Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Pre-Draft Permit; Antero Midstream LLC; Application No. R30-01700163-2025 and R30-01700163-2020 (MM03)

Kaitlin Meszaros <meszaros@pinyon-env.com> Mon, Mar 24, 2025 at 10:49 AM
To: "Barron, Sarah K" <sarah.k.barron@wv.gov>, Max Knop <mknop@anteroresources.com>

Hi Sarah,

Thank you for following up. We have reviewed the pre-draft permit and fact sheet for South Canton Compressor Station.

We have no questions or comments on either document.

Thank you,

Kaitlin Meszaros
Air Quality & Noise Specialist
Pinyon Environmental, Inc.
D: 720.614.5598
[Quoted text hidden]

Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Pre-Draft Permit; Antero Midstream LLC; Application No. R30-01700163-2025 and R30-01700163-2020 (MM03)

Barron, Sarah K <sarah.k.barron@wv.gov> Mon, Mar 24, 2025 at 7:23 AM
To: meszaros@pinyon-env.com, Max Knop <mknop@anteroresources.com>

Hello, I wanted to check in and to ask if you have reviewed the pre-draft permit and fact sheet for the South Canton Compressor Station? Please let me know if you have any questions or comments.

Thanks,
- Sarah
[Quoted text hidden]

Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Pre-Draft Permit; Antero Midstream LLC; Application No. R30-01700163-2025 and R30-01700163-2020 (MM03)

Barron, Sarah K <sarah.k.barron@wv.gov> Tue, Mar 4, 2025 at 9:53 AM
To: meszaros@pinyon-env.com, Max Knop <mknop@anteroresources.com>

Kaitlin Meszaros and Max Knop,

Attached are the South Canton Compressor Station's pre-draft permit and fact sheet for you to review. Please let me know if you have any questions or comments as soon as practicable but preferably no later than March 18, 2025.

Thanks,
- Sarah

--
Sarah Barron
Engineer Trainee
West Virginia Department of Environmental Protection
Division of Air Quality
(304) 414-1915
sarah.k.barron@wv.gov

2 attachments

DPPermit R30-01700163-2025.pdf
836K

DPFactSheet R30-01700163-2025.pdf
271K

West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

Antero Midstream LLC
South Canton Compressor Station
R30-01700163-2025

Laura M. Crowder
Director, Division of Air Quality

Issued: [Date of issuance] • Effective: [Equals issue date plus two weeks]
Expiration: [5 years after issuance date] • Renewal Application Due: [6 months prior to expiration]

Permit Number: **R30-01700163-2025**
Permittee: **Antero Midstream LLC**
Facility Name: **South Canton Compressor Station**
Permittee Mailing Address: **1615 Wynkoop Street, Denver, CO 80202**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	West Union, Doddridge County, West Virginia
Facility Address:	Nutter Fork Road, West Union, WV 26456
Telephone Number:	(303) 357-7310
Type of Business Entity:	LLC
Facility Description:	The South Canton Compressor Station separates, compresses, and dries gas off the inlet pipeline stream.
SIC Codes:	4922
UTM Coordinates:	516.949 km Easting • 4,353.883 km Northing • Zone 17

Permit Writer: Sarah Barron

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.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

Table of Contents

1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C-100	1E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (1C)
C-200	2E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (2C)
C-300	3E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (3C)
C-400	4E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (4C)
C-500	5E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (5C)
C-600	6E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (6C)
C-700	7E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (7C)
C-800	8E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (8C)
C-900	9E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (9C)
C-1000	10E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (10C)
C-1100	11E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (11C)
C-1200	12E	Caterpillar G3608 Compressor Engine	2017	2,675 hp	Ox Cat (12C)
GEN1	13E	PSI Industrial NG Generator	2017	649 hp	None
DEHY1	13C	TEG Dehydration Unit Still Vent	2017	150 mmscfd	Flare (13C)
DFLSH1	16E	Dehydrator Flash Tank	2017	150 mmscfd	DREB1 (16E)
DREB1	16E	TEG Dehydration Unit Reboiler	2017	1.5 MMBtu/hr	None
DEHY2	13C	TEG Dehydration Unit Still Vent	2017	150 mmscfd	Flare (13C)
DFLSH2	19E	Dehydrator Flash Tank	2017	150 mmscfd	DREB2 (19E)
DREB2	19E	TEG Dehydration Unit Reboiler	2017	1.5 MMBtu/hr	None
DEHY3	13C	TEG Dehydration Unit Still Vent	2017	150 mmscfd	Flare (13C)
DFLSH3	22E	Dehydrator Flash Tank	2017	150 mmscfd	DREB3 (22E)
DREB3	22E	TEG Dehydration Unit Reboiler	2017	1.5 MMBtu/hr	None
T01	14C/15C	Condensate Storage Tank	2017	400 bbl (16,800 gal)	VRU-100[1], VRU-200[1]
T02	14C/15C	Condensate Storage Tank	2017	400 bbl (16,800 gal)	VRU-100[1], VRU-200[1]
T03	14C/15C	Condensate Storage Tank	2017	400 bbl (16,800 gal)	VRU-100[1], VRU-200[1]
T04	14C/15C	Condensate/Produced Water Settling Tank	2017	500 bbl (21,000 gal)	VRU-100[1], VRU-200[1]

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T05	14C/15C	Produced Water Storage Tank	2017	400 bbl (16,800 gal)	VRU-100[1], VRU-200[1]
T06	14C/15C	Produced Water Storage Tank	2017	400 bbl (16,800 gal)	VRU-100[1], VRU-200[1]
T07	14C/15C	Produced Water Storage Tank	2017	400 bbl (16,800 gal)	VRU-100[1], VRU-200[1]
FUEL1	30E	Fuel Conditioning Heater	2017	0.5 MMBtu/hr	None
LDOUT1	35E	Production Liquids Truck Loadout	2017	390[2] bbl/day	None
Flare (13C)	13C	Flare Control Device	2017	4.8 MMBtu/hr	N/A
TK-100	TK-100	Compressor Skid Oily Water Tank	2017	2,000 gal	None
TK-101	TK-101	Used Oil Tank	2017	4,000 gal	None
TK-102	TK-102	TEG Make-Up Tank	2017	1,000 gal	None
TK-103	TK-103	Compressor Coolant Tank	2017	2,000 gal	None
TK-104	TK-104	Engine Lube Oil Tank	2017	2,000 gal	None
TK-105	TK-105	Compressor Lube Oil Tank	2017	2,000 gal	None
Vent1	36E	Venting Episodes	Variable	N/A	None

1 – Working, Breathing, and Flashing losses routed to Vapor Recovery Unit for recirculation back into the process.
2 – 300 bbl/day Condensate and 90 bbl/day Produced Water

Control Devices

Emission Unit	Pollutant	Control Device	Control Efficiency
2,675 hp Caterpillar G3608 RICE w/ Ox Cat (C-100 – C-1200)	Carbon Monoxide	Oxidation Catalyst (1C – 12C)	0.16 g/hp-hr
	Volatile Organic Compounds		0.27 g/hp-hr
	Formaldehyde		0.02 g/hp-hr
150 mmscfd TEG Dehydrator Still Vents (DEHY1 – DEHY3)	Volatile Organic Compounds	Flare (13C)	98%
	Hazardous Air Pollutants		98%
150 mmscfd TEG Dehydrator Flash Tanks (DFLSH1 – DFLSH3)	Volatile Organic Compounds	Recycled Reboiler/Condenser with VRU backup	98%
	Hazardous Air Pollutants		98%
Product Tanks (T01 – T07)	Volatile Organic Compounds	Vapor Recovery Units	98%
	Hazardous Air Pollutants		98%

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-3354F	February 12, 2025

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 other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NSPS**	New Source Performance Standards
CBI	Confidential Business Information	**PM**	Particulate Matter
CEM	Continuous Emission Monitor	**PM_{10}**	Particulate Matter less than 10μm in diameter
CES	Certified Emission Statement	**pph**	Pounds per Hour
C.F.R. *or* CFR	Code of Federal Regulations	**ppm**	Parts per Million
CO	Carbon Monoxide	**PSD**	Prevention of Significant Deterioration
C.S.R. *or* CSR	Codes of State Rules	**psi**	Pounds per Square Inch
DAQ	Division of Air Quality	**SIC**	Standard Industrial Classification
DEP	Department of Environmental Protection	**SIP**	State Implementation Plan
FOIA	Freedom of Information Act	**SO_2**	Sulfur Dioxide
HAP	Hazardous Air Pollutant	**TAP**	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	**TPY**	Tons per Year
HP	Horsepower	**TRS**	Total Reduced Sulfur
lbs/hr *or* lb/hr	Pounds per Hour	**TSP**	Total Suspended Particulate
LDAR	Leak Detection and Repair	**USEPA**	United States Environmental Protection Agency
m	Thousand	**UTM**	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	**VEE**	Visual Emissions Evaluation
mm	Million	**VOC**	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
$mmft^3$/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour		
NA *or* N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.40]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. 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; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. 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.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would 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.
[45CSR§30-5.1.f.2.]

2.17. Reserved

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. 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 modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required 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.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. 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.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. 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 defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B.]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person 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 or allow 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. **[40 C.F.R. §61.145(b) and 45CSR34]**

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. **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]**

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. **[W.Va. Code § 22-5-4(a)(15)]**

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this section shall ensure that the facility is a minor HAP source.
[45CSR13, R13-3354, Condition 4.1.2]

3.1.10. **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§13-5.10.; 45CSR13, R13-3354, Conditions 4.1.3 and 8.1.2]

3.1.11. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility.
[45CSR13, R13-3354, Condition 4.1.5]

3.1.12. No person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.
[45CSR§17-3.1 State-Enforceable Only]

3.2. Monitoring Requirements

3.2.1. None.

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, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are 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 shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 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 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.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(15-16) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** 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.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-3354, Condition 4.1.1]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **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§30-5.1.c. State-Enforceable only.]

3.4.4. **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.

[45CSR13, R13-3354, Conditions 4.1.4 and 8.3.3]

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.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. **[45CSR§30-5.1.c.3.E.]**

3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, 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 or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement[1]:
DEPAirQualityReports@wv.gov

[1]For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

3.5.4. **Fees.** The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8. **[45CSR§30-8.]**

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-

4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

3.5.7. **Reserved.**

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Reserved.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

3.6.1. None.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. **40 C.F.R. Part 60 Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023)**

Subpart Kb applies to storage vessels with a capacity greater than or equal to 75 cubic meters (19,812.9 gal). Although the condensate/produced water settling tank (T04) is a 21,000-gallon tank, Subpart Kb does not apply to storage vessels with a design capacity less than or equal to 1,589.874 cubic meters that are used for petroleum or condensate storage prior to custody transfer per §60.110b(d)(4).

b. **40 C.F.R. Part 60 Subpart Kc (Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After October 4, 2023)**

Subpart Kc is inapplicable to the South Canton Compressor Station because construction of the storage tanks commenced prior to the applicability date.

c. **40 C.F.R. Part 60 Subpart KKK (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011)**

Subpart KKK is inapplicable to the South Canton Compressor Station because construction of the facility commenced after the applicability dates.

d. **40 C.F.R. Part 60 Subpart LLL (Standards of Performance for SO_2 Emissions from Onshore Natural Gas Processing for which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011)**

Subpart LLL is inapplicable to the South Canton Compressor Station because construction of the facility commenced after the applicability dates.

e. **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)**

Subpart OOOO is inapplicable to the South Canton Compressor Station because the construction of the facility commenced after the applicability dates.

f. **40 C.F.R. Part 60 Subpart OOOOb (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After December 6, 2022)**

Subpart OOOOb is inapplicable to the South Canton Compressor Station because construction of the facility commenced prior to the applicability date.

g. **40 C.F.R. Part 63 Subpart HHH (National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities)**

Per 40 C.F.R. §63.1270(a), Subpart HHH applies to natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company and that are major sources of hazardous air pollutants. As the South Canton Compressor Station is an area source of hazardous air pollutants, Subpart HHH is inapplicable to the facility.

h. **40 C.F.R. Part 63 Subpart EEEE (National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline))**

Per 40 C.F.R. §63.2334(a), Subpart EEEE applies to major sources of hazardous air pollutants. The South Canton Compressor Station is an area source of hazardous air pollutants and, therefore, is not subject to Subpart EEEE.

i. **40 C.F.R. Part 63 Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters)**

Subpart DDDDD applies to major sources of hazardous air pollutants per 40 C.F.R. §63.7485. The South Canton Compressor Station is an area source of hazardous air pollutants and, therefore, is not subject to Subpart DDDDD.

j. **45CSR21 (Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds)**

This rule applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The facility is located in Doddridge County, and, therefore, the rule is inapplicable.

k. **45CSR27 (To Prevent and Control the Emissions of Toxic Air Pollutants)**

This rule does not apply to the South Canton Compressor Station because, per 45CSR§27-2.4., the equipment used in the production and distribution of petroleum products is not considered a chemical processing unit, provided that such equipment does not produce or contact materials containing more than 5% benzene by weight.

4.0 Engines and Generator [emission unit ID(s): C-100 – C-1200 and GEN1]

4.1. Limitations and Standards

4.1.1. Maximum emissions from each of the 2,675 hp natural gas fired reciprocating engines equipped with oxidation catalyst, Caterpillar G3608 (C-100 – C-1200) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	2.95	12.92
Carbon Monoxide	0.94	4.13
Volatile Organic Compounds	1.59	6.97
Formaldehyde	0.12	0.52

[45CSR13, R13-3354, Condition 5.1.1]

4.1.2. Maximum emissions from the 649 hp natural gas fired generator, PSI Industrial (GEN1) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	1.43	6.27
Carbon Monoxide	2.86	12.53
Volatile Organic Compounds	1.00	4.39

[45CSR13, R13-3354, Condition 5.1.2]

4.1.3. The emission limitations specified in permit conditions 4.1.1 – 4.1.2 shall apply at all times except during periods of start-up and shut-down provided that the duration of these periods does not exceed 30 minutes per occurrence. The permittee shall operate the engines in a manner consistent with good air pollution control practices for minimizing emissions at all times, including periods of start-up and shut-down. The emissions from start-up and shut-down shall be included in the twelve (12) month rolling total of emissions. The permittee shall comply with all applicable start-up and shut-down requirements in accordance with 40 C.F.R. Part 60, Subpart JJJJ and 40 C.F.R. Part 63, Subpart ZZZZ.
[45CSR13, R13-3354, Condition 5.1.3]

4.1.4. Requirements for Use of Oxidation Catalyst Reduction Devices (1C – 12C)

a. Lean-burn natural gas compressor engines (C-100 – C-1200) equipped with oxidation catalyst air pollution control devices shall be fitted with a closed-loop automatic air/fuel ratio feedback controller to ensure emissions of regulated pollutants do not exceed the emission limit listed in permit condition 4.1.1 for any engine/oxidation catalyst combination under varying load. The closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to ensure a lean-rich mixture.

b. For natural gas compressor engines (C-100 – C-1200), the permittee shall monitor the temperature to the inlet of the catalyst and in accordance with manufacturer's specifications; a high temperature alarm shall shut off the engine before thermal deactivation of the catalyst occurs. If the engine shuts off due to high temperature, the permittee shall also check for thermal deactivation of the catalyst before normal operations are resumed.

c. The permittee shall follow a written operation and maintenance plan that provides the periodic and annual maintenance requirements.

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.

[45CSR13, R13-3354, Condition 5.1.4]

4.2. Monitoring Requirements

4.2.1. Oxidation Catalyst Control Devices (1C – 12C)

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 permittee 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.

[45CSR13, R13-3354, Condition 5.2.1.]

4.3. Testing Requirements

4.3.1. See Facility-Wide Testing Requirements Section 3.3 and Testing Requirements of Sections 9.3 and 10.2.

4.4. Recordkeeping Requirements

4.4.1. To demonstrate compliance with section 4.1.4, 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.
[45CSR13, R13-3354, Condition 5.4.1]

4.5. Reporting Requirements

4.5.1. See Facility-Wide Reporting Requirements Section 3.5 and Reporting Requirements of Sections 9.5 and 10.5.

4.6. Compliance Plan

4.6.1. None.

5.0 Source-Specific Hazardous Air Pollutant Requirements (Natural Gas Dehydration Units controlled by a Flare Control Device) [emission unit ID(s): DEHY1, DEHY2, DEHY3, DFLSH1, DFLSH2, DFLSH3, DREB1, DREB2, and DREB3]

5.1. Limitations and Standards

5.1.1. **Maximum Throughput Limitation.** The maximum dry natural gas throughput to the TEG dehydration units/still columns (DEHY1 – DEHY3) shall not exceed 150 million standard cubic feet per day (mmscfd) for each unit. 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.
[45CSR13, R13-3354, Condition 6.1.1]

5.1.2. Maximum emissions from each dehydration system (DEHY1/DFLSH1, DEHY2/DFLSH2, and DEHY3/DFLSH3) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	1.31	5.72
Benzene	0.03	0.11
Total HAP	0.13	0.58

[45CSR13, R13-3354, Condition 6.1.2]

5.1.3. The flare is subject to this section 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 it, 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 mmHg, but the standard temperature for determining the volume corresponding to one mole is 20°C.

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

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 mmHg. 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 5.1.3.f and 5.1.3.g of this section. The actual exit velocity of a flare shall be determined by dividing 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 C.F.R. 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 5.1.3.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 5.1.3.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:

$$\log_{10}(V_{max}) = (H_T + 28.8)/31.7$$

Where:

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

28.8 = Constant.

31.7 = Constant

H_T = The net heating value as determined in 5.1.3.d of this section.

[45CSR13, R13-3354, Condition 6.1.3]

5.1.4. 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 5.3.2, but the permittee is required to conduct a flare design evaluation in accordance with section 5.4.2. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of section 5.1.3 by complying with the compliance assessment testing requirements of section 5.3.2.
[45CSR13, R13-3354, Condition 6.1.4]

5.1.5. Recycled reboilers controlling the Dehydrator Flash Tanks shall be designed and operated in accordance with the following:

a. The vapors/overheads from the flash tanks shall be routed through a closed vent system to the reboiler at all times when there is a potential that vapors (emissions) can be generated from the flash tank.

b. The reboiler shall only be fired with vapors from the flash tank, and natural gas may be used as supplemental fuel.

c. The vapors/overheads from the flash tank shall be introduced into the flame zone of the reboiler.

d. When the flash tank gas cannot be used by the reboiler due to excess gas or the reboiler is offline, the gas shall be sent to the vapor recovery units (VRU-100 and VRU-200) via the storage tanks to achieve a minimum control efficiency of 98%.

[45CSR13, R13-3354, Condition 6.1.5]

5.1.6. 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:

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

Where, the factor, F, is as indicated in Table 45-6 below:

Table 45-6: Factor, F, for Determining Maximum Allowable Particulate Emissions.

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

[45CSR§6-4.1]

5.1.7. **Emission of Visible Particulate Matter.** No person shall cause or allow emission of smoke into the atmosphere from any incinerator which is twenty percent (20%) opacity or greater.
[45CSR§6-4.3]

5.1.8. The provisions of 45CSR§6-4.3. shall not apply to smoke which is less than 40% opacity, for a period or periods aggregating no more than 8 minutes per start-up, or 6 minutes in any 60-minute period for stoking operations.
[45CSR§6-4.4]

5.1.9. No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR§6-4.5]

5.1.10. Incinerators, 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]

5.1.11. Any source that determines it is not a major source but has actual emissions of 5 ton/year or more of a single HAP, or 12.5 ton/year or more of a combination of HAP (i.e., 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination and each year thereafter, using gas composition data measured during the preceding 12 months.
[45CSR34; 40 C.F.R. §63.760(c)]

5.1.12. At all times the owner or operator 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. 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.
[45CSR34; 40 C.F.R. §63.764(j)]

5.2. Monitoring Requirements

5.2.1. To demonstrate compliance with the pilot flame requirements of permit condition 5.1.3.c, the presence of a pilot flame shall be continuously monitored using a thermocouple or any other equivalent device to detect the presence of a flame when emissions are vented to it. The pilot shall be equipped such that it sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the pilot light is out.
[45CSR13, R13-3354, Condition 6.2.1]

5.2.2. The permittee shall monitor the throughput of dry natural gas fed to the dehydration system on a monthly basis for each glycol dehydration unit.
[45CSR13, R13-3354, Condition 6.2.2]

5.3. Testing Requirements

5.3.1. In order to demonstrate compliance with the flare opacity requirements of permit condition 5.1.3.b, 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 40 C.F.R. Part 60, 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 C.F.R. Part 60, Appendix A, Method 22 or from the lecture portion of 40 C.F.R. Part 60, Appendix A, Method 9 certification course.
[45CSR13, R13-3354, Condition 6.3.1]

5.3.2. The Director may require the permittee to conduct a flare compliance assessment to demonstrate compliance with section 5.1.3. 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 C.F.R. 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.
[45CSR13, R13-3354, Condition 6.3.2]

5.3.3. In order to demonstrate compliance with the minor source status of hazardous air pollutants required by 3.1.9, upon request of the Director, the permittee shall demonstrate compliance with the HAP emissions thresholds using GLYCalc Version 3.0 or higher. The permittee shall sample in accordance with GPA Method 2166 and analyze the samples utilizing the extended GPA Method 2286 as specified in the GRI-GLYCalc V4 Technical Reference User Manual and Handbook.
[45CSR13, R13-3354, Condition 6.3.3]

5.3.4. **Determination of glycol dehydration benzene emissions.** In order to demonstrate that the benzene emissions are less than 1 ton/year, the permittee shall determine the actual average benzene emissions using the procedure in the paragraph below. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

The owner or operator shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1).
[45CSR13, R13-3354, Condition 6.3.4; 45CSR34; 40 C.F.R. §63.772(b)(2)]

5.3.5. Use of the ProMax model, Version 5.0 or higher, as an alternative to the GLYCalc model is subject to the following caveats.

Inputs to the ProMax, Version 5.0 or above, software shall include the parameters listed below, which must be representative of the actual operating conditions of the glycol dehydration unit:

a. Wet gas flowrate

b. Wet gas composition (dry basis)

c. Wet gas water content (if unknown, can assume a worst-case of 100% saturation)

d. Wet gas (absorber) temperature

e. Wet gas (absorber) pressure

f. Glycol circulation rate (or dry gas water content or glycol circulation ratio)

g. Dry gas water content

h. Lean glycol water content

i. Gas pump volume ratio (when gas injection pump is used)

j. Reboiler temperature

k. Flash tank parameters (when installed)

1. Temperature

2. Pressure

l. Control device parameters (when installed)

1. Combustion device destruction efficiency

2. Condenser temperature and pressure

m. Stripping gas (if used)

1. Type (dry gas, flash gas, nitrogen)

2. Flowrate

[45CSR13, R13-3354, Condition 6.3.5]

5.3.6. Affected facilities using this alternative (ProMax as an alternative to GLYCalc under Subpart HH) for their affected glycol dehydration units must notify the responsible agency before use of the alternative and notification should include a copy of this letter. Facilities must include a copy of this letter with each report presenting results using the ProMax software.
[45CSR13, R13-3354, Condition 6.3.6]

5.3.7. Once a facility chooses to use ProMax as an alternative to GLYCalc under one or more of the Subpart HH provisions listed above, the facility must continue to use ProMax in meeting the provision(s) until the owner/operator receives approval from this office for use of a new alternative method or the responsible agency for use of any other options in Subpart HH, including returning to the use of GLYCalc (see §63.7(f)(5)).
[45CSR13, R13-3354, Condition 6.3.7]

5.3.8. At such reasonable times as the Secretary may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading, by using 40 C.F.R. Part 60, Appendix A, Method 5 and 45CSR16 or other equivalent U.S. EPA approved method approved by the Secretary, in exhaust gases. Such tests shall be conducted in such manner as the Secretary may specify and be filed on forms and in a manner acceptable to the Secretary. The Secretary may, at the Secretary's option, witness or conduct such stack tests. Should the Secretary exercise his or her option to conduct such tests, the operator will provide all the 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.

The Secretary may conduct such other tests as the Secretary may deem necessary to evaluate air pollution emissions other than those noted above.

[45CSR§§6-7.1. and -7.2.]

