



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

<b>Company:</b>	Williams Ohio Valley Midstream LLC	<b>Facility:</b>	Ft. Beeler
<b>Region:</b>	1	<b>Plant ID:</b>	051-00127
<b>Engineer:</b>	Kessler, Joe	<b>Application #:</b>	13-2826J
<b>Physical Address:</b>	Fort Beeler Station Beelers Station WV 26041	<b>Category:</b>	
<b>County:</b>	Marshall	<b>SIC:</b>	[1321] OIL AND GAS EXTRACTION - NATURAL GAS LIQUIDS
<b>Other Parties:</b>	ENV_CONT - Morris, Dave 304-843-3125 Gen_Mgr - Hunter, Paul 412-787-5561		
		<b>NAICS:</b>	[211112] Natural Gas Liquid Extraction

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

<b>Regulated Pollutants</b>	
CO	Carbon Monoxide 93.510 TPY
PM10	Particulate Matter < 10 um 7.200 TPY
SO2	Sulfur Dioxide 0.470 TPY
VOC	Volatile Organic Compounds (Reactive organic gases) 178.790 TPY
PM2.5	Particulate Matter < 2.5 um 7.200 TPY
PT	Total Particulate Matter 7.200 TPY
VHAP	VOLATILE ORGANIC HAZARDOUS AIR POLLUTANT 23.960 TPY
NOX	Nitrogen Oxides (including NO, NO2, NO3, N2O3, N2O4, and N2O5) 93.400 TPY

<b>Summary from this Permit 13-2826J</b>		
<b>Air Programs</b>	<b>Applicable Regulations</b>	
NSPS		
TITLE V		
Title V/Major		
<b>Fee Program</b>	<b>Fee</b>	<b>Application Type</b>
8D	\$2,000.00	MODIFICATION

**Notes from Database**  
 Permit Note: Modification to make various changes at the facility including (1) increasing the annual amount of waste-gases combusted in both the "old" and "new" flares, (2) re-calculating facility-wide fugitive emissions based on updated gas analysis data, and (3) improving the calculation of speciated Hazardous Air Pollutant (HAP) emissions using updated protocols.

<b>Activity Dates</b>	
APPLICATION RECEIVED	12/23/2015
APPLICANT PUBLISHED LEGAL AD	12/28/2015
APPLICATION FEE PAID	12/29/2015
ASSIGNED DATE	12/29/2015
APPLICATION DEEMED COMPLETE	01/21/2016

**NOTICE**

**NON-CONFIDENTIAL**

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

Company ID: 051-00127  
 Company: Williams Ohio Valley  
 Midstream  
 Printed: 04/20/2016  
 Engineer: Kessler, Joe

# IPR FILE INDEX

**Applicant :** Williams Ohio Valley Midstream      **Plant ID No.:** 051-00127  
**Facility :** Fort Beeler Gas Processing Station      **R13-2826G**

## Chronological Order - Add Index Pages As Necessary

<b>Date</b>	<b>To</b>	<b>From</b>	<b>Subject</b>	<b># of pages</b>
12/29/15	OVM	Sandra Adkins	48-Hour Letter	
1/08/16	Joe Kessler	OVM	Affidavit of Publication	
1/21/16	OVM	Joe Kessler	Completeness Determination	
5/12/16	File	Joe Kessler	Draft Permit R13-2826J, Evaluation/Fact Sheet, Tracking Manifest	
5/12/16	Various	Sandra Adkins	Public Notice Documents	

JRK  
5/12/16

# AIR QUALITY PERMIT NOTICE

## Notice of Intent to Approve

On December 23, 2015, Williams Ohio Valley Midstream, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify the Fort Beeler Gas Processing Plant located on US Highway 250, approximately 0.6 miles southeast of County Road 34, near Cameron, Marshall County, WV at latitude 39.8783 and longitude -80.5907. 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 R13-2826J.

The following change in potential emissions will be authorized by this permit action: Particulate Matter less than 2.5 microns, 0.24 tons per year (TPY); Particulate Matter less than 10 microns, 0.24 TPY; Particulate Matter, 0.24 TPY; Sulfur Dioxide, 0.02 TPY; Oxides of Nitrogen, 2.15 TPY; Carbon Monoxide, 7.37 TPY; Volatile Organic Compounds, 25.18 TPY; Total Hazardous Air Pollutants (HAPs) 2.18 TPY.

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

Joe Kessler, PE  
WV Department of Environmental Protection  
Division of Air Quality  
601 57th Street, SE  
Charleston, WV 25304  
Telephone: 304/926-0499, ext. 1219  
FAX: 304/926-0478

*Entire Document*  
**NON-CONFIDENTIAL**

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:

<http://www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx>

## **Kessler, Joseph R**

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**From:** Adkins, Sandra K  
**Sent:** Thursday, May 12, 2016 10:33 AM  
**To:** Charles Walton  
**Cc:** Kessler, Joseph R  
**Subject:** Publication of Class I Legal Ad for the WV Division of Air Quality

Please publish the information below as a Class I legal advertisement (one time only) in the Monday, May 16, 2016, issue of the *Moundsville Daily Echo*. 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**

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Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on Wednesday, June 15, 2016. 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.

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## Kessler, Joseph R

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**From:** Adkins, Sandra K  
**Sent:** Thursday, May 12, 2016 2:34 PM  
**To:** 'wentworth.paul@epa.gov'; 'bradley.megan@epa.gov'; erika.baldauff@williams.com  
**Cc:** Durham, William F; McKeone, Beverly D; McCumbers, Carrie; Hammonds, Stephanie E; Rice, Jennifer L; Kessler, Joseph R; Taylor, Danielle R; Seevers, Sharon M  
**Subject:** WV Draft Permit R13-2826J for Williams Ohio Valley Midstream LLC; Ft. Beeler Natural Gas Processing Facility  
**Attachments:** 2826J.pdf; Eval2826J.pdf; notice.pdf

Please find attached the Draft Permit R13-2826J, Engineering Evaluation, and Public Notice for Williams Ohio Valley Midstream LLC's Ft. Beeler Natural Gas Processing Facility located in Marshall County.

The notice will be published in the *Moundsville Daily Echo* on Monday, May 16, 2016, and the thirty day comment period will end on Wednesday, June 15, 2016.

Should you have any questions or comments, please contact the permit writer, Joe Kessler, at 304 926-0499 x1219.

## **Kessler, Joseph R**

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**From:** Adkins, Sandra K  
**Sent:** Thursday, May 12, 2016 2:35 PM  
**To:** Wheeler, Cathy L  
**Cc:** Kessler, Joseph R  
**Subject:** DAQ Public Notice

Please see below the Public Notice for Draft Permit R13-2826J for Williams Ohio Valley Midstream LLC's Ft. Beeler Natural Gas Processing Facility located in Marshall County.

The notice will be published in the *Moundsville Daily Echo* on Monday, May 16, 2016, and the thirty day public comment period will end on Wednesday, June 15, 2016.

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

*Division of Air Quality*

Randy C. Huffman  
Cabinet Secretary

# Permit to Modify



*Entire Document*  
**NON-CONFIDENTIAL**

**R13-2826J**

*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:*

**Williams Ohio Valley Midstream LLC**  
**Fort Beeler Gas Processing Plant**  
**051-00127**

**DRAFT**

---

*William F. Durham*  
*Director*

*Issued: **DRAFT***

***This permit supersedes and replaces R13-2826I issued on May 26, 2015.***

Facility Location: Near Moundsville, Marshall County, West Virginia  
Mailing Address: 100 Teletech Drive, Suite 2, Moundsville, WV 26041  
Facility Description: Natural Gas Processing Facility  
SIC Code: 1321  
NAICS Code: 211112  
UTM Coordinates: Easting: 535.0 km • Northing: 4,414.35 km • Zone 17  
Latitude/Longitude: 39.87848/-80.59070  
Permit Type: Modification  
Description of Change: Modification to make various changes at the facility including (1) increasing the annual amount of waste-gases combusted in both the “old” and “new” flares, (2) re-calculating facility-wide emissions based on updated gas analysis data, and (3) improving the calculation of speciated Hazardous Air Pollutant (HAP) emissions using updated protocols.

