

Fact Sheet



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

Permit Number: **R30-10300042-2022**

Application Received: **April 23, 2021 (Renewal), June 29, 2021 (MM04)**

Plant Identification Number: **03-54-103-00042**

Permittee: **MarkWest Liberty Midstream & Resources LLC**

Facility Name: **Mobley Gas Plant**

Mailing Address: **1515 Arapahoe Street, Tower 1, Suite 1600
Denver, CO 80202-2137**

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|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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

R30-10300042-2016(MM04) Emission Summary

| Pollutant | R13-2878G PTE (tons/year) | R13-2878H PTE (tons/year) | PTE Change (tons/year) |
|----------------------------|------------------------------|------------------------------|---------------------------|
| Nitrogen Oxides | 118.53 | 127.14 | 8.61 |
| Carbon Monoxide | 96.12 | 116.21 | 20.09 |
| Volatile Organic Compounds | 73.65 | 96.32 | 22.67 |
| Particulate Matter-10 | 14.57 | 11.99 | -2.58 |
| Sulfur Dioxide | 0.83 | 0.90 | 0.07 |
| Total HAPs | 14.66 | 11.93 | -2.73 |

R30-10300042-2022 Emission Summary

Plantwide Emissions Summary [Tons per Year]

| Regulated Pollutants | Potential Emissions | 2020 Actual Emissions |
|-----------------------------------------|---------------------|-----------------------|
| Carbon Monoxide (CO) | 116.21 | 45.02 |
| Nitrogen Oxides (NO _x) | 127.14 | 48.36 |
| Particulate Matter (PM _{2.5}) | 11.99 | 0.88 |
| Particulate Matter (PM ₁₀) | 11.99 | 0.88 |
| Total Particulate Matter (TSP) | 11.99 | 4.45 |
| Sulfur Dioxide (SO ₂) | 0.90 | 0.32 |
| Volatile Organic Compounds (VOC) | 96.12 | 16.98 |

PM₁₀ is a component of TSP.

| Hazardous Air Pollutants | Potential Emissions | 2020 Actual Emissions |
|--------------------------|---------------------|-----------------------|
| Acetaldehyde | 1.06 | -- |
| Acrolein | 0.78 | -- |
| Benzene | 0.27 | 0.02 |
| Ethyl Benzene | 0.03 | 0.00 |
| Formaldehyde | 5.90 | 0.33 |
| Methanol | 0.63 | -- |
| n-Hexane | 2.29 | 1.25 |
| Toluene | 0.13 | 0.01 |
| Xylene | 0.06 | <0.01 |
| Other HAPs | 0.78 | -- |
| Total HAPs | 11.93 | 1.62 |

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

This facility has the potential to emit 116.21 tpy of CO and 127.14 tpy 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 Dc | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units |
| | 40 C.F.R. Part 60, Subpart IIII | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines |
| | 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 Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015 |
| | 40 C.F.R. Part 60, Subpart OOOOa | Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 |
| | 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>) |
|--------------------------------|------------------|------------------------------------------------------------------------------|
| R13-2878H | October 15, 2021 | |

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

This is the first Title V permit renewal and has been combined with Minor Modification R30-10300042-2016(MM04).

R30-10300042-2016(MM04)

This modification is to incorporate changes made in permit R13-2878H which include: corrections to heater size and naming, removal of an emergency generator, modifications to engine emission factors based on most recent catalyst guarantees and performance test data, updates to the fugitive component counts based on current information, addition of pneumatic emissions, emission updates to flare and an increase to the maximum throughput to the flare.

The following changes were made as part of the minor modification.

1.1 Emission Units

- The Kohler 40ERES Generator (G-2) was removed from service and removed from the permit. Note: The generator is still in the R13-2878H Emission Unit Table, but all of its requirements were removed and it was stated in the Engineering Evaluation that the generator was removed.
- The design capacities for heaters H-2741, H-2781, H-1741, H-1781, H-3741, H-4741, H-5741, and H-5782 were corrected.
- The Emission Unit ID and Emission Point ID for Heater H-4781 were changed to H-3781 and its design capacity was corrected.
- Made corrections to the control efficiencies of the NSCR for emission units CM-1002, CM-1003, CM-1004, CM-1005, and CM-1006.
- Made corrections to the control efficiencies of the Oxidation Catalyst for emission units C-102 and C-103.