5.4. Recordkeeping Requirements

5.4.1. For the purpose of demonstrating compliance with sections 5.1.3.c and 5.2.1, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
[45CSR13, R13-3354, Condition 6.4.1]

5.4.2. For the purpose of demonstrating compliance with sections 5.1.4 and 5.3.2, 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.
[45CSR13, R13-3354, Condition 6.4.2]

5.4.3. For the purpose of demonstrating compliance with the requirements set forth in sections 5.1.3 and 5.3.3, the permittee shall maintain records of testing conducted in accordance with 5.3.3.
[45CSR13, R13-3354, Condition 6.4.3]

5.4.4. The permittee shall document and maintain the corresponding records specified by the on-going monitoring requirements of 5.2 and testing requirements of 5.3.
[45CSR13, R13-3354, Condition 6.4.4]

5.4.5. For the purpose of demonstrating compliance with section 5.1.3.b, the permittee shall maintain records of the visible emission opacity tests conducted per section 5.3.1.
[45CSR13, R13-3354, Condition 6.4.5]

5.4.6. For the purpose of demonstrating compliance with the minor source status of hazardous air pollutants required by section 3.1.9, the permittee shall maintain a record of all potential to emit (PTE) HAP calculations for the entire affected facility. These records shall include the natural gas compressor engines and ancillary equipment.
[45CSR13, R13-3354, Condition 6.4.6]

5.4.7. The permittee shall maintain a record of the dry natural gas throughput through the dehydration system to demonstrate compliance with section 5.1.1.
[45CSR13, R13-3354, Condition 6.4.7]

5.4.8. To demonstrate that the permittee is exempt from the requirements of 40 C.F.R. §63.764(d) if the actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere is less than 0.90 megagram per year (1 tpy), as determined by the procedures specified in 40 C.F.R. §63.772(b)(2) and section 5.3.4 or 5.3.5 of this permit, records of the actual average benzene emissions (in terms of benzene emissions per year) shall be maintained.
[45CSR13, R13-3354, Condition 6.4.8; 45CSR34; 40 C.F.R. §§63.764(e), (e)(1), and (e)(1)(ii) and §63.774(d)(1)(ii)]

5.4.9. All records required under Section 5.4 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.
[45CSR13, R13-3354, Condition 6.4.9]

5.5. Reporting Requirements

5.5.1. If the permittee is required by the Director to demonstrate compliance with section 5.3.3, 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.
[45CSR13, R13-3354, Condition 6.5.1]

5.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40 C.F.R. 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.
[45CSR13, R13-3354, Condition 6.5.2]

5.5.3. Any deviation(s) from the flare design and operation criteria in permit condition 5.1.3 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.
[45CSR13, R13-3354, Condition 6.5.3]

5.5.4. An owner or operator of a TEG dehydration unit located at an area source that meets the criteria in 40 C.F.R. §63.764(e)(1)(i) or §63.764(e)(1)(ii) is exempt from the reporting requirements for area sources in paragraphs (c)(1) through (7) of 40 C.F.R. §63.775, for that unit.
[45CSR34; 40 C.F.R. §63.775(c)(8)]

5.6. Compliance Plan

5.6.1. None.

6.0 Source-Specific Requirements (Reboilers, Heater) [emission unit ID(s): DREB1, DREB2, DREB3, and FUEL1]

6.1. Limitations and Standards

6.1.1. Maximum Design Heat Input. The maximum design heat input (MDHI) shall not exceed the following:

Emission Unit ID#	Emission Unit Description	MDHI (MMBtu/hr)
DREB1	Glycol Dehydration Reboiler	1.5
DREB2	Glycol Dehydration Reboiler	1.5
DREB3	Glycol Dehydration Reboiler	1.5
FUEL1	Fuel Conditioning Heater	0.5

[45CSR13, R13-3354, Condition 7.1.1; 45CSR§30-12.7]

6.1.2. 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.; 45CSR13, R13-3354, Condition 7.1.2]**

6.2. Monitoring Requirements

6.2.1. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with section 6.1.2. Method 9 shall be conducted in accordance with 40 C.F.R. Part 60, Appendix A.
[45CSR13, R13-3354, Condition 7.2.1]

6.3. Testing Requirements

6.3.1. Compliance with the visible emission requirements of section 6.1.2 shall be determined in accordance with 40 C.F.R. 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 6.1.2. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.
[45CSR§2-3.2.; 45CSR13, R13-3354, Condition 7.3.1]

6.4. Recordkeeping Requirements

6.4.1. The permittee shall maintain records of all monitoring data required by section 6.2.1 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6-10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements

specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9.
[45CSR13, R13-3354, Condition 7.4.1]

6.5. Reporting Requirements

6.5.1. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40 C.F.R. 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.
[45CSR13, R13-3354, Condition 7.5.1]

6.6. Compliance Plan

6.6.1. None.

7.0 Source-Specific Requirements (Storage Tanks) [emission unit ID(s): T01 – T07]

7.1. Limitations and Standards

7.1.1. The permittee shall route all VOC and HAP emissions from the Storage Tanks (T01 – T07) to a vapor recovery system (VRU-100 and VRU-200), prior to release to the atmosphere. The vapor recovery system shall be designed to achieve a minimum guaranteed control efficiency of 98% for volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions. Emissions from these tanks will be collected and compressed by the vapor recovery units (VRU-100 and VRU-200) whereby the vapors are sufficiently compressed to be introduced into the inlet gas line and processed with the inlet gas.
[45CSR13, R13-3354, Condition 8.1.1]

7.1.2. Reserved.

7.1.3. The maximum annual throughput of product to the storage tanks shall not exceed the following:

Storage Tank ID	Storage Tank Size (bbl)	Product Stored	Maximum Annual Throughput (gal/yr)
T01, T02, T03	400 each	Condensate	4,599,000 (combined)
T04	500	Settling Tank (Condensate/Produced Water)	5,978,700
T05, T06, T07	400 each	Produced Water	1,379,700 (combined)

[45CSR13, R13-3354, Condition 8.1.3]

7.1.4. Maximum emissions from the storage tank battery (T01 – T07) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	1.70	7.46

[45CSR13, R13-3354, Condition 8.1.4]

7.1.5. In addition to the vapor recovery units (VRU-100 and VRU-200), the permittee shall utilize three (3) of the following requirements:

a. Install additional sensing equipment to monitor the run status of the vapor recovery units (VRU-100 and VRU-200).

b. Install a by-pass system which operates automatically whereby discharge is re-routed back to the inlet of the vapor recovery units (VRU-100 and VRU-200) until the appropriate pressure is built up for the compressor to turn on.

c. Install a blanket gas and have automatic throttling valves to ensure oxygen does not enter the tanks.

d. Install a compressor that has the ability to vary the drive.

[45CSR13, R13-3354, Condition 8.1.5]

7.1.6. Emissions from the Storage Tanks (T01 – T07) that are recovered and routed to the vapor recovery units (VRU-100 and VRU-200) shall be designed and operated as specified in the paragraphs a. through c.

a. The cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves and gauge wells) shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel.

b. Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows:

1. To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);

2. To inspect or sample the material in the unit;

3. To inspect, maintain, repair, or replace equipment located inside the unit; or

4. To vent liquids, gases, or fumes from the unit through a closed-vent system designed and operated in accordance with the requirements of 7.1.7 of this section to a control device.

c. Each Storage Tank (T01 – T07) thief hatch shall be weighted and properly seated. You must select gasket material for the hatch based on composition of the fluid in the storage vessel and weather conditions.
[45CSR§13-5.10.]

[45CSR13, R13-3354, Condition 8.1.6]

7.1.7. The facility shall comply with the closed vent system requirements for the Storage Tanks (T01 – T07) as noted below.

a. You must design the closed vent system to route all gases, vapors, and fumes emitted from the material in the Storage Tanks (T01 – T07) to the vapor recovery units (VRU-100 and VRU-200).

b. You must design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual and auditory inspections.

c. You must meet the requirements specified in paragraphs c.1 and c.2 of this section if the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device or to a process.

1. Except as provided in paragraph c.2 of this section, you must comply with either paragraph c.1.a or c.1.b of this section for each bypass device.

a. You must properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the

atmosphere that sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the bypass device is open such that the stream is being, or could be diverted away from the control device or process to the atmosphere.

b. You must secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.

2. Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph c.1 of this section.

[45CSR§13-5.10.]

[45CSR13, R13-3354, Condition 8.1.7]

7.2. Monitoring Requirements

7.2.1. The permittee shall monitor the throughput to the storage vessels (T01 – T07) on a monthly basis. **[45CSR13, R13-3354, Condition 8.2.1]**

7.2.2. To demonstrate compliance with section 7.1.1, the permittee shall monitor the vapor recovery units (VRU-100 and VRU-200) in accordance with the plans and specifications and manufacturer's recommendations. **[45CSR13, R13-3354, Condition 8.2.2]**

7.2.3. To demonstrate compliance with the closed vent system requirements of sections 7.1.6 and 7.1.7, the permittee shall:

a. Initial requirements. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days of start-up. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.

1. The annual inspection shall include the bypass inspection, conducted according to paragraph c. of this section.

2. In the event that a leak or defect is detected, you must repair the leak or defect as soon as practicable. Grease or another applicable substance must be applied to deteriorating or cracked gaskets to improve the seal while awaiting repair.

3. Delay of repair of a closed vent system for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, or if you determine that emissions resulting from immediate repair would be greater than the fugitive emission likely to result from delay of repair. You must complete repair of such equipment by the end of the next shutdown.

b. Continuous requirements. Conduct an annual visual, olfactory, and auditory inspection for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping, loose connections; liquid leaks; or broken or missing caps or other closure devices.

1. The annual inspection shall be conducted within 365 calendar days from the date of the previous inspection or earlier.

2. The annual inspection shall include the bypass inspection, conducted according to paragraph c. of this section.

c. Bypass inspection. Visually inspect the bypass valve during the initial and annual inspection for the presence of the car seal or lock-and-key type configuration to verify that the valve is maintained in the non-diverting position to ensure that the vent stream is not diverted through the bypass device. If an alternative method is used, conduct the inspection of the bypass as described in the operating procedures.

d. Unsafe to inspect requirements. You may designate any parts of the closed vent system as unsafe to inspect if the requirements in paragraphs d.1 and d.2 of this section are met. Unsafe to inspect parts are exempt from the inspection requirements of paragraphs a. and b. of this section.

1. You determine that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with the requirements.

2. You have a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

e. Difficult to inspect requirements. You may designate any parts of the closed vent system as difficult to inspect, if the requirements in paragraphs e.1 and e.2 of this section are met. Difficult to inspect parts are exempt from the inspection requirements of paragraphs a. and b. of this section.

1. You determine that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface.

2. You have a written plan that requires inspection of the equipment at least once every 5 years.

[45CSR§13-5.10]

[45CSR13, R13-3354, Condition 8.2.3]

7.3. Testing Requirements

7.3.1. Reserved.

7.4. Recordkeeping Requirements

7.4.1. 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.
[45CSR13, R13-3354, Condition 8.3.1]

7.4.2. *Record of Maintenance of VRU.* The permittee shall maintain accurate records of the vapor recovery units (VRU-100 and VRU-200) equipment inspection and/or preventative maintenance procedures.
[45CSR13, R13-3354, Condition 8.3.2]

7.4.3. Reserved.

7.4.4. To demonstrate compliance with sections 7.1.3 and 7.1.4, the permittee shall maintain a record of the aggregate throughput for the storage tanks on a monthly and rolling twelve-month total. 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.
[45CSR13, R13-3354, Condition 8.3.4]

7.4.5. The permittee shall maintain a copy of all design records of the process, maintenance records of equipment and any downtime hours associated with the vapor recovery units (VRU-100 and VRU-200).
[45CSR13, R13-3354, Condition 8.3.5]

7.4.6. The permittee shall maintain records of the additional monitoring required in section 7.1.5 to demonstrate compliance with the 98% control efficiency claimed in section 7.1.1.
[45CSR13, R13-3354, Condition 8.3.6]

7.4.7. To demonstrate compliance with the closed vent monitoring requirements, the following records shall be maintained.

a. The initial compliance requirements;

b. Each annual visual inspection conducted to demonstrate continuous compliance, including records of any repairs that were made as results of the inspection;

c. Bypass requirements.

1. Each inspection or each time the key is checked out or a record of each time the alarm is sounded;

2. Each occurrence that the control device was bypassed. If the device was bypassed, the records shall include the date, time, and duration of the event and shall provide the reason the event occurred. The record shall also include the estimate of emissions that were released to the environment as a result of the bypass.

d. Any part of the system that has been designated as “unsafe to inspect” in accordance with 7.2.3.d or “difficult to inspect” in accordance with 7.2.3.e.

[45CSR§13-5.10.; 45CSR13, R13-3354, Condition 8.3.7]

7.5. Reporting Requirements

7.5.1. Upon request by the Director, the permittee shall report deviations within a requested time frame of any occurrences when the control device was operated outside of the parameters defined in the monitoring plan.
[45CSR13, R13-3354, Condition 8.4.1]

7.5.2. The permittee shall notify the Director of any downtime of the vapor recovery units (VRU-100 and VRU-200) in excess of 2%, based on the 12-month rolling total, in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days of the discovery and shall include, at a minimum, the following information: the dates and durations of each downtime event, the cause or suspected causes for each downtime event, any corrective measures taken or planned for each downtime event. **[45CSR13, R13-3354, Condition 8.4.2]**

7.6. Compliance Plan

7.6.1. None.

8.0 Source-Specific Requirements (Product Loadout Rack) [emission unit ID(s): LDOUT1]

8.1. Limitations and Standards

8.1.1. The maximum quantity of condensate that shall be loaded shall not exceed 4,599,000 gallons 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 condensate throughput at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 9.1.1]

8.1.2. The maximum quantity of produced water that shall be loaded shall not exceed 1,379,700 gallons 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 produced water throughput at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 9.1.2]

8.1.3. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.
[45CSR13, R13-3354, Condition 9.1.3]

8.1.4. The Condensate Truck Loading and Produced Water Truck Loading shall be operated in accordance with the plans and specifications filed in Permit Application R13-3354.
[45CSR13, R13-3354, Condition 9.1.4]

8.2. Monitoring Requirements

8.2.1. See Facility-Wide Monitoring Requirements Section 3.2.

8.3. Testing Requirements

8.3.1. Reserved.

8.4. Recordkeeping Requirements

8.4.1. 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.
[45CSR13, R13-3354, Condition 9.3.1]

8.4.2. To demonstrate compliance with sections 8.1.1 and 8.1.2, the permittee shall maintain a record of the aggregate throughput for the production liquids truck loadout rack (LDOUT1) on a monthly and rolling twelve-month total. 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 of the Director shall be certified by a responsible official.
[45CSR13, R13-3354, Condition 9.3.2]

8.5. Reporting Requirements

8.5.1. See Facility-Wide Reporting Requirements Section 3.5.

8.6. Compliance Plan

8.6.1. None.

9.0 40 C.F.R. Part 60 Subpart JJJJ Requirements [emission unit ID(s):C-100 – C-1200 and GEN1]

9.1. Limitations and Standards

9.1.1. Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 hp) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to 40 C.F.R. Part 60 Subpart JJJJ for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 hp (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 C.F.R. Part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to 40 C.F.R. Part 60 Subpart JJJJ, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

Engine Type and Fuel	Maximum Engine Power	Manufacture Date	Emission Standards[1]					
			g/hp-hr			ppmvd at 15% O_2		
			NO_X	CO	VOC^2	NO_X	CO	VOC^2
Non-Emergency SI Natural Gas	hp ≥ 500	7/1/2010	1.0	2.0	0.7	82	270	60

[1] Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/hp-hr or ppmvd at 15 percent O_2.
[2] For the purposes of Subpart JJJJ, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

Compliance with the emission limits of Conditions 4.1.1 and 4.1.2 assures compliance with 40 C.F.R. §60.4233(e) and this Condition 9.1.1 for the compressor engines (C-100 to C-1200) and the generator engine (GEN1).

[40 C.F.R. §60.4233(e); 45CSR16; 45CSR13, R13-3354, Condition 10.2.1]

9.1.2. 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.
[40 C.F.R. §60.4234; 45CSR16; 45CSR13, R13-3354, Condition 10.2.3]

9.1.3. After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 hp that do not meet the applicable requirements in §60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 hp and less than 1,350 hp that do not meet the applicable requirements in §60.4233 may not be installed after January 1, 2010.
[40 C.F.R. §60.4236(b); 45CSR16; 45CSR13, R13-3354, Condition 10.3.2]

9.2. Monitoring Requirements

9.2.1. If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of §60.4243.

a. Purchasing an engine certified according to procedures specified in Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of §60.4243. (GEN1)

1. If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 C.F.R. Part 1068, Subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

2. If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of §60.4243, as appropriate.

i. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 hp, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

b. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of §60.4243. (C-100 – C-1200)

1. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 hp, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[40 C.F.R. §§60.4243(a)(1), (a)(2)(iii) and (b); 45CSR16; 45CSR13, R13-3354, Condition 10.4.1]

9.2.2. Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.
[40 C.F.R. §60.4243(e); 45CSR16; 45CSR13, R13-3354, Condition 10.4.4]

9.2.3. It is expected that air/fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The air/fuel ratio controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.
[40 C.F.R. §60.4243(g); 45CSR16; 45CSR13, R13-3354, Condition 10.4.6]

9.3. Testing Requirements

9.3.1. Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of §60.4244.

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 Subpart JJJJ.

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.

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.

d. To determine compliance with the NO_X mass per unit output emission limitation, convert the concentration of NO_X in the engine exhaust using Equation 1 of this section:

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

Where:

ER = Emission rate of NO_X in g/hp-hr.

C_d = Measured NO_X concentration in parts per million by volume (ppmv).

1.912×10^{-3} = Conversion constant for ppm NO_X 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).

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.

1.164×10^{-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.

f. For purposes of Subpart JJJJ, 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.

1.833×10^{-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.

g. If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 C.F.R. Part 60, Appendix A, or Method 320 of 40 C.F.R. 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.

$$C_{icorr} = RF_i \times C_{imeas} \quad \text{(Eq. 5)}$$

Where:

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

C_{imeas} = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 \times C_{icorr} \quad \text{(Eq. 6)}$$

Where:

C_{Peq} = Concentration of compound i in mg of propane equivalent per DSCM.

[40 C.F.R. §60.4244; 45CSR16; 45CSR13, R13-3354, Condition 10.5.1]

9.4. Recordkeeping Requirements

9.4.1. Owners and operators of all stationary SI ICE must keep records of the information in paragraphs a. through d. of this section.

a. All notifications submitted to comply with Subpart JJJJ and all documentation supporting any notification.

b. Maintenance conducted on the engine.

c. 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 C.F.R. Parts 1048, 1054, and 1060, as applicable.

d. 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.

[40 C.F.R. §60.4245(a); 45CSR16; 45CSR13, R13-3354, Condition 10.6.1.a]

9.4.2. Any records required to be maintained by Subpart JJJJ that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.
[40 C.F.R. §60.4245(j); 45CSR16]

9.5. Reporting Requirements

9.5.1. Reserved.

9.5.2. a. Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.

Performance test reports using EPA Method 18, EPA Method 320, or ASTM D6348-03 (incorporated by reference – see 40 C.F.R. §60.17) to measure VOC require reporting of all QA/QC data. For Method 18, report results from sections 8.4 and 11.1.1.4; for Method 320, report results from sections 8.6.2, 9.0, and 13.0; and for ASTM D6348-03 report results of all QA/QC procedures in Annexes 1-7. Beginning on February 26, 2025, performance tests must be reported electronically according to paragraph (f) of §60.4245.
[45CSR13, R13-3354, Condition 10.6.1.d]

b. Beginning on February 26, 2025, within 60 days after the date of completing each performance test, you must submit the results following the procedures specified in paragraph (g) of §60.4245. Data collected using test methods that are supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert) at the time of the test must be submitted in a file format generated using the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test must be included as an attachment in the ERT or an alternate electronic file.

c. If you are required to submit notifications or reports following the procedure specified in paragraph (g) of §60.4245, you must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI.

[40 C.F.R. §§60.4245(d), (f), and (g); 45CSR16]

9.6. Compliance Plan

9.6.1. None.

10.0 40 C.F.R. Part 60 Subpart OOOOa Requirements (Reciprocating Compressor Engines) [emission unit ID(s): C-100 – C-1200]

10.1. Limitations and Standards

10.1.1. You must reduce GHG (in the form of a limitation on emissions of methane) and VOC emissions by complying with the standards in paragraphs (a) through (d) of §60.5385a for each reciprocating compressor affected facility.

a. You must replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2) of §60.5385a, or you must comply with paragraph (a)(3) of §60.5385a.

1. On or before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of your reciprocating compressor affected facility, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

2. Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.

3. Collect the methane and VOC emissions from the rod packing using a rod packing emissions collection system that operates under negative pressure and route the rod packing emissions to a process through a closed vent system that meets the requirements of §§60.5411a(a) and (d).

b. Reserved.

c. You must demonstrate continuous compliance with standards that apply to reciprocating compressor affected facilities as required by §60.5415a(c).

d. You must perform the reporting as required by §§60.5420a(b)(1) and (4) and the recordkeeping as required by §§60.5420a(c)(3), (6) through (9), and (17), as applicable.

[40 C.F.R. §60.5385a; 45CSR16; 45CSR13, R13-3354, Conditions 11.1.1 and 11.4.3]

10.1.2. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating 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, opacity observations, review of operating and maintenance procedures, and inspection of the source. The provisions for exemption from compliance during periods of startup, shutdown and malfunctions provided for in §60.8(c) do not apply to Subpart OOOOa.
[40 C.F.R. §60.5370a(b); 45CSR16]

10.2. Monitoring Requirements

10.2.1. Reserved.

10.2.2. For each reciprocating compressor affected facility complying with §60.5385a(a)(1) or (2), you must demonstrate continuous compliance according to paragraphs (c)(1) through (3) of §60.5410a. For each reciprocating compressor affected facility complying with §60.5385a(a)(3), you must demonstrate continuous compliance according to paragraph (c)(4) of §60.5410a.

a. You must continuously monitor the number of hours of operation for each reciprocating compressor affected facility or track the number of months since initial startup or since the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

b. You must submit the annual reports as required in §§60.5420a(b)(1) and (4) and maintain records as required in §60.5420a(c)(3).

c. You must replace the reciprocating compressor rod packing on or before the total number of hours of operation reaches 26,000 hours or the number of months since the most recent rod packing replacement reaches 36 months.

d. You must operate the rod packing emissions collection system under negative pressure and continuously comply with the cover and closed vent requirements in §§60.5416a(a) and (b).

[40 C.F.R. §60.5415a(c); 45CSR16; 45CSR13, R13-3354, Condition 11.3.1]

10.3. Testing Requirements

10.3.1. None.

10.4. Recordkeeping Requirements

10.4.1. Recordkeeping requirements. You must maintain the records identified as specified in §60.7(f) and in §§60.5420a(c)(1) through (18). All records required by Subpart OOOOa must be maintained either onsite or at the nearest local field office for at least 5 years. Any records required to be maintained by Subpart OOOOa that are submitted electronically via the EPA's CDX may be maintained in electronic format.

a. For each reciprocating compressor affected facility, you must maintain the records in §§60.5420a(c)(3)(i) through (iii).

1. Records of the cumulative number of hours of operation or number of months since initial startup or since the previous replacement of the reciprocating compressor rod packing, whichever is later. Alternatively, a statement that emissions from the rod packing are being routed to a process through a closed vent system under negative pressure.

2. Records of the date and time of each reciprocating compressor rod packing replacement, or date of installation of a rod packing emissions collection system and closed vent system as specified in §60.5385a(a)(3).

3. Records of deviations in cases where the reciprocating compressor was not operated in compliance with the requirements specified in §60.5385a, including the date and time the deviation began, duration of the deviation, and a description of the deviation.

[40 C.F.R. §60.5420a(c)(3); 45CSR16; 45CSR13, R13-3354, Condition 11.4.3]

10.5. Reporting Requirements

10.5.1. Reserved.

10.5.2. Reporting requirements. You must submit annual reports containing the information specified in paragraphs (b)(1) through (8) and (12) of §60.5420a and performance test reports as specified in paragraph (b)(9) or (10) of §60.5420a, if applicable. You must submit annual reports following the procedure specified in paragraph (b)(11) of §60.5420a. The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to §60.5410a. Subsequent annual reports are due no later than same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (8) and (12) of §60.5420a. Annual reports may coincide with Title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by 40 C.F.R. Part 60 may be submitted as long as the schedule does not extend the reporting period.

a. The general information specified in paragraphs (b)(1)(i) through (iv) of §60.5420a is required for all reports.

1. The company name, facility site name associated with the affected facility, and address of the affected facility. If an address is not available for the site, include a description of the site location and provide the latitude and longitude coordinates of the site in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.

2. An identification of each affected facility being included in the annual report.

3. Beginning and ending dates of the reporting period.

4. A certification by a certifying official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

b. For each reciprocating compressor affected facility, the information specified in paragraphs (b)(4)(i) through (iii) of §60.5420a.

1. The cumulative number of hours of operation or the number of months since initial startup or since the previous reciprocating compressor rod packing replacement, whichever is later. Alternatively, a statement that emissions from the rod packing are being routed to a process through a closed vent system under negative pressure.

2. If applicable, for each deviation that occurred during the reporting period and recorded as specified in paragraph (c)(3)(iii) of §60.5420a, the date and time the deviation began, duration of the deviation and a description of the deviation.

c. You must submit reports to the EPA via CEDRI, except as outlined in §60.5420a(b)(11). CEDRI can be accessed through the EPA's CDX (https://cdx.epa.gov/). You must use the appropriate electronic report template on the CEDRI website for Subpart OOOOa (https://www.epa.gov/electronic-reporting-air-emissions/cedri/). If the reporting form specific to Subpart OOOOa is not available on the CEDRI website at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §60.4. Once the form has been available in CEDRI for at least 90 calendar

days, you must begin submitting all subsequent reports via CEDRI. The date reporting forms become available will be listed on the CEDRI website. Unless the Administrator or delegated state agency or other authority has approved a different schedule for submission of reports, the reports must be submitted by the deadlines specified in Subpart OOOOa, regardless of the method in which the reports are submitted. The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI.

[40 C.F.R. §§60.5420a(b), (b)(1), (b)(4), (b)(4)(i), (b)(4)(ii), and (b)(11); 45CSR16; 45CSR13, R13-3354, Conditions 11.4.2 and 11.4.3]

10.6. Compliance Plan

10.6.1. None.

11.0 40 C.F.R. Part 60 Subpart OOOOa Requirements (Fugitive Emissions Components)

11.1. Limitations and Standards

11.1.1. For each affected facility under §60.5365a(j), you must reduce GHG (in the form of a limitation on emissions of methane) and VOC emissions by complying with the requirements of paragraphs (a) through (j) of §60.5397a. The requirements in this section are independent of the closed vent system and cover requirements in §60.5411a. Alternatively, you may comply with the requirements of §60.5398b, including the notification, recordkeeping, and reporting requirements outlined in §60.5424b. For the purpose of Subpart OOOOa, compliance with the requirements in §60.5398b will be deemed compliance with this section. When complying with §60.5398b, the definitions in §60.5430b shall apply for those activities conducted under §60.5398b.

a. You must monitor all fugitive emission components, as defined in §60.5430a, in accordance with paragraphs (b) through (g) of §60.5397a. You must repair all sources of fugitive emissions in accordance with paragraph (h) of §60.5397a. You must keep records in accordance with paragraph (i) of §60.5397a and report in accordance with paragraph (j) of §60.5397a. For the purposes of this section, fugitive emissions are defined as any visible emission from a fugitive emissions component observed using optical gas imaging or an instrument reading of 500 parts per million (ppm) or greater using Method 21 of Appendix A-7 to 40 C.F.R. Part 60.

b. You must develop an emissions monitoring plan that covers the collection of fugitive emissions components at compressor stations within each company-defined area in accordance with paragraphs (c) and (d) of §60.5397a.

c. Fugitive emissions monitoring plans must include the elements specified in paragraphs (c)(1) through (8) of §60.5397a, at a minimum.