*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 date of any operation 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	Plant Affiliation	Year Installed	Design Capacity	Control Device
CE-01	1E	Caterpillar G342NA Compressor Engine	All Plants	2010	225 HP	01-NSCR
CE-02	2E	Caterpillar G398-TA Compressor Engine	All Plants	2011	625 HP	02-NSCR
CE-03	3E	Caterpillar G3612 LE Compressor Engine	Plant 1	2010	3,550 HP	01-OxCat
CE-04	4E	Caterpillar G3612 LE Compressor Engine	Plant 1	2010	3,550 HP	02-OxCat
CE-05	5E	Caterpillar G3612 LE Compressor Engine	Plant 1	2010	3,550 HP	03-OxCat
SSM	6E	Startup/Shutdown/Maintenance Fugitives	All Plants	2010	n/a	FL-01 (partial)
RPC	7E	Rod Packing/Crankcase Leaks	All Plants	2010	n/a	n/a
GE-01	8E	Olympian G70LG Emergency Generator	All Plants	2014	118 HP	None
H-01	9E	TXP1 Hot Oil Heater	Plant 1	2010	10.00 MMBtu/hr	None
H-02	10E	TXP1 Regen Gas Heater	Plant 1	2010	4.74 MMBtu/hr	None
H-03	11E	TXP2 Regen Gas Heater	Plant 2	2011	6.60 MMBtu/hr	None
H-04	12E	TXP3 Regen Gas Heater	Plant 3	2012	6.60 MMBtu/hr	None
H-05	13E	TXP2 Heat Medium Heater	Plant 2	2011	21.22 MMBtu/hr	None
H-06	14E	TXP3 Heat Medium Heater	Plant 3	2012	21.22 MMBtu/hr	None
FL-01	17E	Old Process Flare	All Plants	2011/TBD	25 MMscf/yr	NA
FL-02	18E	New Process Flare	All Plants	2014/TBD	90.00 MMscf/yr	NA
TLO	20E	Truck Loadout (Produced Water/Condensate)	All Plants	2010	600,000 bbl/yr	None
FUG	21E	Process Piping Fugitives	All Plants	2010	n/a	n/a
T-03	22E	Produced Water Storage Tank (9913 Tank)	All Plants	2011	16,800 gal	None
T-04	23E	Produced Water Storage Tank (9914 Tank)	All Plants	2011	16,800 gal	None
T-05	T-05	Diesel Storage Tank	All Plants	2010	500 gal	None
T-06	T-06	Gasoline Storage Tank	All Plants	2010	300 gal	None
T-07	T-07	Methanol Storage Tank	Plant 1	2010	3,000 gal	None
T-08	T-08	Lube Oil (4401) Storage Tank	All Plants	2010	4,200 gal	None
T-09	T-09	Glycol (TK-2902) Slop Storage Tank	All Plants	2010	3,460 gal	None
T-10	T-10	Glycol (TK-2902A) Slop Storage Tank	All Plants	2010	4,200 gal	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Plant Affiliation	Year Installed	Design Capacity	Control Device
T-13	T-13	Oil (ATM Slop) Storage Tank	Plant 1	2010	8,820 gal	None
T-14	T-14	Lube Oil Storage Tank	Plant 1	2010	2,000 gal	None
T-15	T-15	Lube Oil Storage Tank	All Plants	2010	300 gal	None
T-16	T-16	Lube Oil Storage Tank	All Plants	2010	300 gal	None
T-17	T-17	Lube Oil Storage Tank	All Plants	2010	300 gal	None
T-18	T-18	Oil Storage Tank	All Plants	2010	2,000 gal	None
T-19	T-19	Oil Storage Tank	Plant 2&3	2010	300 gal	None
T-20	T-20	Heat Medium (Oil) Storage Tank	All Plants	2010	750 gal	None
T-21	T-21	Heat Medium (Oil) Storage Tank	All Plants	2010	750 gal	None
T-22	T-22	Heat Medium (Oil) Storage Tank	All Plants	2010	750 gal	None
T-23	T-23	Lube Oil Storage Tank	All Plants	2010	300 gal	None
T-24	T-24	Used Oil Storage Tank	All Plants	2014	NA	None
T-25	T-25	Used Oil Storage Tank	All Plants	2014	NA	None
Pressure Vessels <sup>1</sup>	Pressure Vessels <sup>1</sup>	2 - 30,000 gallon Condensate Tanks 6 - 30,000 gallon NGL Tanks 6 - 60,000 gallon NGL Tanks	All Plants	2010	8@30,000 gallons 6@60,000 gallons	Pressure Vessels

<sup>1</sup> – The Pressure Vessels are not considered emission units and are included for reference purposes only.

**1.1. Control Devices**

Control Device ID	Control Device	Emission Unit	Pollutant	Control Efficiency
01-NSCR	Non Selective Catalytic Reduction (NSCR)	Caterpillar G342NA Compressor Engine	Nitrogen Oxides	99.2%
			Carbon Monoxide	85.4%
			Volatile Organic Compounds	25.3% <sup>(1)</sup>
			Formaldehyde	76.0%
01-OxCat 02-OxCat 03-OxCat	Oxidation Catalyst	Caterpillar G3612 LE Compressor Engines	Carbon Monoxide	90.0 %
Volatile Organic Compounds			60.0 % <sup>(1)</sup>	
Formaldehyde			85.0 %	
02-NSCR	Non Selective Catalytic Reduction (NSCR)	Caterpillar G398 TA Compressor Engine	Nitrogen Oxides	94.9%
			Carbon Monoxide	95.3%
			Volatile Organic Compounds	78.7% <sup>(1)</sup>
			Formaldehyde	76%
FL-01	Flare	TCI USA, Inc. Model No. 4800 Flare	Volatile Organic Compounds	98%
			Hazardous Air Pollutants	98%
FL-02	Flare	Zeeco Model No. AFTA-20/56 Flare	Volatile Organic Compounds	98%
			Hazardous Air Pollutants	98%

(1) Based on a blended control efficiency for non-methane, non-ethane hydrocarbons (NMEHC) and Formaldehyde (HCHO).

## 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 ppm<sub>v</sub></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 law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

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

### **2.4. Term and Renewal**

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-2826H. 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 R13-2826J. 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;
- 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 Enforcement and Permits Review  
(3AP12)  
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. **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.
- 4.1.2. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall not exceed 10 tons/year of any single HAP and 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the facility is a minor HAP source.
- 4.1.3. **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.]
- 4.1.4. **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.

**5.0. Source-Specific Requirements (Engines, CE-01, CE-02, CE-03, CE-04, CE-05, GE-01)**

**5.1. Limitations and Standards**

5.1.1. To demonstrate compliance with Section 5.1.2, the quantity of natural gas that shall be consumed in the 225 hp natural gas fired reciprocating engine, Caterpillar G342NA (CE-01) shall not exceed 2,079 cubic feet per hour and  $18.21 \times 10^6$  cubic feet per rolling 12 month period.

5.1.2. Maximum emissions from the 225 hp natural gas fired reciprocating engine, Caterpillar G342NA (CE-01) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
CE-01	Nitrogen Oxides	0.05	0.22
	Carbon Monoxide	0.99	4.35
	Volatile Organic Compounds	0.28	1.22
	Formaldehyde	0.03	0.13

5.1.3. To demonstrate compliance with Section 5.1.4, the quantity of natural gas that shall be consumed in the 625 hp natural gas fired reciprocating engine, Caterpillar G398-TA (CE-02) shall not exceed 5,698 cubic feet per hour and  $49.91 \times 10^6$  cubic feet per rolling 12 month period.

5.1.4. Maximum emissions from the 625 hp natural gas fired reciprocating engine, Caterpillar G398-TA (CE-02) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
CE-02	Nitrogen Oxides	0.69	3.02
	Carbon Monoxide	0.69	3.04
	Volatile Organic Compounds	0.09	0.39
	Formaldehyde	0.03	0.14

5.1.5. To demonstrate compliance with Section 5.1.6, the quantity of natural gas that shall be consumed in each of the 3,550 hp natural gas fired reciprocating engines, Caterpillar G3612-LE (CE-03, CE-04, CE-05) shall not exceed 25,579 cubic feet per hour and  $224.07 \times 10^6$  cubic feet per rolling 12 month period.

5.1.6. Maximum emissions from each of the 3,550 hp natural gas fired reciprocating engines, Caterpillar G3612-LE (CE-03, CE-04, CE-05) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
CE-03	Nitrogen Oxides	3.91	17.14
CE-04	Carbon Monoxide	2.15	9.43
CE-05	Volatile Organic Compounds	2.85	12.48
	Formaldehyde	0.31	1.34

5.1.7. **Maximum Yearly Operation Limitation.** The maximum yearly hours of operation for the 118 hp emergency generator, Olympian G70LG (GE-01) shall not exceed 500 hours per year. Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the hours of operation at any given time during the previous twelve consecutive calendar months.

- 5.1.8. Maximum emissions from the 118 hp emergency generator engine, Olympian G70LG (GE-01) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
GE-01	Nitrogen Oxides	0.93	0.23
	Carbon Monoxide	29.10	7.28
	Volatile Organic Compounds	0.38	0.10

- 5.1.9. Requirements for Use of Catalytic Reduction Devices

- a. Natural gas compressor engines (CE-01, CE-02) equipped with non-selective catalytic reduction (NSCR) air pollution control devices shall be fitted with a closed-loop, automatic air/fuel ratio controller to ensure emissions of regulated pollutants do not exceed the potential to emit for any engine/NSCR combination under varying load. The closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to deliver additional fuel when required to ensure a fuel-rich mixture and a resultant exhaust oxygen content of less than or equal to 0.5%. The automatic air/fuel ratio controller shall also incorporate dual-point exhaust gas temperature and oxygen sensors which provide temperature and exhaust oxygen content differential feedback. Such controls shall ensure proper and efficient operation of the engine and NSCR air pollution control device;
  - b. Lean-burn natural gas compressor engines (CE-03, CE-04, CE-05) equipped with oxidation catalyst (OxCat) air pollution control devices shall be fitted with a closed-loop automatic feedback controller to ensure emissions of regulated pollutants do not exceed the potential to emit for any engine/OxCat combination under varying load;
  - c. The automatic air/fuel ratio controller or closed-loop automatic feedback controller shall provide a warning or indication to the operator and/or be interlocked with the engine ignition system to cease engine operation in case of a masking, poisoning or overrich air/fuel ratio situation which results in performance degradation or failure of the catalyst element; and
  - d. No person shall knowingly:
    1. Remove or render inoperative any air pollution or auxiliary air pollution control device installed subject to the requirements of this permit;
    2. Install any part or component when the principal effect of the part or component is to bypass, defeat or render inoperative any air pollution control device or auxiliary air pollution control device installed subject to the requirements of this permit; or
    3. Cause or allow engine exhaust gases to bypass any catalytic reduction device.
- 5.1.10. If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.  
**[40CFR§60.4237(c), GE-01]**
- 5.1.11. Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.  
**[40CFR§60.4234, GE-01]**
- 5.1.12. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may

petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

**[40CFR§60.4243(d), GE-01]**

- 5.1.13. If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.  
**[40CFR§63.6603(a), CE-01 – CE-05]**
- 5.1.14. An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.  
**[40CFR§63.6603(a), CE-02 – CE-05]**
- 5.1.15. You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.  
**[40CFR§63.6605(a), CE-01 – CE05]**
- 5.1.16. At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.  
**[40CFR§63.6605(b), CE-01 – CE-05]**
- 5.1.17. You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.  
**[40CFR§63.6640(a), CE-01 – CE-05]**
- 5.1.18. You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source

of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.  
[40CFR§63.6640(e), CE-01 – CE-05]

- 5.1.19. You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.  
[40CFR§63.6640(b), CE-01 – CE-05]

## 5.2. Monitoring Requirements

### 5.2.1. Catalytic Oxidizer Control Devices (01-NSCR, 02-NSCR, 01-OxCat, 02-OxCat, 03-OxCat)

- a. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The registrant shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.
  2. Following operating and maintenance recommendations of the catalyst element manufacturer.