4.0 Source Specific Requirements Compressor Engines

- Updated the emission limits for engines CM-1002, CM-1003, CM-1004, CM-1005, and CM-1006 in condition 4.1.1.
- Updated the emission limits for engines C-102 and C-103 in condition 4.1.2.

5.0 Source Specific Requirements Process Heaters

- Updated the table in condition 5.1.1 to correct the design capacities of the process heaters and to remove the annual heat input column of the table since it was removed from R13-2878H.
- Updated the emission limits in condition 5.1.3 (former condition 5.1.4).

6.0 Source Specific Requirements Flare

- Old Condition 6.1.1 was removed since the underlying R13 permit condition was removed in R13-2878H. The remaining conditions of this section were renumbered.
- Updated the R13-2878H citations for the renumbered conditions 6.1.1 and 6.1.2.
- Updated the maximum flow rate and emission limits for Flare (FL-991) in renumbered condition 6.1.2.
- Removed old condition 6.1.4 since the underlying R13 permit condition was removed in R13-2878H.
- Added new conditions 6.1.3 – 6.1.7.
- Old Conditions 6.2.1, 6.2.2, 6.2.3, and 6.2.5 were removed since the underlying R13 permit conditions were removed in R13-2878H.
- Added a new Condition 6.2.2.
- Updated condition 6.3.1 to reflect changes made to the underlying R13 requirement.
- Added new condition 6.3.2.
- Old conditions 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.4.5, 6.4.6, 6.4.7, and 6.4.8 were removed since the underlying R13 permit conditions were removed in R13-2878H.
- Added new conditions 6.4.1 – 6.4.7.
- Old conditions 6.5.1, 6.5.2, 6.5.3 and 6.5.4 were removed since the underlying R13 permit conditions were removed in R13-2878H.
- Added new conditions 6.5.1 – 6.5.4.

Old Section 8.0 Source-Specific Requirements (Emergency Generator, G-2) – Entire section removed since Generator (G-2) was removed.

Section 8.0 Source-Specific Requirements (Blowdown Operations) – Previously Section 9.0

- Added Condition 8.1.1.
- Updated language of conditions 8.1.3, 8.1.4, and 8.1.5 (previously conditions 9.1.3, 9.1.4, and 9.1.5) to reflect changes made to the underlying R13 conditions.
- Added condition 8.1.6.

Section 9.0 Source-Specific Requirements (40CFR60 Subpart OOOOa Requirements, Equipment Leak Standards)

- R13-2878H separated the Flare requirements and the LDAR requirements. This section is to incorporate that change and includes the applicable requirements of 40 C.F.R. 60 Subpart OOOOa for equipment leaks.

Section 10.0 Source-Specific Requirements (Additional Requirements)

- This section was added to incorporate R13 conditions added with the issuance of R13-2878H.

Renewal R30-10300042-2022

Section 1.1 Emission Units

- There were no changes made to the emission units table that were not part of the combined minor modification R30-10300042-2016(MM04).

Section 4.0 Source Specific Requirements Compressor Engines

- Typos were corrected in the conditions 4.1.1.a.i through iii and 4.1.2.a.i through iii citations. 40 C.F.R. §60.4333(e) should be 40 C.F.R. §60.4233(e).
- Changes were made to some of the underlying R13 conditions as part of R30-10300042-2016(MM04), see above.
- Corrected typo for R13 citation in condition 4.4.4.
- There have been no changes to the applicable requirements of 40 C.F.R 60 Subpart JJJJ and 40 C.F.R. 60 Subpart OOOO in this section during this renewal.

5.0 Source Specific Requirements Process Heaters

- Removed Condition 5.1.3 (“Reserved”) and renumbered remaining conditions.
- Other than changes made as part of the combined minor modification there were no changes to Section 5.0 since there have been no changes to the applicable requirements of 45CSR2, 45CSR10, and 40 C.F.R. 60 Subpart Dc since the initial permit was issued.