1. Frequency for conducting surveys. Surveys must be conducted at least as frequently as required by paragraphs (f) and (g) of §60.5397a.

2. Technique for determining fugitive emissions (i.e., Method 21 of Appendix A-7 to 40 C.F.R. Part 60 or optical gas imaging meeting the requirements in paragraphs (c)(7)(i) through (vii) of §60.5397a).

3. Manufacturer and model number of fugitive emissions detection equipment to be used.

4. Procedures and timeframes for identifying and repairing fugitive emissions components from which fugitive emissions are detected, including timeframes for fugitive emission components that are unsafe to repair. Your repair schedule must meet the requirements of paragraph (h) of §60.5397a at a minimum.

5. Procedures and timeframes for verifying fugitive emission component repairs.

6. Records that will be kept and the length of time records will be kept.

7. If you are using optical gas imaging, your plan must also include the elements specified in paragraphs (c)(7)(i) through (vii) of §60.5397a.

i. Verification that your optical gas imaging equipment meets the specifications of paragraphs (c)(7)(i)(A) and (B) of §60.5397a. This verification is an initial verification and may either be performed by the facility, by the manufacturer, or by a third party. For the purposes of complying with the fugitive emissions monitoring program with optical gas imaging, a fugitive emission is defined as any visible emissions observed using optical gas imaging.

a. Your optical gas imaging equipment must be capable of imaging gases in the spectral range for the compound of highest concentration in the potential fugitive emissions.

b. Your optical gas imaging equipment must be capable of imaging a gas that is half methane, half propane at a concentration of 10,000 ppm at a flow rate of ≤ 60 g/hr from a quarter inch diameter orifice.

ii. Procedure for a daily verification check.

iii. Procedure for determining the operator's maximum viewing distance from the equipment and how the operator will ensure that this distance is maintained.

iv. Procedure for determining maximum wind speed during which monitoring can be performed and how the operator will ensure monitoring occurs only at wind speeds below this threshold.

v. Procedures for conducting surveys, including the items specified in paragraphs (c)(7)(v)(A) through (C) of §60.5397a.

a. How the operator will ensure an adequate thermal background is present in order to view potential fugitive emissions.

b. How the operator will deal with adverse monitoring conditions, such as wind.

c. How the operator will deal with interferences (e.g., steam).

vi. Training and experience needed prior to performing surveys.

vii. Procedures for calibration and maintenance. At a minimum, procedures must comply with those recommended by the manufacturer.

8. If you are using Method 21 of Appendix A-7 of 40 C.F.R. Part 60, your plan must also include the elements specified in paragraphs (c)(8)(i) through (iii) of §60.5397a. For the purposes of complying with the fugitive emissions monitoring program using Method 21 of Appendix A-7 to 40 C.F.R. Part 60, a fugitive emission is defined as an instrument reading of 500 ppm or greater.

i. *Verification that your monitoring equipment meets the requirements specified in Section 6.0 of Method 21 at 40 C.F.R. Part 60, Appendix A-7.* For purposes of instrument capability, the fugitive emissions definition shall be 500 ppm or greater methane using a FID-based instrument. If you wish to use an analyzer other than a FID-based instrument, you must develop a site-specific fugitive emission definition that would be equivalent to 500 ppm methane using a FID-based instrument (e.g., 10.6 eV PID with a specified isobutylene concentration as the fugitive emission definition would provide equivalent response to your compound of interest).

ii. *Procedures for conducting surveys.* At a minimum, the procedures shall ensure that the surveys comply with the relevant sections of Method 21 at 40 C.F.R. Part 60, Appendix A-7, including Section 8.3.1.

iii. *Procedures for calibration.* The instrument must be calibrated before use each day of its use by the procedures specified in Method 21 of Appendix A-7 of 40 C.F.R. Part 60. At a minimum, you must also conduct precision tests at the interval specified in Method 21 of Appendix A-7 of 40 C.F.R. Part 60, Section 8.1.2, and a calibration drift assessment at the end of each monitoring day. The calibration drift assessment must be conducted as specified in paragraph (c)(8)(iii)(A) of §60.5397a. Corrective action for drift assessments is specified in paragraphs (c)(8)(iii)(B) and (C) of §60.5397a.

a. Check the instrument using the same calibration gas that was used to calibrate the instrument before use. Follow the procedures specified in Method 21 of Appendix A-7 of 40 C.F.R. Part 60, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. If multiple scales are used, record the instrument reading for each scale used. Divide the arithmetic difference of the initial and post-test calibration response by the corresponding calibration gas value for each scale and multiply by 100 to express the calibration drift as a percentage.

b. If a calibration drift assessment shows a negative drift of more than 10 percent, then all equipment with instrument readings between the fugitive emission definition multiplied by (100 minus the percent of negative drift/divided by 100) and the fugitive emission definition that was monitored since the last calibration must be re-monitored.

c. 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 with instrument readings above the fugitive emission definition and below the fugitive emission definition multiplied by (100 plus the percent of positive drift/divided by 100) monitored since the last calibration may be re-monitored.

d. Each fugitive emissions monitoring plan must include the elements specified in paragraphs (d)(1) through (3) of §60.5397a, at a minimum, as applicable.

1. If you are using optical gas imaging, your plan must include procedures to ensure that all fugitive emissions components are monitored during each survey. Example procedures include, but are not limited to, a sitemap with an observation path, a written narrative of where the fugitive emissions components are located and how they will be monitored, or an inventory of fugitive emissions components.

2. If you are using Method 21 of Appendix A-7 of 40 C.F.R. Part 60, your plan must include a list of fugitive emissions components to be monitored and method for determining the location of fugitive emissions components to be monitored in the field (e.g., tagging, identification on a process and instrumentation diagram, etc.).

3. Your fugitive emissions monitoring plan must include the written plan developed for all of the fugitive emissions components designated as difficult-to-monitor in accordance with paragraph (g)(3) of §60.5397a, and the written plan for fugitive emissions components designated as unsafe-to-monitor in accordance with paragraph (g)(4) of §60.5397a.

e. Each monitoring survey shall observe each fugitive emissions component, as defined in 40 C.F.R. §60.5430a, for fugitive emissions.

f. Reserved.

g. A monitoring survey of each collection of fugitive emissions components at a compressor station must be performed at the frequencies specified in paragraph (g)(2) of §60.5397a, with the exceptions noted in paragraphs (g)(3), (4), and (6) of §60.5397a.

1. Reserved.

2. A monitoring survey of the collection of fugitive emissions components at a compressor station must be conducted at least quarterly after the initial survey. Consecutive quarterly monitoring surveys must be conducted at least 60 days apart.

3. Fugitive emissions components that cannot be monitored without elevating the monitoring personnel more than 2 meters above the surface may be designated as difficult-to-monitor. Fugitive emissions components that are designated difficult-to-monitor must meet the specifications of paragraphs (g)(3)(i) through (g)(3)(iv) of §60.5397a.

i. A written plan must be developed for all of the fugitive emissions components designated difficult-to-monitor. This written plan must be incorporated into the fugitive emissions monitoring plan required by paragraphs (b), (c), and (d) of §60.5397a.

ii. The plan must include the identification and location of each fugitive emissions component designated as difficult-to-monitor.

iii. The plan must include an explanation of why each fugitive emissions component designated as difficult-to-monitor is difficult-to-monitor.

iv. The plan must include a schedule for monitoring the difficult-to-monitor fugitive emissions components at least once per calendar year.

4. Fugitive emissions components that cannot be monitored because monitoring personnel would be exposed to immediate danger while conducting a monitoring survey may be designated as unsafe-to-monitor. Fugitive emissions components that are designated unsafe-to-monitor must meet the specifications of paragraphs (g)(4)(i) through (iv) of §60.5397a.

i. A written plan must be developed for all of the fugitive emissions components designated unsafe-to-monitor. This written plan must be incorporated into the fugitive emissions monitoring plan required by paragraphs (b), (c), and (d) of §60.5397a.

ii. The plan must include the identification and location of each fugitive emissions component designated as unsafe-to-monitor.

iii. The plan must include an explanation of why each fugitive emissions component designated as unsafe-to-monitor is unsafe-to-monitor.

iv. The plan must include a schedule for monitoring the fugitive emissions components designated as unsafe-to-monitor.

5. The requirements of paragraph (g)(2) of §60.5397a are waived for any collection of fugitive emissions components at a compressor station located within an area that has an average calendar month temperature below 0°F for two of three consecutive calendar months of a quarterly monitoring period. The calendar month temperature average for each month within the quarterly monitoring period must be determined using historical monthly average temperatures over the previous three years as reported by a National Oceanic and Atmospheric Administration source or other source approved by the Administrator. The requirements of paragraph (g)(2) of §60.5397a shall not be waived for two consecutive quarterly monitoring periods.

h. Each identified source of fugitive emissions shall be repaired, as defined in 40 C.F.R. §60.5430a, in accordance with paragraphs (h)(1) and (2) of §60.5397a.

1. A first attempt at repair shall be made no later than 30 calendar days after detection of the fugitive emissions.

2. Repair shall be completed as soon as practicable, but no later than 30 calendar days after the first attempt at repair as required in paragraph (h)(1) of §60.5397a.

3. Delay of repair will be allowed if the conditions in paragraphs (h)(3)(i) or (ii) of §60.5397a are met.

i. If the repair is technically infeasible, would require a vent blowdown, a compressor station shutdown, or would be unsafe to repair during operation of the unit, the repair must be completed during the next scheduled compressor station shutdown for maintenance, after a scheduled vent blowdown, or within 2 years of detecting the fugitive emissions, whichever is earliest. For the purposes §60.5397a(h)(3), a vent blowdown is the opening of one or more blowdown valves to depressurize major production and processing equipment, other than a storage vessel.

ii. If the repair requires replacement of a fugitive emissions component or a part thereof, but the replacement cannot be acquired and installed within the repair timelines specified in paragraphs (h)(1) and (2) of §60.5397a due to either of the conditions specified in paragraphs (h)(3)(ii)(A) or (B) of §60.5397a, the repair must be completed in accordance with paragraph (h)(3)(ii)(C) of §60.5397a and documented in accordance with §60.5420a(c)(15)(vii)(I).

a. Valve assembly supplies had been sufficiently stocked but are depleted at the time of the required repair.

b. A replacement fugitive emissions component or a part thereof requires custom fabrication.

c. The required replacement must be ordered no later than 10 calendar days after the first attempt at repair. The repair must be completed as soon as practicable, but no later than 30 calendar days after receipt of the replacement component, unless the repair requires a compressor station shutdown. If the repair requires a compressor station shutdown, the repair must be completed in accordance with the timeframe specified in paragraph (h)(3)(i) of §60.5397a.

4. Each identified source of fugitive emissions must be resurveyed to complete repair according to the requirements in paragraphs (h)(4)(i) through (iv) of §60.5397a to ensure that there are no fugitive emissions.

i. The operator may resurvey the fugitive emissions components to verify the repair using either Method 21 of Appendix A-7 to 40 C.F.R. Part 60 or optical gas imaging.

ii. For each repair that cannot be made during the monitoring survey when the fugitive emissions are initially found, a digital photograph must be taken of that component or the component must be tagged during the monitoring survey when the fugitives were initially found for identification purposes and subsequent repair. The digital photograph must include the date that the photograph was taken and must clearly identify the component by location within the site (e.g., the latitude and longitude of the component or by other descriptive landmarks visible in the picture).

iii. Operators that use Method 21 of Appendix A-7 of 40 C.F.R. Part 60 to resurvey the repaired fugitive emissions components are subject to the resurvey provisions specified in paragraphs (h)(4)(iii)(A) and (B) of §60.5397a.

a. A fugitive emissions component is repaired when the Method 21 instrument indicates a concentration of less than 500 ppm above background or when no soap bubbles are observed when the alternative screening procedures specified in section 8.3.3 of Method 21 of Appendix A-7 of 40 C.F.R. Part 60 are used.

b. Operators must use the Method 21 monitoring requirements specified in paragraph (c)(8)(ii) of §60.5397a or the alternative screening procedures specified in section 8.3.3 of Method 21 of Appendix A-7 of 40 C.F.R. Part 60.

iv. Operators that use optical gas imaging to resurvey the repaired fugitive emissions components, are subject to the resurvey provisions specified in paragraphs (h)(4)(iv)(A) and (B) of §60.5397a.

a. A fugitive emissions component is repaired when the optical gas imaging instrument shows no indication of visible emissions.

b. Operators must use the optical gas imaging monitoring requirements specified in paragraph (c)(7) of §60.5397a.

i. Records for each monitoring survey shall be maintained as specified in §60.5420a(c)(15).

j. Annual reports shall be submitted for each collection of fugitive emissions components at a compressor station that include the information specified in §60.5420a(b)(7). Multiple collection of fugitive emissions components at a compressor station may be included in a single annual report.

[40 C.F.R. §§60.5397a(a) through (e), (g), (g)(2) through (4), (g)(6), and (h) through (j); 45CSR16; 45CSR13, R13-3354, Condition 12.1.1]

11.1.2. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating 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, opacity observations, review of operating and maintenance procedures, and inspection of the source. The provisions for exemption from

compliance during periods of startup, shutdown and malfunctions provided for in 40 C.F.R. §60.8(c) do not apply to Subpart OOOOa.
[40 C.F.R. §60.5370a(b); 45CSR16]

11.2. Monitoring Requirements

11.2.1. Reserved.

11.2.2. Reserved.

11.2.3. For each collection of fugitive emissions components at a compressor station, you must demonstrate continuous compliance with the fugitive emission standards specified in §60.5397a(a)(1) according to paragraphs (h)(1) through (4) of §60.5415a.

a. You must conduct periodic monitoring surveys as required in §60.5397a(g).

b. You must repair each identified source of fugitive emissions as required by §60.5397a(h).

c. You must maintain records as specified in §60.5420a(c)(15).

d. You must submit annual reports for each collection of fugitive emissions components at a compressor station as required in §§60.5420a(b)(1) and (7).

[40 C.F.R. §60.5415a(h); 45CSR16; 45CSR13, R13-3354, Condition 12.3.1]

11.3. Testing Requirements

11.3.1. None.

11.4. Recordkeeping Requirements

11.4.1. Recordkeeping requirements. You must maintain the records identified as specified in §60.7(f) and in paragraphs (c)(1) through (18) of §60.5420a. All records required by Subpart OOOOa must be maintained either onsite or at the nearest local field office for at least 5 years. Any records required to be maintained by Subpart OOOOa that are submitted electronically via the EPA's CDX may be maintained in electronic format.

For each collection of fugitive emissions components at a compressor station, maintain the records identified in paragraphs (c)(15)(i) through (viii) of §60.5420a.

a. The date of the startup or the date of modification for each collection of fugitive emissions components at a compressor station.

b. The fugitive emissions monitoring plan as required in §§60.5397a(b), (c), and (d).

c. The records of each monitoring survey as specified in §§60.5420a(c)(15)(vii)(A) through (I).

1. Date of the survey.

2. Beginning and end time of the survey.

3. Name of operator(s), training, and experience of the operator(s) performing the survey.

4. Monitoring instrument used.

5. Fugitive emissions component identification when Method 21 of Appendix A-7 of 40 C.F.R. Part 60 is used to perform the monitoring survey.

6. Ambient temperature, sky conditions, and maximum wind speed at the time of the survey. For compressor stations, operating mode of each compressor (i.e., operating, standby pressurized, and not operating-depressurized modes) at the station at the time of the survey.

7. Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.

8. Records of calibrations for the instrument used during the monitoring survey.

9. Documentation of each fugitive emission detected during the monitoring survey, including the information specified in paragraphs (c)(15)(vii)(I)(1) through (9) of §60.5420a.

    i. Location of each fugitive emission identified.

    ii. Type of fugitive emissions component, including designation as difficult-to-monitor or unsafe-to-monitor, if applicable.

    iii. If Method 21 of Appendix A-7 of 40 C.F.R. Part 60 is used for detection, record the component ID and instrument reading.

    iv. For each repair that cannot be made during the monitoring survey when the fugitive emissions are initially found, a digital photograph or video must be taken of that component or the component must be tagged for identification purposes. The digital photograph must include the date that the photograph was taken and must clearly identify the component by location within the site (e.g., the latitude and longitude of the component or by other descriptive landmarks visible in the picture). The digital photograph or identification (e.g., tag) may be removed after the repair is completed, including verification of repair with the resurvey.

    v. The date of first attempt at repair of the fugitive emissions component(s).

    vi. The date of successful repair of the fugitive emissions component, including the resurvey to verify repair and instrument used for the resurvey.

    vii. Identification of each fugitive emission component placed on delay of repair and explanation for each delay of repair.

    viii. For each fugitive emission component placed on delay of repair for reason of replacement component unavailability, the operator must document: the date the component was added to the delay of repair list, the date the replacement fugitive component or part thereof was ordered, the anticipated component delivery date (including any estimated shipment or delivery date provided by the vendor), and the actual arrival date of the component.

    ix. Date of planned shutdowns that occur while there are any components that have been placed on delay of repair.

d. For each collection of fugitive emissions components at a compressor station complying with an alternative means of emissions limitation under §60.5399a, you must maintain the records specified by the specific alternative fugitive emissions standard for a period of at least 5 years.

e. If you comply with the alternative GHG and VOC standard under §60.5398b, in lieu of the information specified in paragraphs (c)(15)(vi) through (vii) of §60.5420a, you must maintain the records specified in §60.5424b.

[40 C.F.R. §§60.5420a(c), (c)(15), (c)(15)(i), and (c)(15)(vi) to (c)(15)(ix); 45CSR16; 45CSR13, R13-3354, Condition 12.4.3]

11.5. Reporting Requirements

11.5.1. Reserved.

11.5.2. Reporting requirements. You must submit annual reports containing the information specified in paragraphs (b)(1) through (8) and (12) of §60.5420a and performance test reports as specified in paragraph (b)(9) or (10) of §60.5420a, if applicable. You must submit annual reports following the procedure specified in paragraph (b)(11) of §60.5420a. The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to §60.5410a. Subsequent annual reports are due no later than same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (8) and (12) of §60.5420a. Annual reports may coincide with Title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by 40 C.F.R. Part 60 may be submitted as long as the schedule does not extend the reporting period.

a. The general information specified in paragraphs (b)(1)(i) through (iv) of §60.5420a is required for all reports.

1. The company name, facility site name associated with the affected facility, and address of the affected facility. If an address is not available for the site, include a description of the site location and provide the latitude and longitude coordinates of the site in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.

2. An identification of each affected facility being included in the annual report.

3. Beginning and ending dates of the reporting period.

4. A certification by a certifying official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

b. For the collection of fugitive emissions components at each compressor station, report the information specified in paragraphs (b)(7)(i) through (iii) of §60.5420a, as applicable.

1. i. Designation of the type of site (i.e., well site or compressor station) at which the collection of fugitive emissions components is located.

ii. For each collection of fugitive emissions components at a compressor station that became an affected facility during the reporting period, you must include the date of startup or the date of modification.

2. For each fugitive emissions monitoring survey performed during the annual reporting period, the information specified in paragraphs (b)(7)(ii)(A) through (G) of §60.5420a.

i. Date of the survey.

ii. Monitoring instrument used.

iii. Any deviations from the monitoring plan elements under §§60.5397a(c)(1), (2), and (7) and (c)(8)(i) or a statement that there were no deviations from these elements of the monitoring plan.

iv. Number and type of components for which fugitive emissions were detected.

v. Number and type of fugitive emissions components that were not repaired as required in §60.5397a(h).

vi. Number and type of fugitive emission components (including designation as difficult-to-monitor or unsafe-to-monitor, if applicable) on delay of repair and explanation for each delay of repair.

vii. Date of planned shutdown(s) that occurred during the reporting period if there are any components that have been placed on delay of repair.

3. For each collection of fugitive emissions components at a compressor station complying with an alternative fugitive emissions standard under §60.5399a, in lieu of the information specified in paragraphs (b)(7)(i) and (ii) of §60.5420a, you must provide the information specified in paragraphs (b)(7)(iii)(A) through (C) of §60.5420a.

i. The alternative standard with which you are complying.

ii. The site-specific reports specified by the specific alternative fugitive emissions standard, submitted in the format in which they were submitted to the state, local, or tribal authority. If the report is in hard copy, you must scan the document and submit it as an electronic attachment to the annual report required in paragraph (b) of §60.5420a.

iii. If the report specified by the specific alternative fugitive emissions standard is not site-specific, you must submit the information specified in paragraphs (b)(7)(i) and (ii) of §60.5420a for each individual site complying with the alternative standard.

4. If you comply with the alternative GHG and VOC standard under §60.5398b, in lieu of the information specified in paragraph (b)(7)(ii) of §60.5420a, you must provide the information specified in §60.5424b.

c. You must submit reports to the EPA via CEDRI, except as outlined in §60.5420a(b)(11). CEDRI can be accessed through the EPA's CDX (https://cdx.epa.gov/). You must use the appropriate electronic report template on the CEDRI website for Subpart OOOOa (https://www.epa.gov/electronic-reporting-

air-emissions/cedri/). If the reporting form specific to Subpart OOOOa is not available on the CEDRI website at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §60.4. Once the form has been available in CEDRI for at least 90 calendar days, you must begin submitting all subsequent reports via CEDRI. The date reporting forms become available will be listed on the CEDRI website. Unless the Administrator or delegated state agency or other authority has approved a different schedule for submission of reports, the reports must be submitted by the deadlines specified in Subpart OOOOa, regardless of the method in which the reports are submitted. The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI.

[40 C.F.R. §§60.5420a(b), (b)(1), (b)(7), (b)(7)(i)(A) to (B), (b)(7)(ii) to (iv), and (b)(11); 45CSR16; 45CSR13, R13-3354, Condition 12.4.2]

11.6. Compliance Plan

11.6.1. None.

12.0 40 C.F.R. Part 63 Subpart ZZZZ Requirements [emission unit ID(s): C-100 – C-1200 and GEN1]

12.1. Limitations and Standards

12.1.1. Stationary RICE subject to Regulations under 40 C.F.R. Part 60. An affected source that meets any of the criteria in 40 C.F.R. §§63.6590(c)(1) through (7) must meet the requirements of 40 C.F.R. Part 63 by meeting the requirements of 40 C.F.R. Part 60 Subpart IIII, for compression ignition engines, or 40 C.F.R. Part 60 Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under 40 C.F.R. Part 63.

The permittee meets the criteria of 40 C.F.R. §63.6590(c)(1), which is for a new or reconstructed stationary RICE located at an area source. The permittee must meet the requirements of 40 C.F.R. Part 63 by meeting the requirements of 40 C.F.R. Part 60 Subpart JJJJ.
[40 C.F.R. §63.6590(c); 45CSR34; 45CSR13, R13-3354, Condition 13.1.2]

12.2. Monitoring Requirements

12.2.1. None.

12.3. Testing Requirements

12.3.1. None.

12.4. Recordkeeping Requirements

12.4.1. None.

12.5. Reporting Requirements

12.5.1. None.

12.6. Compliance Plan

12.6.1. None.

13.0 Source-Specific Requirements (Blowdown, Compressor Startup and Pigging Operations)

13.1. Limitations and Standards

13.1.1. The maximum number of blowdown events per year shall not exceed 936, with an estimated 2,020 scf per event. Compliance shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the blowdown events at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 14.1.1]

13.1.2. The maximum number of compressor startup events per year shall not exceed 936, with an estimated 1,050 scf per event. Compliance shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the blowdown events at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 14.1.2]

13.1.3. The maximum number of low pressure pigging events per year shall not exceed 395, with an estimated 261,490 scf per year. Compliance shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the low pressure pigging events at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 14.1.3]

13.1.4. The maximum number of high pressure pigging events per year shall not exceed 520, with an estimated 1,670,760 scf per year. Compliance shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the high pressure pigging events at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 14.1.4]

13.1.5. The maximum gas vented during the vessel cleaning/maintenance events shall not exceed an estimated 39,300 scf per year. Compliance shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the gas vented during the vessel cleaning/maintenance events at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-3354, Condition 14.1.5]

13.2. Monitoring Requirements

13.2.1. None.

13.3. Testing Requirements

13.3.1. None.

13.4. Recordkeeping Requirements

13.4.1. All records required under section 13.4 of this permit shall be kept in accordance with permit condition 3.4.2.
[45CSR13, R13-3354, Condition 14.2.1]

13.4.2. To demonstrate compliance with permit conditions 13.1.1, 13.1.3, and 13.1.4, the permittee shall maintain a record of the blowdown and pigging events and estimated volume per event (scf) on a monthly and rolling twelve-month total.
[45CSR13, R13-3354, Condition 14.2.2]

13.4.3. To demonstrate compliance with permit condition 13.1.2, the permittee shall maintain a record of the compressor startup events and estimated volume per event (scf) on a monthly and rolling twelve-month total.
[45CSR§30-5.1.c.]

13.4.4. To demonstrate compliance with permit condition 13.1.5, the permittee shall maintain a record of the estimated volume of gas vented during the vessel cleaning/maintenance events on a monthly and rolling twelve-month total.
[45CSR§30-5.1.c.]