- 5.2.2. You must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.  
[40CFR§63.6625(e), CE-01 - CE-05]

- 5.2.3. You must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.  
[40CFR§63.6625(h), CE-01 - CE-05]

- 5.2.4. If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as

follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40CFR§63.6625(j), CE-01, CE-05]

### 5.3. Testing Requirements

5.3.1. The following applies if GE-01 is not operated in a certified manner:

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

- a. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart. [40CFR§60.4244(a), GE-01]
- b. You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine. [40CFR§60.4244(b), GE-01]
- c. You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour. [40CFR§60.4244(c), GE-01]
- d. To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_a \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of NO<sub>x</sub> in g/HP-hr.

C<sub>a</sub> = Measured NO<sub>x</sub> concentration in parts per million by volume (ppmv).

1.912×10<sup>-3</sup> = Conversion constant for ppm NO<sub>x</sub> to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

[40CFR§60.4244(d), GE-01]

- e. To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

$C_d$  = Measured CO concentration in ppmv.

$1.164 \times 10^{-3}$  = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

[40CFR§60.4244(e), GE-01]

- f. For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

$C_d$  = VOC concentration measured as propane in ppmv.

$1.833 \times 10^{-3}$  = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

[40CFR§60.4244(f), GE-01]

- g. If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \quad (\text{Eq. 4})$$

Where:

$RF_i$  = Response factor of compound i when measured with EPA Method 25A.

$C_{Mi}$  = Measured concentration of compound i in ppmv as carbon.

$C_{Ai}$  = True concentration of compound i in ppmv as carbon.

$$C_{\text{corr}} = RF_i \times C_{\text{meas}} \quad (\text{Eq. 5})$$

Where:

$C_{\text{corr}}$  = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{\text{meas}}$  = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{\text{DSCM}} = 0.6098 \times C_{\text{corr}} \quad (\text{Eq. 6})$$

Where:

$C_{\text{DSCM}}$  = Concentration of compound i in mg of propane equivalent per DSCM.

[40CFR§60.4244(g), GE-01]

#### 5.4. Recordkeeping Requirements

- 5.4.1. To demonstrate compliance with sections 5.1.1-5.1.8 the permittee shall maintain records of the amount and type of fuel consumed in each engine and the hours of operation of each engine. Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 5.4.2. To demonstrate compliance with section 5.1.9 the permittee shall maintain records of all catalytic reduction device maintenance. Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 5.4.3. If you must comply with the emission and operating limitations, you must keep the records described below.
  - (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).
  - (2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
  - (3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

**[40CFR§63.6655(a), CE-01 – CE-05]**

5.4.4. You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

**[40CFR§63.6655(d), CE-01 – CE-05]**

5.4.5. You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.

**[40CFR§63.6655(e), CE-01 – CE-05]**

5.4.6. Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

a. Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

1. All notifications submitted to comply with this subpart and all documentation supporting any notification.

2. Maintenance conducted on the engine.

3. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048.

4. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

**[40CFR§60.4245(a), GE-01]**

## 6.0. Source-Specific Requirements (Heaters H-01, H-02, H-03, H-04, H-05, H-06)

### 6.1. Limitations and Standards

6.1.1. Maximum Design Heat Input. The maximum design heat input for the Hot Oil Heater (H-01) shall not exceed 10.00 MMBtu/hr.

6.1.2. Maximum emissions from the 10.00 MMBtu/hr Hot Oil Heater (H-01) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
H-01	Nitrogen Oxides	1.09	4.76
	Carbon Monoxide	0.91	4.00
	Volatile Organic Compounds	0.06	0.26

6.1.3. To demonstrate compliance with Section 6.1.2, the quantity of natural gas that shall be consumed in the 10.00 MMBtu/hr Hot Oil Heater (H-01) shall not exceed 260,870 cubic feet per day and  $95.22 \times 10^6$  cubic feet per year.

6.1.4. Maximum Design Heat Input. The maximum design heat input for the Regenerator Heater (H-02) shall not exceed 4.74 MMBtu/hr.

6.1.5. Maximum emissions from the 4.74 MMBtu/hr Regenerator Heater (H-02) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
H-02	Nitrogen Oxides	0.52	2.26
	Carbon Monoxide	0.43	1.90
	Volatile Organic Compounds	0.03	0.12

6.1.6. To demonstrate compliance with Section 6.1.5, the quantity of natural gas that shall be consumed in the 4.74 MMBtu/hr Regenerator Heater (H-02) shall not exceed 123,650 cubic feet per day and  $45.13 \times 10^6$  cubic feet per year.

6.1.7. Maximum Design Heat Input. The maximum design heat input for each of the Regenerator Heaters (H-03, H-04) shall not exceed 6.60 MMBtu/hr.

6.1.8. Maximum emissions from each of the 6.60 MMBtu/hr Regenerator Heaters (H-03, H-04) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
H-03	Nitrogen Oxides	0.72	3.14
H-04	Carbon Monoxide	0.60	2.64
	Volatile Organic Compounds	0.04	0.17

- 6.1.9. To demonstrate compliance with Section 6.1.8, the quantity of natural gas that shall be consumed in each of the 6.60 MMBtu/hr Regenerator Heaters (H-03, H-04) shall not exceed 172,170 cubic feet per day and  $62.84 \times 10^6$  cubic feet per year.
- 6.1.10. Maximum Design Heat Input. The maximum design heat input for each of the Medium Heaters (H-05, H-06) shall not exceed 21.22 MMBtu/hr.
- 6.1.11. Maximum emissions from each of the 21.22 MMBtu/hr Medium Heaters (H-05, H-06) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
H-05	Nitrogen Oxides	2.31	10.10
	Carbon Monoxide	1.94	8.49
H-06	Particulate Matter-10	0.18	0.77
	Volatile Organic Compounds	0.13	0.56

- 6.1.12. To demonstrate compliance with Section 6.1.11, the quantity of natural gas that shall be consumed in each of the 21.22 MMBtu/hr Medium Heaters (H-05, H-06) shall not exceed 553,570 cubic feet per day and  $202.05 \times 10^6$  cubic feet per year.
- 6.1.13. **Hot Oil Heater (H-01), Regenerator Heaters (H-02, H-03, H-04), Medium Heaters (H-05, H-06).** No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.  
**[45CSR§2-3.1.]**
- 6.1.14. **Hot Oil Heater (H-01), Medium Heaters (H-05, H-06).** Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).  
**[40CFR§60.40c(a)]**
- 6.1.15. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.  
**[45CSR§2-3.1.]**

**6.2. Testing Requirements**

- 6.2.1. Compliance with the visible emission requirements of section 6.1.15 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of section 6.1.15. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.  
**[45CSR§2-3.2.]**

### 6.3. Recordkeeping Requirements

- 6.3.1. To demonstrate compliance with sections 6.1.1-6.1.3, the permittee shall maintain records of the amount of natural gas consumed in the 10.00 MMBtu/hr Hot Oil Heater (H-01). Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.3.2. To demonstrate compliance with sections 6.1.4-6.1.6, the permittee shall maintain records of the amount of natural gas consumed in the 4.74 MMBtu/hr Regenerator Heater (H-02). Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.3.3. To demonstrate compliance with sections 6.1.7-6.1.9, the permittee shall maintain records of the amount of natural gas consumed in each of the 6.60 MMBtu/hr Regenerator Heaters (H-03, H-04). Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.3.4. To demonstrate compliance with sections 6.1.10-6.1.12, the permittee shall maintain records of the amount of natural gas consumed in each of the 21.22 MMBtu/hr Medium Heaters (H-05, H-06). Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.3.5. **Hot Oil Heater (H-01), Medium Heaters (H-05, H-06).** Except as provided under permit conditions 6.3.6. and 6.3.7, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.  
[40CFR§60.48(c)(g)(1)]
- 6.3.6. **Hot Oil Heater (H-01), Medium Heaters (H-05, H-06).** As an alternative to meeting the requirements of permit condition 6.3.5, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [40CFR§60.48 (c)(g)(2)]
- 6.3.7. **Hot Oil Heater (H-01), Medium Heaters (H-05, H-06).** As an alternative to meeting the requirements of permit condition 6.3.5, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO<sub>2</sub> standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.  
[40CFR§60.48(c)(g)(3)]

#### **6.4. Reporting Requirements**

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

## 7.0. Source-Specific Requirements (Flare Control Device, FL-01)

### 7.1. Limitations and Standards

7.1.1. In accordance with information in permit application R13-2826J, the permittee shall operate a Process Flare (FL-01) designed to achieve, at a minimum, a 98.0% destruction and removal efficiency (DRE) of VOCs and organic HAPS from the sources as needed. The maximum aggregate amount of waste gases sent to the Process Flare from these sources shall not exceed 25.0 MMscf/yr based on a rolling 12 month total.

7.1.2. Maximum emissions from the FL-01 shall not exceed the following limits:

- a. The maximum aggregate emissions generated at the Process Flare (17E) from the combustion of waste gases shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	16.32	0.96
Carbon Monoxide	74.40	4.36

- b. The maximum emissions of VOCs and HAPs at the Process Flare (representing un-combusted pass-through organic vapors) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
VOCs	8.63	0.51
<i>Benzene</i>	<i>0.11</i>	<i>0.01</i>
<i>Ethylbenzene</i>	<i>0.11</i>	<i>0.01</i>
<i>n-Hexane</i>	<i>1.28</i>	<i>0.08</i>
<i>Toluene</i>	<i>0.11</i>	<i>0.01</i>
<i>Xylenes</i>	<i>0.11</i>	<i>0.01</i>
Total HAPs	1.72	0.10

7.1.3. The installed Process Flare (FL-01) shall be a TCI USA, Inc. Model Number 4800, shall have an MDHI of 240.00 mmBtu/hr, and shall be designed and operated in accordance with the following:

- a. Flare shall be non-assisted.
- b. Flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
- c. Flare shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.
- d. A flare shall be used only where the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or where the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

$H_T$ =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

$$1.740 \times 10^{-7} \left( \frac{1}{ppmv} \right) \left( \frac{\text{g-mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

$C_i$ =Concentration of sample component i in ppmv on a wet basis, which may be measured for organics by Test Method 18, but is not required to be measured using Method 18 (unless designated by the Director).

$H_i$ =Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 if published values are not available or cannot be calculated.

n=Number of sample components.