6.0 Source Specific Requirements Flare

- Other than changes made as part of the combined minor modification there were no changes to Section 6.0 since there have been no changes to the applicable requirements of 45CSR6, 40 C.F.R. 60 Subpart VVa, and 40 C.F.R. 60 Subpart OOOO since the last renewal.

7.0 Source-Specific Requirements (Emergency Generators (G-1, G-3, G-4))

- The 40 C.F.R. 60 Subpart JJJJ update on June 29, 2021 resulted in a minor change to condition 7.1.7.

Section 8.0 Source-Specific Requirements (Blowdown Operations)

- The only changes to this section were made as part of the combined Minor Modification. The only applicable requirements are R13 permit conditions.

Sections 9.0 & 10.0

- These are new sections that were added as part of the combined Minor Modification. See the above minor modification section for details.

Non-Applicability Determinations

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

- a. 40 CFR 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.
- b. 40 CFR 63 Subpart DDDDD - Subpart DDDDD of 40 CFR 63 establishes national emission limitations and work practice standards for HAPs emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. Pursuant to §63.7485, a boiler or process heater is subject to Subpart DDDDD if it "is located at, or is part of, a major source of HAP[s]." A major source of HAPs is defined under §63.2 as a source that "has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants". The Mobley Gas Plant does not have a potential to emit of HAPs at or above this threshold and is, therefore, not subject to Subpart DDDDD.
- c. 40 CFR 63 Subpart JJJJJ - Subpart JJJJJ of 40 CFR 63 establishes national emission limitations and work practice standards for HAPs emitted from industrial, commercial, and institutional boilers located at area sources of HAPs. An area source of HAPs is defined as a facility that has a PTE, considering controls, in the aggregate, of less than 10 tons per year of any HAP or less than 25 tons per year of any combination of HAPs. The Mobley Gas Plant meets the definition of an area source of HAPs.

Pursuant to §63.11237, the definition of “boiler” covered under Subpart JJJJJ is limited to “an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam or hot water.” Pursuant to §63.11195, a gas-fired boiler is exempt from the requirements of Subpart JJJJJ. The heaters meet the definition of boiler and are exclusively “gas-fired” therefore, they are exempt from Subpart JJJJJ.

- d. 40 CFR 64 – Compliance Assurance Monitoring.

- Compressor Engines CM-1002, CM-1003, CM-1004, CM-1005, and CM-1006 use Non-Selective Catalytic Reduction devices to meet the NO_x, CO and VOC emission limits of 40 CFR 60 Subpart JJJJ and the formaldehyde limit of 4.1.1.a.iv. The emission limits of 40 CFR. 60 Subpart JJJJ (NO_x, CO, and VOC) are exempt from 40 C.F.R. 64 under 40 CFR §64.2(b)(1)(i) given that they are emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act. R13-2878H specifies continuous compliance methods for the emission limits of condition 4.1.1. (NO_x, CO, VOC, and formaldehyde). Therefore, those limits are exempt from CAM under 40 CFR §64.2(b)(1)(vi).
- Compressor Engines C-102 and C-103 use Oxidation Catalysts to meet the emission limits of 40 CFR 60 Subpart JJJJ and the formaldehyde limit of 4.1.2.a.iv. The emission limits of 40 CFR. 60 Subpart JJJJ (NO_x, CO, and VOC) are exempt from 40 C.F.R. 64 under 40 CFR §64.2(b)(1)(i) given that they are emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act. R13-2878H specifies continuous compliance methods for the emission limits of condition 4.1.2. (NO_x, CO, VOC, and formaldehyde). Therefore, those limits are exempt from CAM under 40 CFR §64.2(b)(1)(vi).
- Flare (FL-991) is subject to the general requirements of 40 CFR 60 Subpart A and therefore is exempt from the requirements of 40 CFR 64 under 40 CFR 40 CFR §64.2(b)(1)(i).

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: January 26, 2022
Ending Date: February 25, 2022

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
304/926-0499 ext. 41286
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)

(Choose) Not applicable.

OR

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