguous or adjacent properties, and are under control of the same person (or persons under common control)."*

Hastings Extraction Plant (HEP) and Galmish are gathering and processing facilities which operate under the SIC 1321. HEP produces propane, isobutane, n-butane, and natural gasoline (collectively "NGL"). The NGL are shipped at Galmish. HEP, Galmish, and the Hastings Electric Compressor Station (HECS) are included in Title V Permit R30-10300009-2011.

Hastings Compressor Station (HCS), Mockingbird Hill Compressor Station (MHCS), and Lewis Wetzel Compressor Station (LWCS) are natural gas transmission facilities, unlike HEP, and operate under SIC 4922 (they do not engage in the extraction of natural gas liquids). All three facilities are under one WDEP Title V permit (R30-10300006-2011).

Because HCS is not engaged in the extraction of natural gas liquids and has a different SIC code from the HEP, Hastings Compressor Station is not an affected facility under NSPS Subpart KKK. Therefore, we request that all Subpart KKK (i.e. LDAR) conditions be deleted.

**Page 16, Condition 4.2.1:**

- Item c - There are no requirements for the pilot of the reboiler. Therefore, we request to delete the reboiler reference and change the wording to:

"Identify any periods there was no flame presence for the pilot of the flare or reboiler when the dehydration unit was in operation."

- Item d - Subpart HH §63.772(b)(2)(i) does not require that we run GLYCalc every year (or even within 60 days after the end of the calendar year). Therefore, we request to delete the last sentence.

**Page 16, Condition 4.2.2:** Please change wording to:

"...representative of the incoming natural gas to the facility ~~dehydration-unit~~ and analyzing..."

**Page 17, Condition 4.2.4:**

- First paragraph – Please change wording to:

"For the purposes of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.1, the permittee..."

- Items a and b – Request to delete NSPS Subpart KKK wording as mentioned above and replace items a and b with:

"a. 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.

b. 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.

- Item c – Please change wording to:

"...in accordance timing stated in Condition 4.1.1."

**Page 17, Condition 4.2.5:** Request to delete this condition as it pertains to NSPS Subpart KKK.

**Page 17, Condition 4.3.1:** Please change wording to:

"...to determine if the flare is operating within compliance of Condition 4.1.2.f.i."

**Page 18, Condition 4.4.4:** For the first sentence, we request to have clarification on what exact records this condition is referring to.

**Page 18, Condition 4.4.5:** Request to delete this condition as it pertains to NSPS Subpart KKK.

**Page 19, Condition 4.5.2:** Request to delete this condition as it pertains to NSPS Subpart KKK.

Attached, please find a full redline version of the draft permit including all comments discussed above. If you require any additional information, please contact Rebekah Remick at (804) 273-3536 or via email at [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com).

Sincerely,



Amanda B. Tornabene  
Director, Gas Environmental Services

Enclosure: Draft Permit – Redline Version

DEP – The original

Please scan signed original/attachments and name file as:  
**Hastings CS – Draft Permit Comments for Dehy Replacement – Aug 2015**

Please upload to Documentum

Facility:	Hastings Compressor Station
Title:	Hastings CS – Draft Permit Comments for Dehy Replacement – Aug 2015
Document Type:	Permit - Applications
Environmental Program:	Air – State Permits
Published?	Yes

Send document link electronically to:

Pam Faggert  
Mandy Tornabene  
Elizabeth Gayne  
Becky Remick  
Abby Credicott  
Brian Sheppard  
Ray Seech  
Ryan Anderson  
Ed Lancaster  
Joseph "Keith" Stigall  
Christina Lemasters  
Justin Lowther  
David E. Taylor



Facility Location: On Shoreline Highway off of Route 20  
Pine Grove, Wetzel County, West Virginia  
Mailing Address: 445 West Main Street  
Clarksburg, WV 26301-2843  
Facility Description: Production Gas and Transmission Gas Compression Station  
NAICS Codes: 486210  
UTM Coordinates: 528.64 km Easting • 4377.66 km Northing • Zone 17  
Permit Type: Modification  
Description of Change: This action is for the replacement of a dehydration unit with flare that controls the still vent of the dehydration unit.

*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 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
005-06	RBR01	Reboiler (0.55 MMBtu/hr) for glycol regenerator	2015	0.55 MMBtu/hr	None
004-02	DHEY1	TEG Dehydration Unit with flash tank	2015	7.5 MMscf/day	DEHY1
DEHY1	DEHY1	Enclosed Combustion Device – Questor Q50	2015	35 scfm	N/A

Comment [RJR1]: Type should read "RBR02"

Comment [RJR2]: Type should read "DEHY1"

Comment [RJR3]: Type should read "DEHY1"

Comment [RJR4]: Request to change this to 7 MMBtu/hr

**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 (45CSR§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 <sub>x</sub>	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM <sub>2.5</sub>	Particulate Matter less than 2.5 µm in diameter
C.F.R. <i>or</i> CFR	Code of Federal Regulations	PM <sub>10</sub>	Particulate Matter less than 10µm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. <i>or</i> CSR	Codes of State Rules	Pph	Pounds per Hour
DAQ	Division of Air Quality	Ppm	Parts per Million
DEP	Department of Environmental Protection	Ppm <sub>v</sub> <i>or</i> ppm <sub>v</sub>	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 <sub>2</sub>	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 <i>or</i> mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr <i>or</i> 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 Act 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 supersedes and replaces previously issued Permit R13-1801F. 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 other 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 R13-3249, 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 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; and
- 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 emissions, 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 45CSR11.  
[45CSR§11-5.2.]

#### 3.2. Monitoring Requirements

*[Reserved]*

#### 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 57<sup>th</sup> Street  
Charleston, WV 25304-2345

**If to the US EPA:**  
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 45CSR30 – Operating Permit Program, the permittee shall submit a certified emissions statement 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. The limitations set forth in this condition are hereby established to ensure that the permittee operates and maintains the glycol dehydration unit (affected source) with associated control device(s) that limit hazardous air pollutant emissions to below the major source threshold value of HAPs as defined in 40 CFR §63.761 (Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities) as follows:

- a. The maximum amount of wet natural gas processed through the dehydration unit shall not exceed 7.5 MMscf per day. Compliance with this limit shall be determined using a 12-month rolling total.
- b. The effluent generated by the flash tank of the dehydration unit shall be routed through a closed vent system to the control device identified as DEHY1 at all times while the dehydration unit is in operation.
- c. The effluent generated by the still vent shall be routed through a closed vent system to the control device (DEHY1) at all times while the dehydration unit is in operation.
- d. The control device (DEHY1) shall be operated and maintained in accordance with Condition 4.1.2.
- e. The re-boiler shall be operated and maintained in accordance with Condition 4.1.3.
- f. The closed vent system as required in this condition shall meet the following:
  - i. The system shall be constructed of hard piping
  - ii. The system shall be constructed and maintained free of leaks. A leaking component is defined as a measured instrument reading greater than 500 ppm above background or by visual inspection.
  - iii. Detected leaks shall be repaired as soon as practicable with the first ~~at-repair-attempt at repair shall be~~ made within 5 calendar days calendar after detecting the leak. Repair shall be completed no later than 15 calendar days after the leak is detected.  
[45 CSR §13-5.11.]

4.1.2. The permittee shall operate and maintain the control device (DEHY1) for the dehydration unit in accordance with the following emission limitations and operating parameters.

- a. Emissions of VOC from DEHY1 shall not exceed ~~1-631.64~~ pounds per hour. Annual VOC emissions from the DEHY1 shall not exceed 7.17 tons per year.
- b. Total hazardous air pollutants (HAPs), which include BTEX, from the flare shall not exceed ~~0-310.22~~ pounds per hour. Annual HAP emissions from the DEHY1 shall not exceed ~~1-340.98~~ tons per year.
- c. Compliance determination with the emission limits in items a & b of this condition by using GYCALC™ 4.0.

Comment [RJR5]: Request to include proposed limits in application

Comment [RJR6]: Request to include proposed limits in application

d. Particulate matter emissions from the flare shall not exceed 0.01 pounds per hour. Compliance with this limit is satisfied by complying with requirements of Condition 4.1.2.d. [45 CSR §6-4.3.]

~~e. Sulfur dioxide emissions from the flare shall not exceed 0.97 pounds per hour. Compliance with this emission limit is satisfied by limiting the hydrogen sulfide (H<sub>2</sub>S) loading of the incoming natural gas to the dehydration unit to no greater than 10 grains of H<sub>2</sub>S per 100 cubic feet of natural gas. [45 CSR §10-5.1.]~~

e.g. The permittee shall operate and maintain DEHY1 in a manner to minimize emissions. Such operation of the control device shall constitute the following:

- i. DEHY1 shall not exhibit any visible emissions, except for periods not to exceed a total of 5 minutes during two consecutive hours. [45 CSR §6-4.3.]
- ii. The pilot flame for DEHY1 shall be lit at all times when the dehydration unit is operating. The fuel source for the pilot light shall be either natural gas, flash tank off gas, or a combination of the two fuels.
- iii. The actual flowrate of effluent to DEHY1 shall not exceed the 35 standard cubic feet per minute, which is the maximum flowrate rated by the manufacturer. Compliance with limit is satisfied by using the predicted flowrates from the GLYCALC results.

e.f. The flare shall be constructed, operated, and maintained to achieve, at the minimum, 95% destruction efficiency for VOCs and volatile HAPs.

4.1.3. The permittee shall operate and maintain the reboiler (005-06) for the dehydration unit in accordance with the following emission limitations and operating parameters.

a. Visible emissions from the emission point RB02 shall not exceed 10% opacity on a 6-minute block average. Compliance with this requirement is satisfied by complying with fuel type restriction in Condition 4.1.3.c.iii. [45 CSR §2-3.1]

b. The reboiler shall only be fueled with natural gas.

4.1.4. ~~The permittee shall implement leak detection and repair program that comply with the requirements of 40 CFR §§60.482-1 and -2 for the dehydration unit in wet gas service with the following exceptions:~~

a. For pressure-relief devices:

- i. ~~Each pressure-relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in §60.485(b) except as provided in §60.632(c), paragraph (b)(4) of this section, and §60.482-4 (a) through (c) of subpart VV.~~
- ii. ~~If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~
- iii. ~~When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in §60.482-9.~~
- iv. ~~A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

**Comment [RJR7]:** Typo - think you meant Condition 4.1.2.c

**Comment [RJR8]:** Request to change condition to read

The fuel routed to DEHY1 shall not contain hydrogen sulfide greater than 50 grains per 100 cubic feet of gas. Compliance with this emission limit is satisfied by burning pipeline natural gas

**Comment [RJR9]:** Typo - should read "RBR02"

**Comment [RJR10]:** Typo - should read "Condition 4.1.3.b"

**Comment [RJR11]:** We disagree with the applicability and addition of the NEPS Subpart KKK I.DAR requirements

Per 60.630 (applicability), it states

*"The provisions of this subpart apply to affected facilities in onshore natural gas processing plants."*

Per 60.631, the definition of "natural gas processing plant" is defined as

*Natural gas processing plant (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both*

Hastings Compressor Station is not a natural gas processing plant as it is a natural gas transmission facility. It does not engage in the extraction of NGL. Therefore, Hastings Compressor Station is not an affected facility under NEPS Subpart KKK. And we request that all Subpart KKK (i.e. I.DAR) conditions be deleted.