- e. Nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided by 7.1.3.f and 7.1.3.g of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), by the unobstructed (free) cross-sectional area of the flare tip, which may be determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, but is not required to be determined using these Methods (unless designated by the Director).
- f. Nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in 7.1.3.e. of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).
- g. Nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in 7.1.3.e. of this section, less than the velocity  $V_{max}$ , as determined by the calculation specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity,  $V_{max}$ , for flares complying with this paragraph shall be determined by the following equation:

$$\text{Log}_{10}(V_{max})=(H_T+28.8)/31.7$$

Where:

$V_{max}$ =Maximum permitted velocity, m/sec.

28.8=Constant.

31.7=Constant.

$H_T$ =The net heating value as determined in 7.1.3.d of this section

- 7.1.4. The permittee is not required to conduct a flare compliance assessment for concentration of sample (i.e. Method 18) and tip velocity (i.e. Method 2) until such time as the Director requests a flare compliance assessment to be conducted in accordance with section 7.3.2, but the permittee is required to conduct a flare design evaluation in accordance with section 7.4.2. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of section 7.1.3 by complying with the compliance assessment testing requirements of section 7.3.2.

## **7.2. Monitoring Requirements**

- 7.2.1. In order to demonstrate compliance with the requirements of 7.1.3.c, the permittee shall monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device, except during SSM events.
- 7.2.2. In order to determine compliance with 7.1.1., the permittee shall monitor and record the monthly and rolling twelve (12) month total aggregate waste gases, pilot gas, and purge gas sent to the flare (in MMscf).

## **7.3. Testing Requirements**

- 7.3.1. The Director may require the permittee to demonstrate compliance with the flare opacity requirements of 7.1.3.b. Upon request, the permittee shall conduct a Method 22 opacity test for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period using 40CFR60 Appendix A Method 22. The visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.
- 7.3.2. The Director may require the permittee to conduct a flare compliance assessment to demonstrate compliance with section 7.1.3. This compliance assessment testing shall be conducted in accordance with Test Method 18 for organics and Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, or other equivalent testing approved in writing by the Director. Also, Test Method 18 may require the permittee to conduct Test Method 4 in conjunction with Test Method 18.

## **7.4. Recordkeeping Requirements**

- 7.4.1. For the purpose of demonstrating compliance with section 7.1.3.c and 7.2.1, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
- 7.4.2. For the purpose of demonstrating compliance with section 7.1.3 and 7.3.2, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.
- 7.4.3. For the purpose of demonstrating compliance with section 7.1.3.b, the permittee shall maintain records of any visible emission opacity tests conducted.
- 7.4.4. All records required under Section 7.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 7.4.5. The permittee shall maintain a monthly record of the waste gas throughput for the flare control device (FL-01). Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a

requirement of this permit or upon request by the Director shall be certified by a responsible official.

## **7.5. Reporting Requirements**

- 7.5.1 If the permittee is required by the Director to demonstrate compliance with section 7.3.2, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.
- 7.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 7.5.3. Any deviation(s) from the flare design and operation criteria in Section 7.1.3 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.

**8.0. Source-Specific Requirements (Flare Control Device, FL-02)**

**8.1. Limitations and Standards**

8.1.1. In accordance with information in permit application R13-2826J, the permittee shall operate a Process Flare (FL-02) designed to achieve, at a minimum, a 98.0% destruction and removal efficiency (DRE) of VOCs and organic HAPS from natural gas and NGL released during routine operation as well as upset conditions. The maximum aggregate amount of waste gases sent to the Process Flare from these sources shall not exceed 90.0 MMscf/yr based on a rolling 12 month total.

8.1.2. Maximum emissions from the FL-02 shall not exceed the following limits:

a. The maximum aggregate emissions generated at the Process Flare (17E) from the combustion of waste gases shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	31.28	3.95
Carbon Monoxide	142.61	17.99

b. The maximum emissions of VOCs and HAPs at the Process Flare (representing un-combusted pass-through organic vapors) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
VOCs	89.68	11.31
<i>Benzene</i>	<i>0.07</i>	<i>0.01</i>
<i>Ethylbenzene</i>	<i>0.07</i>	<i>0.01</i>
<i>n-Hexane</i>	<i>1.57</i>	<i>0.20</i>
<i>Toluene</i>	<i>0.07</i>	<i>0.01</i>
<i>Xylenes</i>	<i>0.07</i>	<i>0.01</i>
Total HAPs	1.89	0.24

8.1.3. The installed Process Flare (8S) shall be a Zeeco Model Number AFTA-20/56, shall have a maximum waste-gas capacity of 383,000 lb/hr, shall have an MDHI of 541.2 mmBtu/hr, and shall be designed and operated in accordance with the following:

- a. Flare FL-02 shall be air-assisted.
- b. Flare FL-02 shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
- c. Flare FL-02 shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.
- d. A flare shall be used only where the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or where the net heating value

of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flares are non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

$H_T$ =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

$K$ =Constant=

$$1.740 \times 10^{-7} \left( \frac{1}{ppmv} \right) \left( \frac{g\text{-mole}}{scm} \right) \left( \frac{MJ}{kcal} \right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

$C_i$ =Concentration of sample component  $i$  in ppmv on a wet basis, which may be measured for organics by Test Method 18, but is not required to be measured using Method 18 (unless designated by the Director).

$H_i$ =Net heat of combustion of sample component  $i$ , kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 if published values are not available or cannot be calculated.

$n$ =Number of sample components.

- e. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity  $V_{max}$ . The maximum permitted velocity,  $V_{max}$ , for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708(H_T)$$

Where:

$V_{max}$ =Maximum permitted velocity, m/sec.

8.71=Constant.

0.708=Constant.

$H_T$ =The net heating value as determined in 8.1.3.d of this section.

- 8.1.4. The permittee is not required to conduct a flare compliance assessment for concentration of sample (i.e. Method 18) and tip velocity (i.e. Method 2) until such time as the Director requests a flare compliance assessment to be conducted in accordance with section 8.3.2, but the permittee is required to conduct a flare design evaluation in accordance with section 8.4.2. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of section 8.1.3 by complying with the compliance assessment testing requirements of section 8.3.2.
- 8.1.5. Visible particulate matter emissions from the flare (FL-02) shall not exceed twenty (20%) percent opacity  
[45CSR§6-4.3.]
- 8.1.6. The provisions of permit condition 8.1.5 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.  
[45CSR§6-4.4.]
- 8.1.7. The flare (FL-02) including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.  
[45CSR§6-4.6.]
- 8.1.8. No person shall cause or allow particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

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

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

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

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

[45CSR§6-4.1.]

- 8.1.9. The permittee will comply with the requirements of Section 2.12 of this permit during emergency operation of the flare (FL-02).

## 8.2. Monitoring Requirements

- 8.2.1. In order to demonstrate compliance with the requirements of 8.1.3.c, the permittee shall monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device, except during SSM events.
- 8.2.2. In order to determine compliance with 8.1.1., the permittee shall monitor and record the monthly and rolling twelve (12) month total aggregate waste gases, pilot gas, and purge gas sent to the flare (in MMscf).

## 8.3. Testing Requirements

- 8.3.1. In order to demonstrate compliance with the flare opacity requirements the permittee shall conduct a Method 22 opacity test for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period using 40CFR60 Appendix A Method 22. The permittee shall conduct this test within one (1) year of permit issuance or initial startup whichever is later. The visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.
- 8.3.2. The Director may require the permittee to conduct a flare compliance assessment. This compliance assessment testing shall be conducted in accordance with Test Method 18 for organics and Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, or other equivalent testing approved in writing by the Director. Also, Test Method 18 may require the permittee to conduct Test Method 4 in conjunction with Test Method 18.

## 8.4. Recordkeeping Requirements

- 8.4.1. For the purpose of demonstrating compliance with section 8.1.3.c and 8.2.1, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
- 8.4.2. For the purpose of demonstrating compliance with section 8.1.3 and 8.3.2, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.

- 8.4.3. For the purpose of demonstrating compliance with section 8.1.3.b, the permittee shall maintain records of the visible emission opacity tests conducted per Section 8.3.1.
- 8.4.4. All records required under Section 8.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 8.4.5. The permittee shall maintain a monthly record of the waste gas throughput for the flare control device (FL-02). Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

## **8.5. Reporting Requirements**

- 8.5.1. If the permittee is required by the Director to demonstrate compliance with section 8.3.2, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.
- 8.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 8.5.3. Any deviation(s) from the flare design and operation criteria in Section 8.1.3 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.
- 8.5.4. The permittee shall report to the Director, the time, cause of event, estimate of emissions and corrective actions taken when the flare was used for an emergency at the facility.

## 9.0. Source-Specific Requirements (Storage Tanks (T01, T02, T03, T04), Produced Water Loading (TLO))

### 9.1. Limitations and Standards

- 9.1.1. Maximum Throughput Limitation. The maximum volume of liquids throughput to the Produced Water Loading (TLO) shall not exceed 69,000 gal/day and 25,200,000 gal/yr. Compliance with the Maximum Throughput Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.
- 9.1.2. The Produced Water Loading (TLO) shall be operated in accordance with the plans and specifications filed in Permit Applications R13-2826J.
- 9.1.3. The maximum annual throughput of produced water to the 400 bbl (16,800 gal) storage tanks (T-03, T-04) shall not exceed the following:

Storage Tank ID	Product Stored	Maximum Annual Throughput (gal/yr)
T-03	Produced Water	8,400,000
T-04	Produced Water	8,400,000

9.1.4. *[Reserved]*

9.1.5. *[Reserved]*

### 9.2. Recordkeeping Requirements

- 9.2.1. To demonstrate compliance with section 9.1.1 the permittee shall maintain records of the amount of produced water loaded. Said records required shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 9.2.2. To demonstrate compliance with section 9.1.3 the permittee shall maintain records of the amount of produced water throughput to the storage tanks (T-03, T-04). Said records required shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

## 10.0. Source-Specific Requirements (40CFR60 Subpart KKK Requirements (TXP1, TXP2 Process Units))

### 10.1. Limitations and Standards

#### 10.1.1. Applicability and Designation of an Affected Facility.

- (a) (1) The provisions of this subpart apply to affected facilities in onshore natural gas processing plants.
- (2) A compressor in VOC service or in wet gas service is an affected facility.
- (3) The group of all equipment except compressors (defined in §60.631) within a process unit is an affected facility.
- (b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after January 20, 1984, and on or before August 23, 2011, is subject to the requirements of this subpart.
- (c) Addition or replacement of equipment (defined in §60.631) for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.
- (d) Facilities covered by subpart VV or subpart GGG of 40 CFR part 60 are excluded from this subpart.
- (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.