13.5. Reporting Requirements

13.5.1. Any exceedance of permit conditions 13.1.1 – 13.1.5 must be reported in writing to the Director of the DAQ as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the date of the exceedance, the estimate of VOC emissions released to the atmosphere as a result of the exceedance and any corrective measures taken or planned.
[45CSR13, R13-3354, Condition 14.3.1]

13.6. Compliance Plan

13.6.1. None.

West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

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

Permit Number: **R30-01700163-2025**
Application Received: **August 2, 2024**
Plant Identification Number: **03-54-017-00163**
Permittee: **Antero Midstream LLC**
Facility Name: **South Canton Compressor Station**
Mailing Address: **1615 Wynkoop Street, Denver, CO 80202**

Physical Location:	West Union, Doddridge County, West Virginia
UTM Coordinates:	516.949 km Easting • 4,353.883 km Northing • Zone 17
Directions:	From the intersection of U.S. 50 and WV-18 near West Union, WV, head north on WV-18 for 0.5 miles. Take a right on Main Street and then a left on Davis Street. In 0.2 miles at the roundabout, keep to the right to stay on Davis Street. After 0.2 miles, turn right on WV-18/Sistersville Pike and drive for 5.1 miles. Turn right on Nutter Fork Road (Route 28) and drive 0.8 miles. The facility driveway is on the left.

Facility Description

The South Canton Compressor Station separates, compresses, and dries gas off the inlet pipeline stream. The station operates twelve 2,675-HP compressor engines with oxidation catalysts; one 649-HP generator engine; three 150-mmscfd TEG dehydration units each consisting of a still vent, flash tank, and reboiler; three 400-bbl condensate tanks; three 400-bbl produced water tanks; one 500-bbl settling tank; one 0.5-mmBTU/hr fuel conditioning heater; six auxiliary storage tanks; and liquid load out operations. The facility also operates one 4.8-mmBTU/hr flare and two vapor recovery units to control emissions from various emission units.

This Title V permit renewal incorporates the revisions made with the Class I Administrative Update R13-3354F and the Title V minor modification R30-01700163-2020 (MM03). With this revision application, the emission limits for the dehydration systems were revised and the condition's introduction was corrected to better represent the facility's process and control systems. This revision did not change the facility's potential emissions.

NAICS: 486210, SIC: 4922

Emissions Summary

Plantwide Emissions Summary [Tons per Year]

Regulated Pollutants	Potential Emissions	2023 Actual Emissions
Carbon Monoxide (CO)	71.73	18.66
Nitrogen Oxides (NO_X)	164.85	107.05
Particulate Matter ($PM_{2.5}$)	11.15	6.31
Particulate Matter (PM_{10})	11.15	6.49
Total Particulate Matter (TSP)	11.15	6.49
Sulfur Dioxide (SO_2)	0.59	0.37
Volatile Organic Compounds (VOC)	156.70	83.03

PM_{10} is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2023 Actual Emissions
Acetaldehyde	5.38	2.54
Acrolein	3.33	1.56
Benzene	0.68	0.14
Ethylbenzene	0.08	0.02
Formaldehyde	6.70	5.72
Hexane	2.09	0.51
Methanol	1.66	0.76
Toluene	1.05	0.14
Xylene	0.31	0.14
Other HAPs	0.96	0.52
Total HAPs	22.24	12.05

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

Title V Program Applicability Basis

This facility has the potential to emit 164.85 tpy of Nitrogen Oxides and 156.70 tpy of Volatile Organic Compounds. 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.

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

Federal and State:	45CSR2	Control of Particulate Matter Air Pollution from the Combustion of Fuel in Indirect Heat Exchangers.
	45CSR6	Control of Air Pollution from Combustion of Refuse.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation.
	WV Code § 22-5-4 (a) (15)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR16	Standards of Performance for New Stationary Sources.
	45CSR30	Requirements for Operating Permits.
	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 OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015 and on or before December 6, 2022.
	40 C.F.R. Part 61	Asbestos inspection and removal.
	40 C.F.R. Part 63 Subpart HH	National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities.
	40 C.F.R. Part 63 Subpart ZZZZ	National Emissions 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.
	45CSR17	To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter.

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
R13-3354F	February 12, 2025

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

The following revisions have been made to the Title V operating permit:

1. Section 3.0. – Facility-Wide Requirements

    a. The citation of Condition 3.1.6. was revised to refer to the current version of the WV Code.

    b. Condition 3.1.10. of the operating permit contains the requirements to operate and maintain air pollution control equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions. A reference to Condition 8.1.2. of R13-3354F was added to the authority of this condition. (See 3.a. of this fact sheet.)

    c. The citation of Condition 3.3.1. was revised to refer to the current version of the WV Code.

    d. The following was added to Condition 3.3.1.b.: “If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5., as applicable.”

    e. Condition 3.4.4. of the operating permit contains the requirements to maintain a record of any malfunction or operational shutdown of air pollution control equipment. A reference to Condition 8.3.3. of R13-3354F was added to the authority of this condition. (See 3.b. of this fact sheet.)

    f. The permit shield in Condition 3.7.2. was updated as follows:

        i. The reference to the provision which exempts the condensate/produced water settling tank (T04) from the requirements of 40 C.F.R. Part 60 Subpart Kb was corrected to §60.110b(d)(4).

        ii. Various regulations from 40 C.F.R. Parts 60 and 63 as well as 45CSR21 and 45CSR27 are non-applicable to the South Canton Compressor Station and were added to the permit shield. (See Items 1. through 11. of the Non-Applicability Determinations section of this fact sheet.)

2. Section 5.0. – Source-Specific Hazardous Air Pollutant Requirements (Natural Gas Dehydration Units controlled by a Flare Control Device)

   a. The heading of Section 5.0. was updated as follows:

      i. The statement that the dehydration units are "not subject to MACT standards" was removed. Although the dehydration units qualify for the exemption of 40 C.F.R. §63.764(e)(1), the dehydration units remain subject to the applicable standards, testing requirements, and recordkeeping provisions under 40 C.F.R. Part 63 Subpart HH.

      ii. The list of emission units with applicable requirements under this section was updated to include the TEG dehydration unit reboilers (DREB1 to DREB3). The emissions from the flash tanks are controlled by and used to fuel the reboilers, which are also subject to the design and operation requirements under Condition 5.1.5. of the operating permit.

   b. In accordance with the revisions requested in the application for R13-3354F and R30-01700163-2020 (MM03), Condition 5.1.2. was updated as follows:

      i. The introduction was updated to reflect that the emission limits of this condition are applicable to each dehydration system (DEHY1/DFLSH1, DEHY2/DFLSH2, and DEHY3/DFLSH3), rather than only to the flare.

      ii. The emission limits were updated to the potential emissions expected from each individual dehydration system rather than the combined potential emissions for all the dehydration systems.

   c. The standards of 45CSR§§6-4.4., -4.5., and -4.6. and the testing requirements of 45CSR§§6-7.1. and -7.2. are applicable to the flare and were added to the operating permit.

      i. Under 45CSR§6-4.4., the provisions of 45CSR§6-4.3. (Condition 5.1.7. of the operating permit) are not applicable to smoke which is less than 40% opacity for a period aggregating no more than 8 minutes per start-up or 6 minutes in any 60-minute period for stoking operations. This exception was included in the operating permit under Condition 5.1.8.

      ii. The standards of 45CSR§§6-4.5. and -4.6. prohibit the emissions of unburned refuse and require the prevention of objectionable odors from the flare, respectively. These requirements were added to the operating permit under Conditions 5.1.9. and 5.1.10.

      iii. In accordance with 45CSR§§6-7.1. and -7.2., the permittee may be required, at such times as the Secretary may designate, to conduct stack testing to determine particulate matter loading. These requirements were included under Condition 5.3.8.

   d. The Subpart HH requirements of 40 C.F.R. §§63.760(c), 63.764(j), and 63.775(c)(8) are applicable to the facility and have been added to the operating permit under Conditions 5.1.11., 5.1.12., and 5.5.4., respectively.

      i. §63.760(c) requires any source that is determined not to be a major source but that has actual emissions of any single HAP or aggregate HAPs which meet or exceed 50% of the Title V major source thresholds to update its major source determination annually using gas composition data measured during the preceding 12 months.

      ii. §63.764(j) requires any affected source under Subpart HH to be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions.

iii. Under §63.775(c)(8), area sources which are subject to Subpart HH and meet the exemption from §63.764(d), per §63.764(e)(1)(ii), are also exempt from the reporting requirements of §§63.775(c)(1) through (c)(7).

e. The authority of Condition 5.4.8. was updated to include a reference to 40 C.F.R. §§63.764(e)(1) and (e)(1)(ii).

3. Section 7.0. – Source-Specific Requirements (Storage Tanks)

a. Condition 7.1.2. was reserved. Condition 7.1.2. previously contained the Operation and Maintenance of Air Pollution Control Equipment requirements for the vapor recovery system (VRU-100 and VRU-200). These requirements are also included in Condition 3.1.10. as a facility-wide requirement that is applicable to all air pollution control equipment listed in Section 1.0. Therefore, the requirements were removed from Condition 7.1.2., and the authority of Condition 3.1.10. was updated to include a reference to Condition 8.1.2. of R13-3354F.

b. Condition 7.4.3. was reserved. Condition 7.4.3. previously contained the requirement to maintain records of malfunctions of the vapor recovery system. These requirements are also included in Condition 3.4.4. as a facility-wide requirement that is applicable to all air pollution control equipment in Section 1.0. Therefore, the requirements have been removed from Condition 7.4.3., and the authority of Condition 3.4.4. was updated to include a reference to Condition 8.3.3. of R13-3354F.

4. Section 9.0. – 40 C.F.R. Part 60 Subpart JJJJ Requirements

a. Condition 9.1.1. contains the provisions of 40 C.F.R. §60.4233(e) which requires the permittee to meet the emission standards of Table 1 to Subpart JJJJ for stationary spark ignition (SI) internal combustion engines (ICE) with a maximum engine power greater than or equal to 100 HP. The emission standards for non-emergency SI, natural gas-fired engines with a maximum engine power greater than 500 HP and a manufacture date after July 1, 2010 are applicable to the compressor engines C-100 to C-1200 and the generator engine GEN1. These emission standards were added to this condition.

For the compressor engines, the hourly emission limits of Condition 4.1.1. are more stringent than the emission standards of Subpart JJJJ, and, for the generator engine, the hourly emission limits of Condition 4.1.2. are equal to the emission standards of Subpart JJJJ. Therefore, streamlining language was added to Condition 9.1.1. to specify that compliance with Conditions 4.1.1. and 4.1.2. assures compliance with the Subpart JJJJ emission standards of 40 C.F.R. §60.4233(e) and Condition 9.1.1.

b. In accordance with 40 C.F.R. §60.4245(a)(3), the reference to 40 C.F.R. Part 90 was removed from Condition 9.4.1.c. For certified stationary SI ICEs, the permittee must maintain documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 C.F.R. Parts 1048, 1054, and 1060, as applicable.

c. §60.4245(j) contains the provisions for maintaining records required by Subpart JJJJ electronically and was added to the operating permit as Condition 9.4.2.

d. Condition 9.5.1. of R30-01700163-2020 (MM02) contained the provisions of 40 C.F.R. §60.4245(c) which required the permittee to submit an initial notification of construction as required under 40 C.F.R. §60.7(a)(1) as well as the information specified in §§60.4245(c)(1) to (c)(5) for any uncertified, stationary SI ICE with a rating greater than or equal to 500 HP. The required information was submitted to the DAQ in a notification of construction on November 16, 2017 as well as a notification of startup on March 6, 2018. Therefore, the requirements of 40 C.F.R. §60.4245(c) were met, and Condition 9.5.1. was reserved.

e. The reporting requirements of Condition 9.5.2. were updated.

i. Paragraph a. of this condition requires the permittee to submit a copy of each performance test conducted in accordance with §60.4245(d) and 10.6.1.d of R13-3354F. The specifications for reports using EPA Method 18, EPA Method 320, or ASTM D6348-03 and the electronic reporting requirements of §60.4245(d) were incorporated into this condition of the operating permit.

ii. The electronic reporting requirements for performance test results under §60.4245(f) and the electronic reporting requirements for notifications and reports under §60.4245(g) were included in the operating permit as paragraphs b. and c., respectively.

5. Section 10.0 – 40 C.F.R. Part 60 Subpart OOOOa Requirements (Reciprocating Compressor Engines)

a. On October 31, 2018, the WV DAQ received the annual report required by Subpart OOOOa for several of Antero Midstream, LLC's facilities, including the South Canton Compressor Station. The initial report provided information for the engines C-100 to C-1200 and covered the compliance period from August 2, 2017 (operation of the South Canton Compressor Station commenced February 16, 2018, per the notification received March 6, 2018) to August 1, 2018. Therefore, the initial compliance demonstration requirements of §60.5385a(b) and §60.5410a(c) have been met, and Conditions 10.1.1.b. and 10.2.1. have been reserved in the operating permit.

b. In accordance with §60.5370a(b), affected facilities subject to Subpart OOOOa must be operated in a manner consistent with good air pollution control practice for minimizing emissions. This requirement was added to the operating permit as Condition 10.1.2.

c. The notification requirements of §60.5420a(a) are included in R13-3354F under Condition 11.4.1. and in R30-01700163-2020 (MM02) under Condition 10.5.1. This provision requires the permittee to submit the notifications specified in §§60.5420a(a)(1) and (a)(2). However, §60.5420a(a)(1) does not require the notifications of §§60.7(a)(1), (a)(3), and (a)(4) and §60.15(d) for reciprocating compressors, and the notifications of §60.5420a(a)(2) are applicable only to well affected facilities. Therefore, these requirements were removed from the operating permit, and Condition 10.5.1. was reserved.

d. As the facility is a compressor station, the requirement to include the U.S. Well ID or U.S. Well ID associated with the affected facility in reports has been removed from Condition 10.5.2.a.1.

e. The Subpart OOOOa electronic reporting requirements under §60.5420a(b)(11) were added to the operating permit as Condition 11.5.2.c.

f. The Subpart OOOOa reporting and recordkeeping requirements for reciprocating compressors were included by reference in Condition 10.5.3. of the operating permit in accordance with Condition 11.4.3. of R13-3354F. However, the recordkeeping and reporting requirements are also included by reference in Condition 10.1.1.d., and the recordkeeping and reporting requirements used to demonstrate compliance with the compressor rod packing replacement standards were written out in Conditions 10.4.1. and 10.5.2. Therefore, Condition 10.5.3. was removed from the operating permit, and the authorities of Conditions 10.1.1., 10.4.1., and 10.5.2. were updated to include Condition 11.4.3. of R13-3354F.

6. Section 11.0 – 40 C.F.R. Part 60 Subpart OOOOa Requirements (Fugitive Emissions Components)

a. Since the issuance of R30-01700163-2020, Subpart OOOOa was amended. The following conditions were updated accordingly in this operating permit renewal:

i. In accordance with §60.5397a, the permittee may elect to comply with the requirements of §60.5398b as an alternative to the Subpart OOOOa requirements for fugitive emissions components.

ii. In accordance with §60.5397a(c)(8)(iii), the procedures for calibration of the monitoring instrument were added as paragraph c.8.iii. of 11.1.1.

iii. The fugitive emissions monitoring plan requirements of 11.1.1.d.1. through 3. were revised in accordance with §60.5397a(d).

iv. Condition 11.1.1.g. was updated in accordance with §60.5397a(g).

1. The phrase "within a company-defined area" was removed from paragraph g.2. of the operating permit.

2. The provisions of §60.5397a(g)(5), which were added to Subpart OOOOa with these amendments, are applicable to the collection of fugitive emissions components at a well site and, therefore, were not included in the operating permit.

v. In accordance with §60.5397a(h), the requirements for the repair of sources of fugitive emissions were updated in Condition 11.1.1.h. As this facility is a compressor station, the references to well sites in these requirements were not included in the operating permit.

vi. The phrase "or replace" was removed from Condition 11.2.3.b. in accordance with §60.5415a(h)(2).

vii. In paragraphs a. through c. of Condition 11.4.1., the recordkeeping requirements applicable to the collection of fugitive emissions components at a compressor station have been updated in accordance with §60.5420a(c)(15). Additionally, the recordkeeping requirements for the alternative fugitive emissions standards §60.5399a and §60.5398b have been added under paragraphs d. and e. of this condition.

viii. In paragraphs a. and b. of Condition 11.5.2., the reporting requirements applicable to the collection of fugitive emissions components at a compressor station have been updated in accordance with §§60.5420a(b)(1) and (7). Additionally, the reporting requirements for the alternative fugitive emissions standards §60.5399a and §60.5398b have been incorporated under Conditions 11.5.2.b.3. and 11.5.2.b.4., respectively.

b. As the facility is a compressor station, the requirements for and the references to fugitive emissions components located at a well site are inapplicable and have been removed from the following conditions: Conditions 11.1.1.b., 11.1.1.f.1., 11.1.1.g.1., 11.1.1.j., 11.2.3., 11.4.1., and 11.5.2.

c. On October 31, 2018, the WV DAQ received the annual report required by Subpart OOOOa for several of Antero Midstream, LLC's facilities, including the South Canton Compressor Station. The report covered the compliance period from August 2, 2017 (operation of the South Canton Compressor Station commenced February 16, 2018, per the notification received March 6, 2018) to August 1, 2018. According to the annual report, the initial monitoring survey was conducted on February 27, 2018, and the identified sources of fugitive emissions were repaired.

i. Condition 11.1.1.f.2. previously contained the provisions of §60.5397a(f)(2) and required the permittee to perform an initial monitoring survey for the collection of fugitive emissions components at a compressor station. The requirements of §60.5397a(f)(2) have been met and, therefore, were removed from the operating permit.

ii. Conditions 11.2.1. and 11.2.2. previously contained the initial compliance demonstration requirements of §60.5410a and §60.5410a(j), respectively, and required the permittee to develop a fugitive emissions monitoring plan, conduct an initial monitoring survey, repair each identified source of fugitive emissions, maintain the records required under §60.5420a(c)(15), and submit the initial annual report. As the initial

monitoring survey was conducted, the initial compliance demonstration requirements were removed from the operating permit.

The continuous compliance demonstration requirements of §60.5415a(h), the recordkeeping requirements of §60.5420a(c), and the reporting requirements of §60.5420a(b) remain in the operating permit.

d. In accordance with §60.5370a(b), affected facilities subject to Subpart OOOOa must be operated in a manner consistent with good air pollution control practice for minimizing emissions. This requirement was added to the operating permit as Condition 11.1.2.

e. The notification requirements of §60.5420a(a) and (a)(1) are included in R13-3354F under Condition 12.4.1. and in the previous operating permit under Condition 11.5.1. However, §60.5420a(a)(1) does not require the notifications of §§60.7(a)(1), (a)(3), and (a)(4) and §60.15(d) for the collection of fugitive emissions components at a compressor station. Therefore, these requirements were removed from the operating permit, and Condition 11.5.1. was reserved.

f. Reports required under Subpart OOOOa must be submitted to the EPA via CEDRI. The updated electronic reporting requirements of §60.5420a(b)(11) have been incorporated into the operating permit as Condition 11.5.2.c.

7. Section 13.0 – Source-Specific Requirements (Blowdown, Compressor Startup and Pigging Operations)

a. With the revisions made in R13-3354D and R30-01700163-2020 (MM01), the limit for the maximum volume of gas vented during the vessel cleaning/maintenance events was added to the operating permit under Condition 13.1.5., and the recordkeeping requirements were updated to specify that compliance with this limit would be demonstrated through Condition 13.4.2. However, Condition 13.4.2. specifies that records of blowdown and pigging events must be maintained. Therefore, in this operating permit renewal, the reference to Condition 13.1.5. was removed from Condition 13.4.2., and Condition 13.4.4. was added to the operating permit with the requirement that the permittee must maintain a record of the estimated volume of gas vented during the vessel cleaning/maintenance events on a monthly and rolling twelve-month total.

b. Condition 13.4.2. of the previous operating permit specified that a record of the blowdown and pigging events and the estimated volume per event would be used to demonstrate compliance with Conditions 13.1.1. through 13.1.5.

i. However, Condition 13.1.2. contains limits for compressor startup events. With R30-01700163-2020, a separate recordkeeping requirement was established to demonstrate compliance with these limits by maintaining a record of the number of compressor startup events and the estimated volume per event.

ii. As discussed in paragraph 7.a. of this fact sheet, the reference to Condition 13.1.5. was also removed from this requirement.

Therefore, Condition 13.4.2. was revised in this operating permit to only reference the blowdown and pigging event limitations of Conditions 13.1.1., 13.1.3., and 13.1.4.

Non-Applicability Determinations

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

1. **40 C.F.R. Part 60 Subpart Kb** – *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023* – Subpart Kb applies to storage vessels with a capacity greater than or equal to 75 cubic meters (19,812.9 gal). Although the condensate/produced water settling tank (T04) is a 21,000-gallon tank, Subpart Kb does not apply to storage vessels with a design capacity

less than or equal to 1,589.874 cubic meters that are used for petroleum or condensate storage prior to custody transfer per §60.110b(d)(4).

2. **40 C.F.R. Part 60 Subpart Kc** – *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After October 4, 2023* – Subpart Kc is inapplicable to the South Canton Compressor Station because construction of the storage tanks commenced prior to the applicability date.

3. **40 C.F.R. Part 60 Subpart KKK** – *Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011* – Subpart KKK inapplicable to the South Canton Compressor Station because construction of the facility commenced after the applicability dates.

4. **40 C.F.R. Part 60 Subpart LLL** – *Standards of Performance for SO_2 Emissions from Onshore Natural Gas Processing for which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and On or Before August 23, 2011* – Subpart LLL is inapplicable to the South Canton Compressor Station because construction of the facility commenced after the applicability dates.

5. **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* – Subpart OOOO is inapplicable to the South Canton Compressor Station because the construction of the facility commenced after the applicability dates.

6. **40 C.F.R. Part 60 Subpart OOOOb** – *Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After December 6, 2022* – Subpart OOOOb is inapplicable to the South Canton Compressor Station as construction of the facility commenced prior to the applicability date.

7. **40 C.F.R. Part 63 Subpart HHH** – *National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities* – Per 40 C.F.R. §63.1270(a), Subpart HHH applies to natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company and that are major sources of hazardous air pollutants. As the South Canton Compressor Station is an area source of hazardous air pollutants, Subpart HHH is inapplicable to the facility.

8. **40 C.F.R. Part 63 Subpart EEEE** – *National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)* – Per 40 C.F.R. §63.2334(a), Subpart EEEE applies to major source of hazardous air pollutants. The South Canton Compressor Station is an area source of hazardous air pollutants and, therefore, is not subject to Subpart EEEE.

9. **40 C.F.R. Part 63 Subpart DDDDD** – *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* – Subpart DDDDD applies to major sources of hazardous air pollutants per 40 C.F.R. §63.7485. The South Canton Compressor Station is an area source of hazardous air pollutants and, therefore, is not subject to Subpart DDDDD.

10. **45CSR21** – *Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds* – This rule applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The facility is located in Doddridge County, and, therefore, the rule is inapplicable.

11. **45CSR27** – *To Prevent and Control the Emissions of Toxic Air Pollutants* – This rule does not apply to the South Canton Compressor Station because, per 45CSR§27-2.4., the equipment used in the production and distribution of petroleum products is not considered a chemical processing unit, provided that such equipment does not produce or contact materials containing more than 5% benzene by weight.

12. **40 C.F.R. Part 64** – *Compliance Assurance Monitoring (CAM)* – The CAM rule is currently inapplicable to the South Canton Compressor Station, as follows:

    a. Emissions of CO, VOCs, and Formaldehyde from the twelve compressor engines (C-100 to C-1200) are controlled by the oxidation catalysts OxCat (1C) to OxCat (12C). However, the pre-control device emissions from each engine are 68.3 tpy of CO, 13.7 tpy of VOCs, and 4.3 tpy of Formaldehyde. Therefore, as the compressor engines do not have pre-control device emissions which surpass the Title V major source thresholds for criteria pollutants or any HAPs, the engines are not pollutant specific emission units under CAM, per §64.2(a)(3).

    b. The dehydration units operated at the South Canton Compressor Station are each comprised of a still vent (DEHY1 to DEHY3) and a flash tank (DFLSH1 to DFLSH3).

        i. A condenser and flare are used to control emissions of VOCs and HAPs from the still vents. Each control device has a 98% control efficiency for VOCs and HAPs.

        In the application for R13-3354, the controlled potential emissions of VOCs and HAPs from the still vents were determined using GRI-GLYCalc 4.0 and the 98% control efficiency of the flare (the 98% control efficiency of the condenser was not accounted for in the calculations). The potential emissions have not been revised as of the writing of this Title V renewal permit. Based on these calculations, the uncontrolled potential emissions from one still vent are 71.7 tpy of VOCs, 5.08 tpy of Benzene, 0.72 tpy of Ethylbenzene, 1.82 tpy of Hexane, 11.46 tpy of Toluene, 2.56 tpy of Xylene, and 21.6 tpy of aggregate HAPs.

        The still vents do not have uncontrolled potential emissions of VOCs, aggregate HAPs, or any individual HAPs other than Toluene which surpass the Title V major source thresholds. Therefore, the still vents are not subject to CAM for any of these pollutants, per §64.2(a)(3).

        Toluene is the only regulated pollutant with uncontrolled potential emissions from the still vents which surpass the Title V major source thresholds. However, the dehydration units at the South Canton Compressor Station are subject to the 40 C.F.R. Part 63 Subpart HH HAP emission requirements for area sources. Therefore, the dehydration unit still vents are exempt from CAM for emissions of Toluene per §64.2(b)(1)(i).

        ii. During normal operation, the vent gases from the flash tanks are routed to the reboilers associated with the dehydration units to be used as fuel, which reduces emissions of VOCs and HAPs from the flash tanks by 98%. Alternatively, in the event of an excess amount of vent gas from the flash tanks or of a reboiler being offline, the vent gas is routed to the storage tanks (T01 to T07) and ultimately to the vapor recovery units (VRU-100 with VRU-200 as a back-up) to maintain the 98% control efficiency of VOC and HAP emissions from the flash tanks.

