

Fact Sheet



For Draft/Proposed Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-10300042-2016**
Application Received: **December 14, 2015**
Plant Identification Number: **103-00042**
Permittee: **MarkWest Liberty Midstream & Resources LLC**
Facility Name: **Mobley Gas Plant**
Mailing Address: **1515 Arapahoe Street, Tower 1, Suite 1600**
Denver, CO 80202-2137

Revised: N/A

Physical Location:	Smithfield, Wetzel County, West Virginia
UTM Coordinates:	538.099 km Easting • 4,378.315 km Northing • Zone 17
Directions:	From Smithfield, head southwest on County Road 2/1/Mannington Road toward WV 20S. Turn right at WV 20N and go 1.1 miles. Take the first right onto County Road 7/8/Fallen Timber Run Road and go 2.8 miles. Continue onto County Road 80/Fallen Timber Road/Shuman Hill for 0.8 miles. Turn right at County Road 80/Shuman Hill and go 1.5 miles. Turn right at County Road 15/North Fork Road and go 2.8 miles. The site will be on the left.

Facility Description

The Mobley Gas Plant is a gas processing plant and compressor station to process field gas from nearby wells. Natural gas from the surrounding wells enter the facility and undergoes separation, filtration, and dehydration. Separation serves to remove any free liquids entrained in the gas. Filtration serves to remove any impurities. Dehydration removes any additional moisture remaining in the gas prior to processing. The gas is subsequently sent through a cryogenic process which serves to remove any natural gas liquids (propane and heavier components) from the gas stream. At this point the gas is saleable, and is compressed prior to leaving the facility via pipeline. The natural gas liquids are transported offsite via pipeline.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]	
Regulated Pollutants	Potential Emissions
Carbon Monoxide (CO)	73.98
Nitrogen Oxides (NO _x)	108.60
Particulate Matter (PM _{2.5})	14.65
Particulate Matter (PM ₁₀)	14.65
Total Particulate Matter (TSP)	14.65
Sulfur Dioxide (SO ₂)	0.75
Volatile Organic Compounds (VOC)	90.94
<i>PM₁₀ is a component of TSP.</i>	
Hazardous Air Pollutants	Potential Emissions
Acetaldehyde	3.74
Acrolein	2.68
Benzene	0.80
Formaldehyde	3.55
Methanol	2.04
n-Hexane	1.83
Total HAPs	15.37
<i>Some of the above HAPs may be counted as PM or VOCs.</i>	

Title V Program Applicability Basis

This facility has the potential to emit 108.60 tons per year of NO_x. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, MarkWest Liberty Midstream & Resources LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.
	45CSR6	Open burning prohibited.
	45CSR10	To Prevent and Control Air Pollution from the Emissions of Sulfur Oxides.

	45CSR11	Standby plans for emergency episodes.
	45CSR13	NSR Permits.
	45CSR16	Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants
	40 C.F.R. Part 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
	40 C.F.R. Part 60, Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution.
	40 C.F.R. Part 61	Asbestos inspection and removal.
	40 C.F.R. Part 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2878D	January 7, 2016	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

45CSR2

Boilers or indirect heat exchangers are affected units under 45CSR2. However, a process heater that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst is excluded from the definition of indirect heat exchanger.

MarkWest claims that the mole sieve regeneration heaters (H-1741, H-2741, H-3741, H-4741, & H-5741) are process heaters and excluded from 45CSR2.

The mole sieves use an adsorbent to dehydrate the wet gas prior to processing. Once the adsorbent is saturated with water, the mole sieve adsorbent has to be regenerated. The regeneration heaters are used to provide process heat to regenerate the adsorbent, which could be considered as a catalyst bed. Thus, these mole sieve regeneration heaters are process heaters.

Each of the Hot Medium Oil Heaters (H-1781, H-2781, H-4781, & H-5781) has a maximum design heat input of greater than 10 MMBtu/hr. Thus, these heaters are subject to the visible emission and PM standards of Rule 2. These heaters are designed and constructed to burn natural gas and 45 CSR §2-8.4.b. excludes them from the visible emission testing and monitoring requirements of 45CSR§§2-8.1.a and 8.2. Condition 5.1.5 specifies the use of residue gas which assures compliance with the PM emission limits of 45CSR§2-4.1.b.