[40 C.F.R. § 60.630]

#### 10.1.2. Standards.

- (a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of §§60.482-1 (a), (b), and (d) and 60.482-2 through 60.482-10, except as provided in §60.633, as soon as practicable, but no later than 180 days after initial startup.
- (b) An owner or operator may elect to comply with the requirements of §§60.483-1 and 60.483-2.
- (c) An owner or operator may apply to the Administrator for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of §60.634 of this subpart.
- (d) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §60.485 except as provided in §60.633(f) of this subpart.
- (e) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §§60.486 and 60.487 except as provided in §§60.633, 60.635, and 60.636 of this subpart.
- (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.

**[40 C.F.R. § 60.632]**

**10.1.3. Exceptions.**

- (a) Each owner or operator subject to the provisions of this subpart may comply with the following exceptions to the provisions of subpart VV.
  - (b) (1) 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.
    - (2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
    - (3) (i) 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.
      - (ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
    - (4) (i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by nonplant personnel may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days as specified in paragraph (b)(1) of this section and §60.482-4(b)(1) of subpart VV.
      - (ii) 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.
- (c) Sampling connection systems are exempt from the requirements of §60.482-5.
- (d) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,200 standard cubic meters per day (scmd) (10 million standard cubic feet per day) or more of field gas are exempt from the routine monitoring requirements of §§60.482-2(a)(1) and 60.482-7(a), and paragraph (b)(1) of this section.
- (e) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service within a process unit that is located in the Alaskan North Slope are exempt from the routine monitoring requirements of §§60.482-2(a)(1), 60.482-7(a), and paragraph (b)(1) of this section.
- (f) *Reserved.*
- (g) Flares used to comply with this subpart shall comply with the requirements of §60.18.
- (h) An owner or operator may use the following provisions instead of §60.485(e):
  - (1) Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 150 °C (302 °F) as determined by ASTM Method D86-78, 82, 90, 95, or 96 (incorporated by reference as specified in §60.17).
  - (2) Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 150 °C (302 °F) as determined by ASTM Method D86-78, 82, 90, 95, or 96 (incorporated by reference as specified in §60.17).

**[40 C.F.R. § 60.633]**

**10.1.4. Alternative Means of Emission Limitation.**

- (a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under any design, equipment, work practice or operational standard, the Administrator will publish, in the Federal Register a notice permitting the use of that alternative means for the purpose of compliance with that standard. The notice may condition permission on requirements related to the operation and maintenance of the alternative means.
- (b) Any notice under paragraph (a) of this section shall be published only after notice and an opportunity for a public hearing.
- (c) The Administrator will consider applications under this section from either owners or operators of affected facilities, or manufacturers of control equipment.
- (d) The Administrator will treat applications under this section according to the following criteria, except in cases where he concludes that other criteria are appropriate:
  - (1) The applicant must collect, verify and submit test data, covering a period of at least 12 months, necessary to support the finding in paragraph (a) of this section.
  - (2) If the applicant is an owner or operator of an affected facility, he must commit in writing to operate and maintain the alternative means so as to achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under the design, equipment, work practice or operational standard.

[40 C.F.R. § 60.634]

**10.2. Notification, Recordkeeping and Reporting Requirements**

**10.2.1. Recordkeeping Requirements.**

- (a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of paragraphs (b) and (c) of this section in addition to the requirements of §60.486.
- (b) The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of §60.633(b)(1) of this subpart.
  - (1) 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.
  - (2) 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:
    - (i) The instrument and operator identification numbers and the equipment identification number.
    - (ii) The date the leak was detected and the dates of each attempt to repair the leak.
    - (iii) Repair methods applied in each attempt to repair the leak.
    - (iv) "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.
    - (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

- (vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
  - (vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.
  - (viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.
  - (ix) The date of successful repair of the leak.
  - (x) 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 owner or operator.
- (c) An owner or operator shall comply with the following requirement in addition to the requirement of §60.486(j): Information and data used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in §60.633(f) shall be recorded in a log that is kept in a readily accessible location.
- [40 C.F.R. § 60.635]**

**10.2.2. Reporting Requirements.**

- (a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of paragraphs (b) and (c) of this section in addition to the requirements of §60.487.
- (b) An owner or operator shall include the following information in the initial semiannual report in addition to the information required in §60.487(b) (1)-(4): Number of pressure relief devices subject to the requirements of §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(c).
- (c) An owner or operator shall include the following information in all semiannual reports in addition to the information required in §60.487(c)(2) (i) through (vi):
  - (1) Number of pressure relief devices for which leaks were detected as required in §60.633(b)(2) and
  - (2) Number of pressure relief devices for which leaks were not repaired as required in §60.633(b)(3).

**[40 C.F.R. § 60.636]**

## 11.0. Source-Specific Requirements (40CFR60 Subpart OOOO Requirements (Inlet, TXP3 Process Units))

### 11.1. Limitations and Standards

11.1.1. The permittee must be in compliance with the standards of this subpart no later than October 15, 2012 or upon startup, whichever is later.  
[40 C.F.R. § 60.5370(a)]

11.1.2. The permittee is exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.  
[40 C.F.R. § 60.5370(c)]

#### 11.1.3. Equipment Leak Standards.

This section applies to the group of all equipment, except compressors, within a process unit.

- (a) You must comply with the requirements of §§60.482-1a(a), (b), and (d), 60.482-2a, and 60.482-4a through 60.482-11a, except as provided in §60.5401.
- (b) You may elect to comply with the requirements of §§60.483-1a and 60.483-2a, as an alternative.
- (c) You may apply to the Administrator for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in this subpart according to the requirements of §60.5402 of this subpart.
- (d) You must comply with the provisions of §60.485a of this part except as provided in paragraph (f) of this section.
- (e) You must comply with the provisions of §§60.486a and 60.487a of this part except as provided in §§60.5401, 60.5421, and 60.5422 of this part.
- (f) You must use the following provision instead of §60.485a(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 E169-93, E168-92, or E260-96 (incorporated by reference as specified in §60.17) must be used.

[40 C.F.R. § 60.5400]

**11.1.4. Exceptions to the Equipment Leak Standards.**

- (a) You may comply with the following exceptions to the provisions of §60.5400(a) and (b).
- (b) (1) 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 §60.485a(b) except as provided in §60.5400(c) and in paragraph (b)(4) of this section, and §60.482-4a(a) through (c) of subpart VVa.
- (2) If an instrument reading of 500 ppm or greater is measured, a leak is detected.
- (3) (i) When a leak is detected, it must be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in §60.482-9a.
- (ii) A first attempt at repair must be made no later than 5 calendar days after each leak is detected.
- (4) (i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by non-plant personnel may be monitored after a pressure release the next time the monitoring personnel are on-site, instead of within 5 days as specified in paragraph (b)(1) of this section and §60.482-4a(b)(1) of subpart VVa.
- (ii) No pressure relief device described in paragraph (b)(4)(i) of this section must be allowed to operate for more than 30 days after a pressure release without monitoring.
- (c) Sampling connection systems are exempt from the requirements of §60.482-5a.
- (d) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,200 standard cubic meters per day (scmd) (10 million standard cubic feet per day) or more of field gas are exempt from the routine monitoring requirements of §§60.482-2a(a)(1) and 60.482-7a(a), and paragraph (b)(1) of this section.
- (e) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service within a process unit that is located in the Alaskan North Slope are exempt from the routine monitoring requirements of §§60.482-2a(a)(1), 60.482-7a(a), and paragraph (b)(1) of this section.
- (f) An owner or operator may use the following provisions instead of §60.485a(e):
- (1) Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 150 °C (302 °F) as determined by ASTM Method D86-96 (incorporated by reference as specified in §60.17).
- (2) Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 150 °C (302 °F) as determined by ASTM Method D86-96 (incorporated by reference as specified in §60.17).
- (g) An owner or operator may use the following provisions instead of §60.485a(b)(2): A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(8). Divide these readings by the initial calibration values for each scale and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative

drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

[40 C.F.R. § 60.5401]

#### 11.1.5. **Alternative Emission Limitations for Equipment Leaks**

- (a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under any design, equipment, work practice or operational standard, the Administrator will publish, in the Federal Register, a notice permitting the use of that alternative means for the purpose of compliance with that standard. The notice may condition permission on requirements related to the operation and maintenance of the alternative means.
- (b) Any notice under paragraph (a) of this section must be published only after notice and an opportunity for a public hearing.
- (c) The Administrator will consider applications under this section from either owners or operators of affected facilities, or manufacturers of control equipment.
- (d) The Administrator will treat applications under this section according to the following criteria, except in cases where the Administrator concludes that other criteria are appropriate:
  - (1) The applicant must collect, verify and submit test data, covering a period of at least 12 months, necessary to support the finding in paragraph (a) of this section.
  - (2) If the applicant is an owner or operator of an affected facility, the applicant must commit in writing to operate and maintain the alternative means so as to achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under the design, equipment, work practice or operational standard.

[40 C.F.R. § 60.5402]

### 11.2. **Initial Compliance Demonstration**

11.2.1. You must determine initial compliance with the standards for each affected facility using the requirements in paragraph (f) of this section. The initial compliance period begins on October 15, 2012 or upon initial startup, whichever is later, and ends no later than one year after the initial startup date for your affected facility or no later than one year after October 15, 2012. The initial compliance period may be less than one full year.

- (f). For affected facilities at onshore natural gas processing plants, initial compliance with the VOC requirements is demonstrated if you are in compliance with the requirements of § 60.5400.