In response to one of your comments in the email sent with the draft permit,

*"The Hastings Extraction Plant is connected to Hastings Compressor Station. The extraction plant is dependent on the wet gas compressor at the compressor station. Per 40 CFR 60.630(e) a compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart. The DAQ considers the Hastings Compressor Station and Extraction Plant as the same site even though there has been separate facility ID issued"*

Hastings Station (HS) discharge goes into a pipeline that comes from the slug catcher area to HEC'S. Hastings Extraction Plant is dependent on HEC'S, but not dependent on HS. Only a little (5-7 mmscfd) local field gas production and some flash gas vent vapors come from HS. The HEP processes 180 mmscfd and the 5-7 mmscfd from Hastings Station is minimal in comparison. Also, DAQ consid... [11]

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~~v. No pressure-relief device described in paragraph (b)(4)(i) of this section shall be allowed to operate for more than 30 days after a pressure release without monitoring.~~

~~b. Sampling connection systems are exempt from the requirements of §60.482-5.~~

~~e. Reciprocating compressors in wet gas service are exempt from the compressor control requirements of §60.482-3.~~

~~[40 CFR §60.6329(a) & (b), and §§60.633(a), (b), (c), and (f)]~~

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4.1.5. **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 Requirements

4.2.1. The permittee shall monitor and record the following parameters for the purpose of demonstrating compliance with Conditions 4.1.1., 4.1.2., and 4.1.3.:

a. The throughput of wet natural gas on a processed through the dehydration unit on a daily basis, days the dehydration unit operated, and annual natural gas flowrate.  
[40 CFR §63.774(d)(1)]

b. Determine actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) by converting the annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.  
[40 CFR §63.772(b)(1)(i)]

c. Identify any periods there was no flame presence for the pilot of the flare ~~or reboiler~~ when the dehydration unit was in operation.

Comment [RJR12]: There is no requirements for the pilot of the reboiler. Therefore, we request to delete this reference

d. Determination of the actual average benzene emissions from the dehydration unit shall be made using the model GRIGLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ 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). ~~Such determination of benzene shall be with the federally enforceable control device in Condition 4.1.2 and be performed 60 days after the end of the calendar year.~~  
[40 CFR §63.772(b)(2)(i)]

Comment [RJR13]: Subpart HH §63.772(b)(2)(i) does not require that we run GRI-GLYCalc every year (or even within 60 days after the end of the calendar year). Therefore, we request to delete this last sentence

Records of such monitoring shall be maintained in accordance with Condition 3.4.1.

4.2.2. For the purpose of demonstrating compliance with Condition 4.1.2.e., the permittee shall conduct gas sampling at a point that is representative of the incoming natural gas to the dehydration unit and analyzing the sample to determine the hydrogen sulfide content of the sample. At a minimum, such sampling and analysis shall be conducted once per calendar year. Records of such monitoring shall be maintained in accordance with Condition 3.4.1. of this permit.  
[45 CSR §10-8.3.a.]

Comment [RJR14]: Change to "incoming natural gas to the facility and analyzing "

4.2.3. For the purpose of demonstrating proper operation of the flare, the permittee shall conduct a visible emission observation using Section 11 of Method 22 for one hour once every calendar quarter in which the dehydration unit operates. If during the first 30 minutes of the observation there were no visible emission observed, the permittee may stop the observation.

If at the end of the observation and visible emission were observed for more than 2.5 minutes, then the permittee shall follow manufacture's repair instruction, if available or best combustion engineering practice as outline in the unit inspection and maintenance plan. To return the flare to compliant operation, the permittee shall repeat the visible emission observation. Records of such monitoring and repair activities shall be maintained in accordance with Condition 3.4.1.

4.2.4. For the purpose of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.2, the permittee shall conduct the following:

~~a. Conduct an initial inspection within 180 days of startup of the dehydration unit according to the procedure in 40 CFR §60.485c(b) (Method 21).~~

~~b.a. After the initial, subsequent annual visual inspections for visible, audible, or olfactory indicators of leaks shall be conducted. The permittee may use an OGI if the distance to targeted components is within the distance used in the daily instrument check described in 40 CFR §60.18(i)(2) to satisfy the annual visual inspection requirement.~~

e-b. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.2.

d-c. Records of such inspections shall be maintained in accordance with 3.4.1.

4.2.5. ~~The permittee shall monitor the dehydration unit for equipment leaks in accordance with the applicable provisions of Subpart VV to Part 60 with the initial compliance determination.~~

### 4.3. Testing Requirements

4.3.1. For the purposes of demonstrating proper operation of the flare, the permittee shall conduct an initial performance test within 180 days after initial startup of the flare. Permittee shall conduct an Method 22 of Appendix A to Part 60 to determine if the flare is operating within compliance of Condition 4.1.2.c.1. The observation period for this demonstration is 2 hours. During the observation, the dehydration unit shall be operated at 90 percent of the unit's design capacity or the maximum anticipated rate. Such demonstration shall be conducted in accordance with the applicable portions of Condition 3.3.1. Records of such demonstration shall be maintained in accordance with Condition 3.4.1.

### 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;

**Comment [RJR15]:** Typo should be "purposes"

**Comment [RJR16]:** Typo should be read "Condition 4.1.1"

**Comment [RJR17]:** Delete 1 DAR requirements. Replace with the following wording

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.

**Comment [RJR18]:** Replace with the following wording

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.

**Comment [RJR19]:** Typo should read "Condition 4.1.1"

**Comment [RJR20]:** Delete all 1 DAR requirements

**Comment [RJR21]:** Typo should read "Condition 4.1.2.f"

- 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 maintain records of the predicted analysis that used to indicate compliance is satisfied with items a, b, and f in of Conditions 4.1.2. Such records ~~as~~ include the source of data used in the predicted analysis and be maintained in accordance with Condition 3.4.1. [40 CFR 63.774(d)(2)(ii)]

Comment [RJR22]: Request to have clarification on what exactly this means

- 4.4.5. ~~The permittee shall maintain records for the leak detection and repair program as required in Condition 4.1.4, with the following in addition to the applicable requirements of 40 CFR §60.486.~~

Comment [RJR23]: Delete LDAR requirements

- a. ~~The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of Condition 4.1.4. (40 CFR §60.633(b)(1)):~~
  - i. ~~When each leak is detected as specified in §60.633(b)(2), a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.~~
  - ii. ~~When each leak is detected as specified in §60.633(b)(2), the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:~~
  - iii. ~~The instrument and operator identification numbers and the equipment identification number.~~

- ~~iv. The date the leak was detected and the dates of each attempt to repair the leak.~~
- ~~v. Repair methods applied in each attempt to repair the leak.~~
- ~~vi. "Above 10,000 ppm" if the maximum instrument reading measured by the methods specified in paragraph (a) of this section after each repair attempt is 10,000 ppm or greater.~~
- ~~vii. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.~~
- ~~viii. The signature of the permittee (or designate) whose decision it was that repair could not be effected without a process shutdown.~~
- ~~ix. The expected date of successful repair of the leak if a leak is not repaired within 15 days.~~
- ~~x. Dates of process unit shutdowns that occur while the equipment is unrepaired.~~
- ~~xi. The date of successful repair of the leak.~~
- ~~b. A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §60.482-4(a). The designation of equipment subject to the provisions of §60.482-4(a) shall be signed by the permittee.~~

~~Such records shall be maintained in accordance with Condition 3.41.  
[40 CFR §60.635]~~

#### 4.5. Reporting Requirements

4.5.1. The permittee shall report to the Director any leaks of the close vent system that were not repair in accordance with Condition 4.1.1. Such report shall be included with the facility's semiannual or annual compliance report as required in 45 CSR 30.

~~4.5.2. The permittee shall submit semiannual reports in addition to the information required in 40 CFR §60.487b (1) - (4): (b): Number of pressure relief devices subject to the requirements of Condition 4.1.4. (§60.633(b)) except for those pressure relief devices designated for no detectable emissions under the provisions of §60.482-4(a) and those pressure relief devices complying with §60.482-4(e); The information required in §60.487(c)(2)(i) through (vi); Number of pressure relief devices for which leaks were detected as required in Condition 4.1.5. (§60.633(b)(2)); and Number of pressure relief devices for which leaks were not repaired as required in Condition 4.1.5. (§60.633(b)(3)).  
[40 CFR §60.636]~~

Comment [RJR24] Delete I DAR requirements

**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<sup>1</sup> \_\_\_\_\_ Date \_\_\_\_\_  
(please use blue ink) Responsible Official or Authorized Representative

Name & Title \_\_\_\_\_  
(please print or type) Name Title

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

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 U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.

We disagree with the applicability and additions of the NSPS Subpart KKK LDAR requirements.

Per 60.630 (applicability), it states:

*“The provisions of this subpart apply to affected facilities in onshore natural gas processing plants.”*

Per 60.631, the definition of “natural gas processing plant” is defined as:

*Natural gas processing plant (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.*

Hastings Compressor Station is not a natural gas processing plant as it is a natural gas transmission facility. It does not engage in the extraction of NGL. Therefore, Hastings Compressor Station is not an affected facility under NSPS Subpart KKK. And we request that all Subpart KKK (i.e. LDAR) conditions be deleted.

In response to one of your comments in the email sent with the draft permit,

*“The Hastings Extraction Plant is connected to Hastings Compressor Station. The extraction plant is dependent on the wet gas compressor at the compressor station. Per 40 CFR 60.630(e) a compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart. The DAQ considers the Hastings Compressor Station and Extraction Plant as the same site even though there has been separate facility ID issued.”*

Hastings Station (HS) discharge goes into a pipeline that comes from the slug catcher area to HECS. Hastings Extraction Plant is dependent on HECS, but not dependent on HS. Only a little (5-7 mmscfd) local field gas production and some flash gas/vent vapors come from HS. The HEP processes 180 mmscfd and the 5-7 mmscfd from Hastings Station is minimal in comparison. Also, DAQ considers Hastings Compressor Station and Hastings Extraction Plant as two separate sources.

**From:** [Adkins, Sandra K](#)  
**To:** [Wheeler, Cathy L](#)  
**Cc:** [Andrews, Edward S](#)  
**Subject:** DAQ Public Notice  
**Date:** Wednesday, September 02, 2015 1:11:31 PM

ID # 103-6  
Reg R13-3249  
Company Dominion  
Facility Hasting C.S. Initials SK

Please see below the Public Notice for Draft Permit R13-3249 for Dominion Transmission Inc.'s Hastings Compressor Station located in Wetzel County.

The notice will be published in the *Wetzel Chronicle* on Wednesday, September 9, 2015, and the thirty day public comment period will end on Friday, October 9, 2015.

## AIR QUALITY PERMIT NOTICE

### Notice of Intent to Approve

On March 26, 2015, Dominion Transmission, Inc. applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a natural gas dehydration unit at

the Hasting Compressor Station located on Shoreline Highway off of Route 20, near Pine Grove,

Wetzel County, WV at latitude 39.550214 and longitude -80.672916. A preliminary evaluation has

determined that all State and Federal air quality requirements will be met by the proposed facility.

The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3249.

The following potential emissions will be authorized by this permit action: Particulate Matter less

than 10 microns, 0.06 tons per year (TPY); Particulate Matter, 0.06 TPY; Sulfur Dioxide, 0.002

TPY; Oxides of Nitrogen, 1.44 TPY; Carbon Monoxide, 5.04 TPY; Volatile Organic Compounds,

7.24 TPY; Total Hazardous Air Pollutant, 0.86 TPY, of which Benzene is less than 0.10 tons; and

Carbon Dioxide Equivalent, 1,308 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m.

on Friday, October 9, 2015. A public meeting may be held if the Director of the DAQ determines

that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed

modification will meet all State and Federal air quality requirements. The purpose of the public

review process is to accept public comments on air quality issues relevant to this determination.

