

Fact Sheet



For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on May 27, 2020.

Permit Number: **R30-09500074-2020**
Application Received: **February 22, 2021**
Plant Identification Number: **03-54-09500074**
Permittee: **Antero Midstream LLC**
Facility Name: **Middlebourne III Compressor Station**
Mailing Address: **1615 Wynkoop Street, Denver, CO 80202**

Permit Action Number: *MM01* Revised: *September 20, 2021*

Physical Location: Wick, Tyler County, West Virginia
UTM Coordinates: 503.135 km Easting • 4363.005 km Northing • Zone 17
Directions: From Wick, West Virginia, at the intersection of Hog Run Road and Wick Road, head east on Wick Road for 0.85 miles and turn left into the facility entrance.

Facility Description

The Middlebourne III Compressor Station separates, compresses, and dries gas off the inlet pipeline stream. The station includes twelve (12) compressor engines with oxidation catalysts, one (1) emergency generator, three (3) 150 MMscfd dehydrators with three (3) reboilers and three (3) flash tanks, three (3) 400-bbl condensate tanks, three (3) 400-bbl produced water tanks, one (1) 500-bbl settling tank, one (1) 0.5 MMBtu/hr fuel conditioning heater, one (1) flare, two (2) vapor recovery units (VRU), liquid loadout operations, fugitive component emissions, and six (6) auxiliary storage tanks. SIC code: 1311.

This minor modification is based on the recently issued permits R13-3347C and R13-3347D, and covers an increase of the horsepower for eleven of the compressor engines from 2,500 bhp to 2,675 bhp (engines C-100 and C-300 through C-1200), and an increase of the horsepower for compressor engine C-200 from

2,500 bhp to 2,749 bhp; also, an increase of the NO_x emissions factor for the compressor engines to 0.5 grams per bhp/hr; and an addition of the vessel cleaning/maintenance emissions to the venting episodes emissions source (VENT1).

Emissions Summary

This modification results in the following emission changes:

Pollutant	Increase in PTE, TPY
Nitrogen Oxides (NO _x)	68.41
Carbon Monoxide (CO)	3.59
Volatile Organic Compounds (VOC)	6.33
Sulfur Dioxide (SO ₂)	0.04
Particulate Matter less than 10 micrometers (PM ₁₀)	0.65
Total Hazardous Air Pollutants (HAPs)	0.98

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 183.85 tons per year of VOC and 165.02 TPY of NO_x. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Antero Midstream 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.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR13 45CSR16	Construction permit. Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60.
	45CSR30 45CSR34	Operating permit requirement. Emission Standards for Hazardous Air Pollutants
	40 C.F.R. Part 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE).
	40 C.F.R. 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after September 18, 2015.
	40 C.F.R Part 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.
State Only:	N/A	

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

The active permits/consent orders affected by this modification are as follows:

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-3347D	July 29, 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

1. Emission Units Table 1.1 - horsepower for eleven compressor engines (C-100 and C-300 through C-1200) was increased to 2,675 bhp, and horsepower of one compressor engine (C-200) was increased to 2,749 bhp and is now described as an "A4 upgrade" engine; control efficiency for Oxidation Catalysts (1C-12C) for Volatile Organic Compounds was increased to 53%, and now includes control of formaldehyde; and added additional description for the Emission Unit VENT1 to include "Vessel Cleaning and Maintenance".
2. Section 4.0 – emission limits table for engines C-100 and C-300 through C-1200 (condition 4.1.1) was revised to reflect increased emissions; emissions of engine C-200 are now excluded from the table in 4.1.1, but a new condition 4.1.2 was added to include its emission limits (old condition "4.1.2" was re-numbered to "4.1.3"). A reporting condition 4.5.2 was added based on underlying requirement 5.5.2 of permit R13-3347C.
3. Section 10.0 - engines C-100 through C-1200 are subject to 40 C.F.R. Part 60, Subpart JJJJ, and applicable requirements of this rule did not change because of these engines' horsepower increase.
4. Section 11.0 - engines C-100 through C-1200 are subject to 40 C.F.R. Part 60, Subpart OOOOa, and applicable requirements of this rule did not change because of these engines' horsepower increase.
5. Section 13.0 - engines C-100 through C-1200 are subject to 40 C.F.R Part 63, Subpart ZZZZ, applicable requirements of this rule did not change because of these engines' horsepower increase.
6. Section 14.0 – conditions 14.1.5 and 14.4.6 were added based on underlying R13-3347D requirements 15.1.5 and 15.2.6 for vessel cleaning and maintenance.

Non-Applicability Determinations

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

None.

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: Not Applicable for minor modifications.
Ending Date: N/A

Point of Contact

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

Natalya V. Chertkovsky
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41250
natalya.v.chertkovsky@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.