[40CFR§60.5410]

### 11.3. **Continuous Compliance Demonstration**

- 11.3.1. For affected facilities at onshore natural gas processing plants, continuous compliance with VOC requirements is demonstrated if you are in compliance with the requirements of § 60.5400.
- 11.3.2. Affirmative defense for violations of emission standards during malfunction. In response to an action to enforce the standards set forth in §§ 60.5375, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at § 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

- (1) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in § 60.5420(a), and must prove by a preponderance of evidence that:
  - (i) The violation:
    - (A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
    - (B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
    - (C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
    - (D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
  - (ii) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
  - (iii) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
  - (iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
  - (v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
  - (vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
  - (vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
  - (viii) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
  - (ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.
- (2) Report. The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (h)(1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

**[40CFR§60.5415]**

**11.4.2. Additional Recordkeeping Requirements.**

- (a) You must comply with the requirements of paragraph (b) of this section in addition to the requirements of §60.486a.
- (b) The following recordkeeping requirements apply to pressure relief devices subject to the requirements of §60.5401(b)(1) of this subpart.
  - (1) When each leak is detected as specified in §60.5401(b)(2), a weatherproof and readily visible identification, marked with the equipment identification number, must be attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.
  - (2) When each leak is detected as specified in §60.5401(b)(2), the following information must be recorded in a log and shall be kept for 2 years in a readily accessible location:
    - (i) The instrument and operator identification numbers and the equipment identification number.
    - (ii) The date the leak was detected and the dates of each attempt to repair the leak.
    - (iii) Repair methods applied in each attempt to repair the leak.
    - (iv) “Above 500 ppm” if the maximum instrument reading measured by the methods specified in paragraph (a) of this section after each repair attempt is 500 ppm or greater.
    - (v) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
    - (vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
    - (vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.
    - (viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.
    - (ix) The date of successful repair of the leak.
    - (x) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §60.482-4a(a). The designation of equipment subject to the provisions of §60.482-4a(a) must be signed by the owner or operator.

[40CFR§60.5421]

**11.4.3. Additional Reporting Requirements.**

- (a) You must comply with the requirements of paragraphs (b) and (c) of this section in addition to the requirements of §60.487a(a), (b), (c)(2)(i) through (iv), and (c)(2)(vii) through (viii).
- (b) An owner or operator must include the following information in the initial semiannual report in addition to the information required in §60.487a(b)(1) through (4): Number of pressure relief devices subject to the requirements of §60.5401(b) except for those pressure relief devices designated for no detectable emissions under the provisions of §60.482-4a(a) and those pressure relief devices complying with §60.482-4a(c).
- (c) An owner or operator must include the following information in all semiannual reports in addition to the information required in §60.487a(c)(2)(i) through (vi):

- (1) Number of pressure relief devices for which leaks were detected as required in §60.5401(b)(2); and
- (2) Number of pressure relief devices for which leaks were not repaired as required in §60.5401(b)(3).  
[40CFR§60.5422]

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

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.



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**west virginia department of environmental protection**

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## **ENGINEERING EVALUATION/FACT SHEET**

### **BACKGROUND INFORMATION**

Application No.: R13-2826J  
Plant ID No.: 051-00127  
Applicant: Williams Ohio Valley Midstream, LLC  
Facility Name: Ft. Beeler Natural Gas Processing Facility  
Location: Near Moundsville, Marshall County  
SIC/NAICS Code: 1321/211112  
Application Type: Modification  
Received Date: December 23, 2015  
Engineer Assigned: Joe Kessler  
Fee Amount: \$2,000  
Date Received: December 30, 2015  
Complete Date: January 21, 2016  
Due Date: April 20, 2016  
Applicant Ad Date: December 28, 2015  
Newspaper: *Moundsville Daily Echo*  
UTM's: Easting: 535.0 km Northing: 4,414.35 km Zone: 17  
Latitude/Longitude: 39.8783/-80.5907  
Description: Modification to make various changes at the facility including (1) increasing the annual amount of waste-gases combusted in both the "old" and "new" flares, (2) re-calculating facility-wide fugitive emissions based on updated gas analysis data, and (3) improving the calculation of speciated Hazardous Air Pollutant (HAP) emissions using updated protocols.

*Entire Document*  
**NON-CONFIDENTIAL**

On March 29, 2010, Permit Number R13-2826 was issued to Caiman Eastern Midstream, LLC (CEM) for the construction and operation of the Ft. Beeler Gas Processing Facility. The plant was originally constructed to receive natural gas from local production wells and then filter and process it through a Joule-Thompson cooling unit (J-T Skid) to remove non-methane/ethane organics from the gas stream. Since that time, the facility has been the subject of many additional permitting actions. Additionally, on May 15, 2012, CEM changed its name to Williams Ohio Valley Midstream, LLC (OVM). The following table provides a brief description of each of the previous actions:

**Table 1: Previous Permitting Actions - Ft. Beeler Natural Gas Processing Facility**

Permit#	Action Date	Description
R13-2826	3/29/2010	Construction Permit issued for the installation of four (4) engines, one (1) hot oil heater, one (1) truck loading station, two (2) condensate tanks, and one (1) Joule-Thompson (J-T) Skid.
R13-2826A	8/17/10	Application Withdrawn.
R13-2826B	10/29/10	Modification permit issued for the removal of one (1) compressor engine and temporary equipment, and installation of new condensate tanks, a methanol tank, five (5) new compressor engines, a hot oil heater, a cryogenic unit, a regenerator heater, and truck loading.
R13-2826C	6/30/11	Application Withdrawn.
R13-2826D	8/09/11	Modification permit issued for the removal of two (2) natural gas compressor engines, and installation of two (2) natural gas fired heaters and a second cryogenic unit which will increase the natural gas processing capacity to 200 mmcf/day.
R13-2826E	1/30/12	Modification permit issued to increase in the size and hours of operation of the medium heater (23S), and installation a flare for management of gas during certain anticipated maintenance activities. The hot oil heater (5S) was removed from operation.
R13-2826F	5/02/12	Modification permit issued for the installation of a third cryogenic plant. In addition, two (2) compressor engines (2S, 4S) and the J-T Skid (9S) were removed from operation.
R13-2826G	12/17/12	Modification permit issued for the removal from service of a compressor engine (12S); reactivation of a compressor engine (previously designated as 4S); decrease of fuel usage limits on compressor engines 18S, 19S, and 20S; increase of Maximum Design Heat Inputs (MDHIs) on process heaters (14S, 21S, 22S, 23S, 29S, and 30S), addition of a new condensate stabilizer heater (31S), and increase of flare (27S) purge-gas throughput.
R13-2826H	12/03/14	Modification permit issued for the installation of one (1) new process flare (FL-02) and one (1) emergency generator engine (GE-01). This modification also removed the condensate stabilizer heater, removed run time restrictions on compressor engines (CE-03 – CE-05), removed run time restrictions on the regen gas heaters (H-03, H04) and incorporates new emission estimating protocols.
R13-3212	12/16/14	Construction permit of a natural gas dehydration unit that is co-located with the Fort Beeler Processing Facility.
R13-2826I	8/02/15	Class I Administrative Update to correct capacity of storage tank T-02 (from 8,400 gallons to 8,820 gallons) and revised installation dates for storage tanks T-03 and T-04. No change in emissions as a result of these actions.

**DESCRIPTION OF PROCESS/MODIFICATIONS*****Existing Facility***

The Fort Beeler Gas Processing Plant currently receives natural gas from local production wells and processes this gas through cryogenic processes, removing natural gas liquids (NGL) from the

inlet gas. The facility has the capacity to process 520 mmscf/day of raw natural gas through one (1) 120 mmscf/day cryogenic plant (Plant 1) and two (2) 200 mmscf/day cryogenic plants (Plant 2 and Plant 3).

The cryogenic process effects the removal of natural gas liquids by lowering the temperature of the inlet gas to approximately -120° Fahrenheit. Use of an expansion turbine is then used to rapidly expand the chilled gases, causing the temperature to drop even further. This rapid temperature drop condenses much of the ethane (C<sub>2</sub>H<sub>6</sub>) and most of the other hydrocarbons (primarily propane (C<sub>3</sub>H<sub>8</sub>) and butane (C<sub>4</sub>H<sub>10</sub>), with de-minimis amounts of hexane, benzene, toluene, ethyl-benzene, xylene, etc. (together C5+)), while maintaining methane (CH<sub>4</sub>) in a gaseous form. As this is a totally enclosed system, the only emissions are fugitives from piping and equipment leak losses. These emissions are mitigated by implementation of a leak detection and repair (LDAR) program.

Five (5) gas-fueled compressor engines are currently permitted for use in the plant processes. Each of the engines is equipped with emission control technology applicable to the operation. The rich-burn engines (CE-01 and CE-02) utilize non-selective catalytic reduction (NSCR) and the lean-burn engines (CE-03 through CE-05) utilize catalytic oxidation (also known as oxidation catalyst or OxCat).

Two (2) process flares are used at the facility to safely combust natural gas and NGL during routine operation. The old process flare (FL-01) is primarily used to combust natural gas released during general maintenance activities (e.g., blowdowns of the six electrically driven residue gas compressors). The new process flare (FL-02) is used to combust natural gas and NGL released from numerous process sources. The top five non-emergency streams routed to the vents to the new process flare include the TXP1 Inlet Gas Separator (V-410, TXP2 Product Surge Tank (V-2404), TXP1 Product Surge Tank (V-404), TXP1 Cold Separator (V-402) and TXP1 Inlet Filter (F-441). The new process flare (FL-02/18E) is also be used to control emissions in the event of an upset. Each flare has a minimum hydrocarbon destruction and removal efficiency (DRE) of 98%.

Six (6) gas-fueled heaters are used at the existing facility. The Regen Heaters (H-02 through H-04) are used to regenerate the mole-sieves necessary to further dry the Inlet Gas and the Hot Oil Heater (H-01) and Medium Heaters (H-05 and H-06) are used on the NGL de-methanizers.

One (1) small 5mmscf/day triethylene glycol (TEG) dehydration unit is located at the facility to dehydrate a portion of the inlet gas coming into the facility. While this dehydration unit is located at the Ft. Beeler facility, it is permitted under R13-3212.

Additionally, the existing facility utilizes various NGL, process and waste storage tanks. A truck loading rack is also used to remove produces water and condensate from the site. An emergency generator (GE-01) is located on site to provide electrical power for various activities in the event of the loss of power.