*Entire Document*  
**NON-CONFIDENTIAL**

Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Edward S. Andrews, P.E.

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Telephone: 304/926-0499, ext. 1214

FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above.

The draft permit and engineering evaluation can be downloaded at:

[www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx](http://www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx)

**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** 103-00006\_PERM\_13-3249predraft.doc - Hasting Compressor St. new dehy  
**Date:** Friday, July 31, 2015 3:55:00 PM  
**Attachments:** [103-00006\\_PERM\\_13-3249predraft.doc](#)

---

Becky: Here is the predraft for the new dehy at Hasting Compressor Station for your review.

Plus, here is how I believe that the dehy is subject to the LDAR program as required in Subpart KKK.

- The Hastings Extraction Plant is connected to Hastings Compressor Station. The extraction plant is dependent on the wet gas compressor at the compressor station.
- 40 CFR 60.630(e) A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart. The DAQ considers the Hastings Compressor Station and Extraction Plant as the same site even though there has been separate facility ID issued.
- The Dehydration unit is in wet gas service per definition in 40 CFR 60.631.
- 40 CFR 60.632(f) would not apply for this dehydration unit.

(f) An owner or operator shall use the following provision instead of §60.485(d)(1): Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM E169-63, 77, or 93, E168-67, 77, or 92, or E260-73, 91, or 96 (incorporated by reference as specified in §60.17) shall be used.

I will be out of the office until Friday. But, I should be able to check my e-mails if you have any questions.

Thanks,  
Ed

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214



**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** Accepted: Hastings CS - NSPS Subpart KKK Applicability  
**Start:** Tuesday, September 01, 2015 3:00:00 PM  
**End:** Tuesday, September 01, 2015 4:00:00 PM  
**Location:** Call In

---

Thanks,  
Ed

**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** Accepted: Hastings CS NSPS KKK - Call with Ed Andrews  
**Start:** Wednesday, August 26, 2015 3:00:00 PM  
**End:** Wednesday, August 26, 2015 4:00:00 PM  
**Location:** Call In

---

**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Elizabeth H Gayne \(Services - 6\)](#); [Paula A Hamel \(Services - 6\)](#); [Amanda B Tomabene \(Services - 6\)](#); [Daniel L Siegfried \(Services - 6\)](#); [Laurence A Labrie \(Services - 6\)](#); [William A Scarpinato \(Services - 6\)](#); [Andrews, Edward S](#); [McKeone, Beverly D](#)  
**Cc:** [Keatley, Robert L](#)  
**Subject:** Canceled: Hastings CS - NSPS Subpart KKK Applicability  
**Start:** Tuesday, September 01, 2015 3:00:00 PM  
**End:** Tuesday, September 01, 2015 4:00:00 PM  
**Location:** Call In  
**Attachments:** [disclaimer.html](#)  
**Importance:** High

---

When: Tuesday, September 01, 2015 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).  
Where: Call In

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

Meeting to discuss the applicability of NSPS Subpart KKK to Hastings Compressor Station, thanks!

Call In: 866-740-1260  
ID: 2733536

Becky Remick

---

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**From:** [Adkins, Sandra K](#)  
**To:** [Wheeler, Cathy L](#)  
**Cc:** [Andrews, Edward S](#)  
**Subject:** DAQ Public Notice  
**Date:** Wednesday, September 02, 2015 1:11:31 PM

---

Please see below the Public Notice for Draft Permit R13-3249 for Dominion Transmission Inc.'s Hastings Compressor Station located in Wetzel County.

The notice will be published in the *Wetzel Chronicle* on Wednesday, September 9, 2015, and the thirty day public comment period will end on Friday, October 9, 2015.

## AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On March 26, 2015, Dominion Transmission, Inc. applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a natural gas dehydration unit at the Hasting Compressor Station located on Shoreline Highway off of Route 20, near Pine Grove, Wetzel County, WV at latitude 39.550214 and longitude -80.672916. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility.

The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3249.

The following potential emissions will be authorized by this permit action: Particulate Matter less than 10 microns, 0.06 tons per year (TPY); Particulate Matter, 0.06 TPY; Sulfur Dioxide, 0.002 TPY; Oxides of Nitrogen, 1.44 TPY; Carbon Monoxide, 5.04 TPY; Volatile Organic Compounds, 7.24 TPY; Total Hazardous Air Pollutant, 0.86 TPY, of which Benzene is less than 0.10 tons; and Carbon Dioxide Equivalent, 1,308 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m.

on Friday, October 9, 2015. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed modification will meet all State and Federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination.

Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Edward S. Andrews, P.E.

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Telephone: 304/926-0499, ext. 1214

FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting

materials relevant to the permit decision may be obtained by contacting the engineer listed above.

The draft permit and engineering evaluation can be downloaded at:

[www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx](http://www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx)

**From:** Andrews, Edward S  
**To:** [Jarrett, James F](#)  
**Subject:** FW: 103-00006\_PERM\_13-3249predraft.doc - Hasting Compressor St. new dehy  
**Date:** Friday, July 31, 2015 3:59:00 PM  
**Attachments:** [103-00006\\_PERM\\_13-3249predraft.doc](#)

---

**From:** Andrews, Edward S  
**Sent:** Friday, July 31, 2015 3:55 PM  
**To:** Rebekah J Remick (Services - 6)  
**Subject:** 103-00006\_PERM\_13-3249predraft.doc - Hasting Compressor St. new dehy

Becky: Here is the predraft for the new dehy at Hasting Compressor Station for your review.

Plus, here is how I believe that the dehy is subject to the LDAR program as required in Subpart KKK.

- The Hastings Extraction Plant is connected to Hastings Compressor Station. The extraction plant is dependent on the wet gas compressor at the compressor station.
- 40 CFR 60.630(e) A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart. The DAQ considers the Hastings Compressor Station and Extraction Plant as the same site even though there has been separate facility ID issued.
- The Dehydration unit is in wet gas service per definition in 40 CFR 60.631.
- 40 CFR 60.632(f) would not apply for this dehydration unit.

(f) An owner or operator shall use the following provision instead of §60.485(d)(1): Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM E169-63, 77, or 93, E168-67, 77, or 92, or E260-73, 91, or 96 (incorporated by reference as specified in §60.17) shall be used.

I will be out of the office until Friday. But, I should be able to check my e-mails if you have any questions.

Thanks,  
Ed

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

**From:** [Adkins, Sandra K](#)  
**To:** [Andrews, Edward S](#)  
**Subject:** FW: Classified Ad Proof - Ad# 12638  
**Date:** Wednesday, September 02, 2015 1:00:22 PM  
**Attachments:** [AD-12638.pdf](#)

---

-----Original Message-----

From: dwright@wetzchronicle.com [<mailto:dwright@wetzchronicle.com>]  
Sent: Wednesday, September 02, 2015 12:30 PM  
To: Adkins, Sandra K <[Sandra.K.Adkins@wv.gov](mailto:Sandra.K.Adkins@wv.gov)>  
Subject: Classified Ad Proof - Ad# 12638

Your Classified Ad proof is attached

**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** FW: Message from KM\_454e  
**Date:** Friday, August 07, 2015 1:10:00 PM  
**Attachments:** [SBizhub 45415080711560.pdf](#)

---

Becky: Here is my Glycalc Run with the Water Content set at 80 lb/MMscf (basis on the Wet Gas Analysis). The emissions in this run is less than the analysis based on saturated inlet conditions. You should notice that my analysis predicts a heat input of 0.256 MMBtu/hr. I think Glycalc is only evaluating the still vent steam to overcome the water content. I combined the two

For the ECD, I will be set the emission from the glycalc analysis in the application.

Should you have any questions, please contact me.

Ed

Sincerely,

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

**From:** DEP\_Room\_1127A\_Copier@wv.gov [mailto:DEP\_Room\_1127A\_Copier@wv.gov]  
**Sent:** Friday, August 07, 2015 10:57 AM  
**To:** Andrews, Edward S  
**Subject:** Message from KM\_454e

**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Subject:** Hastings CS - Updated Calculations  
**Date:** Thursday, June 04, 2015 9:27:33 AM  
**Attachments:** [Attachment N - Dominion Hastings Permit Modification - Calcs .pdf](#)

---

Ed,

Good morning! As we spoke yesterday, attached are our updated calculations for the new dehy at Hastings Compressor Station to include waste gas emissions for the thermal oxidizer using AP-42 Section 13.5 factors for NOx and CO. If you have any questions, please let me know, thanks!

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

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**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Subject:** Hastings CS Contacts  
**Date:** Wednesday, August 26, 2015 3:34:27 PM

---

Ed,

While I'm out on Thursday and Friday of this week, you can always contact:

Liz Gayne  
804-273-3128  
[Elizabeth.H.Gayne@dom.com](mailto:Elizabeth.H.Gayne@dom.com)

Mandy Tornabene  
804-273-2998  
[Amanda.B.Tornabene@dom.com](mailto:Amanda.B.Tornabene@dom.com)

Thanks!

*Becky Remick*  
Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

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**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** Hastings new Dehy - Updated Limits  
**Date:** Tuesday, August 11, 2015 11:08:00 AM  
**Attachments:** [103-00006 PERM\\_13-3249pre draft.doc](#)

---

Becky: Here is the draft with the updated limits.

Should you have any questions, please contact me.

Thanks,  
Ed

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Subject:** Hastings Station - Draft: Comments  
**Date:** Wednesday, August 19, 2015 8:38:44 AM  
**Attachments:** [Hastings CS - Draft Permit Comments for Dehy Replacement - Aug 2015.pdf](#)

---

Hey Ed,

Attached are our comments on the draft permit for Hastings Station. They were also sent out in the mail today. Any questions, let me know!

Also, FYI, we sent out the Hastings Extraction Plant Consent Order R13 application in the mail today.

Thanks!

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

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**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** Newdehy\_HastingsCS.xls  
**Date:** Friday, July 31, 2015 9:54:00 AM  
**Attachments:** [Newdehy\\_HastingsCS.xls](#)

---

ProMax Report of the new dehy for Hastings.

Enjoy,  
Ed

**From:** [Adkins, Sandra K](mailto:Adkins_Sandra_K)  
**To:** [dwright@wetzelchronicle.com](mailto:dwright@wetzelchronicle.com)  
**Cc:** [Andrews, Edward S](mailto:Andrews_Edward_S)  
**Subject:** Publication of Class I Legal Ad for the WV Division of Air Quality  
**Date:** Wednesday, September 02, 2015 10:41:28 AM

---

Please publish the information below as a Class I legal advertisement (one time only) in the Wednesday, September , 2015, issue of the *Wetzel Chronicle*. Please let me know that this has been received and will be published as requested. Thank you.

Send the invoice for payment and affidavit of publication to:

**Sandra Adkins**

**WV Department of Environmental Protection**

**DIVISION OF AIR QUALITY**

**601- 57th Street**

**Charleston, WV 25304**

Thank you for your assistance. Should you have any questions, please contact me at 304-926-0499 x1250.

## **AIR QUALITY PERMIT NOTICE**

### **Notice of Intent to Approve**

On March 26, 2015, Dominion Transmission, Inc. applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a natural gas dehydration unit at the Hasting Compressor Station located on Shoreline Highway off of Route 20, near Pine Grove, Wetzel County, WV at latitude 39.550214 and longitude - 80.672916. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3249.