        In the application for R13-3354, the controlled potential emissions of VOCs and HAPs from the flash tanks were calculated using GRI-GLYCalc 4.0 and a 98% control efficiency. The potential emissions have not been revised as of the writing of this Title V renewal permit. The uncontrolled potential emissions from one flash tank are 214.2 tpy of VOCs, 0.42 tpy of Benzene, 0.018 tpy of Ethylbenzene, 4.71 tpy of Hexane, 0.56 tpy of Toluene, 0.040 tpy of Xylene, and 5.75 tpy of aggregate HAPs.

        The flash tanks do not have uncontrolled potential emissions of any individual HAP or aggregate HAPs which surpass the Title V major source thresholds. Therefore, the flash tanks are not subject to CAM for any of these pollutants, per §64.2(a)(3).

VOCs are the only regulated pollutant with uncontrolled potential emissions from the flash tanks that surpass the Title V major source thresholds. Under §64.1, however, the definition of a control device states that "For the purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics." The reboilers provide heat for the dehydration unit operations. The vent gases from the flash tanks are routed to the flame zone of the reboiler and are combusted as the primary fuel source of the reboiler with natural gas as a supplemental fuel. Although this use of the vent gases reduces VOC emissions from each flash tank to a level below the Title V major source thresholds, the reboilers are a necessary part of the dehydration unit process and, therefore, are not considered a control device for the purposes of the CAM rule.

c. Emissions of VOCs and HAPs from the condensate storage tanks (T01 to T03), the settling tank (T04), and the produced water storage tanks (T05 to T07) are collectively controlled by the vapor recovery units (VRU-100 with VRU-200 as a back-up). In the application for R13-3354, the pre-control device emissions from the storage tank battery were calculated using ProMax and an assumed 98% control efficiency. The uncontrolled potential emissions from the tanks are collectively 373 tpy of VOCs and 9 tpy of aggregate HAPs.

   The storage tanks do not have uncontrolled potential emissions of any individual or aggregate HAPs which surpass the Title V major source thresholds. Therefore, the storage tanks are not subject to CAM for any of these pollutants, per §64.2(a)(3).

   VOCs are the only regulated pollutant with uncontrolled potential emissions from the storage tanks that surpass the Title V major source thresholds. The VRUs reduce emissions of VOCs and HAPs by capturing the vapors from the storage tanks and recycling the vapors into the gas system prior to the facility's initial filter scrubber. Under §64.1, inherent process equipment is defined as "equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations." As the VRUs serve to prevent the loss of the natural gas product, the VRUs are considered inherent process equipment. Therefore, although the VRUs reduce VOC emissions from the flash tanks to a level below the Title V major source thresholds, the VRUs are not considered a control device under CAM.

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:
Ending Date:

Point of Contact

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

Sarah Barron
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/414-1915
sarah.k.barron@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.

UC Defaulted Accounts Search Results

Sorry, no records matching your criteria were found.

FEIN:
Business name: ANTERO MIDSTREAM LLC
Doing business as/Trading as:

Please use your browsers back button to try again.

WorkforceWV	Unemployment Compensation	Offices of the Insurance Commissioner

West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

NOTICE: The West Virginia Secretary of State's Office makes every reasonable effort to ensure the accuracy of information. However, we make no representation or warranty as to the correctness or completeness of the information. If information is missing from this page, it is not in the The West Virginia Secretary of State's database.

ANTERO MIDSTREAM LLC

Organization Information								
Org Type	**Effective Date**	**Established Date**	**Filing Date**	**Charter**	**Class**	**Sec Type**	**Termination Date**	**Termination Reason**
LLC | Limited Liability Company	4/29/2014		4/29/2014	Foreign	Profit			

Organization Information			
Business Purpose	2111 - Mining, Quarrying, Oil & Gas Extraction - Oil and Gas Extraction - Crude Oil and Natural Gas Extraction	**Capital Stock**	
Charter County	Harrison	**Control Number**	9A5E1
Charter State	DE	**Excess Acres**	
At Will Term	A	**Member Managed**	MBR
At Will Term Years		**Par Value**	
Authorized Shares		**Young Entrepreneur**	Not Specified

Addresses

Type	Address
Designated Office Address	1615 WYNKOOP STREET DENVER, CO, 80202
Mailing Address	1615 WYNKOOP ST DENVER, CO, 80202 USA
Notice of Process Address	CT CORPORATION SYSTEM 1627 QUARRIER ST CHARLESTON, WV, 253112124
Principal Office Address	1615 WYNKOOP STREET DENVER, CO, 80202 USA
Type	**Address**

Officers

Type	Name/Address
Member	ANTERO MIDSTREAM PARTNERS LP 1615 WYNKOOP ST DENVER, CO, 80202
Type	**Name/Address**

Annual Reports

Filed For
2025
2024
2023
2022
2021
2020
2019
2018
2017
2016
2015
Date filed

For more information, please contact the Secretary of State's Office at 304-558-8000.

Monday, March 24, 2025 — 1:43 PM

Barron, Sarah K <sarah.k.barron@wv.gov>

Antero Midstream, LLC - Title V Minor Modification # R30-01700163-2020 (MM03)

Barron, Sarah K <sarah.k.barron@wv.gov> Mon, Feb 10, 2025 at 1:09 PM
To: Carrie McCumbers <carrie.mccumbers@wv.gov>, jennifer.vanvlerah@epa.ohio.gov, RA-EPAIRPERMITNOTIFI@pa.gov, "Supplee, Gwendolyn" <Supplee.Gwendolyn@epa.gov>, "Whapham, Joseph" <Whapham.Joseph@epa.gov>

This email serves as notification that on February 7, 2025, the WVDAQ received an application for a Title V minor modification for Antero Midstream, LLC's South Canton Compressor Station, located in Doddridge County, WV. The proposed changes involve correcting the introduction to the emission limits in Condition 5.1.2. of the operating permit from "Maximum emissions from Flare (13C) shall not exceed...." to "Maximum emissions from each dehydration system (DEHY1/DFLSH1, DEHY2/DFLSH2, and DEHY3/DFLSH3) shall not exceed..." The facility PTE will not change due to this modification. If you have any questions or comments about this Title V permit revision application, please contact me at your earliest convenience.

Thank you,
Sarah Barron

--
Sarah Barron
Engineer Trainee
West Virginia Department of Environmental Protection
Division of Air Quality
(304) 414-1915
sarah.k.barron@wv.gov

Barron, Sarah K <sarah.k.barron@wv.gov>

Antero application

Mink, Stephanie R <stephanie.r.mink@wv.gov> Mon, Feb 10, 2025 at 11:44 AM
To: Sarah K Barron <sarah.k.barron@wv.gov>

A dated copy of the minor mod for South Canton is attached.

Have a great day!
Stephanie

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

R30-01700163-2020 (MM03) Antero So Canton-Sarah.pdf
1003K

Received
February 7, 2025
WV DEP/Div of Air Quality

Division of Air Quality Permit Application Submittal

Please find attached a permit application for : Antero Midstream South Canton Compressor Station Doddridge County, WV
[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only): 017-00163
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only): R13-3354E & R30-01700163-2020 (MM02)

- Type of NSR Application (check all that apply):
  - ☐ Construction
  - ☐ Modification
  - ☑ Class I Administrative Update
  - ☐ Class II Administrative Update
  - ☐ Relocation
  - ☐ Temporary
  - ☐ Permit Determination

- Type of 45CSR30 (TITLE V) Application:
  - ☐ Title V Initial
  - ☐ Title V Renewal
  - ☐ Administrative Amendment**
  - ☑ Minor Modification**
  - ☐ Significant Modification**
  - ☐ Off Permit Change

****If the box above is checked, include the Title V revision information as ATTACHMENT S to the combined NSR/Title V application.**

- Payment Type:
  - ☐ Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
  - ☐ Check (Make checks payable to: WVDEP – Division of Air Quality)
    Mail checks to:
    WVDEP – DAQ – Permitting
    Attn: NSR Permitting Secretary
    601 57th Street, SE
    Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

- If the permit writer has any questions, please contact (all that apply):
  - ☐ Responsible Official/Authorized Representative
    - Name:
    - Email:
    - Phone Number:
  - ☑ Company Contact
    - Name: Max Knop
    - Email: mknop@anteroresources.com
    - Phone Number: 303-357-6483
  - ☑ Consultant
    - Name: Kaitlin Meszaros
    - Email: meszaros@pinyon-env.com
    - Phone Number: 631-245-0308

Antero Midstream
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

February 3, 2025

WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Submitted via email

SUBJECT: **Antero Midstream – South Canton Compressor Station**
West Virginia Department of Environmental Protection, Division of Air Quality, 45CSR13 Class I Update of R13-3354E and Title V Minor Modification of R30-01700163-2020(MM02)

Antero Midstream (Antero) requests to modify the active permits for the South Canton Compressor Station (Facility ID 017-00163) in Doddridge County, West Virginia. Antero requests that the dehydration unit emissions limits in Section 6.1.2 of the R13 permit and 5.1.2 of the Title V permit be based on each dehydration unit system rather than the flare.

The dehydrator's flash tank off-gas emissions are primarily routed to the associated reboiler. However, if the off-gas volume is too much for the reboiler's capacity or the reboilers are offline, the extra off-gas then gets routed to the storage tanks and ultimately captured by the VRUs. This is consistent with current permit conditions. Emissions included in past R13 and Title V applications present still vent and flash tank emissions totals combined and labeled as "dehydration system 1", "dehydration system 2", and "dehydration system 3". The dehydrator section of the permit does seem to combine the still vent and flash tank VOC emissions from all three units to create the permit limits. Antero requests the introduction to the table in the R13 Section 6.1.2 and Title V Section 5.1.2 should read the "total emissions from each dehydration system" rather than "from the flare". This reflects more consistently with the facility process and control systems, process descriptions presented in previous applications as well as our certified emissions statements. Below is the proposed introduction and table revision with the revisions in bolded font.

*Maximum emissions from **each dehydration system (DEHY1/DFLSH1, DEHY2/DFLSH2, and DEHY3/DFLSH3)** shall not excel the following limits:*

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
Volatile Organic Compounds	**1.31**	**5.72**
Benzene	**0.03**	**0.11**
Total HAP	**0.13**	**0.58**

This requested change does not alter the emissions limits of the dehydration units; just how they are presented within the permits. No monitoring, recordkeeping, or reporting conditions within the permits will be altered as a result of this requested change.

If you have any questions or require further assistance, please contact Kaitlin Meszaros at (631) 245-0308 or by email at meszaros@pinyon-env.com .

Sincerely,

Max Knop

Environmental and Regulatory Manager

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary	
Mark all applicable requirements associated with the changes involved with this permit revision:	
☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS (Subpart(s)_JJJJ)	☐ Section 112(d) MACT standards (Subpart(s)_ZZZZ)
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ Compliance Assurance Monitoring (40CFR64) (1)
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)

(1) If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why **Compliance Assurance Monitoring** is not applicable:

N/A; the PSEU is subject to an emission limitation or standard (NSPS JJJJ) for the applicable regulated air pollutant.

2. Non Applicability Determinations
List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination. N/A

☐ **Permit Shield Requested** *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☐ Yes ☒ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

N/A

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-3354E	12/18/2023	
	/ /	
	/ /	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
N/A	MM/DD/YYYY	
	/ /	
	/ /	

6. Change in Potential Emissions

Pollutant	Change in Potential Emissions (+ or -), TPY
N/A	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

7. Certification For Use Of Minor Modification Procedures ***(Required Only for Minor Modification Requests)***

Note:	*This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;

ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;

iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;

v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;

vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed): _____ *(Please use blue ink)* Date: 2 / 7 / 25 *(Please use blue ink)*

Named (typed): Jeremy D. Jones Title: Vice President – Midstream

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☐	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

AUTHORITY OF LIMITED LIABILITY COMPANY (LLC)

TO: The West Virginia Department of Environmental Protection, Division of Air Quality

DATE: **September 20, 2023**

ATTN: Director

LLC's Federal Employer I.D. Number **46-5517375**

The undersigned hereby files with the West Virginia Department of Environmental Protection, Division of Air Quality, a permit application and hereby certifies that the said name is a trade name which we are using in the conduct of an unincorporated business.

Further, we have agreed or certified as follows:

(1) The undersigned is a member and in that capacity may represent the interests of the LLC and may obligate and legally bind all current or future members and the LLC.

(2) The LLC is authorized to do business in the State of West Virginia.

(3) The name and business address of each member:

Member: **Max Knop**
Address: **1615 Wynkoop Street Denver, CO 80202**

Telephone No.: **303-357-6483**

Member: _____
Address: _____

Telephone No.: _____

Member: _____
Address: _____

Telephone No.: _____

(4) If any other persons become members of the undersigned or our relations as such be altered in any way or if the business should become incorporated, the undersigned will notify you promptly.

_____
MEMBER OF LLC (Signature)

Address:
535 White Oaks Boulevard
Bridgeport, WV 26330
Telephone No.: **304-842-4701**

Jeremy Jones
MEMBER OF LLC (Typed)

Antero Midstream, LLC
LIMITED LIABILITY COMPANY=S NAME

Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Permit Renewal; Antero Midstream, LLC; R30-01700163-2025

Kaitlin Meszaros <meszaros@pinyon-env.com> Wed, Jan 22, 2025 at 11:05 PM
To: "Barron, Sarah K" <sarah.k.barron@wv.gov>, Max Knop <mknop@anteroresources.com>

Good evening, Sarah,

Please find below and attached for the responses to the questions on the South Canton Title V renewal.

Let us know if you have any additional questions.

Thank you,

Kaitlin Meszaros
Air Quality & Noise Specialist
Pinyon Environmental, Inc.
D: 720.614.5598

From: Barron, Sarah K <sarah.k.barron@wv.gov>
Sent: Wednesday, January 15, 2025 9:40 AM
To: Kaitlin Meszaros <meszaros@pinyon-env.com>; Max Knop <mknop@anteroresources.com>
Subject: [EXTERNAL] Title V Permit Renewal; Antero Midstream, LLC; R30-01700163-2025

Kaitlin,

I have a few more questions for the Title V permit renewal for the South Canton Compressor Station.

1. In regards to the error in Condition 5.1.2. of the current Title V permit, I can't correct the limits or the reference to the flare unless the underlying requirement (Condition 6.1.2. of R13-3354E) is first revised. Please let me know if you plan to submit a combined NSR/Title V revision application to correct this. We will request a Class I administrative update to the R13 and minor modification to the Title V permit to request our proposed language.

2. The actual emissions of the individual HAPs other than Formaldehyde (such as Acetaldehyde, Acrolein, etc.) were not included in the 2023 emission inventory report. Please send me either the 2023 actual emissions for the individual HAPs or the 2024 actual emissions for all criteria pollutants and HAPs. The other HAPs from the 2023 emissions inventory

report were included as an attachment to the certified emissions statement submittal. We've attached them here for ease of reference.

3. What is the street number and ZIP code for the facility's physical address? The facility does not have a street number for the physical address. The zip code is 26456.

4. Condition 13.1.5., which contains a limit for the volume of gas vented during vessel cleaning/maintenance events, was added to the Title V permit in R30-01700163-2020 (MM01). To demonstrate compliance with this limit a reference was added to the recordkeeping requirement for the blowdown and pigging events. Similarly to the revised recordkeeping requirement for the number of compressor startup events added in the initial Title V permit, a separate compliance demonstration requirement for the vessel cleaning/maintenance events should be added. How is the volume of gas vented during vessel cleaning/maintenance events currently monitored and recorded? When vessel cleaning or maintenance events are conducted at this facility, a record is created of the vessel being worked on for which a known vessel volume is identified via P&ID plans. These records are kept on a rolling basis for comparison against the permit limit.

Thanks,

- Sarah

[Quoted text hidden]

2023 AEI Summary_South Canton CS.pdf
278K

Company:	**Antero Midstream, LLC**
Facility Name:	**South Canton Compressor Station**
Facility Location:	**Doddridge County, WV**
12-month Period	**January 2023 - December 2023**

Rolling 12-month condensate throughput	1,567	bbl	Days of Liquids Production	365	days
Rolling 12-month produced water throughput	21,577	bbl	Days of Condensate Production	365	days
Rolling 12-month gas throughput	76,207	MMscf	Days of Produced Water Production	365	days
			Days of Gas Production	365	days

Source	NOx ton/yr	CO ton/yr	VOC ton/yr	SO_2 ton/yr	TSP/PM-10 ton/yr	PM-2.5 ton/yr	HAPs ton/yr	Formaldehyde ton/yr	CO_2e ton/yr	Benzene ton/yr	Toluene ton/yr	Ethylbenzene ton/yr	Xylenes ton/yr	n-Hexane ton/yr	Acetaldehyde ton/yr	Acrolein ton/yr	Methanol ton/yr
Engines																	
Compressor Engine 1	7.62	1.19	5.24	0.030	0.51	0.51	1.02	0.48	12,097	1.21E-02	1.12E-02	1.09E-03	5.05E-03	3.05E-02	2.29E-01	1.41E-01	6.86E-02
Compressor Engine 2	7.86	0.95	4.29	0.030	0.51	0.51	0.92	0.48	12,100	9.88E-03	9.16E-03	8.91E-04	4.13E-03	2.49E-02	1.88E-01	1.15E-01	5.61E-02
Compressor Engine 3	8.09	0.95	4.05	0.030	0.51	0.51	0.90	0.48	11,984	9.33E-03	8.65E-03	8.42E-04	3.90E-03	2.35E-02	1.77E-01	1.09E-01	5.30E-02
Compressor Engine 4	10.24	1.19	4.76	0.030	0.51	0.51	0.97	0.48	11,928	1.10E-02	1.02E-02	9.90E-04	4.59E-03	2.77E-02	2.09E-01	1.28E-01	6.24E-02
Compressor Engine 5	8.81	0.95	4.76	0.030	0.51	0.51	0.97	0.48	12,026	1.10E-02	1.02E-02	9.90E-04	4.59E-03	2.77E-02	2.09E-01	1.28E-01	6.24E-02
Compressor Engine 6	8.33	1.19	5.71	0.030	0.51	0.51	1.06	0.48	11,818	1.32E-02	1.22E-02	1.19E-03	5.51E-03	3.32E-02	2.50E-01	1.54E-01	7.48E-02
Compressor Engine 7	7.62	1.67	4.29	0.030	0.51	0.51	0.92	0.48	11,951	9.88E-03	9.16E-03	8.91E-04	4.13E-03	2.49E-02	1.88E-01	1.15E-01	5.61E-02
Compressor Engine 8	10.24	0.71	5.24	0.030	0.51	0.51	1.02	0.48	12,114	1.21E-02	1.12E-02	1.09E-03	5.05E-03	3.05E-02	2.29E-01	1.41E-01	6.86E-02
Compressor Engine 9	8.57	0.95	5.00	0.030	0.51	0.51	0.99	0.48	12,021	1.15E-02	1.07E-02	1.04E-03	4.82E-03	2.91E-02	2.19E-01	1.35E-01	6.55E-02
Compressor Engine 10	9.05	0.48	4.76	0.030	0.51	0.51	0.97	0.48	11,880	1.10E-02	1.02E-02	9.90E-04	4.59E-03	2.77E-02	2.09E-01	1.28E-01	6.24E-02
Compressor Engine 11	9.52	0.71	5.00	0.030	0.51	0.51	0.99	0.48	11,800	1.15E-02	1.07E-02	1.04E-03	4.82E-03	2.91E-02	2.19E-01	1.35E-01	6.55E-02
Compressor Engine 12	7.86	0.95	5.00	0.030	0.51	0.51	0.99	0.48	11,715	1.15E-02	1.07E-02	1.04E-03	4.82E-03	2.91E-02	2.19E-01	1.35E-01	6.55E-02
Fuel Conditioning Heater	0.21	0.18	0.012	0.0013	0.016	0.016	0.0040	0.00016	257	---	---	---	---	---	---	---	---
Generator																	
Natural Gas Generator	0.001	0.003	0.001	0.00000	0.0001	0.0001	0.0002	0.00002	1	1.42E-05	1.05E-06	8.53E-06	1.13E-06	---	3.58E-06	1.51E-05	---
Dehydrator																	
TEG Dehydrator 1	---	---	5.68	---	---	---	0.03	---	4056	7.22E-04	1.99E-03	2.03E-04	9.03E-03	2.15E-02	---	---	---
TEG Dehydrator 2	---	---	5.63	---	---	---	0.03	---	4055	7.15E-04	1.97E-03	2.01E-04	8.94E-03	2.13E-02	---	---	---
TEG Dehydrator 3	---	---	5.69	---	---	---	0.03	---	4054	7.22E-04	1.99E-03	2.03E-04	9.04E-03	2.15E-02	---	---	---
Reboiler 1	0.64	0.54	0.035	0.0039	0.049	0.049	0.012	0.00048	771	---	---	---	---	---	---	---	---
Reboiler 2	0.64	0.54	0.035	0.0039	0.049	0.049	0.012	0.00048	771	---	---	---	---	---	---	---	---
Reboiler 3	0.64	0.54	0.035	0.0039	0.049	0.049	0.012	0.00048	771	---	---	---	---	---	---	---	---
Flares																	
Dehydrator Flare	1.11	4.95	0.0014	0.00015	0.0020	0.0020	0.00049	---	1,896	---	---	---	---	---	---	---	---
Hydrocarbon Loading																	
Truck Loadout	---	---	0.22	---	---	---	0.0048	---	2	7.43E-05	2.19E-04	1.32E-04	3.32E-04	4.06E-03	---	---	---
Venting Emissions																	
Compressor Blowdown Emissions	---	---	0.11	---	---	---	0.0034	---	14	7.24E-05	1.99E-04	2.04E-05	9.05E-04	2.16E-03	---	---	---
Startup and Shutdown Emissions	---	---	0.06	---	---	---	0.0017	---	7	3.76E-05	1.04E-04	1.06E-05	4.70E-04	1.12E-03	---	---	---
Pigging Emissions	---	---	0.60	---	---	---	0.0181	---	75	3.91E-04	1.08E-03	1.10E-04	4.90E-03	1.17E-02	---	---	---
Unplanned SSM Emissions	---	---	1.21	---	---	---	0.0	---	---	7.84E-04	---	---	---	---	---	---	---
Fugitive Emissions																	
Component Leak Emissions	---	---	0.07	---	---	---	0.0018	---	6	3.70E-05	1.03E-04	2.04E-05	4.10E-04	1.27E-03	---	---	---
Rodpacking Emissions	---	---	4.55	---	---	---	0.14	---	566	2.95E-03	8.12E-03	8.30E-04	3.69E-02	8.78E-02			
Haul Road Dust Emissions	---	---	---	---	0.20	0.020	---	---	---	---	---	---	---	---	---	---	---
Storage Tanks																	
Produced Water Tanks	---	---	0.00003	---	---	---	0.0000001	---	0.00	3.17E-08	1.93E-08	3.53E-09	5.43E-09	1.15E-09	---	---	---
Settler Tank	---	---	0.86	---	---	---	0.0193	---	8	8.31E-04	5.59E-04	1.28E-03	1.52E-02	1.43E-03	---	---	---
Condensate Tanks	---	---	0.14	---	---	---	0.0029	---	0.15	3.11E-05	9.92E-05	6.29E-05	1.56E-04	2.53E-03	---	---	---
Total Facility PTE =	**107.05**	**18.66**	**83.03**	**0.37**	**6.49**	**6.31**	**12.05**	**5.72**	**160,743**	**0.14**	**0.14**	**0.015**	**0.142**	**0.51**	**2.54**	**1.56**	**0.76**

Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Permit Renewal; Antero Midstream, LLC; R30-01700163-2025

Barron, Sarah K <sarah.k.barron@wv.gov> Wed, Jan 15, 2025 at 11:40 AM
To: meszaros@pinyon-env.com, Max Knop <mknop@anteroresources.com>

Kaitlin,

I have a few more questions for the Title V permit renewal for the South Canton Compressor Station.

1. In regards to the error in Condition 5.1.2. of the current Title V permit, I can't correct the limits or the reference to the flare unless the underlying requirement (Condition 6.1.2. of R13-3354E) is first revised. Please let me know if you plan to submit a combined NSR/Title V revision application to correct this.

2. The actual emissions of the individual HAPs other than Formaldehyde (such as Acetaldehyde, Acrolein, etc.) were not included in the 2023 emission inventory report. Please send me either the 2023 actual emissions for the individual HAPs or the 2024 actual emissions for all criteria pollutants and HAPs.

3. What is the street number and ZIP code for the facility's physical address?

4. Condition 13.1.5., which contains a limit for the volume of gas vented during vessel cleaning/maintenance events, was added to the Title V permit in R30-01700163-2020 (MM01). To demonstrate compliance with this limit a reference was added to the recordkeeping requirement for the blowdown and pigging events. Similarly to the revised recordkeeping requirement for the number of compressor startup events added in the initial Title V permit, a separate compliance demonstration requirement for the vessel cleaning/maintenance events should be added. How is the volume of gas vented during vessel cleaning/maintenance events currently monitored and recorded?

Thanks,
- Sarah

--
Sarah Barron
Engineer Trainee
West Virginia Department of Environmental Protection
Division of Air Quality
(304) 414-1915
sarah.k.barron@wv.gov

Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Permit Renewal - Request for Information - Application No. R30-01700163-2024

Kaitlin Meszaros <meszaros@pinyon-env.com> Tue, Oct 8, 2024 at 1:19 PM
To: "Barron, Sarah K" <sarah.k.barron@wv.gov>, Max Knop <mknop@anteroresources.com>

Good afternoon, Sarah,

Thank you for the comments. I have addressed each below. Let us know if you have any questions or want to discuss.

1. The dehydrator's flash tank off-gas emissions are primarily routed to the associated reboiler. However, if the off-gas volume is too much for the reboiler's capacity or the reboilers are offline, the extra off-gas then gets routed to the storage tanks and ultimately captured by the VRUs. This is consistent with current permit conditions. Emissions included in this application have still vent and flash tank totals combined and labeled as the "dehydration system". The dehydrator section of the permit does seem to combine the still vent and flash tank VOC emissions from all three units. Antero's view is the introduction to the table in Section 5.1.2 should read the "total emissions from the dehydration systems" rather than "from the flare". This reflects more consistently with the process presented in the application as well our certified emissions statements.
2. Attached is an Attachment G form for the dehydrator condensers.