### ***Proposed Modifications***

OVM is now proposing to modify the existing facility by:

- Increasing the amount of annual permitted waste gases sent to the old flare (FL-01) from 5.0 mmscf/yr to 25.0 mmscf/yr;
- Increasing the amount of annual permitted waste gases sent to the new flare (FL-02) from 59.21 mmscf/yr to 90.00 mmscf/yr; and
- Revising the potential fugitive emissions generated at the facility based on updated gas analysis data, and updated protocols for determining the emissions of speciated Hazardous Air Pollutants (HAP).

### **SITE INSPECTION**

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

### **AIR EMISSIONS AND CALCULATION METHODOLOGIES**

OVM included in Attachment N of the permit application detailed facility-wide emissions calculations (revised based on the proposed modifications noted above). The following will only summarize the air emissions and calculation methodologies of the emission sources being modified as part of this permitting action.

#### ***Flares***

Two sources of air emissions occur at the flares (17E and 18E): VOC/HAP emissions that pass-through the flare uncombusted and the products of combusting the organic vapors sent to the flares for destruction. The combustion emissions from flaring are based on, where appropriate, emission factors obtained from sections of AP-42 (Section 13.5: NO<sub>x</sub> and CO, Section 1.4: SO<sub>2</sub>, particulate matter, and some speciated HAPs). AP-42 is a database of emission factors maintained by USEPA. Pass-through hydrocarbon emissions are based on mass balance calculations using constituent gas properties obtained from a gas analysis (VOCs, Total HAPs, CH<sub>4</sub>). A 98% DRE was applied to the uncontrolled emissions of organic compounds to determine VOC/HAP emissions. Hourly emissions were based on the maximum heat input combustion rate of each flare (in mmBtu/hr). Annual emissions were based on flaring a maximum of 25.0 mmscf/yr and 90.0 mmscf/yr of waste gas in the old and new flare, respectively. A waste gas higher-heating value (HHV) of 1,126 Btu/scf (old flare) and 1,290 Btu/scf (new flare) were used in the calculations.

## *Fugitive Emissions*

### Process and Piping Components

OVM based their uncontrolled recalculated fugitive process and piping components leak calculations (E) on emission factors taken from the document EPA-453/R-95-017 - "Protocol for Equipment Leak Emission Estimates." Emission factors were taken from Table 2-4 and controlled emissions from various sources (valves and connectors) were based on the Table 5-2 and the use of a Leak Detection and Repair (LDAR) protocol that meets the minimum requirement of a 10,000 ppm<sub>v</sub> leak definition and monthly monitoring (where applicable). VOC emissions were based on light liquid (100% by weight) and gas (39.95% by weight) VOC contents. HAP emissions were based on the estimated speciated weight percentages of the HAPs in the applicable streams. Component counts were based on actual counts and design estimates.

### Other Equipment Leaks

OVM estimated fugitive leaks of natural gas from other potential sources such as leaks from the both compressors' engine rod packing and crankcases (7E). VOC/HAP emissions were based upon vendor data and representative gas analysis.

### Startup/Shutdown/Maintenance

OVM also included in their fugitive emission estimate a certain number of scenarios where natural gas/propane is released for emergency or maintenance purposes (6E). Those included were compressor blowdown/startup events and engine cold starts. Gas released per each event were based on engineering estimates. VOC/HAP by-weight percentages of the natural gas/propane were based on actual gas analysis data with a conservative safety factor.

## *Emissions Summary*

Based on the calculations submitted in Attachment N of the permit application, the revised post-modification facility-wide PTE and the change in PTE as a result of the proposed modification of the Ft. Beeler Natural Gas Processing Facility is given in the following table:

**Table 2: Change in Facility-Wide Annual PTE (in tons/year)**

Pollutant	R13-2826I <sup>(1)</sup>	R13-2826J	Change
CO	86.14	93.51	7.37
NO <sub>x</sub>	91.25	93.40	2.15
PM <sub>2.5</sub> /PM <sub>10</sub> /PM	6.96	7.20	0.24
SO <sub>2</sub>	0.45	0.47	0.02
VOCs	153.61	178.79	25.18
Total HAPs	21.78	23.96	2.18

(1) Emissions taken from R13-2826H Engineering Evaluation/Fact Sheet.

## REGULATORY APPLICABILITY

This section will address the potential regulatory applicability/non-applicability of substantive state and federal air quality rules relevant to the emission units/sources proposed to be modified at the Ft. Beeler Natural Gas Processing Facility.

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

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

#### 45CSR6 Emission Standards for Incinerators - Section 4.1

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

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

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

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

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

For the old flare (FL-01), based on: (1) the flare's maximum heat input rating of 240 mmBtu/hr, (2) the worst-case HHV of the waste gas of 1,126 Btu/scf, and (3) the inlet gas mass of 55,500 lb/mm scf (taken from the gas analysis), the maximum flare capacity can be calculated to be 11,829 lb/hr (or 5.91 tons/hour). Based on this calculated flare capacity, the particulate matter emission limit given under the above equation is 32.12 lb/hr. The worst-case particulate matter rate from the old flare was calculated to be 1.79 lb/hr, or 5.57% of the Rule 6 emission limit.

For the new flare (FL-02), based on the flare's maximum capacity from the manufacturer, the capacity is 383,000 lb/hr (191.5 tons/hour). Based on this, the particulate matter emission limit given under the above equation is 520.88 lb/hr. The worst-case particulate matter rate from the flare was calculated to be 4.04 lb/hr, or less than 1% of the Rule 6 emission limit.

#### 45CSR6 Opacity Limits for - Section 4.3, 4.4

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

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

The proposed changes to the Ft. Beeler Natural Gas Processing Facility have the potential to increase the PTE of the facility in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant (see Table 2 above) and, therefore, pursuant to §45-13-2.17, the changes are defined as a “modification” under 45CSR13. Pursuant to §45-13-5.1, “[n]o person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without . . . obtaining a permit to construct.” Therefore, OVM is required to obtain a permit under 45CSR13 for the modification of the facility.

As required under §45-13-8.3 (“Notice Level A”), OVM placed a Class I legal advertisement in a “newspaper of *general circulation* in the area where the source is . . . located.” The ad ran on December 28, 2015 in *Moundsville Daily Echo* and the affidavit of publication for this legal advertisement was submitted on January 8, 2016.

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

The Ft. Beeler Natural Gas Processing Facility is located in Marshall County, WV. Marshall County is classified as “in attainment” with all National Ambient Air Quality Standards (NAAQS) except for, in certain tax districts, SO<sub>2</sub>. The Ft. Beeler facility is not located in a tax district that is classified as “non-attainment” for SO<sub>2</sub>. Therefore, applicability to major New Source Review (NSR) for all pollutants is determined under 45CSR14.

As the facility is not a “listed source” under §45-14-2.43, the individual major source applicability threshold for all criteria pollutants is 250 TPY. As given above in Table 2, the facility-wide post-modification PTE of the Ft. Beeler Natural Gas Processing Facility is less than 250 TPY for all criteria pollutants. Therefore, the facility is not defined as a “major stationary source” under 45CSR14.

It is also important to note that the facility does not contain a “nested” major stationary source - in this case a secondary listed source: “Fossil Fuel Boilers (or combinations thereof) Totaling More than 250 Million Btu/hour Heat Input.” All the natural-gas fired heaters would contribute to this 250 mmBtu/hr threshold. However, the aggregate MDHI of all the heaters is 70.38 mmBtu/hr. Therefore, no “nested” source is located at the Ft. Beeler Natural Gas Processing Facility.

***45CSR30: Requirements for Operating Permits***

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The Ft. Beeler Natural Gas Processing Facility, defined under Title V as a “major source,” was last issued a Title V renewal permit on October 9, 2015 (R30-05100127-2015). Proposed changes evaluated herein 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.

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

Subpart KKK applies to onshore natural gas processing plants that commenced construction after January 20, 1984. The Fort Beeler Station is subject to this rule due to the three (3) cryogenic plants located at the facility. OVM must meet the Leak Detection and Repair (LDAR) requirements of Subpart KKK, which includes the provisions referenced in 40 CFR 60, Subpart VV. Substantively, Subpart VV defines a leak (and triggers repair procedures) when pollutant concentrations are detected in excess of 10,000 ppmv. However, it is noted, based on the applicability dates that the Inlet and TXP3 processing train are subject to the LDAR requirements of 40 CFR 60, Subpart OOOO (see below).

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

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

**Leak Detection and Repair Requirements (LDAR)**

The substantive requirement for affected facilities at a natural gas processing plant is to meet the applicable LDAR conditions under Subpart VVa. The Ft. Beeler Natural Gas Processing Facility is a natural gas processing plant that was modified after August 23, 2011. Therefore, LDAR requirements for onshore natural gas processing plants would apply to equipment/processes that meet the applicability dates under Subpart OOOO. Due to the applicability dates, the Inlet and TXP3 processing train are subject to the LDAR requirements of this section. As noted above, processing trains TXP1 and TXP2 are subject to the LDAR requirements of 40CFR60 Subpart KKK.

The substantive LDAR requirements of Subpart OOOO for the Inlet and processing train TXP3, which includes the provisions referenced in 40 CFR 60, Subpart VVa, defines a leak (and triggers repair procedures) when pollutant concentrations are detected in excess of 500 ppmv (as opposed to 10,000 ppmv under Subpart KKK).

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

This section provides an analysis for those regulated pollutants that may be emitted from the Ft. Beeler Natural Gas Processing Facility and that are not classified as “criteria pollutants.” Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NO<sub>x</sub>), Ozone, Particulate Matter (PM<sub>10</sub>, and PM<sub>2.5</sub>), and Sulfur Dioxide (SO<sub>2</sub>). These pollutants have National Ambient Air Quality Standards (NAAQS) set for each that are designed to protect the public health

and welfare. Other pollutants of concern, although designated as non-criteria and without national concentration standards, are regulated through various federal programs designed to limit their emissions and public exposure. These programs include federal source-specific Hazardous Air Pollutants (HAPs) standards promulgated under 40 CFR 61 (NESHAPS) and 40 CFR 63 (MACT). Any potential applicability to these programs were discussed above under REGULATORY APPLICABILITY.