The following potential emissions will be authorized by this permit action: Particulate Matter less than 10 microns, 0.06 tons per year (TPY); Particulate Matter, 0.06 TPY; Sulfur Dioxide, 0.002 TPY; Oxides of Nitrogen, 1.44 TPY; Carbon Monoxide, 5.04 TPY; Volatile Organic Compounds, 7.24 TPY; Total Hazardous Air Pollutant, 0.86 TPY, of which Benzene is less than 0.10 tons; and Carbon Dioxide Equivalent, 1,308 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on Friday, October 9, 2015. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the

Director deems it appropriate.

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

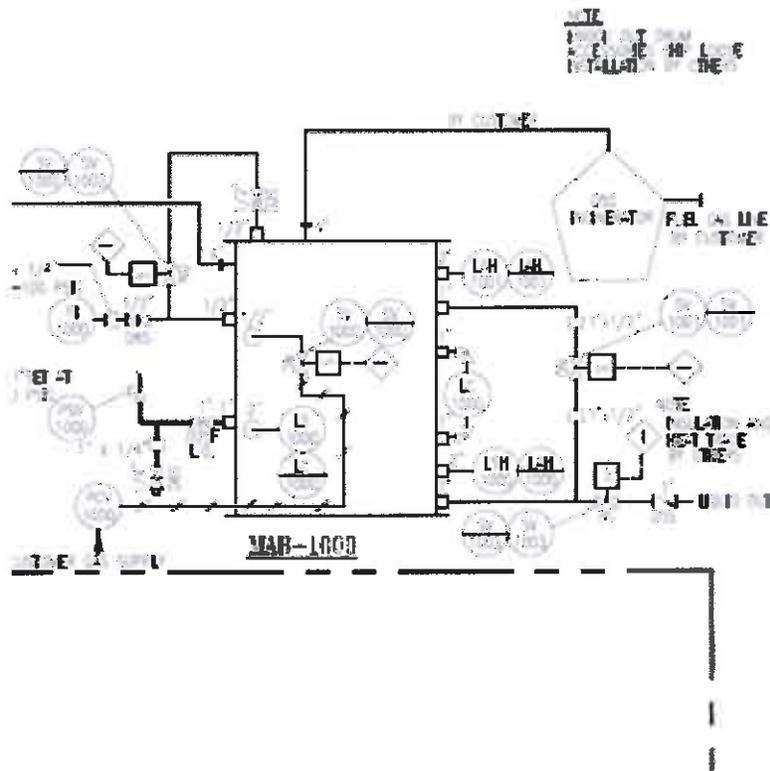
Edward S. Andrews, P.E.  
WV Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
Telephone: 304/926-0499, ext. 1214  
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:  
[www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx](http://www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx)

**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** Questions about the new knock-out drum (MAB-1000)  
**Date:** Monday, August 31, 2015 9:07:00 AM  
**Attachments:** [REGEN0004-1-01-01edit.pdf](#)  
[image003.png](#)

---

Becky: The Knock-out drum (MAB-1000) has a gas line (gas supply) going into the drum. I am guessing this knock-out drum is using purge gas to keep the vessel free of oxygen. Here is a cut out of it.



Questions: Is Dominion going to use purge gas on this vessel?  
Type of gas to be used (tail gas, field gas)?  
And the pressure & volume of purge gas going into the vessel?

Thanks,  
Ed

Sincerely,

Edward S. Andrews, P.E.

Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

**From:** Andrews, Edward S  
**To:** "[Rebekah J Remick \(Services - 6\)](#)"  
**Cc:** [Liz Gayne \(Elizabeth.H.Gayne@dom.com\)](#)  
**Subject:** RE: Hastings CS Contacts  
**Date:** Monday, August 31, 2015 10:03:00 AM

---

Hey: We are getting a busy signal on the dial-in number you provided.

If you can, call us at 304-926-0499 ext 1366.

Ed

---

**From:** Rebekah J Remick (Services - 6) [mailto:[Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)]  
**Sent:** Wednesday, August 26, 2015 3:34 PM  
**To:** Andrews, Edward S  
**Subject:** Hastings CS Contacts

Ed,

While I'm out on Thursday and Friday of this week, you can always contact:

Liz Gayne  
804-273-3128  
[Elizabeth.H.Gayne@dom.com](mailto:Elizabeth.H.Gayne@dom.com)

Mandy Tornabene  
804-273-2998  
[Amanda.B.Tornabene@dom.com](mailto:Amanda.B.Tornabene@dom.com)

Thanks!

*Becky Remick*  
Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

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**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Cc:** [Amanda B Tornahene \(Services - 6\)](#)  
**Subject:** RE: Hastings new Dehy permit appliciton (R13-2870B)  
**Date:** Wednesday, May 20, 2015 12:54:52 PM

---

Thanks Ed!

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

**From:** Andrews, Edward S [<mailto:Edward.S.Andrews@wv.gov>]  
**Sent:** Wednesday, May 20, 2015 11:01 AM  
**To:** Rebekah J Remick (Services - 6)  
**Subject:** FW: Hastings new Dehy permit appliciton (R13-2870B)

FYI: We have assigned **R13-3249** for the new dehydration unit application at the Hastings Compressor Station (103-00006).

I would like to thank-you again for setting up the call today.

Should you have any questions, please contact me.

Sincerely,

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

---

**From:** Rice, Jennifer L  
**Sent:** Wednesday, May 20, 2015 10:57 AM  
**To:** Andrews, Edward S  
**Cc:** McKeone, Beverly D  
**Subject:** RE: Hastings new Dehy permit appliciton (R13-2870B)

Done.

13-3249

---

**From:** Andrews, Edward S  
**Sent:** Wednesday, May 20, 2015 10:30 AM  
**To:** Rice, Jennifer L  
**Cc:** McKeone, Beverly D  
**Subject:** Hastings new Dehy permit appliciton (R13-2870B)

Jennifer: Would you please assign a new permit no. to this particular application. The facility ID will remain the same (103-00006) for now.

Thanks,  
Ed

---

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**From:** [Rice, Jennifer L](#)  
**To:** [Andrews, Edward S](#)  
**Cc:** [McKeone, Beverly D](#)  
**Subject:** RE: Hastings new Dehy permit appliciton (R13-2870B)  
**Date:** Wednesday, May 20, 2015 10:56:54 AM

---

Done.  
13-3249

---

**From:** Andrews, Edward S  
**Sent:** Wednesday, May 20, 2015 10:30 AM  
**To:** Rice, Jennifer L  
**Cc:** McKeone, Beverly D  
**Subject:** Hastings new Dehy permit appliciton (R13-2870B)

Jennifer: Would you please assign a new permit no. to this particular application. The facility ID will remain the same (103-00006) for now.

Thanks,  
Ed

**From:** Andrews, Edward S  
**To:** "[Rebekah J Remick \(Services - 6\)](#)"  
**Subject:** RE: Questions about the new knock-out drum (MAB-1000)  
**Date:** Monday, August 31, 2015 4:04:00 PM  
**Attachments:** [image001.png](#)

---

Becky: I'll be out of the office tomorrow. You can reach me at 304-444-8084.

Thanks,  
Ed

---

**From:** Rebekah J Remick (Services - 6) [mailto:[Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)]  
**Sent:** Monday, August 31, 2015 1:40 PM  
**To:** Andrews, Edward S  
**Subject:** RE: Questions about the new knock-out drum (MAB-1000)

Hey Ed,

Heard back from our Engineering guys...

No, its not used as purge gas, just to periodically pressurize the tank.

No, the gas supply line is used to pressure up the lower section of the drum and force the liquid hc out to the station waste tank.

Overall, we are not using purge gas on the vessel. If you have any other questions, please let me know, thanks!

*Becky Remick*

Dominion Resources, Inc.

Gas Environmental Services

Office: 804-273-3536

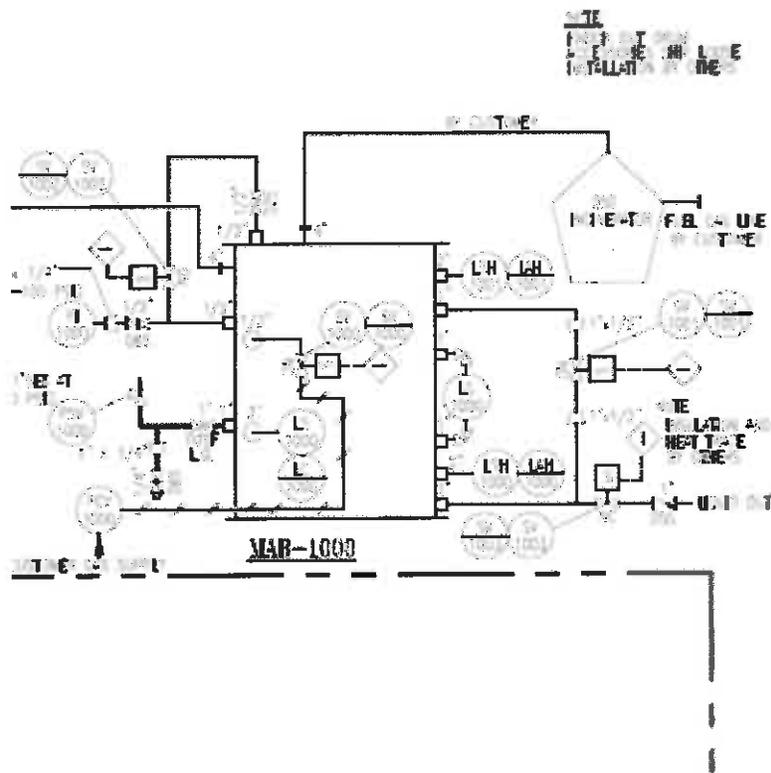
Mobile: 804-385-5465

Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

**From:** Andrews, Edward S [mailto:[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)]  
**Sent:** Monday, August 31, 2015 9:08 AM  
**To:** Rebekah J Remick (Services - 6)  
**Subject:** Questions about the new knock-out drum (MAB-1000)

Becky: The Knock-out drum (MAB-1000) has a gas line (gas supply) going into the drum. I am guessing this knock-out drum is using purge gas to keep the vessel free of oxygen. Here is a cut out of it.



Questions: Is Dominion going to use purge gas on this vessel?  
 Type of gas to be used (tail gas, field gas)?  
 And the pressure & volume of purge gas going into the vessel?

Thanks,  
 Ed

Sincerely,

Edward S. Andrews, P.E.  
 Engineer  
 West Virginia Department of Environmental Protection  
 Division of Air Quality  
 601 57th Street, SE  
 Charleston, WV 25304  
 304.926.0499 ext. 1214

---

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**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Subject:** RE: Questions about the new knock-out drum (MAB-1000)  
**Date:** Monday, August 31, 2015 1:40:29 PM  
**Attachments:** [image001.png](#)

---

Hey Ed,

Heard back from our Engineering guys...

No, its not used as purge gas, just to periodically pressurize the tank.

No, the gas supply line is used to pressure up the lower section of the drum and force the liquid hc out to the station waste tank.

Overall, we are not using purge gas on the vessel. If you have any other questions, please let me know, thanks!

*Becky Remick*

Dominion Resources, Inc.