Thank you,

Kaitlin Meszaros

Air Quality & Noise Specialist

Pinyon Environmental, Inc.

D: 720.614.5598

From: Barron, Sarah K <sarah.k.barron@wv.gov>
Sent: Wednesday, September 25, 2024 6:03 AM
To: Max Knop <mknop@anteroresources.com>; Kaitlin Meszaros <meszaros@pinyon-env.com>
Subject: [EXTERNAL] Title V Permit Renewal - Request for Information - Application No. R30-01700163-2024

[Quoted text hidden]

Attachment G_BTEX Condenser 2024-10-08.pdf
285K

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
BTEX Condenser	TEG Dehydrator Still Vents (DEHY1-DEHY3)	
Manufacturer:	**Model number:**	**Installation date:** MM/DD/YYYY
JATCO	5 tube shell & heat exchangers	8/2017 - 9/2017

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Absorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	✔ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC	N/A	98%
HAPs	N/A	98%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Vapors from the dehydrator's still columns are routed to the BTEX condenser prior to the flare for a collective 98% DRE.

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes ✔ No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** Same description as the Flare Attachment G form.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Same monitoring/methodology as the Flare Attachment G form.

Barron, Sarah K <sarah.k.barron@wv.gov>

Title V Permit Renewal - Request for Information - Application No. R30-01700163-2024

Barron, Sarah K <sarah.k.barron@wv.gov> Wed, Sep 25, 2024 at 8:03 AM
To: Max Knop <mknop@anteroresources.com>, meszaros@pinyon-env.com

Max Knop and Kaitlin Meszaros,

In the Title V renewal application for the South Canton Compressor Station, the process description states that vent gas from each dehydrator's flash tank is routed to the associated reboiler to be used as fuel while emissions from each dehydrator's still vent are routed to the flare. However, based on the facility-wide potential emissions and the potential emissions reported for the flash tanks and still vents in the Emission Unit Forms, the emission limits for the flare in Condition 5.1.2. of the current operating permit appear to include the controlled potential emissions from both the flash tanks and the still vents. Could you let me know if there is an error in the process description or with the flare's limits?

Additionally, a BTEX condenser is also listed as a control device for the still vents, but an Attachment G: Control Device Form was not included in the application for the condenser and the control device tables in Section 1.1. of R13-3354E and Section 1.1. of the current operating permit list that the condenser is operated with the flash tanks/reboilers. Please submit the control device form for the condenser, and let me know if any changes are needed in the operating permit.

Thanks,
- Sarah Barron

--
Sarah Barron
Engineer Trainee
West Virginia Department of Environmental Protection
Division of Air Quality
(304) 414-1915
sarah.k.barron@wv.gov

Barron, Sarah K <sarah.k.barron@wv.gov>

Completeness Determination, South Canton Compressor Station, Application No. R30-01700163-2024

2 messages

Barron, Sarah K <sarah.k.barron@wv.gov> Wed, Sep 4, 2024 at 4:02 PM
To: Max Knop <mknop@anteroresources.com>, jejones@anteroresources.com

Your Title V renewal application for a permit to operate the above referenced facility was received by this Division on August 2, 2024. After review of said application, it has been determined that the application is administratively complete as submitted. Therefore, the above referenced facility qualifies for an Application Shield.

The applicant has the duty to supplement or correct the application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit.

The submittal of a complete application shall not affect the requirement that any source have all **preconstruction permits** required under the rules of the Division.

If during the processing of this application it is determined that additional information is necessary to evaluate or take final action on this application, a request for such information will be made in writing with a reasonable deadline for a response. Until which time as your renewal permit is issued or denied, please continue to operate this facility in accordance with 45CSR30, section 6.3.c. which states: *If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.* This protection shall cease to apply if, subsequent to the completeness determination made pursuant to paragraph 6.1.d. of 45CSR30 and as required by paragraph 4.1.b., the applicant fails to submit by the deadline specified in writing any additional information identified as being needed to process the application.

Please remember, **failure of the applicant to timely submit information required or requested to process the application may cause the Application Shield to be revoked.** Should you have any questions regarding this determination, please contact me.

Sincerely,

Sarah Barron

--
Sarah Barron
Engineer Trainee
West Virginia Department of Environmental Protection
Division of Air Quality
(304) 414-1915
sarah.k.barron@wv.gov

Max Knop <mknop@anteroresources.com> Wed, Sep 4, 2024 at 4:03 PM
To: "sarah.k.barron@wv.gov" <sarah.k.barron@wv.gov>

Your message

To: Max Knop
Subject: Completeness Determination, South Canton Compressor Station, Application No. R30-01700163-2024
Sent: Wednesday, September 4, 2024 2:02:56 PM (UTC-07:00) Mountain Time (US & Canada)

was read on Wednesday, September 4, 2024 2:03:26 PM (UTC-07:00) Mountain Time (US & Canada).

Received
August 2, 2024
WV DEP/Div of Air Quality

Division of Air Quality Permit Application Submittal

Please find attached a permit application for : Antero Midstream South Canton Compressor Station Doddridge County, WV
[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only): 017-00163
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only): R30-01700163-2020 (MM02)

- Type of NSR Application (check all that apply):
  - ☐ Construction
  - ☐ Modification
  - ☐ Class I Administrative Update
  - ☐ Class II Administrative Update
  - ☐ Relocation
  - ☐ Temporary
  - ☐ Permit Determination

- Type of 45CSR30 (TITLE V) Application:
  - ☐ Title V Initial
  - ☑ Title V Renewal
  - ☐ Administrative Amendment**
  - ☐ Minor Modification**
  - ☐ Significant Modification**
  - ☐ Off Permit Change

****If the box above is checked, include the Title V revision information as ATTACHMENT S to the combined NSR/Title V application.**

- Payment Type:
  - ☐ Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
  - ☐ Check (Make checks payable to: WVDEP – Division of Air Quality)
    Mail checks to:
    WVDEP – DAQ – Permitting
    Attn: NSR Permitting Secretary
    601 57th Street, SE
    Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

- If the permit writer has any questions, please contact (all that apply):
  - ☐ Responsible Official/Authorized Representative
    - Name:
    - Email:
    - Phone Number:
  - ☑ Company Contact
    - Name: Max Knop
    - Email: mknop@anteroresources.com
    - Phone Number: 303-357-6483
  - ☑ Consultant
    - Name: Kaitlin Meszaros
    - Email: meszaros@pinyon-env.com
    - Phone Number: 631-245-0308

Antero Midstream
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

August 2, 2024

submitted via email

WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

SUBJECT: **Antero Midstream – South Canton Compressor Station**
West Virginia Department of Environmental Protection, Division of Air Quality, Renewal Operating Permit Application R30-01700163-2020 (MM02)

Antero Midstream is submitting a Renewal Operating Permit Application for the South Canton Compressor Station. The Renewal Operating Permit Application is being submitted by August 4, 2024.

If you have any questions or require further assistance, please contact Kaitlin Meszaros at (631) 245-0308 or by email at meszaros@pinyon-env.com .

Sincerely,

Max Knop

Environmental and Regulatory Compliance Manager

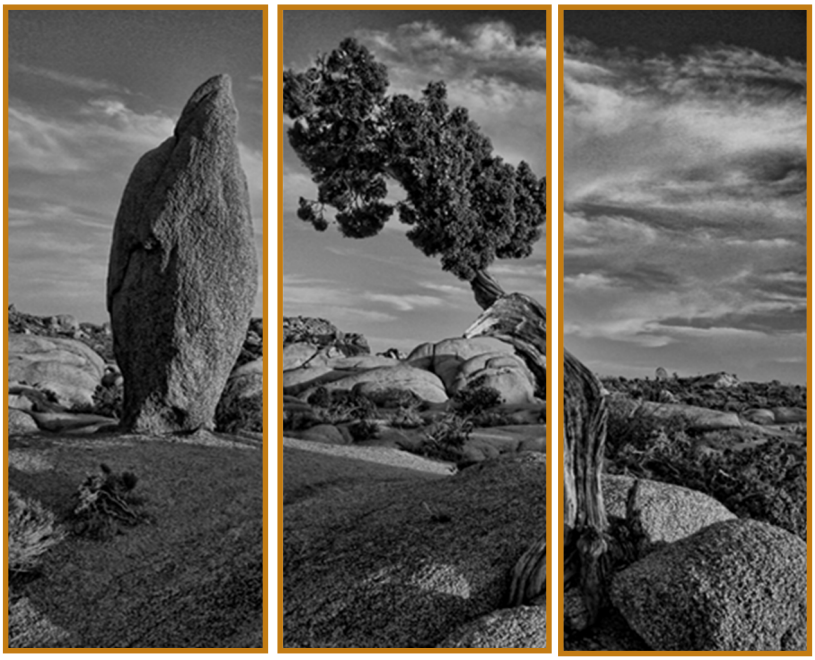
Pinyon Environmental, Inc.
Corporate Headquarters
3222 South Vance Street, Suite 200, Lakewood, CO 80227
T: 303.980.5200 F: 303.980.0089
www.pinyon-env.com

August 2, 2024

Renewal Operating Permit Application

Antero Midstream
South Canton Compressor Station
Doddridge County, West Virginia

Pinyon Project No.:
1/19/1337-01



Pinyon Environmental, Inc.

Corporate Headquarters
3222 South Vance Street, Suite 200, Lakewood, CO 80227
T: 303.980.5200 F: 303.980.0089
www.pinyon-env.com

August 2, 2024

Renewal Operating Permit Application

Antero Midstream
South Canton Compressor Station
Doddridge County, West Virginia

Pinyon Project No.:
1/19/1337-01

Prepared by:

Kaitlin Meszaros

Reviewed by:

Dustin Collins

Table of Contents

Title V Permit Application Checklist for Administrative Completeness

TITLE V PERMIT APPLICATION CHECKLIST
FOR ADMINISTRATIVE COMPLETENESS

A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a Title V permit application. Any submittal will be considered incomplete if the required information is not included.*

☑	A signed copy of the application ("Certification" page must be signed and dated by a Responsible Official as defined in 45CSR30)
☑	*Table of Contents (needs to be included but not for administrative completeness)
☑	Facility information
☑	Description of process and products, including NAICS and SIC codes, and including alternative operating scenarios
☑	Area map showing plant location
☑	Plot plan showing buildings and process areas
☑	Process flow diagram(s), showing all emission units, control equipment, emission points, and their relationships
☑	Identification of all applicable requirements with a description of the compliance status, the methods used for demonstrating compliance, and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the source is not in compliance
☑	Listing of all active permits and consent orders (if applicable)
☑	Facility-wide emissions summary
☑	Identification of Insignificant Activities
☑	ATTACHMENT D – Title V Equipment Table completed for all emission units at the facility except those designated as insignificant activities
☑	ATTACHMENT E – Emission Unit Form completed for each emission unit listed in the Title V Equipment Table (ATTACHMENT D) and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the emission unit is not in compliance
☑	ATTACHMENT G – Air Pollution Control Device Form completed for each control device listed in the Title V Equipment Table (ATTACHMENT D)
☑	ATTACHMENT H – Compliance Assurance Monitoring (CAM) Plan Form completed for each control device for which the "Is the device subject to CAM?" question is answered "Yes" on the Air Pollution Control Device Form (ATTACHMENT G)
☑	General Application Forms signed by a Responsible Official
☐	Confidential Information submitted in accordance with 45CSR31

General Application Form

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. **Name of Applicant (As registered with the WV Secretary of State's Office):**
Antero Midstream

2. Facility Name or Location:
South Canton Compressor Station

3. DAQ Plant ID No.:
017-00163

4. Federal Employer ID No. (FEIN):
46-5517375

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence?
☑ Permit Renewal — What is the expiration date of the existing permit? 2/4/2025
☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity:

☐ Corporation ☐ Governmental Agency ☑ LLC
☐ Partnership ☐ Limited Partnership

7. Is the Applicant the:

☐ Owner ☐ Operator ☑ Both

If the Applicant is not both the owner and operator, please provide the name and address of the other party.

8. Number of onsite employees:
0

9. Governmental Code:

☑ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☐ Yes ☑ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: 1615 Wynkoop Street		
City: Denver	**State:** CO	**Zip:** 80202
Telephone Number: 303-357-7310	**Fax Number:** N/A	

12. Facility Location (Physical Address)		
Street: Nutter Fork Road	**City:** West Union	**County:** Doddridge
UTM Easting: 516.949 km	**UTM Northing:** 4353.883 km	**Zone:** ☑ 17 or ☐ 18
Directions: From the intersection of US 50 and WV-18 near West Union, head north on WV-18 for 0.5 miles. Take a right on Main Street and then a left on Davis Street. In 0.2 miles at the round-about, keep to the right to stay on Davis Street. After 0.2 miles, turn right on WV-18/Sistersville Pike and drive for 5.1 miles. Turn right on Nutter Fork Road and drive 0.8 miles. The facility driveway is on the left.		
Portable Source? ☐ Yes ☑ No		
Is facility located within a nonattainment area? ☐ Yes ☑ No		**If yes, for what air pollutants?**
Is facility located within 50 miles of another state? ☑ Yes ☐ No		**If yes, name the affected state(s).** Ohio and Pennsylvania
Is facility located within 100 km of a Class I Area[1]? ☐ Yes ☑ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☑ No		**If yes, name the area(s).**

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Jeremy Jones		**Title:** Vice President, Operations
Street or P.O. Box: 1615 Wynkoop Street		
City: Denver	**State:** CO	**Zip:** 80202
Telephone Number: 304.842-4701	**Cell Number:** N/A	
E-mail address: jejones@anteroresources.com		
Environmental Contact: Max Knop		**Title:** Environmental & Regulatory Manager
Street or P.O. Box: 1615 Wynkoop Street		
City: Denver	**State:** CO	**Zip:** 80202
Telephone Number: 303-357-6483	**Cell Number:** N/A	
E-mail address: mknop@anteroresources.com		
Application Preparer: Kaitlin Meszaros		**Title:** Air Quality Specialist
Company: Pinyon Environmental, Inc.		
Street or P.O. Box: 3222 South Vance Street, Suite 200		
City: Lakewood	**State:** CO	**Zip:** 80227
Telephone Number: 631-245-0308	**Cell Number:** N/A	
E-mail address: meszaros@pinyon-env.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Natural Gas Transmission	Pipeline Transportation of Natural Gas	486210	4922

Provide a general description of operations.

The South Canton Compressor Station separates, compresses, and dries gas off the inlet pipeline stream. The station includes twelve (12) compressor engines each with an oxidation catalyst, one (1) generator, three (3) dehydration units each with a flash tank and reboiler, three (3) condensate tanks, three (3) produced water tanks, one (1) settling tank, one (1) fuel conditioning heater, one (1) flare for dehydrator emissions control, two (2) vapor recovery units for storage tank emissions control, liquid loadout operations, fugitive component emissions, and auxiliary tanks.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☑ SIP	☐ FIP
☑ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☑ NESHAP (45CSR34)	☐ Nonattainment NSR (45CSR19)
☑ Section 111 NSPS	☐ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ **C**ompliance **A**ssurance **M**onitoring (40CFR64)
☐ Cross-State Air Pollution Rule (45CSR43)	

19. Non Applicability Determinations
List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.
See Regulatory Discussion for details on rules that are not applicable to the Facility
☑ Permit Shield

19. Non Applicability Determinations *(Continued)* *- Attach additional pages as necessary.*

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

In R13-3354E
2.11 Inspection and Entry – allow any authorized representative of the Secretary to: enter the premises at all reasonable times, have access to and copy records, and perform inspections, sampling and monitoring as needed
2.12 Emergency – reserved
3.1.1 Open burning [45CSR§6-3.l.] – open burning of refuse is prohibited expect as noted in 45 CSR §6-3.1
3.1.3 Asbestos [40 CFR §61.145(b) and 45 CSR §34]– search and removal requirements
3.1.4 Odor [45CSR§4-3.l.] - no permissible objectionable order emissions at public locations
3.1.5 Permanent shutdown [45CSR§13-10.5.] – definition of permanent shutdown source
3.5.5 Emission Inventory – as requested by the Secretary, emissions inventories shall be required
3.4.2 Odors - retain records of odor complaints
3.5.4 Fees [45CSR§30] – Annual fees are required
4.1.2 Minor Source of Hazardous Air Pollutants (HAP) – HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs.
4.1.3 Operation and Maintenance of Air Pollution Control Equipment [45CSR§13-5.11.] – to the extent practicable, the permittee shall: install, maintain, and operate all pollution control and monitoring equipment in a manner consistent
with safety and good air pollution control practices for minimizing emissions, or comply with a more stringent limit.
4.1.5 Limitation and Standards [45CSR§13] – emission units and sources at the facility are limited to those identified in Table 1.0 of this permit or any de minimis sources identified under Table 45-13B

☑ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*).

In R13-3354E
Condition 2.6 Duty to provide information
Condition 2.7 Duty to supplement and correct information
Condition 2.12 Reserved (Emergency)
Condition 3.1.2 Open burning exemptions
Condition 3.1.3 Asbestos
Condition 3.1.6 Standby plan for reducing emissions
Condition 3.3 Stack testing requirements
Condition 2.14 Suspension of activities

☑ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

In R13-3354E
Condition 2.6 Duty to provide information: will provide documentation upon request. No requests have been made to date
Condition 2.7 Duty to supplement and correct information: will provide documentation upon request. No requests have been made to date
Condition 2.12 RESERVED
Condition 2.14 of R13-3354E: Suspension of activities: notification of suspended activities will be submitted within two calendar weeks of passing the 60th day of the suspension
Condition 3.1.2 Open burning exemptions: notification requirements will be kept for exemptions in 45CSR6-3.1
Condition 3.1.3 Asbestos: notifications will be submitted ten working days prior to commencement of asbestos removal with copies sent to appropriate agencies
Condition 3.1.6 Standby plan for reducing emissions: will prepare standby plans for reducing emissions upon request
Condition 3.3 Stack testing requirements: will perform stack tests as required including submittal of test protocols at least 30 days prior to testing, notifications at least 15 days prior to testing and submit test results within 60 days of completion

Are you in compliance with all facility-wide applicable requirements? ☑ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

20. Facility-Wide Applicable Requirements *(Continued)* - *Attach additional pages as necessary.*

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

In R13-3354E
Condition 3.4.1 Recordkeeping
Condition 3.5.1 Responsible official
Condition 3.5.4 Fees
Condition 3.5.5 Emission inventory
Condition 4.1.1 Record of monitoring
Condition 4.1.4 Record of malfunctions of air pollution control equipment
Conditions 4.1.2 & 6.3.3 Maintain records of PTE HAP calculations for the entire affected facility, including compressor engines and ancillary equipment to demonstrate compliance with section 6.1.2.

☑ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Condition 3.4.1 Recordkeeping: records including monitoring data, support information, reports, and notifications shall be kept for 5 years.
Condition 3.5.1 Responsible official: certification by the responsible official will be submitted for any application form, report, or compliance certification
Condition 3.5.4 Fees: certified emission sstatement and fees will be submitted and records retained.
Condition 3.5.5 Emission inventory: will prepare and submit emissions inventory for the previous year upon request
Condition 4.1.1 Record of monitoring: will maintain records of monitoring information
Condition 4.1.4 Record of malfunctions of air pollution control equipment: will maintain records of the occurrence and duration of any malfunctions or operational shutdown during which excess emissions occurred
Conditions 4.1.2 & 6.3.3: will maintain records of PTE HAP calculations for the entire affected facility, including compressor engines and ancillary equipment

Are you in compliance with all facility-wide applicable requirements? ☑ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
R13-3354E	12/18/2023	N/A

22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance MM/DD/YYYY	Permit Condition Number
R13-3354	03/21/2017	
R13-3354A	06/19/2017	
R13-3354B	09/23/2019	
R13-3354C	01/23/2020	
R13-3354D	04/13/2021	

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	71.73
Nitrogen Oxides (NO_X)	164.85
Lead (Pb)	0
Particulate Matter ($PM_{2.5}$)[1]	11.15
Particulate Matter (PM_{10})[1]	11.15
Total Particulate Matter (TSP)	11.15
Sulfur Dioxide (SO_2)	0.59
Volatile Organic Compounds (VOC)	156.70
Hazardous Air Pollutants[2]	Potential Emissions
Formaldehyde	6.70
Acetaldehyde	5.38
Toluene	1.05
Acrolein	3.33
Methanol	1.66
Regulated Pollutants other than Criteria and HAP	Potential Emissions
Carbon Dioxide Equivalent	169,328

[1]$PM_{2.5}$ and PM_{10} are components of TSP.
[2]For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)		
☑	1.	Air compressors and pneumatically operated equipment, including hand tools.
☑	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☑	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☐	4.	Bathroom/toilet vent emissions.
☐	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☐	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☐	8.	Boiler water treatment operations, not including cooling towers.
☑	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☑	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☐	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☑	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☐	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☐	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☑	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: 2,000 gallon compressor skid oily water tank 4,000 gallon used oil tank 1,000 gallon TEG make-up tank 2,000 gallon compressor coolant tank 2,000 engine lube oil tank 2,000 gallon compressor lube oil tank Total criteria pollutant emissions for the sources above are < 1lb/hr and 0.5 ton/yr.

24. Insignificant Activities (Check all that apply)		
☑	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis: 2,000 gallon compressor skid oily water tank; 4,000 gallon used oil tank 1,000 gallon TEG make-up tank; 2,000 gallon compressor coolant tank 2,000 engine lube oil tank; 2,000 gallon compressor lube oil tank Total criteria pollutant emissions for the sources above are < 1lb/hr and 0.5 ton/yr.
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☐	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☑	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☑	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☑	26.	Fire suppression systems.
☐	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☐	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☐	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☑	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☐	33.	Hydraulic and hydrostatic testing equipment.
☐	34.	Indoor or outdoor kerosene heaters.
☑	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☐	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☐	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.

24. Insignificant Activities (Check all that apply)		
☑	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
☑	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☐	43.	Process water filtration systems and demineralizers.
☑	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☑	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☐	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☐	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☐	50.	Space heaters operating by direct heat transfer.
☐	51.	Steam cleaning operations.
☐	52.	Steam leaks.
☐	53.	Steam sterilizers.
☑	54.	Steam vents and safety relief valves.
☐	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☑	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☐	57.	Such other sources or activities as the Director may determine.
☑	58.	Tobacco smoking rooms and areas.
☐	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.
26. Emission Units
For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.
For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.
27. Control Devices
For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

Note: This Certification must be signed by a responsible official as defined in 45CSR§30-2.38.

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name:	Title:
Jeremy Jones	Vice President, Operations

Responsible official's signature:

Signature: _____ Signature Date: 7/31/24

(Must be signed and dated in blue ink or have a valid electronic signature)

Note: Please check all applicable attachments included with this permit application:

☑	ATTACHMENT A: Area Map
☑	ATTACHMENT B: Plot Plan(s)
☑	ATTACHMENT C: Process Flow Diagram(s)
☑	ATTACHMENT D: Equipment Table
☑	ATTACHMENT E: Emission Unit Form(s)
☐	ATTACHMENT F: Schedule of Compliance Form(s)
☑	ATTACHMENT G: Air Pollution Control Device Form(s)
☑	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

Process Description

The South Canton Compressor Station is located in Doddridge County, West Virginia. The process description below is based on the full buildout of the facility.

Gas from surrounding pipelines enters the facility through receivers and associated slug catcher. From there, the gas is metered and routed through a scrubber and filter separator. Any produced liquids from the scrubber or separator are sent to the 500 barrel settling tank (T04). Gas from the filter separator is sent to one (1) of twelve (12) 2,675 horsepower (hp) Caterpillar G3608 lean burn compressor engines (C-100 through C-1200). The twelve (12) compressor engines are controlled with oxidation catalysts (1C through 12C). Fuel gas for the compressor engines is treated prior to the engines by a fuel conditioning skid with a 0.5 MMBtu/hr heater (FUEL1) to allow more complete combustion. Produced fluids are routed to the settling tank and gas goes to one of the three (3) TEG dehydrators.

Each TEG dehydrator (DEHY1 through DEHY3) contains a flash gas tank and 1.5 MMBtu/hr reboiler. Each dehydrator has a design rate of 150 million standard cubic feet per day (MMscf/day). Within the dehydrator unit, vent gas from the flash gas tank (DFLSH1 through DFLSH3) is routed to the reboiler (DREB1 through DREB3) and used as fuel. In the case where the flash tank gas cannot be used by their boiler due to excess gas or the reboiler being offline, the gas is sent to the VRUs (VRU-100 and VRU-200) via the storage tanks (T01 through T07) and thus controlled by 98%. Emissions from each reboiler are routed to the atmosphere. The dehydrator still vents are controlled by a flare with at least 98% control efficiency (FLARE1). Each still vent is also equipped with a BTEX condenser unit. Produced fluids from the dehydrators (DEHY1 through DEHY3) are routed to the settling tank (T04). The dry gas from the dehydration process is either routed to a fuel gas scrubber, metered, and routed to the compressors as fuel gas or metered and sent to plant discharge.

All produced fluids enter one (1) 500 barrel settling tank (T04) where the fluids settle out as either condensate or produced water. The produced water goes to three (3) 400 barrel produced water tanks (T05 through T07) and the condensate goes to three (3) 400 barrel condensate tanks (T01 through T03). Flashing only occurs at the settling tank as the fluids stabilize in the settling tank before going to the other storage tanks. All seven (7) tanks are connected to a vapor recovery unit (VRU-100) where tank vapors are collected and recycled back into the gas system right before the initial filter scrubber. A second vapor recovery unit (VRU-200) is also connected to the tanks as a backup unit. The produced fluids are trucked out via tanker trucks as needed (LDOUT1). The maximum expected production is 300 barrels per day of condensate and 90 barrels per day of produced water.