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. OVM has identified the speciated HAPs in the following table as having a PTE in excess of 0.17 TPY. The following table lists each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

**Table 3: Potential HAPs - Carcinogenic Risk**

HAPs	Type	Known/Suspected Carcinogen	Classification
Acetaldehyde	VOC	Yes	B2 - Probable Human Carcinogen
Acrolein	VOC	No	Inadequate Data
Formaldehyde	VOC	Yes	B1 - Probable Human Carcinogen
Methanol	VOC	No	No Assessment Available
n-Hexane	VOC	No	Inadequate Data
Benzene	VOC	Yes	Category A - Known Human Carcinogen
Toluene	VOC	No	Inadequate Data
Ethylbenzene	VOC	No	Category D - Not Classifiable
Xylenes	VOC	No	Inadequate Data
2,2,4-Trimethylpentane	VOC	No	Inadequate Data

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals.* For a complete discussion of the known health effects of each compound refer to the IRIS database located at [www.epa.gov/iris](http://www.epa.gov/iris).

## **AIR QUALITY IMPACT ANALYSIS**

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

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

The modifications evaluated herein were integrated into the existing monitoring, compliance demonstration, and reporting, and record-keeping requirements.

## **PERFORMANCE TESTING OF OPERATIONS**

The modifications evaluated herein were integrated into the performance testing requirements.

## **CHANGES TO R13-2826I**

The following substantive changes were made to Permit Number R13-2826I:

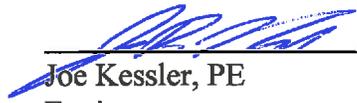
- The Emissions Units Table 1.0 was revised to reflect the changes evaluated herein;
- Requirements 7.1.1. and 8.11 were each revised to add a minimum DRE requirement for the flares;
- Tables 7.1.2(a) and 8.1.2(a) was revised by removing the VOC pass-through emission limits. Additionally, the combustion exhaust emissions of each flare were revised to reflect the increase in annual waste-gases flared;
- Tables 7.1.2(b) and 8.1.2(b) were added with the revised VOC pass-through emissions and the speciated HAP pass-through emissions; and
- Requirements 7.1.3. and 8.1.3. were revised to include more specific model and operating data of the flares; and

## **RECOMMENDATION TO DIRECTOR**

The information provided in permit application R13-2826J indicates that compliance with all applicable federal and state air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of a Permit Number R13-2826J to Williams Ohio Valley Midstream, LLC for

Fact Sheet R13-2826J  
Williams Ohio Valley Midstream, LLC  
Ft. Beeler Natural Gas Processing Facility

the modifications discussed herein at the Ft. Beeler Natural Gas Processing Facility located near Moundsville, Marshall County, WV.

  
\_\_\_\_\_  
Joe Kessler, PE  
Engineer

4-20-16  
\_\_\_\_\_  
Date

# INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name WILLIAMS OHIO VALLEY MIDSTREAM, LLC

Permitting Action Number R13-2826J Total Days 119 DAQ Days 90

**Permitting Action:**

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

**Documents Attached:**

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

Date	From	To	Action Requested
4-20-16	Joe Kessler	Bev McKeone	NOTICE APPROVAL
5/11	Bev	Joe	See comments - Address - Go to Notice

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

**Kessler, Joseph R**

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**From:** Kessler, Joseph R  
**Sent:** Thursday, January 21, 2016 12:48 PM  
**To:** 'paulv.hunter@williams.com'  
**Cc:** Morris, Dave; 'Baldauff, Erika'  
**Subject:** R13-2826J Williams Ohio Valley Midstream LLC Permit Application Status

**RE: Application Status: Complete  
Williams Ohio Valley Midstream LLC  
Ft. Beeler Gas Processing Plant  
Permit Application: R13-2826J  
Plant ID No.: 051-00127**

Mr. Hunter,

Your application for a modification permit was received by the Division of Air Quality (DAQ) on December 23, 2015 and assigned to the writer for review. Upon an initial review, the application has been deemed complete as of the date of this e-mail. The ninety (90) day statutory time frame began on this day.

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

Should you have any questions, please contact me at (304) 926-0499 ext. 1219 or reply to this email.

Thank You,

Joe Kessler, PE  
Engineer  
West Virginia Division of Air Quality  
601-57th St., SE  
Charleston, WV 25304  
Phone: (304) 926-0499 x1219  
Fax: (304) 926-0478  
[Joseph.r.kessler@wv.gov](mailto:Joseph.r.kessler@wv.gov)

*Entire Document*  
**NON-CONFIDENTIAL**

**Kessler, Joseph R**

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**From:** Ward, Beth A  
**Sent:** Wednesday, December 30, 2015 2:11 PM  
**To:** Kessler, Joseph R  
**Subject:** WILLIAMS OHIO VALLEY MIDSTREAM PERMIT APPLICATION FEE

This is the receipt for payment received from:

WILLIAMS OHIO VALLEY MIDSTREAM LLC, FT BEELER, CHECK NUMBER 4000129166, CHECK DATE 12/15/2015, \$2000.00  
R13-2826J ID# 051-00127

OASIS Deposit CR 1600071021

Thank You!

*Beth Ward*

**WV DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BTO FISCAL  
601 57<sup>TH</sup> STREET SE  
CHARLESTON, WV 25304  
(304) 926-0499 EXT 1846  
[beth.a.ward@wv.gov](mailto:beth.a.ward@wv.gov)**



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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  
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)

October 23, 2015

**CERTIFIED MAIL**  
91 7199 9991 7034 5495 7786

Don Wicburg, VP Northeast OA  
Williams Ohio Valley Midstream LLC  
100 Teletech Drive, Suite 2  
Moundsville, WV 26041

Re: Delegation of Authority Confirmation

Dear Mr. Wicburg:

The Division of Air Quality hereby acknowledges your Authority of Corporation letter, dated October 21, 2015, for Paul Hunter to be a delegated authorized representative for Williams Ohio Valley Midstream LLC.

Should you have any questions or comments, please feel free to contact our office at the address or telephone number listed above.

Sincerely,

William F. Durham  
Director

WFD/jlr

c: Paul Hunter  
File Room

Promoting a healthy environment.

# UC Defaulted Accounts Search Results

Sorry, no records matching your criteria were found.

---

FEIN:

Business name: WILLIAMS OHIO VALLEY MIDSTREAM LLC

Doing business

as/Trading as:

---

Please use your browsers back button to try again.

<a href="#">WorkforceWV</a>	<a href="#">Unemployment Compensation</a>	<a href="#">Offices of the Insurance Commissioner</a>
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# UC Defaulted Accounts Search Results

Sorry, no records matching your criteria were found.

---

FEIN: 270856707  
Business name:  
Doing business as/Trading as:

---

Please use your browsers back button to try again.

<a href="#">WorkforceWV</a>	<a href="#">Unemployment Compensation</a>	<a href="#">Offices of the Insurance Commissioner</a>
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(304) 845-2660  
P.O. BOX 369  
MOUNDSVILLE  
WEST VIRGINIA  
26041



AFFIDAVIT OF PUBLICATION

STATE OF WEST VIRGINIA,  
COUNTY OF MARSHALL, to wit

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

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

Legal Advertisement

PARTY(ies)

Air Quality Notice / Fort Beeler

NATURE (and agency if heard before one)

CERTIF-BILL TO

Williams  
David Morris  
100 Teletech Drive, Suite 2  
Moundsville, WV 26041

WAS PUBLISHED IN-SAID NEWSPAPER AS FOLLOWS

Times	Dates
1	December 28, 2015

BY WORDS 349	PUBLICATION CHARGES \$40.14
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(signed) Melanie S. Murdock

NOTARIZATION



Take and Publish before me this 29th  
 day of December 2015  
 Moundsville Daily Echo  
 P.O. Box 369  
 Moundsville, WV 26041  
 My Commission Expires August 23, 2023  
[Signature] Notary Public

I.D. No. 051-00127 Reg. 28263  
 Company CRM  
 Facility Fort Beeler Region Region

Entire Document  
NON-CONFIDENTIAL

LEGAL ADVERTISEMENT

AIR QUALITY PUBLIC NOTICE  
Notice of Application

Notice is given that Williams Ohio Valley Midstream LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a 45CSR13 NSR Modification Permit for the existing Fort Beeler Gas Processing Plant, located south of the intersection of County Highway 34 and US Route 250, near Cameron, in Marshall County, West Virginia.

The latitude and longitude coordinates are 39.8783° North and -80.5907° West.

The applicant estimates the increase in the potential to discharge regulated air pollutants will be as follows:

- 2.15 tons of nitrogen oxides per year
- 7.37 tons of carbon monoxide per year
- 22.92 tons of volatile organic compounds per year
- 0.02 tons of sulfur dioxide per year
- 0.24 tons of particulate matter per year
- 2.11 tons of total hazardous air pollutants per year
- 4,430 tons of carbon dioxide equivalent per year

Startup of the modifications is anticipated upon permit issuance.

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

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

Dated this the 28th day of December 2015.

By: Williams Ohio Valley Midstream LLC  
 Paul Hunter  
 General Manager Ohio River Supply Hub  
 Park Place Corporate Center 2  
 2000 Commerce Drive  
 Pittsburgh, PA 15275  
 PUBLISH: December 28, 2015.

**Adkins, Sandra K**

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**From:** Adkins, Sandra K  
**Sent:** Tuesday, December 29, 2015 11:12 AM  
**To:** 'paul.hunter@williams.com'; 'dave.morris@williams.com'  
**Cc:** McKeone, Beverly D; Kessler, Joseph R  
**Subject:** WV DAQ Permit Application Status for Williams Ohio Valley Midstream LLC; Ft. Beeler

**RE: Application Status  
Williams Ohio Valley Midstream LLC  
Ft. Beeler  
Plant ID No. 051-00127  
Application No. R13-2826J**

Mr. Hunter,

Your application for a modification permit for the Fort Beeler Gas Processing Plant was received by this Division on December 23, 2015, and was assigned to Joe Kessler. The following item was not included in the initial application submittal:

**Original affidavit for Class I legal advertisement not submitted.**

*This item is necessary for the assigned permit writer to continue the 30-day completeness review.*

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

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

Should you have any questions, please contact the assigned engineer, Joe Kessler, at 304-926-0499, extension 1219.

*Entire Document*  
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