45CSR10

The mole sieve regeneration heaters (H-1741, H-2741, H-3741, H-4741, & H-5741) are considered part of a manufacturing process (45 CSR §10-2.11.). Thus, these heaters are subject to the 2,000 ppm sulfur dioxide allowable in 45 CSR §10-4.1. MarkWest has estimated the SO₂ emissions from these heaters to be 5.34 x 10⁻⁴ lb of SO₂ per MMBtu, which equates to 0.37 ppm_{dv} of SO₂ using Method 19 to back calculate the concentration of sulfur dioxide. Thus, the heaters are capable of achieving compliance with this standard without the use of any add-on control device(s).

The Hot Medium Oil Heaters (H-1781, H-2781, H-4781, & H-5781) are considered fuel burning units and are subject to 45 CSR §10-3.1.e. This provision limits the discharge of sulfur dioxide to 3.1 lb of SO₂ per MMBtu of heat input. MarkWest has estimated the potential to emit of SO₂ emissions at a rate of 5.34 x 10⁻⁴ lb SO₂ per MMBtu, which equates to less than two hundredths of one percent of the allowable. Due to the fuel restriction being limited to residue gas (natural gas), no add-on controls will be required for this unit to meet the allowable SO₂ limit of 45 CSR §10-3.1.e.

40 C.F.R. 60 Subpart JJJJ

The compressor engines CM-1001, CM-1002, CM-1003, CM-1004, CM-1005, CM-1006, C-102, and C-103 are subject to 40 C.F.R. 60 Subpart JJJJ. The engines are non-certified and the permittee must maintain a maintenance plan and records of conducted maintenance. In addition they must conduct performance testing on engines every 8,760 hours of operation or 3 years whichever comes first. The following conditions contain requirements for 40 C.F.R. 60 Subpart JJJJ: 4.1.1, 4.1.2, 4.1.3, 4.2.1, 4.2.2, 4.3.1, 4.4.5, 4.4.6, and 4.4.7.

40 C.F.R. Part 60, Subpart OOOO

The Mobley Gas Plant is subject to several provisions of Subpart OOOO, which are listed in the following standards established in Subpart OOOO:

- §60.5385 – For Reciprocating Compressors

There are reciprocating internal combustion engines located at the Mobley Gas Plant that were constructed after August 23, 2011. Therefore, the requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOO would apply and are included in Conditions 4.1.1, 4.1.2, 4.4.3, 4.4.8, and 4.5.1.

- §60.5390 – For Pneumatic Controllers

Compliance with this requirement shall be satisfied by using only compressed air driven pneumatic controllers at the facility. (Condition 6.1.1.a)

- §60.5400 – For Equipment Leaks at Onshore Natural Gas Processing Plant (LDAR)

The LDAR program is included in Section 6.0 Source Specific Requirements Gas Process Units & LDAR Program.

- §60.5401 – Exceptions For Equipment Leaks at Onshore Natural Gas Processing Plant

These requirements were included as conditions 6.1.1.b and 6.1.1.d.

40 C.F.R. 63 Subpart ZZZZ

The compressor engines CM-1001, CM-1002, CM-1003, CM-1004, CM-1005, CM-1006, C-102, and C-103 are subject to 40 C.F.R. 63 Subpart ZZZZ. Compliance with 40 C.F.R. 63 subpart ZZZZ will be met through compliance with 40 C.F.R. 60 Subpart JJJJ per 40 C.F.R. §63.6590(c).

45CSR13 R13-2878D Condition 5.1.1

The annual heat input limits in table 5.1.1 contained typos for Emission Unit ID numbers H-4741, and H-4781. The following limits were corrected in the Title V permit under the authority of 45CSR§30-12.7:

Emission Unit ID #	Annual Heat Input in R13-2878D	Annual Heat Input in Title V
H-4741	157,680.00	67,364.40
H-4781	247,470.00	140,773.20
Total maximum Design Heat Input	1,257,673.00	1,060,660.80

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

40 C.F.R. 60 Subpart Dc - The Mole Sieve Regeneration Heaters (H-1741, H-2741, H-3741, H-4741 and H-5741) meet the definition of process heaters under 40 C.F.R. 60 subpart Dc. Thus they are excluded as affected units (per definition of steam generating unit) under this regulation.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: Wednesday, September 7, 2016
Ending Date: Friday, October 7, 2016

Point of Contact

All written comments should be addressed to the following individual and office:

Robert Mullins
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1243 • Fax: 304/926-0478
Robert.A.Mullins@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.

OR

Describe response to comments that are received and/or document any changes to the final permit from the draft/proposed permit.