The facility operates primarily from grid electricity; however, one (1) natural gas engine generator rated at 649 hp supplies power to the facility (GEN1) in the case the grid power is down or not available. The generator is permitted at 8,760 hours per year of operation for maximum operational flexibility.

Fugitive emissions from component leaks and emissions from pigging venting, blowdown events, startup and shutdown events, and vessel cleaning/maintenance activities (VENT1) also occur.

There are also small storage tanks (1,000 to 4,000 gallons) located at the facility. Their ID number, description, and size are listed in the table below.

Tag Number	Description	Gallons
TK-100	Compressor Skid Oily Water Tank	2,000
TK-101	Used Oil Tank	4,000
TK-102	TEG Make-Up Tank	1,000
TK-103	Compressor Coolant Tank	2,000
TK-104	Engine Lube Oil Tank	2,000
TK-105	Compressor Lube Oil Tank	2,000

Regulatory Discussion

Federal Regulations

40 Code of Federal Regulation (CFR) Part 60 – Standards of Performance for New Stationary Sources

I. *Subpart A – General Provisions*

Applicability: Subpart A applies if a source is subject to at least one regulation under 40 CFR Part 60. Therefore, South Canton Compressor Station is subject to Subpart A as it is applicable to some requirements, as discussed below.

II. *Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.*

Applicability: Subpart Kb applies to volatile organic liquid storage tanks with a capacity greater than or equal to 75 cubic meters (m^3) (§60.110b(a)). However, Subpart Kb does not apply to storage vessels with a design capacity less than or equal to 1,589.874 m^3 that are used for petroleum or condensate storage prior to custody transfer. The storage tanks at the South Canton Compressor Station are less than 1,589.874 m^3 and are used for storage prior to custody transfer. Therefore, Subpart Kb does not apply to the South Canton Compressor Station.

III. *Subpart KKK - Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011.*

Applicability: Subpart KKK applies to facilities built or modified before August 23, 2011. Subpart KKK does not apply as the South Canton Compressor Station was built in 2019.

IV. *Subpart LLL - Standards of Performance for SO_2 Emissions from Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011.*

Applicability: Subpart LLL applies to facilities built or modified before August 23, 2011. Subpart LLL does apply as the South Canton Compressor Station was built in 2019.

V. *Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*

Applicability: Subpart JJJJ applies to engines that were ordered after June 12, 2006 and manufactured on or after July 1, 2007 for engines with maximum power greater than or equal to 500 horsepower (hp) (§60.4230(a)(4)(i)). Thus, Subpart JJJJ applies to the South Canton Compressor Station as the compressor engines were ordered after June 12, 2006 and manufactured after July 1, 2007.

VI. *Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution*

Applicability: Subpart OOOO applies to facilities that were constructed, modified, or reconstructed after August 23, 2011 and on or before September 18, 2015 (§60.5365). Therefore, Subpart OOOO does not apply as the South Canton Compressor Station was constructed in 2019.

VII. *Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015*

Applicability: Subpart OOOOa applies to reciprocating compressor facilities that were constructed, modified, or reconstructed after September 18, 2015 and on or before December 6, 2022 (§60.5365a(c)). Also, Subpart OOOOa applies to storage vessel affected facilities with individual tank emissions greater than 6 tons per year (§60.5365a(e)). Lastly, the collection of fugitive emissions components at a compressor station is an affected facility under this Subpart (§60.5365a(j)). Since the South Canton Compressor Station was constructed after September 18, 2015 and on or before December 6, 2022 and is a compressor station with reciprocating compressors, Subpart OOOOa does apply. South Canton Compressor Station is a reciprocating compressor affected facility and collection of fugitive emissions affected facilities. The maximum throughput of the storage tank battery results in potential emissions less than 6 tons per year per tank, and therefore is not a storage tank affected facility under Subpart OOOOa.

40 CFR Part 61 – National Emission Standards for Hazardous Air Pollutants

I. *Subpart A – General Provisions*

Applicability: Subpart A applies if a source is subject to at least one regulation under 40 CFR Part 61. Therefore, South Canton Compressor Station is not subject to Subpart A as there are no applicable requirements, as discussed below.

II. *Subpart V – National Emission Standard for Equipment Leaks (Fugitive Emission Sources)*

Applicability: Subpart V applies to components such as compressors, valves, and pumps that are intended to operate in volatile hazardous air pollutant (VHAP) service (§61.240(a)). VHAP service means that a component contains or contacts a fluid that is at least 10 percent by weight a VHAP. Subpart V does not apply to the South Canton Compressor Station because none of the components have fluid (natural gas, water, or condensate) that is over 10 percent by weight of any VHAP.

40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants for Source Categories

I. *Subpart A – General Provisions*

Applicability: Subpart A applies if a source is subject to at least one regulation under 40 CFR Part 63. Therefore, South Canton Compressor Station is subject to Subpart A as it is applicable to some requirements, as discussed below.

II. *Subpart HH – National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities*

Applicability: Subpart HH applies to oil and natural gas production facilities that are a major or area source of hazardous air pollutant (HAP) emissions, and that process, upgrade, or store hydrocarbon liquids or natural gas prior to the transmission and storage source category (§63.760(a)). Subpart HH does apply to the South Canton Compressor Station. Per the definitions in §63.761, the South Canton Compressor Station would be considered a "production field facility" as it is before custody transfer (before a gas processing plant). Therefore, for major source determination for this Subpart, only those HAP emissions from glycol dehydration and storage tanks shall be aggregated. Aggregating these HAPs results in the South Canton Compressor Station being classified as an area source of HAP emissions under this Subpart. Because it is an area source of HAP emissions, the three (3) dehydrators are applicable sources under Subpart HH (§63.760(b)(2)). However, actual benzene emissions from each of the dehydrators at the South Canton Compressor Station are estimated to be less than 1 ton per year, so the dehydrators are exempt from all requirements except recordkeeping (§63.764(e)(1)(ii)).

III. *Subpart HHH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities*

Applicability: Subpart HHH applies to natural gas transmission and storage facilities that are a major source of HAP emissions (§63.1270(a)). Subpart HHH does not apply to the South Canton Compressor Station is prior to the gas transmission and storage phase.

IV. *Subpart EEEE – National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)*

Applicability: Subpart EEEE applies to organic liquids distribution operations that are located at major source of HAP emissions (§63.2334(a)). Subpart EEEE does not apply to the South Canton Compressor Station as it is defined as an oil and natural gas production facility and exempt from this Subpart (§63.2334(c)(1)).

V. *Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Applicability: Subpart ZZZZ applies to stationary reciprocating internal combustion engines (RICE) at a major or area source of HAP emissions (§63.6585). Subpart ZZZZ applies to the South Canton Compressor Station as the compressor engines are new RICE. The Caterpillar G3608 compressor engines demonstrate compliance with the requirements under this Subpart for four-stroke lean-burn (4SLB) engines with oxidation catalysts greater than 500 horsepower for an area source of HAPs through 40 CFR Part 60 Subpart JJJJ.

VI. *Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*

Applicability: Subpart DDDDD applies to process heaters at a major source of HAP emissions (§63.7485). Per the definitions in §63.7575, the South Canton Compressor Station would be

considered a "production field facility" as it is before custody transfer (before a gas processing plant). Therefore, for major source determination for this Subpart, only those HAP emissions from glycol dehydration and storage tanks shall be aggregated. Therefore, this Subpart does not apply as the South Canton Compressor Station is not a major source of HAPs when considering HAPs from the glycol dehydrators and storage tanks.

Prevention of Significant deterioration and Title V Greenhouse Gas Tailoring Rule

Applicability: The Tailoring Rule was published into the Federal Register starting in 2010 in three steps. Step 1 of the Tailoring Rule stated that Title V or Prevention of Significant Deterioration (PSD) requirements would apply to greenhouse gas (GHG) sources only if the sources were subject to Title V or PSD because of other regulated pollutants. Due to court proceedings in 2014, the South Canton Compressor Station is required to follow Step 1 of the Tailoring Rule. The potential CO_2e emissions from the South Canton Compressor Station are greater than 100,000 tons per year. Because the South Canton Compressor Station is also a major source under the Title V program due to nitrogen oxides (NOx) and volatile organic compounds (VOC) emissions, GHG emissions may also be subject to Title V, but not PSD, requirements.

West Virginia State Regulations

Title 45 Code of State Regulations (CSR) – Division of Environmental Protection, Air Quality

I. *45CSR2 – To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers*

45CSR2 is applicable to any fuel burning units in indirect heat exchangers establishing opacity limits with compliance demonstrated with Method 9. 45CSR2-11.1 provides an exemption to fuel burning units less than 10 MMBtu/hr. The South Canton Compressor Station meets this exemption as the fuel conditioning heater and reboilers are less than 10 MMBtu/hr.

II. *45CSR6 – Control of Air Pollution from Combustion of Refuse*

45CSR6 establishes requirements for the open burning of refuse. The South Canton Compressor Station is not applicable to 45CSR6 as the open burning of refuse does not occur.

III. *45CSR10 – Prevention and Control Air Pollution from the Emission of Sulfur Oxides*

45CSR10 establishes requirements for sulfur oxide (SOx) emissions for fuel burning units. 45CSR10 provides an exemption to fuel burning units less than 10 MMBtu/hr. The South Canton Compressor Station meets this exemption as the fuel conditioning heater and reboilers are less than 10 MMBtu/hr.

IV. *45CSR11 – Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984*

45CSR11 establishes requirements for storage vessels constructed, reconstructed, or modified after July 23, 1984 for the control of volatile organic compounds (VOCs). The South Canton Compressor Station may be required, if requested by the West Virginia Department

of Environmental Quality, to prepare standby plans for reducing air pollutants as outlined in the Rule.

V. *45CSR13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation*

The South Canton Compressor Station is applicable to 45CSR13. The Facility obtained a construction permit (R13-3354E) and operates under this permit.

VI. *45CSR14 – Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality*

45CSR14 establishes a preconstruction permit program for the Prevention of Significant Deterioration (PSD) Program under the Clean Air Act. According to Section 2.43 of this rule, a Major Stationary Source is defined as any of the 26 named sources listed in 2.43a which emits or has the potential to emit 100 tons per year or more of any regulated pollutant. Although the South Canton Compressor Station will have the potential to emit over 100 tons per year of NOx and VOCs , it is not one of the 26 named stationary sources and thus not defined a Major Stationary Source under the PSD Program by Section 2.43a. Additionally, Section 2.43b of this rule defines a Major Stationary Source as any stationary source which emits or has the potential to emit, 250 tons per year or more of any regulated pollutant. The South Canton Compressor Station does not have the potential to emit 250 tons per year or more of any regulated pollutant, thus is not a Major Stationary Source under then PSD Program and 45CSR14 does not apply.

VII. *45CSR16 – Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60*

The Facility is applicable to 45CSR16. Discussion on applicable 40 CFR Part 60 rules is included in this Section.

VIII. *45CSR19 – Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment*

The Facility is not applicable to 45CSR19 as it is not a major source under this rule.

IX. *45CSR20 – Good Engineering Practice as Applicable to Stack Heights*

The South Canton Compressor Station is subject to 45CSR20. At this time, stack heights greater than good engineering practice (GEP) will not be requested should the Facility be required to conduct dispersion modeling.

X. *45CSR21 – Regulation of Volatile Organic Compounds*

45CSR21 does not apply to the South Canton Compressor Station since the facility is not located in Putnam, Kanawha, Cabell, Wayne, or Wood Counties.

XI. *45CSR22 – Air Quality Management Fee Program*

The South Canton Compressor Station is subject to 45CSR22. Applicable fees were paid to West Virginia Department of Environmental Quality for each construction permit application.

XII. *45CSR27 – To Prevent and Control the Emissions of Toxic Air Pollutants*

The South Canton Compressor Station meets the exemption of 45CSR27 as the rule establishes it does not include equipment used in the production and distribution of petroleum products so long as the equipment does not product or contact materials containing more than 5 percent of benzene by weight.

XIII. *45CSR28 – Air Pollution Emissions Banking and Trading*

The South Canton Compressor Station is not subject to 45CSR28. Antero elects not to participate in the voluntary air pollutant emissions trading program, at this time.

XIV. *45CSR29 – Emission Statements for VOC and NOx*

45CSR29 does not apply to the South Canton Compressor Station since the facility is not located in Putnam, Kanawha, Cabell, Wayne, or Wood Counties.

XV. *45CSR30 – Requirements for Operating Permits*

This rule establishes an air permitting program that is consistent with Title V of the Clean Air Act. According to Section 3.1.a.1, any major source as defined by the rule, shall not operate except in compliance with a permit issued under this rule on or after the effective date of the operating permit program. Section 2.26.b defines a major source as any stationary source that directly emits or has the potential to emit 100 tons per year or more of any pollutant subject to regulation. However, because a compressor station is not one of the 44 named sources under 2.26.b, fugitives do not need to be included when determining the 100 ton per year threshold. Potential emissions of NOx and VOCs from the South Canton Compressor Station will be over 100 tons per year not including fugitive emissions, so the South Canton Compressor Station is a major source as defined by this rule and applicable to 45CSR30. The South Canton Compressor Station applied for its initial Operating Permit within 12 months of the effective date of the operating permit program per Section 4.1.a.1.F of the rule. The renewal Operating Permit application is being submitted at least six (6) months prior to expiration of the existing permit.

XVI. *45CSR34 – Emission Standards for Hazardous Air Pollutants*

This rule establishes that no source will be constructed or modified that would cause violation of the standards set forth in 40 CFR Parts 61 and 63. Further, no source that is a major source of HAPs will be constructed or modified unless it is determined that the maximum achievable control technology limitations set forth under 40 CFR Part 63 are met. The South Canton Compressor Station will not be a major source of HAPs; therefore, it is exempt from all applicable conditions and emission limitations under 40 CFR Part 61 and 63.

XVII. *45CSR38 – Provisions for Determination of Compliance with Air Quality Management Rules*

45CSR38 does not apply to the South Canton Compressor Station as there are no enforceable rules by the Director of West Virginia Department of Environmental Protection that have non-definitive compliance determination procedures nor have such compliance determination procedures been authorized and adopted by the West Virginia Department of Environmental Protection.

Facility-Wide Emissions Summary

Emissions Summary Total

CONTROLLED POTENTIAL EMISSION SUMMARY

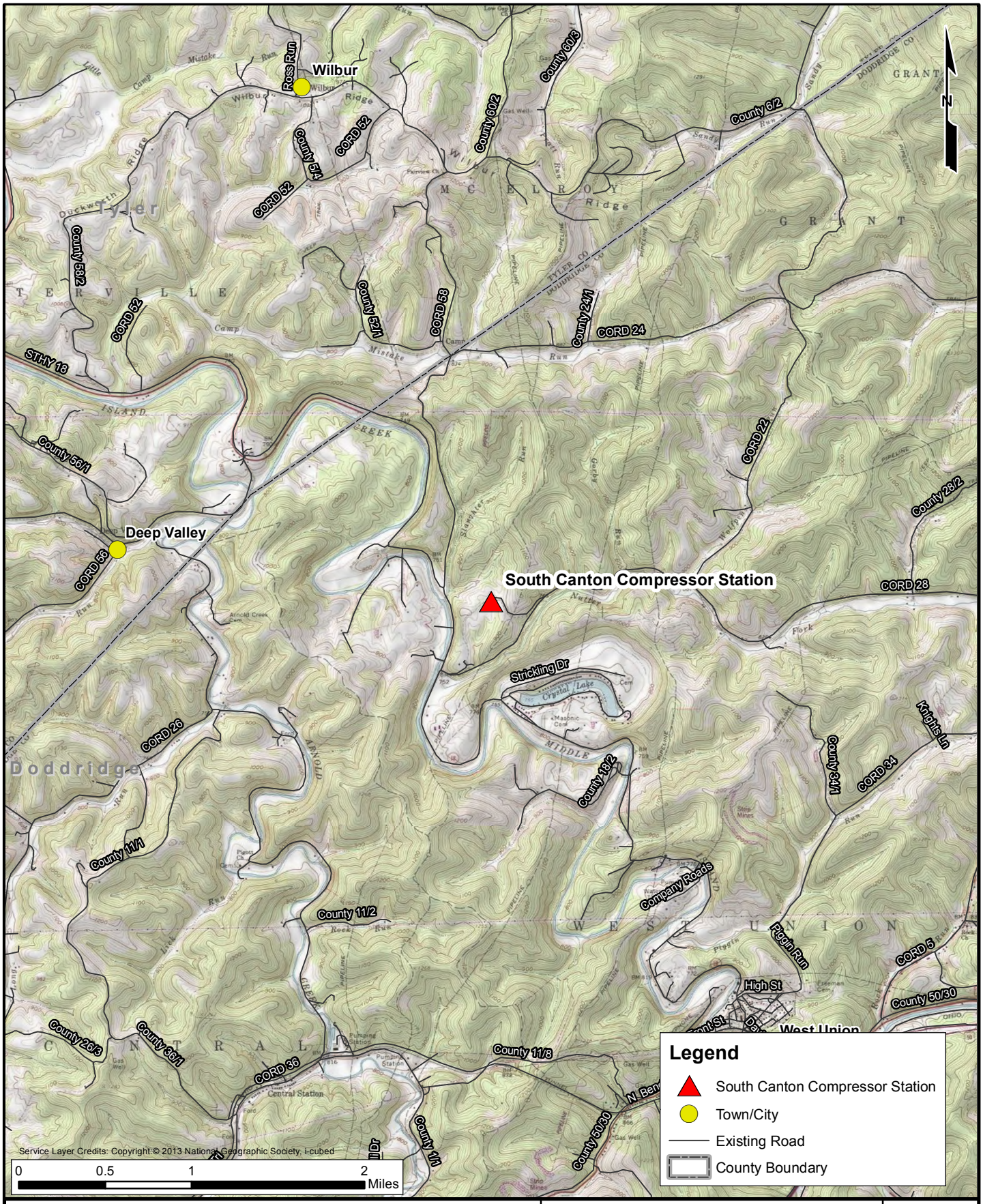
Source	NOx		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$		HAPs		Formaldehyde		CO_2e
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	ton/yr
Engines															
Compressor Engine 1	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 2	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 3	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 4	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 5	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 6	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 7	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 8	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 9	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 10	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 11	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Compressor Engine 12	2.95	12.92	0.94	4.13	1.59	6.97	0.011	0.047	0.18	0.80	0.35	1.55	0.12	0.52	13,172
Fuel Conditioning Heater	0.049	0.21	0.041	0.18	0.0027	0.012	0.00029	0.0013	0.0037	0.016	0.00092	0.0040	0.000037	0.00016	257
Generator															
Natural Gas Generator	1.43	6.27	2.86	12.53	1.00	4.39	0.0032	0.014	0.11	0.47	0.18	0.78	0.11	0.50	2,841
Dehydrator															
TEG Dehydrator 1	---	---	---	---	1.31	5.71	---	---	---	---	0.13	0.55	---	---	305
TEG Dehydrator 2	---	---	---	---	1.31	5.71	---	---	---	---	0.13	0.55	---	---	305
TEG Dehydrator 3	---	---	---	---	1.31	5.71	---	---	---	---	0.13	0.55	---	---	305
Reboiler 1	0.15	0.64	0.12	0.54	0.0081	0.035	0.00088	0.0039	0.011	0.049	0.0028	0.012	0.00011	0.00048	771
Reboiler 2	0.15	0.64	0.12	0.54	0.0081	0.035	0.00088	0.0039	0.011	0.049	0.0028	0.012	0.00011	0.00048	771
Reboiler 3	0.15	0.64	0.12	0.54	0.0081	0.035	0.00088	0.0039	0.011	0.049	0.0028	0.012	0.00011	0.00048	771
Flare															
Flare 1	0.33	1.46	1.78	7.80	0.0003	0.001	0.00004	0.0002	0.0005	0.002	0.0001	0.0005	---	---	2,500
Hydrocarbon Loading															
Truck Loadout	---	---	---	---	59.72	12.45	---	---	---	---	1.41	0.29	---	---	93
Venting Emissions															
Compressor Blowdown Emissions	---	---	---	---	---	8.44	---	---	---	---	---	0.17	---	---	791
Startup and Shutdown Emissions	---	---	---	---	---	5.28	---	---	---	---	---	0.11	---	---	495
Pigging Emissions	---	---	---	---	---	8.63	---	---	---	---	---	0.18	---	---	808
Vessel Cleaning/Maintenance Emissions	---	---	---	---	---	0.18	---	---	---	---	---	0.0036	---	---	16
Fugitive Emissions															
Component Leak Emissions	---	---	---	---	2.04	8.94	---	---	---	---	0.044	0.19	---	---	177
Haul Road Dust Emissions	---	---	---	---	---	---	---	---	0.21	0.90	---	---	---	---	---
Storage Tanks															
Storage Tank Battery - 7 tanks	---	---	---	---	1.70	7.46	---	---	---	---	0.040	0.18	---	---	53
Total Facility PTE =	**37.64**	**164.85**	**16.38**	**71.73**	**87.53**	**156.70**	**0.14**	**0.59**	**2.55**	**11.15**	**6.31**	**22.24**	**1.53**	**6.70**	**169,328**

HAP Emissions Summary Total

CONTROLLED POTENTIAL EMISSION SUMMARY

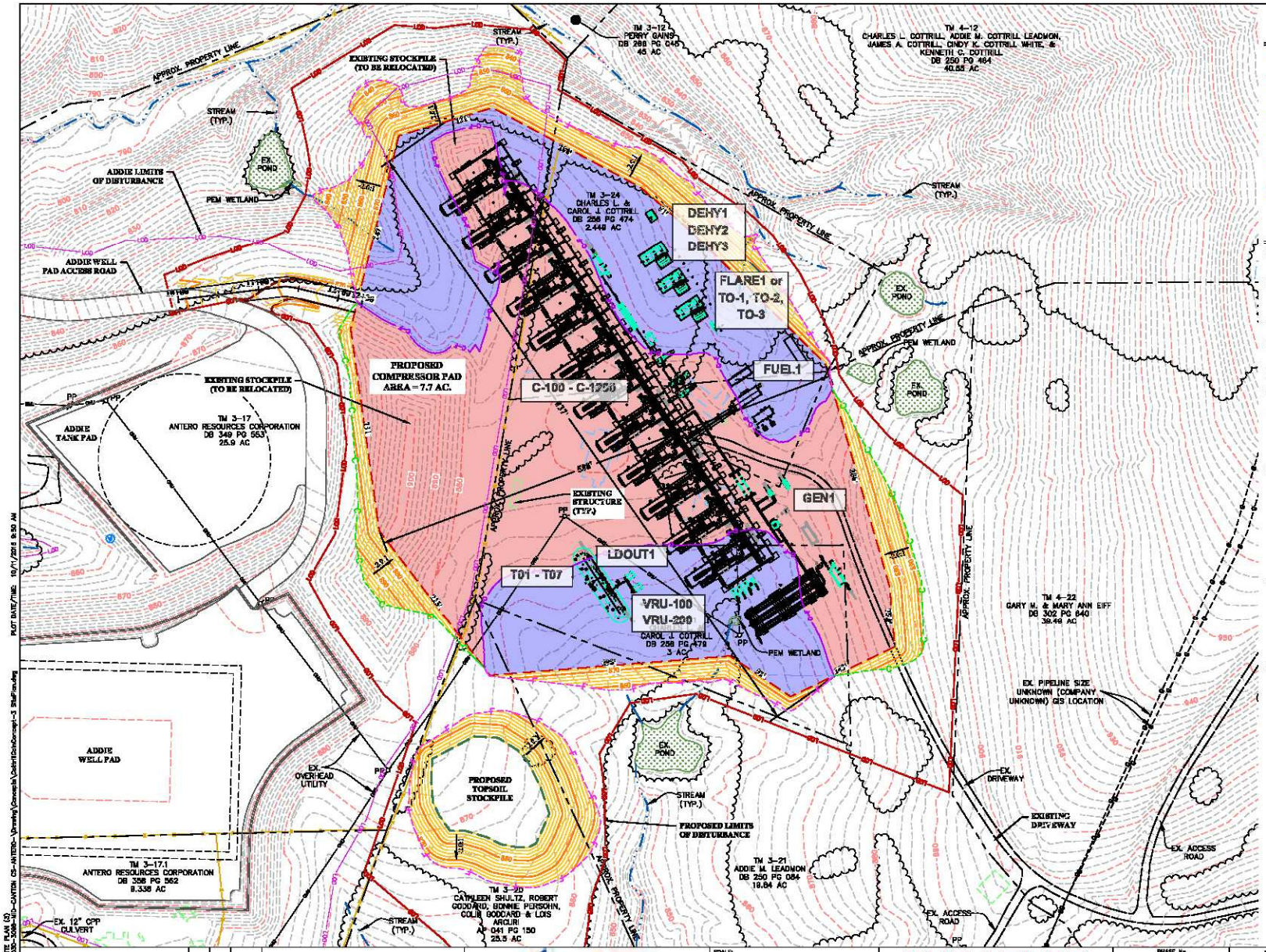
Source	Benzene		Toluene		Ethylbenzene		Xylenes		n-Hexane		Acetaldehyde		Acrolein		Methanol	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Engines																
Compressor Engine 1	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 2	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 3	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 4	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 5	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 6	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 7	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 8	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 9	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 10	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 11	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Compressor Engine 12	0.0053	0.023	0.0049	0.022	0.00048	0.0021	0.0022	0.0097	0.013	0.059	0.101	0.44	0.062	0.27	0.030	0.132
Fuel Conditioning Heater	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Generator																
Natural Gas Generator	0.0087	0.038	0.0031	0.014	0.00014	0.00060	0.0011	0.0047	---	---	0.015	0.068	0.015	0.064	0.017	0.074
Dehydrator																
TEG Dehydrator 1	0.025	0.11	0.056	0.24	0.0034	0.014	0.012	0.052	0.030	0.13	---	---	---	---	---	---
TEG Dehydrator 2	0.025	0.11	0.056	0.24	0.0034	0.014	0.012	0.052	0.030	0.13	---	---	---	---	---	---
TEG Dehydrator 3	0.025	0.11	0.056	0.24	0.0034	0.014	0.012	0.052	0.030	0.13	---	---	---	---	---	---
Reboiler 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Reboiler 2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Reboiler 3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Flare																
Flare 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hydrocarbon Loading																
Truck Loadout	0.037	0.0077	0.068	0.014	0.025	0.0052	0.063	0.013	1.21	0.25	---	---	---	---	---	---
Venting Emissions																
Compressor Blowdown Emissions	---	0.0053	---	0.009	---	0.00053	---	0.0013	---	0.16	---	---	---	---	---	---
Startup and Shutdown Emissions	---	0.0033	---	0.0059	---	0.00033	---	0.0008	---	0.10	---	---	---	---	---	---
Pigging Emissions	---	0.0054	---	0.010	---	0.00054	---	0.0014	---	0.16	---	---	---	---	---	---
Vessel Cleaning/Maintenance Emissions	---	0.00011	---	0.00020	---	0.000011	---	0.000027	---	0.0033	---	---	---	---	---	---
Fugitive Emissions																
Component Leak Emissions	0.0013	0.0056	0.0023	0.010	0.00032	0.0014	0.0008	0.0036	0.039	0.17	---	---	---	---	---	---
Haul Road Dust Emissions	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Storage Tanks																
Storage Tank Battery - 7 tanks	1.04E-03	4.56E-03	1.91E-03	8.38E-03	7.12E-04	3.12E-03	1.78E-03	7.79E-03	3.47E-02	1.52E-01	---	---	---	---	---	---
Total Facility PTE =	**0.19**	**0.68**	**0.30**	**1.05**	**0.042**	**0.080**	**0.13**	**0.31**	**1.54**	**2.09**	**1.23**	**5.38**	**0.76**	**3.33**	**0.38**	**1.66**