Gas Environmental Services

Office: 804-273-3536

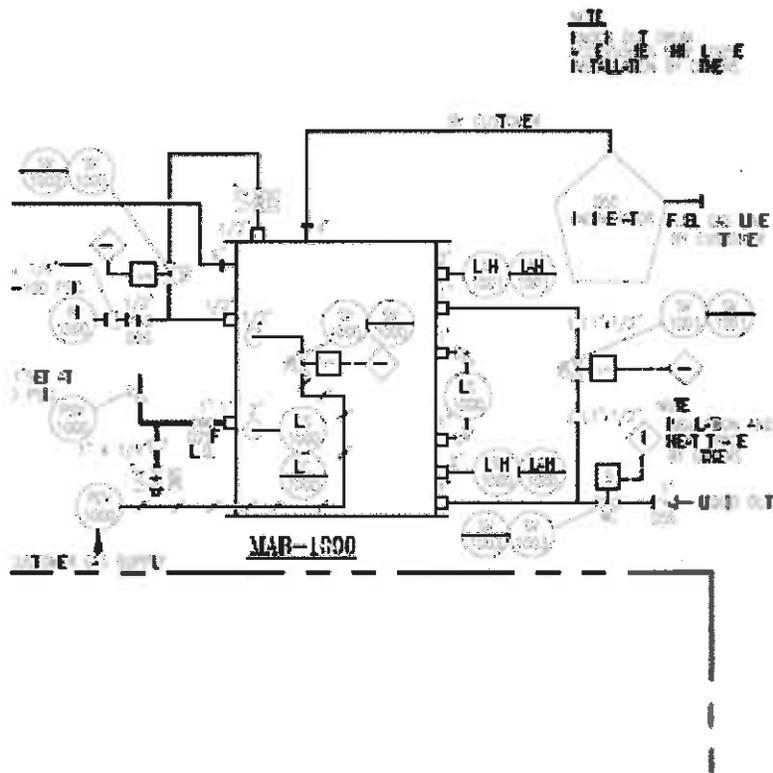
Mobile: 804-385-5465

Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

**From:** Andrews, Edward S [<mailto:Edward.S.Andrews@wv.gov>]  
**Sent:** Monday, August 31, 2015 9:08 AM  
**To:** Rebekah J Remick (Services - 6)  
**Subject:** Questions about the new knock-out drum (MAB-1000)

Becky: The Knock-out drum (MAB-1000) has a gas line (gas supply) going into the drum. I am guessing this knock-out drum is using purge gas to keep the vessel free of oxygen. Here is a cut out of it.



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 And the pressure & volume of purge gas going into the vessel?

Thanks,  
 Ed

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**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Cc:** [Amanda B Tomabene \(Services - 6\)](#); [Elizabeth H Gayne \(Services - 6\)](#)  
**Subject:** RE: Revised Draft of R13-3249 for Hastings Compressor Station  
**Date:** Tuesday, September 01, 2015 5:40:29 PM  
**Attachments:** [Hastings CS - Draft Permit with Dominion Comments #2 - Sept 2015.doc](#)  
**Importance:** High

---

Ed,

Attached are our comments on the draft permit for Hastings Station. Any questions, please let me know, thanks!

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

**From:** Andrews, Edward S [<mailto:Edward.S.Andrews@wv.gov>]  
**Sent:** Monday, August 31, 2015 3:38 PM  
**To:** Rebekah J Remick (Services - 6)  
**Subject:** Revised Draft of R13-3249 for Hastings Compressor Station

Becky: Here is a draft of the permit with the LDAR like instead.

If you could please let me know, you might be able to get back with me about it. I am going to have to get this one to the newspaper really soon to make the deadline.

Thanks,  
Ed

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**From:** [Rebekah J Remick \(Services - 6\)](#)  
**To:** [Andrews, Edward S](#)  
**Subject:** RE: Subpart KKK Applicability for the New Dehydration Unit at the Hastings Compressor Station  
**Date:** Wednesday, August 26, 2015 3:06:45 PM  
**Attachments:** [Hastings FP R13 App Attachment B - Maps.pdf](#)

---

Google map of all the stations...map #2.

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

---

**From:** Andrews, Edward S [<mailto:Edward.S.Andrews@wv.gov>]  
**Sent:** Wednesday, August 26, 2015 10:46 AM  
**To:** Rebekah J Remick (Services - 6)  
**Cc:** McKeone, Beverly D; Keatley, Robert L; Jarrett, James F  
**Subject:** Subpart KKK Applicability for the New Dehydration Unit at the Hastings Compressor Station

Becky: Here is a summary of the decision making process I used for the new dehydration unit regarding Subpart KKK. The other comments made in the August 19, 2015 letter are under consideration.

The role of the New Source Review Program is to review proposed projects and make sound applicability decision in accordance with the current rules and regulations. Past decisions made DAQ must be changed if the information under review shows there was errors in applicability decision making process with regards of the past outcomes. Using such incorrect decisions is not a viable argument with a current action under review. During the previous months, the DAQ has indicated to Dominion that there may have been incorrect applicability decisions regarding programs under the Clean Air Act for the emission units covered under the Hastings Compressor Station and Hastings Extraction Plant Facility IDs.

The New Source Review Group of the DAQ does not actively pursue reviewing past decisions unless requested to do so or a new project has been proposed to be permitted under our construction/modification permitting program. This applicability decision to claim that the new dehydration unit is an affected source towards Subpart KKK to Part 60 was made based on the following:

Facts:

The Hastings Extraction plant is an onshore natural gas processing plant.

The Hastings Extraction Plant was modified in 2003, which made the extraction plant affected source 40 CFR 60, Subpart KKK. This modification was permitted under Permit R13-2468A.

At the Hasting Compressor Station, C-200 (electrically driven compressor, installed in 2002), RICE w/integral compressor (001-01 & 001-02 – installed in 1968), and DEHY 01 (installed in 1972)

are in "Wet Gas Service."

C-300, which is another electrically driven compressor, is in "Dry Gas Service" and was installed in 2002.

#### **40 CFR Subpart KKK**

**60.630(e)** A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart.

The DAQ believes that the extraction plant and the compressor station should be considered as one plant site for determining applicability under Subpart KKK to Part 60. The Hastings Compressor Station and Hastings Extraction Plant are adjacent of each other. In fact, the liquids collected at the Hastings Pig Trap and Slug Catcher Area is feed to the Drip gasoline feed tank at the extraction plant. The pig trap and slug catcher area are located upstream of the Hasting Compressor Station and under control of Dominion Transmission.

The plot plan (DWG No. 47-HA-303) clearly noted a new pipe bridge and personnel walkway from the extraction plant to the new electric compressor station (C-200 & C-300). This plot plan was submitted with the extraction plant modification application R13-2468A on January 20, 2003 and dated January 17, 2003. This new bridge connects the two facilities.

The DAQ believes that the equipment (dehydration unit & wet gas compressors) at the Hasting Compressor Station that is in Wet Gas Service are necessary for the Hastings Extraction Plant to operate. Regardless of Dominion Transmission Inc. decision to identify the Hastings Compressor Station with an SIC code 4922, the DAQ believes that the dehydration unit is supporting the extraction plant (onshore natural gas processing plant).

The DAQ believes since the existing dehydration unit was installed in 1972 and never been modified or replaced that it would not be an affected source under Subpart KKK. Since Permit Application R13-3249 calls for the replacement of the dehydration unit and the adjacent extraction plant is currently an onshore gas process plant subject to the LDAR of Subpart KKK, the dehydration unit would become an affected source under Subpart KKK upon start-up as noted in §60.630(e).

Should you have any questions, please contact me.

Sincerely,

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

---

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**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Subject:** Revised Draft of R13-3249 for Hastings Compressor Station  
**Date:** Monday, August 31, 2015 3:37:00 PM  
**Attachments:** [103-00006\\_PERM\\_13-3249draftversion-2.doc](#)

---

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**From:** Andrews, Edward S  
**To:** [Rebekah J Remick \(Services - 6\)](#)  
**Cc:** [Mckeone, Beverly D](#); [Keatley, Robert L](#); [Jarrett, James F](#)  
**Subject:** Subpart KKK Applicability for the New Dehydration Unit at the Hastings Compressor Station  
**Date:** Wednesday, August 26, 2015 10:45:00 AM  
**Attachments:** [Plot Plan R13-2468A.pdf](#)

---

Becky: Here is a summary of the decision making process I used for the new dehydration unit regarding Subpart KKK. The other comments made in the August 19, 2015 letter are under consideration.

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Should you have any questions, please contact me.

Sincerely,

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

## GRI-GLYCalc VERSION 4.0 - EMISSIONS SUMMARY

Case Name: R13-3249 - 103-00006

File Name:

Date: August 07, 2015

ID # 103-6Reg R13-3249Company Dan LinnFacility Houston C.S. Initials ELM

## CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.6399	39.358	7.1829
Ethane	0.4376	10.503	1.9169
Propane	0.2529	6.071	1.1079
Isobutane	0.0664	1.593	0.2907
n-Butane	0.1028	2.468	0.4504
Isopentane	0.0406	0.975	0.1779
n-Pentane	0.0332	0.797	0.1454
n-Hexane	0.0146	0.351	0.0640
Cyclohexane	0.0057	0.136	0.0249
Other Hexanes	0.0234	0.561	0.1023
Heptanes	0.0297	0.713	0.1301
Benzene	0.0066	0.158	0.0288
Toluene	0.0197	0.474	0.0864
Ethylbenzene	0.0007	0.018	0.0032
Xylenes	0.0422	1.014	0.1850
C8+ Heavies	0.1918	4.604	0.8403
<b>Total Emissions</b>	<b>2.9080</b>	<b>69.793</b>	<b>12.7371</b>
<b>Total Hydrocarbon Emissions</b>	<b>2.9080</b>	<b>69.793</b>	<b>12.7371</b>
<b>Total VOC Emissions</b>	<b>0.8305</b>	<b>19.931</b>	<b>3.6374</b>
<b>Total HAP Emissions</b>	<b>0.0839</b>	<b>2.014</b>	<b>0.3675</b>
<b>Total BTEX Emissions</b>	<b>0.0693</b>	<b>1.663</b>	<b>0.3035</b>

## UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	32.7986	787.167	143.6579
Ethane	8.7527	210.066	38.3370
Propane	5.0590	121.416	22.1583
Isobutane	1.3276	31.862	5.8148
n-Butane	2.0565	49.355	9.0074
Isopentane	0.8124	19.498	3.5584
n-Pentane	0.6639	15.933	2.9078
n-Hexane	0.2921	7.011	1.2796
Cyclohexane	0.1136	2.726	0.4976

Entire Document  
 NON-CONFIDENTIAL

Other Hexanes	0.4672	11.212	2.0462
Heptanes	0.5941	14.258	2.6022
Benzene	0.1316	3.159	0.5766
Toluene	0.3947	9.473	1.7288
Ethylbenzene	0.0147	0.352	0.0642
Xylenes	0.8448	20.275	3.7002
C8+ Heavies	3.8369	92.087	16.8058
-----			
Total Emissions	58.1604	1395.850	254.7427
Total Hydrocarbon Emissions	58.1604	1395.850	254.7427
Total VOC Emissions	16.6091	398.618	72.7477
Total HAP Emissions	1.6779	40.270	7.3493
Total BTEX Emissions	1.3858	33.259	6.0697

## FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0259	0.622	0.1135
Ethane	0.0175	0.421	0.0768
Propane	0.0133	0.319	0.0582
Isobutane	0.0040	0.096	0.0175
n-Butane	0.0066	0.159	0.0290
Isopentane	0.0027	0.064	0.0116
n-Pentane	0.0022	0.054	0.0098
n-Hexane	0.0009	0.023	0.0042
Cyclohexane	0.0002	0.005	0.0009
Other Hexanes	0.0016	0.038	0.0069
Heptanes	0.0016	0.038	0.0069
Benzene	<0.0001	0.001	0.0002
Toluene	0.0001	0.002	0.0004
Ethylbenzene	<0.0001	<0.001	<0.0001
Xylenes	0.0001	0.002	0.0004
C8+ Heavies	0.0027	0.064	0.0117
-----			
Total Emissions	0.0794	1.906	0.3479
Total Hydrocarbon Emissions	0.0794	1.906	0.3479
Total VOC Emissions	0.0360	0.864	0.1576
Total HAP Emissions	0.0012	0.028	0.0052
Total BTEX Emissions	0.0002	0.006	0.0010

## FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
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Total Hydrocarbon Emissions	2.9875	71.699	13.0850
Total VOC Emissions	0.8664	20.795	3.7950
Total HAP Emissions	0.0851	2.042	0.3727
Total BTEX Emissions	0.0695	1.669	0.3045

Methane	0.5182	12.438	2.2698
Ethane	0.3506	8.414	1.5356
Propane	0.2659	6.381	1.1645
Isobutane	0.0800	1.920	0.3505
n-Butane	0.1324	3.177	0.5798
Isopentane	0.0531	1.275	0.2327
n-Pentane	0.0448	1.076	0.1964
n-Hexane	0.0190	0.456	0.0832
Cyclohexane	0.0040	0.096	0.0175
Other Hexanes	0.0314	0.754	0.1377
Heptanes	0.0313	0.751	0.1371
Benzene	0.0009	0.022	0.0040
Toluene	0.0019	0.046	0.0085
Ethylbenzene	<0.0001	0.001	0.0002
Xylenes	0.0018	0.043	0.0078
C8+ Heavies	0.0532	1.277	0.2331
Total Emissions	1.5887	38.128	6.9583
Total Hydrocarbon Emissions	1.5887	38.128	6.9583
Total VOC Emissions	0.7198	17.276	3.1529
Total HAP Emissions	0.0237	0.568	0.1037
Total BTEX Emissions	0.0047	0.112	0.0205

## COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.6658	39.980	7.2964
Ethane	0.4552	10.924	1.9936
Propane	0.2662	6.390	1.1661
Isobutane	0.0704	1.689	0.3083
n-Butane	0.1094	2.627	0.4794
Isopentane	0.0433	1.039	0.1896
n-Pentane	0.0354	0.850	0.1552
n-Hexane	0.0156	0.373	0.0681
Cyclohexane	0.0059	0.141	0.0258
Other Hexanes	0.0249	0.598	0.1092
Heptanes	0.0313	0.750	0.1370
Benzene	0.0066	0.159	0.0290
Toluene	0.0198	0.476	0.0869
Ethylbenzene	0.0007	0.018	0.0032
Xylenes	0.0423	1.016	0.1854
C8+ Heavies	0.1945	4.668	0.8519
Total Emissions	2.9875	71.699	13.0850

## GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: R13-3249 - 103-00006

File Name:

Date: August 07, 2015

## DESCRIPTION:

Description: Dominion - Hastings Compressor Station  
New TEG Dehy w/Enclosed Combustion Device

Annual Hours of Operation: 8760.0 hours/yr

## EMISSIONS REPORTS:

## CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.6399	39.358	7.1829
Ethane	0.4376	10.503	1.9169
Propane	0.2529	6.071	1.1079
Isobutane	0.0664	1.593	0.2907
n-Butane	0.1028	2.468	0.4504
Isopentane	0.0406	0.975	0.1779
n-Pentane	0.0332	0.797	0.1454
n-Hexane	0.0146	0.351	0.0640
Cyclohexane	0.0057	0.136	0.0249
Other Hexanes	0.0234	0.561	0.1023
Heptanes	0.0297	0.713	0.1301
Benzene	0.0066	0.158	0.0288
Toluene	0.0197	0.474	0.0864
Ethylbenzene	0.0007	0.018	0.0032
Xylenes	0.0422	1.014	0.1850
C8+ Heavies	0.1918	4.604	0.8403
<b>Total Emissions</b>	<b>2.9080</b>	<b>69.793</b>	<b>12.7371</b>
Total Hydrocarbon Emissions	2.9080	69.793	12.7371
Total VOC Emissions	0.8305	19.931	3.6374
Total HAP Emissions	0.0839	2.014	0.3675
Total BTEX Emissions	0.0693	1.663	0.3035

## UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	32.7986	787.167	143.6579
Ethane	8.7527	210.066	38.3370
Propane	5.0590	121.416	22.1583
Isobutane	1.3276	31.862	5.8148
n-Butane	2.0565	49.355	9.0074
Isopentane	0.8124	19.498	3.5584
n-Pentane	0.6639	15.933	2.9078
n-Hexane	0.2921	7.011	1.2796
Cyclohexane	0.1136	2.726	0.4976
Other Hexanes	0.4672	11.212	2.0462
Heptanes	0.5941	14.258	2.6022
Benzene	0.1316	3.159	0.5766
Toluene	0.3947	9.473	1.7288
Ethylbenzene	0.0147	0.352	0.0642
Xylenes	0.8448	20.275	3.7002
C8+ Heavies	3.8369	92.087	16.8058
Total Emissions	58.1604	1395.850	254.7427
Total Hydrocarbon Emissions	58.1604	1395.850	254.7427
Total VOC Emissions	16.6091	398.618	72.7477
Total HAP Emissions	1.6779	40.270	7.3493
Total BTEX Emissions	1.3858	33.259	6.0697

FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0259	0.622	0.1135
Ethane	0.0175	0.421	0.0768
Propane	0.0133	0.319	0.0582
Isobutane	0.0040	0.096	0.0175
n-Butane	0.0066	0.159	0.0290
Isopentane	0.0027	0.064	0.0116
n-Pentane	0.0022	0.054	0.0098
n-Hexane	0.0009	0.023	0.0042
Cyclohexane	0.0002	0.005	0.0009
Other Hexanes	0.0016	0.038	0.0069
Heptanes	0.0016	0.038	0.0069
Benzene	<0.0001	0.001	0.0002
Toluene	0.0001	0.002	0.0004
Ethylbenzene	<0.0001	<0.001	<0.0001
Xylenes	0.0001	0.002	0.0004
C8+ Heavies	0.0027	0.064	0.0117

Total Emissions	0.0794	1.906	0.3479
Total Hydrocarbon Emissions	0.0794	1.906	0.3479
Total VOC Emissions	0.0360	0.864	0.1576
Total HAP Emissions	0.0012	0.028	0.0052
Total BTEX Emissions	0.0002	0.006	0.0010

## FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.5182	12.438	2.2698
Ethane	0.3506	8.414	1.5356
Propane	0.2659	6.381	1.1645
Isobutane	0.0800	1.920	0.3505
n-Butane	0.1324	3.177	0.5798
Isopentane	0.0531	1.275	0.2327
n-Pentane	0.0448	1.076	0.1964
n-Hexane	0.0190	0.456	0.0832
Cyclohexane	0.0040	0.096	0.0175
Other Hexanes	0.0314	0.754	0.1377
Heptanes	0.0313	0.751	0.1371
Benzene	0.0009	0.022	0.0040
Toluene	0.0019	0.046	0.0085
Ethylbenzene	<0.0001	0.001	0.0002
Xylenes	0.0018	0.043	0.0078
C8+ Heavies	0.0532	1.277	0.2331
Total Emissions	1.5887	38.128	6.9583
Total Hydrocarbon Emissions	1.5887	38.128	6.9583
Total VOC Emissions	0.7198	17.276	3.1529
Total HAP Emissions	0.0237	0.568	0.1037
Total BTEX Emissions	0.0047	0.112	0.0205

## COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.6658	39.980	7.2964
Ethane	0.4552	10.924	1.9936
Propane	0.2662	6.390	1.1661
Isobutane	0.0704	1.689	0.3083
n-Butane	0.1094	2.627	0.4794
Isopentane	0.0433	1.039	0.1896
n-Pentane	0.0354	0.850	0.1552
n-Hexane	0.0156	0.373	0.0681

Cyclohexane	0.0059	0.141	0.0258
Other Hexanes	0.0249	0.598	0.1092
Heptanes	0.0313	0.750	0.1370
Benzene	0.0066	0.159	0.0290
Toluene	0.0198	0.476	0.0869
Ethylbenzene	0.0007	0.018	0.0032
Xylenes	0.0423	1.016	0.1854
C8+ Heavies	0.1945	4.668	0.8519
-----			
Total Emissions	2.9875	71.699	13.0850
Total Hydrocarbon Emissions	2.9875	71.699	13.0850
Total VOC Emissions	0.8664	20.795	3.7950
Total HAP Emissions	0.0851	2.042	0.3727
Total BTEX Emissions	0.0695	1.669	0.3045

COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT:

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Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	145.9278	7.2964	95.00
Ethane	39.8726	1.9936	95.00
Propane	23.3228	1.1661	95.00
Isobutane	6.1653	0.3083	95.00
n-Butane	9.5871	0.4794	95.00
Isopentane	3.7911	0.1896	95.00
n-Pentane	3.1042	0.1552	95.00
n-Hexane	1.3628	0.0681	95.00
Cyclohexane	0.5150	0.0258	95.00
Other Hexanes	2.1839	0.1092	95.00
Heptanes	2.7393	0.1370	95.00
Benzene	0.5806	0.0290	95.00
Toluene	1.7372	0.0869	95.00
Ethylbenzene	0.0644	0.0032	95.00
Xylenes	3.7080	0.1854	95.00
C8+ Heavies	17.0389	0.8519	95.00
-----			
Total Emissions	261.7010	13.0850	95.00
Total Hydrocarbon Emissions	261.7010	13.0850	95.00
Total VOC Emissions	75.9006	3.7950	95.00
Total HAP Emissions	7.4530	0.3727	95.00
Total BTEX Emissions	6.0903	0.3045	95.00

## EQUIPMENT REPORTS:

## COMBUSTION DEVICE

Ambient Temperature: 60.00 deg. F  
 Excess Oxygen: 0.00 %  
 Combustion Efficiency: 95.00 %  
 Supplemental Fuel Requirement: 2.56e-001 MM BTU/hr

Component	Emitted	Destroyed
Methane	5.00%	95.00%
Ethane	5.00%	95.00%
Propane	5.00%	95.00%
Isobutane	5.00%	95.00%
n-Butane	5.00%	95.00%
Isopentane	5.00%	95.00%
n-Pentane	5.00%	95.00%
n-Hexane	5.00%	95.00%
Cyclohexane	5.00%	95.00%
Other Hexanes	5.00%	95.00%
Heptanes	5.00%	95.00%
Benzene	5.00%	95.00%
Toluene	5.00%	95.00%
Ethylbenzene	5.00%	95.00%
Xylenes	5.00%	95.00%
C8+ Heavies	5.00%	95.00%

## ABSORBER

Calculated Absorber Stages: 3.38  
 Specified Dry Gas Dew Point: 7.00 lbs. H2O/MMSCF  
 Temperature: 110.0 deg. F  
 Pressure: 314.7 psig  
 Dry Gas Flow Rate: 7.5000 MMSCF/day  
 Glycol Losses with Dry Gas: 0.0737 lb/hr  
 Wet Gas Water Content: Subsaturated  
 Specified Wet Gas Water Content: 80.00 lbs. H2O/MMSCF  
 Specified Lean Glycol Recirc. Ratio: 3.00 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
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Water	8.74%	91.26%
Carbon Dioxide	99.92%	0.08%
Nitrogen	99.99%	0.01%
Methane	99.99%	0.01%
Ethane	99.98%	0.02%
Propane	99.96%	0.04%
Isobutane	99.94%	0.06%
n-Butane	99.92%	0.08%
Isopentane	99.91%	0.09%
n-Pentane	99.89%	0.11%
n-Hexane	99.80%	0.20%
Cyclohexane	99.17%	0.83%
Other Hexanes	99.85%	0.15%
Heptanes	99.60%	0.40%
Benzene	93.42%	6.58%
Toluene	89.82%	10.18%
Ethylbenzene	83.43%	16.57%
Xylenes	76.02%	23.98%
C8+ Heavies	96.83%	3.17%

## FLASH TANK

Flash Control: Combustion device  
Flash Control Efficiency: 95.00 %  
Flash Temperature: 150.0 deg. F  
Flash Pressure: 60.0 psig

Component	Left in Glycol	Removed in Flash Gas
Water	99.98%	0.02%
Carbon Dioxide	65.91%	34.09%
Nitrogen	15.22%	84.78%
Methane	15.99%	84.01%
Ethane	37.66%	62.34%
Propane	56.80%	43.20%
Isobutane	65.08%	34.92%
n-Butane	70.45%	29.55%
Isopentane	72.56%	27.44%
n-Pentane	76.40%	23.60%
n-Hexane	84.49%	15.51%
Cyclohexane	95.50%	4.50%
Other Hexanes	80.95%	19.05%
Heptanes	91.17%	8.83%
Benzene	99.31%	0.69%
Toluene	99.54%	0.46%

Ethylbenzene	99.73%	0.27%
Xylenes	99.81%	0.19%
C8+ Heavies	98.68%	1.32%

REGENERATOR

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Regenerator Stripping Gas:  
 Dry Product Gas  
 Stripping Gas Flow Rate: 16.0000 scfm

Component	Remaining in Glycol	Distilled Overhead
Water	29.66%	70.34%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%
Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	0.69%	99.31%
n-Pentane	0.65%	99.35%
n-Hexane	0.59%	99.41%
Cyclohexane	3.35%	96.65%
Other Hexanes	1.23%	98.77%
Heptanes	0.55%	99.45%
Benzene	5.03%	94.97%
Toluene	7.94%	92.06%
Ethylbenzene	10.44%	89.56%
Xylenes	12.97%	87.03%
C8+ Heavies	12.18%	87.82%

STREAM REPORTS:

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WET GAS STREAM

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Temperature: 110.00 deg. F  
 Pressure: 329.40 psia  
 Flow Rate: 3.13e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
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Water	1.69e-001	2.50e+001
Carbon Dioxide	1.50e-001	5.44e+001
Nitrogen	7.20e-001	1.66e+002
Methane	8.04e+001	1.06e+004
Ethane	1.12e+001	2.78e+003
Propane	4.22e+000	1.53e+003
Isobutane	8.01e-001	3.84e+002
n-Butane	1.18e+000	5.67e+002
Isopentane	3.68e-001	2.19e+002
n-Pentane	2.84e-001	1.69e+002
n-Hexane	8.68e-002	6.18e+001
Cyclohexane	1.50e-002	1.04e+001
Other Hexanes	1.54e-001	1.09e+002
Heptanes	1.08e-001	8.91e+001
Benzene	2.99e-003	1.93e+000
Toluene	4.99e-003	3.79e+000
Ethylbenzene	9.98e-005	8.74e-002
Xylenes	3.99e-003	3.50e+000
C8+ Heavies	7.99e-002	1.12e+002
Total Components	100.00	1.69e+004

DRY GAS STREAM

Temperature: 110.00 deg. F  
 Pressure: 329.40 psia  
 Flow Rate: 3.13e+005 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	1.47e-002	2.19e+000
Carbon Dioxide	1.50e-001	5.43e+001
Nitrogen	7.21e-001	1.66e+002
Methane	8.06e+001	1.06e+004
Ethane	1.12e+001	2.78e+003
Propane	4.22e+000	1.53e+003
Isobutane	8.01e-001	3.84e+002
n-Butane	1.18e+000	5.67e+002
Isopentane	3.69e-001	2.19e+002
n-Pentane	2.85e-001	1.69e+002
n-Hexane	8.68e-002	6.16e+001
Cyclohexane	1.49e-002	1.03e+001
Other Hexanes	1.54e-001	1.09e+002
Heptanes	1.08e-001	8.88e+001
Benzene	2.80e-003	1.80e+000

Toluene	4.49e-003	3.41e+000
Ethylbenzene	8.34e-005	7.30e-002
Xylenes	3.04e-003	2.66e+000
C8+ Heavies	7.75e-002	1.09e+002

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Total Components	100.00	1.69e+004
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## LEAN GLYCOL STREAM

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Temperature: 110.00 deg. F

Flow Rate: 1.14e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
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TEG	9.84e+001	6.32e+002
Water	1.50e+000	9.63e+000
Carbon Dioxide	6.42e-013	4.12e-012
Nitrogen	1.51e-013	9.70e-013
Methane	3.23e-018	2.07e-017

Ethane	4.13e-008	2.65e-007
Propane	3.90e-009	2.50e-008
Isobutane	1.07e-009	6.87e-009
n-Butane	1.73e-009	1.11e-008
Isopentane	1.51e-004	9.68e-004

n-Pentane	1.48e-004	9.50e-004
n-Hexane	9.53e-005	6.12e-004
Cyclohexane	4.42e-004	2.84e-003
Other Hexanes	2.57e-004	1.65e-003
Heptanes	2.76e-004	1.77e-003

Benzene	1.04e-003	6.68e-003
Toluene	5.16e-003	3.31e-002
Ethylbenzene	2.62e-004	1.68e-003
Xylenes	1.94e-002	1.25e-001
C8+ Heavies	7.57e-002	4.86e-001

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Total Components	100.00	6.42e+002
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## RICH GLYCOL STREAM

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Temperature: 110.00 deg. F

Pressure: 329.40 psia

Flow Rate: 1.20e+000 gpm

NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)
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TEG	9.38e+001	6.32e+002
Water	4.83e+000	3.25e+001
Carbon Dioxide	6.13e-003	4.12e-002
Nitrogen	1.44e-003	9.70e-003
Methane	9.16e-002	6.17e-001

Ethane	8.35e-002	5.62e-001
Propane	9.14e-002	6.15e-001
Isobutane	3.40e-002	2.29e-001
n-Butane	6.65e-002	4.48e-001
Isopentane	2.88e-002	1.94e-001

n-Pentane	2.82e-002	1.90e-001
n-Hexane	1.82e-002	1.22e-001
Cyclohexane	1.32e-002	8.88e-002
Other Hexanes	2.45e-002	1.65e-001
Heptanes	5.26e-002	3.54e-001

Benzene	1.99e-002	1.34e-001
Toluene	6.23e-002	4.19e-001
Ethylbenzene	2.40e-003	1.62e-002
Xylenes	1.43e-001	9.63e-001
C8+ Heavies	6.00e-001	4.04e+000

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Total Components	100.00	6.73e+002

## FLASH TANK OFF GAS STREAM

Temperature:	150.00 deg. F
Pressure:	74.70 psia
Flow Rate:	2.17e+001 scfh

Component	Conc. (vol%)	Loading (lb/hr)
-----		
Water	6.15e-001	6.35e-003
Carbon Dioxide	5.58e-001	1.41e-002
Nitrogen	5.12e-001	8.22e-003
Methane	5.64e+001	5.18e-001
Ethane	2.04e+001	3.51e-001
Propane	1.05e+001	2.66e-001
Isobutane	2.40e+000	8.00e-002
n-Butane	3.98e+000	1.32e-001
Isopentane	1.29e+000	5.31e-002
n-Pentane	1.09e+000	4.48e-002
n-Hexane	3.85e-001	1.90e-002
Cyclohexane	8.28e-002	3.99e-003
Other Hexanes	6.37e-001	3.14e-002
Heptanes	5.45e-001	3.13e-002
Benzene	2.06e-002	9.23e-004

Toluene	3.66e-002	1.93e-003
Ethylbenzene	7.31e-004	4.44e-005
Xylenes	2.93e-002	1.78e-003
C8+ Heavies	5.45e-001	5.32e-002
-----		
Total Components	100.00	1.62e+000

## FLASH TANK GLYCOL STREAM

Temperature: 150.00 deg. F  
Flow Rate: 1.20e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
-----		
TEG	9.40e+001	6.32e+002
Water	4.84e+000	3.25e+001
Carbon Dioxide	4.05e-003	2.72e-002
Nitrogen	2.20e-004	1.48e-003
Methane	1.47e-002	9.87e-002
Ethane	3.15e-002	2.12e-001
Propane	5.20e-002	3.50e-001
Isobutane	2.22e-002	1.49e-001
n-Butane	4.70e-002	3.16e-001
Isopentane	2.09e-002	1.40e-001
n-Pentane	2.16e-002	1.45e-001
n-Hexane	1.54e-002	1.03e-001
Cyclohexane	1.26e-002	8.48e-002
Other Hexanes	1.99e-002	1.34e-001
Heptanes	4.81e-002	3.23e-001
Benzene	1.98e-002	1.33e-001
Toluene	6.21e-002	4.17e-001
Ethylbenzene	2.40e-003	1.61e-002
Xylenes	1.43e-001	9.61e-001
C8+ Heavies	5.94e-001	3.99e+000
-----		
Total Components	100.00	6.72e+002

## FLASH GAS EMISSIONS

Flow Rate: 9.75e+001 scfh  
Control Method: Combustion Device  
Control Efficiency: 95.00

Component	Conc. (vol%)	Loading (lb/hr)
-----		
Water	5.98e+001	2.77e+000

Carbon Dioxide	3.90e+001	4.41e+000
Nitrogen	1.14e-001	8.22e-003
Methane	6.29e-001	2.59e-002
Ethane	2.27e-001	1.75e-002
Propane	1.17e-001	1.33e-002
Isobutane	2.68e-002	4.00e-003
n-Butane	4.43e-002	6.62e-003
Isopentane	1.43e-002	2.66e-003
n-Pentane	1.21e-002	2.24e-003
n-Hexane	4.29e-003	9.50e-004
Cyclohexane	9.23e-004	2.00e-004
Other Hexanes	7.10e-003	1.57e-003
Heptanes	6.08e-003	1.57e-003
Benzene	2.30e-004	4.61e-005
Toluene	4.08e-004	9.66e-005
Ethylbenzene	8.14e-006	2.22e-006
Xylenes	3.27e-004	8.92e-005
C8+ Heavies	6.08e-003	2.66e-003
-----		
Total Components	100.00	7.27e+000

REGENERATOR OVERHEADS STREAM

-----

Temperature: 212.00 deg. F  
 Pressure: 14.70 psia  
 Flow Rate: 1.47e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)
-----		
Water	3.28e+001	2.29e+001
Carbon Dioxide	1.14e-001	1.94e-001
Nitrogen	4.72e-001	5.12e-001
Methane	5.28e+001	3.28e+001
Ethane	7.51e+000	8.75e+000
Propane	2.96e+000	5.06e+000
Isobutane	5.90e-001	1.33e+000
n-Butane	9.13e-001	2.06e+000
Isopentane	2.91e-001	8.12e-001
n-Pentane	2.38e-001	6.64e-001
n-Hexane	8.75e-002	2.92e-001
Cyclohexane	3.48e-002	1.14e-001
Other Hexanes	1.40e-001	4.67e-001
Heptanes	1.53e-001	5.94e-001
Benzene	4.35e-002	1.32e-001
Toluene	1.11e-001	3.95e-001
Ethylbenzene	3.57e-003	1.47e-002

Xylenes 2.05e-001 8.45e-001  
 C8+ Heavies 5.81e-001 3.84e+000

-----  
 Total Components 100.00 8.17e+001

COMBUSTION DEVICE OFF GAS STREAM

-----  
 Temperature: 1000.00 deg. F  
 Pressure: 14.70 psia  
 Flow Rate: 4.90e+001 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Methane	7.92e+001	1.64e+000
Ethane	1.13e+001	4.38e-001
Propane	4.44e+000	2.53e-001
Isobutane	8.85e-001	6.64e-002
n-Butane	1.37e+000	1.03e-001
Isopentane	4.36e-001	4.06e-002
n-Pentane	3.56e-001	3.32e-002
n-Hexane	1.31e-001	1.46e-002
Cyclohexane	5.23e-002	5.68e-003
Other Hexanes	2.10e-001	2.34e-002
Heptanes	2.30e-001	2.97e-002
Benzene	6.53e-002	6.58e-003
Toluene	1.66e-001	1.97e-002
Ethylbenzene	5.35e-003	7.33e-004
Xylenes	3.08e-001	4.22e-002
C8+ Heavies	8.72e-001	1.92e-001
-----	-----	-----
Total Components	100.00	2.91e+000

## Andrews, Edward S

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**From:** Rebekah J Remick (Services - 6) <Rebekah.J.Remick@dom.com>  
**Sent:** Wednesday, May 06, 2015 10:46 AM  
**To:** Andrews, Edward S  
**Subject:** RE: Dominion Hastings Compressor Station  
**Attachments:** HEP and HS dehy fuel gas.pdf

And just received the recent analysis...thanks!

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

ID # 103-6  
Reg R13-3249  
Company Dominion  
Facility Hastings Initials ER

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**From:** Rebekah J Remick (Services - 6)  
**Sent:** Wednesday, May 06, 2015 8:47 AM  
**To:** 'Andrews, Edward S'  
**Subject:** RE: Dominion Hastings Compressor Station

Hey Ed,

I'm still waiting on a recent analysis from Operations, but thought I would send the rest of this to you now:

- Attached is the P&I diagram for the new dehy unit at Hastings Station.
- The fuel gas for the reboiler does not come from the extraction plant...it comes from the Hastings Compressor Station engine fuel that is from transmission pipeline TL-430 (same as the current unit).
- The glycol pump is a NOV 11D-2M electric drive plunger pump rated for 4.5 gpm at 720 psig. An identical pump is there for back-up.

If you need anything else, let me know, thanks!

*Becky Remick*

Dominion Resources, Inc.  
Gas Environmental Services  
Office: 804-273-3536  
Mobile: 804-385-5465  
Email: [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com)

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**From:** Andrews, Edward S [<mailto:Edward.S.Andrews@wv.gov>]  
**Sent:** Monday, April 27, 2015 3:53 PM  
**To:** Rebekah J Remick (Services - 6)  
**Subject:** Dominion Hastings Compressor Station

Becky:

Your affidavit is in the in-box.

*Entire Document*  
**NON-CONFIDENTIAL**

For the actual application; I would like a set of the P&I diagrams for the new dehydration unit if they are available. If not, please confirm what the primary fuel source is for the re-boiler. If it is coming from the extraction plant, could a get a copy of the most recent gas analysis.

Second, I would like to know the capacity of the glycol pump and if there is going to be a back-up unit.

Should you have any questions about this, please contact me know.

Sincerely,

Edward S. Andrews, P.E.  
Engineer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
304.926.0499 ext. 1214

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# Gas Sample Report with Analysis

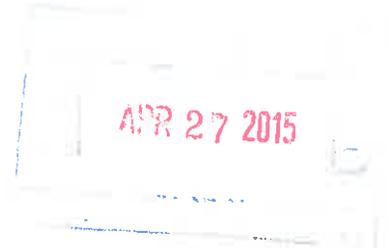
Hastings Extraction Plant

<b>State</b>	WV	<b>Gas Temp (in deg. F)</b>	152
<b>Sample Site</b>	HEP Tail & Fuel gas	<b>Pressure (in psig)</b>	310
<b>Site ID</b>	317	<b>Water(in lbs./mmcf)</b>	0
<b>Sample No.</b>	27928	<b>Calc Water Saturation at T and P</b>	0
<b>Vendor Sample No.</b>		<b>Calc Water Dew Point</b>	152
<b>Active</b>	Y	<b>CO2 Partial Pressure (in psia)</b>	0.483803
<b>Promoted</b>	Y	<b>Dew Point</b>	
<b>Sample Date</b>	Nov 5, 2014	<b>Field Oxygen</b>	
<b>Sample Taken By</b>	chris96	<b>Field Carbon Dioxide</b>	
<b>Sample Comments</b>		<b>Field Hydrogen Sulfide</b>	
		<b>Sulfur</b>	Y
		<b>Chromatograph</b>	Y
<b>Empty Canister</b>	N	<b>Received Date</b>	Nov 5, 2014
<b>Internal Corrosion</b>	N	<b>Analysis Date</b>	Nov 5, 2014
<b>Title V</b>	Y	<b>Analyzed By</b>	jerr132
<b>Other</b>	N	<b>Analysis Comments</b>	
<b>Source</b>			
<b>Methane(in mol%)</b>	85.679	<b>Hydrogen Sulfide (in grs/100cf)</b>	0.000
<b>Ethane(in mol%)</b>	13.444	<b>Methyl Mercaptan (in grs/100cf)</b>	0.000
<b>Propane(in mol%)</b>	0.037	<b>Ethyl Mercaptan (in grs/100cf)</b>	0.000
<b>Isobutane(in mol%)</b>	0.000	<b>DiMethyl sulfide (in grs/100cf)</b>	0.000
<b>n-Butane(in mol%)</b>	0.000	<b>Isopropyl Mercaptan (in grs/100cf)</b>	0.000
<b>Neopentane (in mol%)</b>		<b>Tbutyl Mercaptan (in grs/100cf)</b>	0.000
<b>Isopentane (in mol%)</b>	0.000	<b>Npropyl Mercaptan (in grs/100cf)</b>	0.000
<b>n-Pentane (in mol%)</b>	0.000	<b>Methyl Ethyl sulfide (in grs/100cf)</b>	0.000
<b>Hexane (in mol%)</b>	0.000	<b>Secbutyl Mercaptan (in grs/100cf)</b>	0.000
<b>Oxygen (in mol%)</b>	0.000	<b>Tetrahydrothiophane (in grs/100cf)</b>	0.000
<b>Nitrogen (in mol%)</b>	0.691	<b>Sulfur Components Total (in grs/100cf)</b>	0.000
<b>Carbon Dioxide (in mol%)</b>	0.149	<b>Total Sulfur Analysis (in ppm)</b>	
<b>Helium (in mol%)</b>		<b>Compressibility</b>	0.9975
<b>Hydrogen (in mol%)</b>		<b>Specific Gravity</b>	0.6253
<b>Ammonia (in ppm)</b>		<b>Dry BTU</b>	1112.09
<b>Gas Components Total</b>	100	<b>Saturated BTU</b>	1092.74

Dominion Resource Services, Inc.  
5000 Dominion Boulevard, Glen Allen, VA 23060  
dom.com



April 21, 2015



**BY: U.S. CERTIFIED MAIL, RETURN RECEIPT REQUESTED**  
7012 2210 0001 8405 3192

Ed Andrews  
Permit Engineer  
WVDEP  
601 57<sup>th</sup> Street  
Charleston, WV 25304

RE: **Dominion Transmission, Inc. – Affidavit**  
**Hastings Compressor Station**

ID. No.	<u>10376</u>	Reg.	<u>RB-28708</u>
Company	<u>Dominion</u>		
Facility	<u>Hastings C.S.</u>	Region	
Initials	<u>EKA</u>		

Dear Mr. Andrews:

Attached is an additional document needed for our Hastings Compressor Station air permit application submitted March 23, 2015. The document included:

- Public notice affidavit

If you require any additional information, please contact Rebekah Remick at (804) 273-3536 or via email at [Rebekah.J.Remick@dom.com](mailto:Rebekah.J.Remick@dom.com).

Sincerely,

A handwritten signature in blue ink that reads "Amanda B. Tornabene".

Amanda B. Tornabene  
Director, Gas Environmental Services

**NON-CONFIDENTIAL**

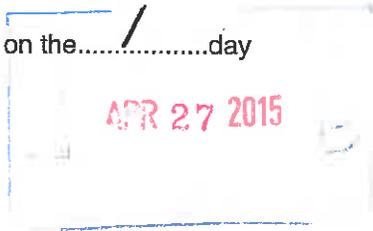
WETZEL CHRONICLE

New Martinsville, WV April 1, 2015

State of West Virginia, County of Wetzel:

Personally appeared before the undersigned, a Notary Public,  
Brian Clutter who, being duly sworn,

states that he is the manager of the Wetzel Chronicle, a weekly newspaper of general circulation, published at New Martinsville, County of Wetzel, State of West Virginia, and that a copy of the notice attached hereto was published for 1 successive weeks in the Wetzel Chronicle, beginning on the 1 day of April, 2015 and ending on the 1 day of April, 2015.



Brian Clutter  
.....

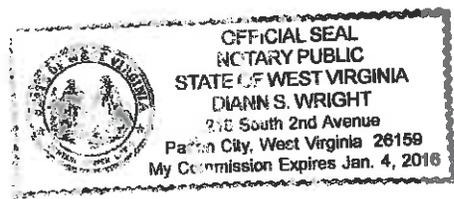
Manager, Wetzel Chronicle

Subscribed and sworn to before me, a Notary Public of said County, on this 1 day of April, 2015.

Diann S. Wright Notary Public

My commission expires on the 4th day of January, 2016.

Printers Fee.....



**AIR QUALITY PERMIT NOTICE**  
Notice of Application  
Notice is given that Dominion Transmission, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Modification Permit for the Hastings Compressor Station, for a natural gas production operation, located in Pine Grove, Wetzel County, West Virginia. The latitude and longitude coordinates are: 39.54989 and -80.67244. Startup of operations is scheduled to begin on October 15, 2015.  
The applicant estimates the total increase in maximum potential to discharge the following regulated air pollutants on a facility-wide basis: 1,567.97 tpy of greenhouse gases, measured in CO2 equivalencies. All other pollutants decrease with this proposed project. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.  
Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.  
Dated this the 1st day of March, 2015.  
By: Dominion Transmission, Inc.  
Brian Sheppard  
Vice President of Pipeline Operations  
445 West Main Street  
Clarksburg, WV 26301  
WC-4-1 124698

ENVIRONMENTAL SERVICES  
DOMINION GAS

APR 16 2015

RECEIVED

**Andrews, Edward S**

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**From:** Kessler, Joseph R  
**Sent:** Friday, April 10, 2015 9:32 AM  
**To:** Andrews, Edward S  
**Subject:** FW: Dominion (Hastings Compressor Station)/Permit Application Fee

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**From:** Adkins, Sandra K  
**Sent:** Monday, March 30, 2015 11:05 AM  
**To:** Kessler, Joseph R  
**Subject:** Dominion (Hastings Compressor Station)/Permit Application Fee

This is the receipt for payment received from:

*R13-3248*

Dominion, check number 272040, dated March 5, 2015, \$3,500.00  
Hastings Compressor Station R13-2870B id no 103-00006

OASIS Deposit No CR 1500107269 March 30, 2015

*Entire Document*  
**NON-CONFIDENTIAL**