Attachment A Area Map



	Antero Midstream LLC	FIGURE
	South Canton Compressor Station Doddridge County, West Virginia	

Attachment B Plot Plan



PLAN LEGEND

- EXISTING CONTOURS
- EXISTING ROAD EDGE
- EXISTING TRAIL
- EXISTING FIELDING
- EXISTING TREE LINE
- POTENTIAL EXISTING STREAM (FIELD LOCATED)
- WETLAND (FIELD LOCATED)
- LOD — LIMIT OF DISTURBANCE
- PROPOSED CONTOURS
- C — PROPOSED CUT LIMIT
- F — PROPOSED FILL LIMIT
- PROPOSED EROSION CONTROL MATTING LINED DITCH
- PROPOSED EDGE OF ACCESS ROAD
- PROPOSED EDGE OF PAD
- PROPOSED EDGE OF TOPSOIL STOCKPILE
- PROPERTY LINE
- CUT AREA
- FILL AREA
- AOI — ENVIRONMENTAL AREA OF INTEREST

NOTES

1. EXISTING ENVIRONMENTAL FEATURES AND ROADS, BUILDINGS, TREELINE, ETC. ARE BASED ON AERIAL PHOTOGRAPHY PROVIDED BY ANTERO.
2. EXISTING CONTOURS ARE BASED ON LIDAR DATA.
3. ALL CONSTRUCTED SLOPES ARE 2.5H:1V. SLOPES MAY BE REVISED BASED ON GEOTECHNICAL ENGINEER'S INVESTIGATION AND RECOMMENDATIONS.
4. ALL SLOPES IN EXCESS OF FIFTY (50) VERTICAL FEET WILL REQUIRE BENCHING IN FINAL DESIGN.
5. EROSION AND SEDIMENT CONTROLS WILL BE DESIGNED UPON ACCEPTANCE OF CONCEPTUAL GRADING PLAN.
6. PROPERTY LINES SHOWN ARE BASED UPON DIGITAL TAX MAPS. LINES ARE IN APPROXIMATE LOCATIONS.
7. ALL COORDINATES ARE IN NAD-83 OHIO STATE PLANE NORTH, FEET, DATUM, UNLESS OTHERWISE NOTED.
8. STREAM AND WETLAND LOCATIONS ARE APPROXIMATE. ENVIRONMENTAL DELINEATION TO BE DONE BY OTHERS.

EARTHWORK SUMMARY

CUT (SWELL) FACTOR	110%
FILL (SHRINK) FACTOR	100%
TOTAL CUT	55,440 CY
CS PAD FILL	39,300 CY
NET CUT/TOPSOIL	16,140 CY
ASSUMED TOPSOIL THICKNESS	12-IN

LOD BY LANDOWNER

9-8-3-17 ANTERO RESOURCES	4.75 AC.
9-8-3-21 ADDIE MARIE LEADMON	2.55 AC.
9-8-3-21.1 CHARLES & CAROL COTTRILL	3.88 AC.
9-8-3-24 CHARLES & CAROL COTTRILL	2.16 AC.
9-8-3-28 ROBERT GODDARD	1.78 AC.

ENVIRONMENTAL

STREAM IMPACTS – 498 LINEAR FEET
WETLAND IMPACTS – 115 SQUARE FEET
TREE CLEARING – 2.8 ACRES

NO.	BY	DATE	DESCRIPTION

Antero Midstream Partners LP

SCALE:	
DRAWN:	DATE:
CHECKED:	DATE:
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER
THE THRASHER GROUP, INC.
800 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
PHONE (304) 624-4108 FAX (304) 624-7831

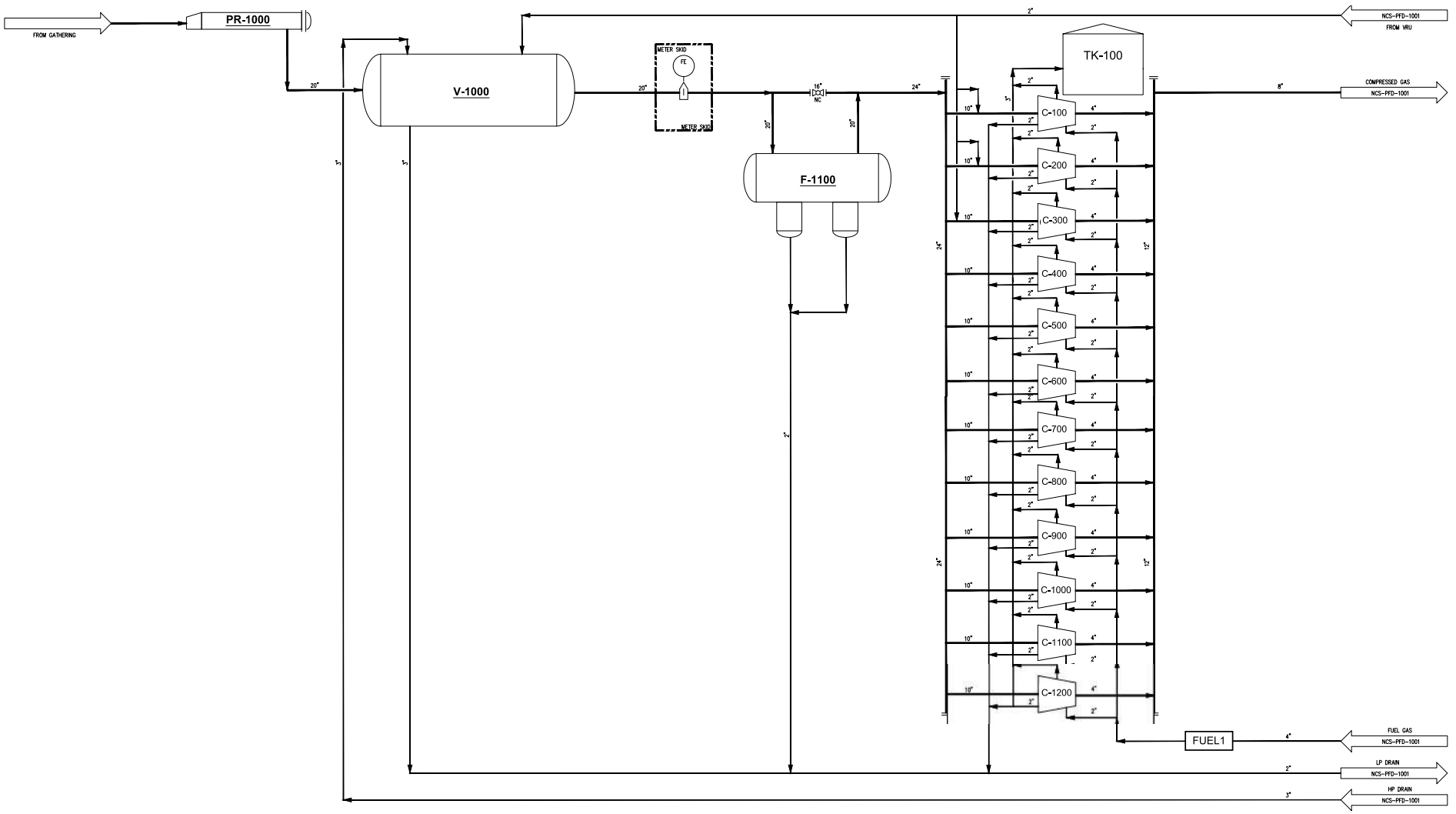
PHASE No.	
CONTRACT No.	
PROJECT No.	101-030-3098

ANTERO MIDSTREAM PARTNERS LP
CONCEPTUAL PLANS FOR THE
COTTRILL/GAINS COMPRESSOR STATION
DODDRIDGE COUNTY, WEST VIRGINIA
OPTION 2 SITE PLAN

SHEET No. 1

PLOT DATE/TIME: 10/11/2016 8:50 AM
LAYOUT TAB: SITE PLAN (2)
CAD FILE: N:\030-3098-H10-CANTON_OS-ANTERO-\Drawing\Concepts\OptionConcept-3 Site Plan.dwg

Attachment C Process Flow Diagram



THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND REMAIN THE PROPERTY OF KAHUNA DESIGN, LLC. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER (COPY BY WRITTEN PERMISSION BY THE OWNER.

PLOT TIME/DATE: June 19, 2014

LAST SAVED: 06/18/14 BY: Alva Cooley

FILE LOCATION: N:\PROJECTS\ANTERO APPALACHIAN RESOURCES\4083.0164.00 - NICHOLS CS\100-PFD-PID\NCS-PFD-1000.DWG

NOTES:

REFERENCE DRAWINGS	
DWG. NO.	TITLE

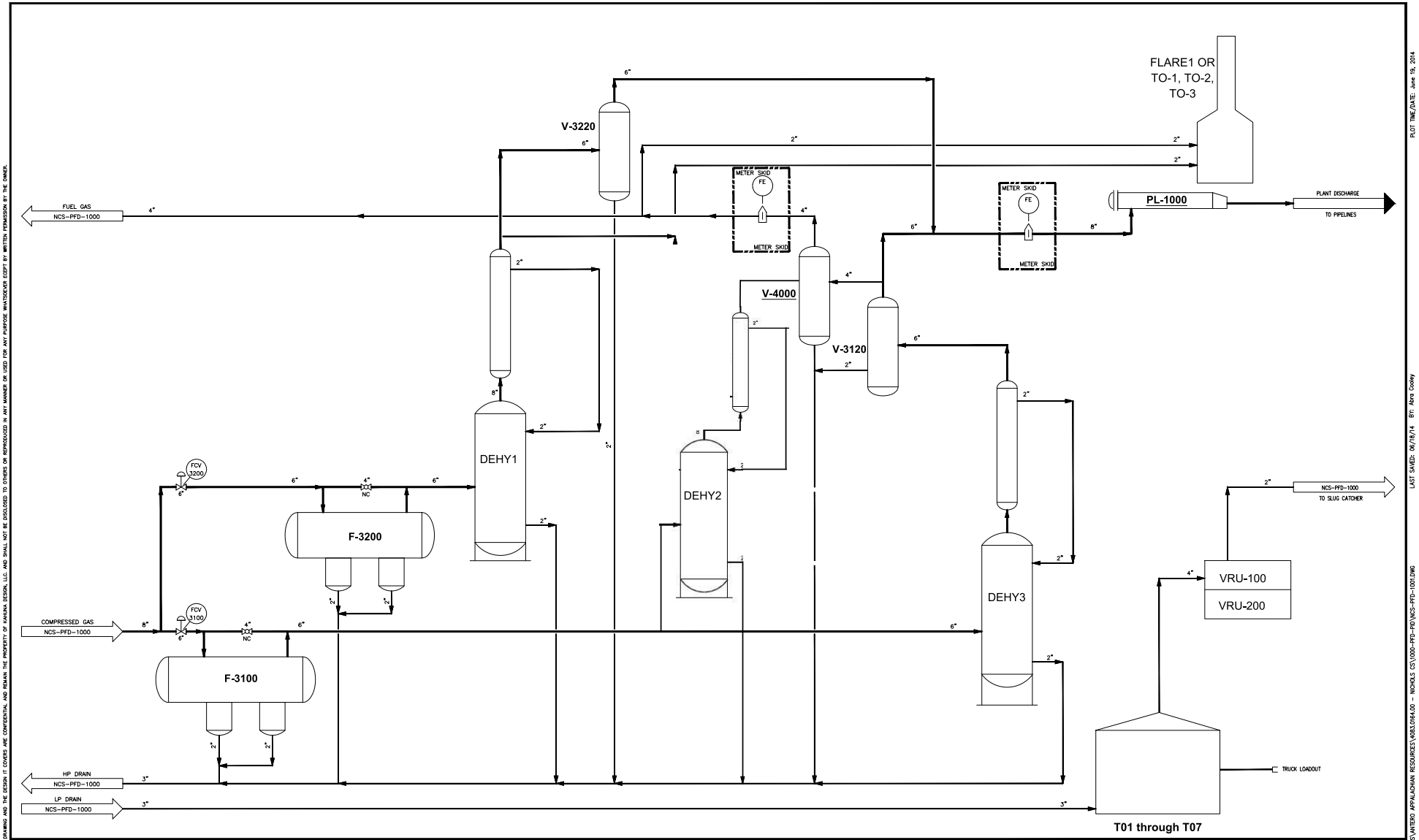
REVISIONS						
NO.	DESCRIPTION	BY	DATE	CHK.	DATE	APPR.	DATE
B	ISSUED FOR AIR PERMIT	AC	06/19/14	LW	06/19/14	PS	06/19/14
A	ISSUED FOR REVIEW	AC	05/06/14	JW	05/06/14	PS	05/06/14

Antero Resources

KAHUNA VENTURES LLC
WESTMINSTER, CO 80234
303-451-7574
BY: KAHUNA DESIGN LLC.

PROCESS FLOW DIAGRAM

DRAWN BY: A. COOLEY	CHECKED: J. WARMAN	APPROVED: P. STOCKEBRAND
CREATION DATE: 05/05/14	CHECK DATE: 05/05/14	APPR. DATE: 05/05/14
Proj. No.: 4083.0164.00	DWG. No.: TCS-PFD-1000	SHEET No.: 1 OF 2
SCALE: NONE		B



NOTES:

REFERENCE DRAWINGS		REVISIONS							
		B	ISSUED FOR AIR PERMIT	AC	06/19/14	LW	06/19/14	PS	06/19/14
		A	ISSUED FOR REVIEW	AC	05/06/14	JW	05/06/14	PS	05/06-14
DWG. NO.	TITLE	NO.	DESCRIPTION	BY	DATE	CHK.	DATE	APPR.	DATE

Antero Resources

KAHUNA VENTURES LLC
WESTMINSTER, CO 80021
303-451-7574
BY: KAHUNA DESIGN LLC.

PROCESS FLOW DIAGRAM

DRAWN BY: A. COOLEY	CHECKED: J. WARMAN	APPROVED: P. STOCKEBRAND
CREATION DATE: 05/05/14	CHECK DATE: 05/05/14	APPR. DATE: 05/06/14
Proj. No.: 4083.0164.00	DWG. No.: TCS-PFD-1001	SHEET No.: 2 OF 2
SCALE: NONE		B

PLOT TIME/DATE: June 19, 2014
LAST SAVED: 06/18/14 BY: Alva Cooley
FILE LOCATION: N:\PROJECTS\ANTERO APPALACHIAN RESOURCES\4083.0164.00 - NICHOLS CS\100-PFD-PID\NCS-PFD-1001.DWG

Attachment D Title V Equipment Table

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
1E	Ox Cat (1C)	C-100	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
2E	Ox Cat (2C)	C-200	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
3E	Ox Cat (3C)	C-300	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
4E	Ox Cat (4C)	C-400	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
5E	Ox Cat (5C)	C-500	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
6E	Ox Cat (6C)	C-600	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
7E	Ox Cat (7C)	C-700	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
8E	Ox Cat (8C)	C-800	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
9E	Ox Cat (9C)	C-900	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
10E	Ox Cat (10C)	C-1000	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
11E	Ox Cat (11C)	C-1100	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
12E	Ox Cat (12C)	C-1200	Caterpillar G3608 LB Compressor Engine	2,675 hp	2017
13E	None	GEN1	PSI Industrial NG Generator	649 hp	2017
13C	Flare (13C)	DEHY1	TEG Dehydration Unit Still Vent	150 MMscfd	2017
16E	DREB1 (16E)	DFLSH1	Dehydrator Flash Tank	150 MMscfd	2017
16E	None	DREB1	TEG Dehydration Unit Reboiler	1.5 MMBtu/hr	2017
13C	Flare (13C)	DEHY2	TEG Dehydration Unit Still Vent	150 MMscfd	2017
19E	DREB2 (19E)	DFLSH2	Dehydrator Flash Tank	150 MMscfd	2017
19E	None	DREB2	TEG Dehydration Unit Reboiler	1.5 MMBtu/hr	2017
13C	Flare (13C)	DEHY3	TEG Dehydration Unit Still Vent	150 MMscfd	2017
22E	DREB3 (22E)	DFLSH3	Dehydrator Flash Tank	150 MMscfd	2017
22E	None	DREB3	TEG Dehydration Unit Reboiler	1.5 MMBtu/hr	2017

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T01	Condensate Storage Tank	400 bbl (16,800 gal)	2017
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T02	Condensate Storage Tank	400 bbl (16,800 gal)	2017
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T03	Condensate Storage Tank	400 bbl (16,800 gal)	2017
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T04	Condensate/Produced Water Settling Tank	500 bbl (21,000 gal)	2017
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T05	Produced Water Storage Tank	400 bbl (16,800 gal)	2017
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T06	Produced Water Storage Tank	400 bbl (16,800 gal)	2017
14C/15C[a]	VRU-100 (14C) VRU-200 (15C)	T07	Produced Water Storage Tank	400 bbl (16,800 gal)	2017
30E	None	FUEL1	Fuel Conditioning Heater	0.5 MMBtu/hr	2017
35E	None	LDOUT1	Production Liquids Truck Load Out	390[b] bbl/day	2017
31E	NA	FLARE1	Flare Control Device	4.8 MMBtu/hr	2017
36E	None	VENT1	Venting episodes	Variable	2017
N/A	None	FUG	Fugitives	Variable	2017
TK-100	None	TK-100	Compressor Skid Oily Water Tank	2,000 gal	2017
TK-101	None	TK-101	Used oil Tank	4,000 gal	2017
TK-102	None	TK-102	TEG Make-up Tank	1,000 gal	2017
TK-103	None	TK-103	Compressor Coolant Tank	2,000 gal	2017
TK-104	None	TK-104	Engine Lube Oil Tank	2,000 gal	2017
TK-105	None	TK-105	Compressor Lube Oil Tank	2,000 gal	2017

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

[a] Working, breathing, and flashing losses are routed to Vapor Recovery Units for recirculation back into the process.
[b] 300 bbl/day Condensate and 90 bbl/day Produced Water

Attachment E Emission Unit Forms

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		**Compressor Engines C-100 through C-1200 (each)**
Emission unit ID number: C-100 through C-1200 (each)	**Emission unit name:** Compressor Engine #1 through #12 (each)	**List any control devices associated with this emission unit:** Oxidation Catalyst (1C through 12C, each)
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Four Stroke, Lean Burn Natural Gas-Fired Compressor Engine with Oxidation Catalyst		
Manufacturer: Caterpillar	**Model number:** G3608 LB	**Serial number:** N/A
Construction date: TBD	**Installation date:** 11//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,675 hp @ 1,200 rpm		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** N/A	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? X Yes ___ No		**If yes, is it?** ___ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating: 2,500 hp		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. Raw Natural Gas 16,500 scf/hr 144.54 MMscf/yr		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	<0.01%	negligible	1,231 Btu/scf

Emissions Data	**C-100 through C-1200 (each)**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)[1]	0.94	4.13
Nitrogen Oxides (NO_X)[1]	2.95	12.92
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)[2]	0.18	0.80
Total Particulate Matter (TSP)[2]	0.18	0.80
Sulfur Dioxide (SO_2)[2]	0.011	0.047
Volatile Organic Compounds (VOC)[1]	1.59	6.97
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
1,3-Butadiene[2]	< 0.01	0.014
2-Methylnaphthalene[2]	< 0.01	< 0.01
2,2,4-Trimethylpentane[2]	< 0.01	0.013
Acenaphthene[2]	< 0.01	< 0.01
Acenaphthylene[2]	< 0.01	< 0.01
Acetaldehyde[2]	0.10	0.44
Acrolein[2]	0.062	0.27
Benzene[2]	< 0.01	0.023
Benzo(b)fluoranthene[2]	< 0.01	< 0.01
Benzo(e)pyrene[2]	< 0.01	< 0.01
Benzo(g,h,i)perylene[2]	< 0.01	< 0.01
Biphenyl	< 0.01	0.011
Chrysene[2]	< 0.01	< 0.01
Ethylbenzene[2]	< 0.01	< 0.01
Fluoranthene[2]	< 0.01	< 0.01
Fluorene[2]	< 0.01	< 0.01
Formaldehyde[1]	0.12	0.52
Methanol[2]	0.030	0.13
Methylene Chloride[2]	< 0.01	< 0.01
n-Hexane[2]	0.013	0.059
Naphthalene[2]	< 0.01	< 0.01
PAH[2]	< 0.01	< 0.01
Phenanthrene[2]	< 0.01	< 0.01

Phenol[2]	< 0.01	< 0.01
Pyrene[2]	< 0.01	< 0.01
Tetrachloroethane[2]	< 0.01	< 0.01
Toluene[2]	< 0.01	0.022
Vinyl Chloride[2]	< 0.01	< 0.01
Xylenes[2]	< 0.01	< 0.01
Other HAPs[2]	< 0.01	0.021
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2[1]	2530	11081
CH_4[1]	19.05	83.43
N_2O[3]	0.0040	0.018
CO_2e[4]	3007	13172

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. Values from Manufacturer specification sheet
2. AP-42, Chapter 3.2, Table 3.2-2
3. 40 CFR Part 98, Subpart C, Table C-2
4. 40 CFR Part 98, Subpart A, Table A-1, effective January 2014

Applicable Requirements **C-100 through C-1200 (each)**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

5.1.1 Maximum hourly and annual emission limits. Please reference Emissions Data above for exact limits.

5.1.3 Emissions limits in section 5.1.1 apply at all times except during periods of MSS that are < 30 minutes per occurrence. Operate engines in a manner consistent with good air pollution control practices, including periods of MSS. Comply with Subpart JJJJ and ZZZZ.

5.1.4.a-b The compressor engines shall be equipped with oxidation catalysts and fitted with a closed-loop automatic air/fuel ratio feedback controller to ensure a lean-rich mixture. A high temperature alarm shall also be installed that shuts off the engine before deactivation of the catalyst occurs.

5.1.4.c A written operation and maintenance ("O&M") plan is required

5.1.4.d No person shall knowingly: remove, bypass, defeat or render inoperative any air pollution control device subject to the requirements of this permit

10.1 The units must meet requirements in NSPS JJJJ

10.2 Maximum emission standards for NSPS JJJJ

10.4.4 Propane fuel can be used in emergency operations up to 100 hours per year

11.1 The units must meet requirements in NSPS Subpart OOOOa for reciprocating compressors

13.1 The units must meet the requirements of MACT ZZZZ by meeting the requirements of NSPS JJJJ

__X__ **Permit Shield**

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

5.1.3 Engine MSS emissions shall be included in the 12-month rolling total emissions.

5.1.4.b Monitor the inlet catalyst temperature in accordance with manufacturer's specifications. If the engine shuts off due to high temperature, check for thermal deactivation of the catalyst before normal operations resume.

5.1.4.c Conduct periodic and annual maintenance according to the written O&M Plan

5.2.1 Maintain proper operation of the automatic air/fuel ratio controller or automatic feedback controller and follow O&M recommendation of the catalyst element manufacturer

5.3.1 Follow testing requirements as outlined in Section 3.3, 10.5, 11.2, and 11.3 of the permit

5.4.1. Maintain maintenance records for the catalytic reduction device for five (5) years to demonstrate compliance with 5.1.4

5.5.1 Follow reporting requirements as outlined in Section 3.5, 10.6, and 11.4 of this permit

10.4.1.b.2. Keep a maintenance plan and records of conducted maintenance , conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first.

10.4.4 Maintain records of propane fuel use. If > 100 hours per year conduct a performance test to demonstrate compliance

10.4.6 Maintain and operate the AFR controller appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

10.5.1 Performance tests must be conducted in accordance with 40 CFR §60.4244

10.6.1.a. Maintain records of: notifications, maintenance, and documentation the engine meets the emission standards

10.6.1.c. Submit initial notification in accordance with 40 CFR §60.4245(c)

10.6.1.d. Submit performance tests within sixty (60) days per 40 CFR §60.4245(d)

11.1.1 Replace rod packing on or before the compressor has operated for 26,000 hours or 36 months

11.1, 11.2 & 11.3 Continuously monitor the hours of operation or number of months since last rod packing replacement

11.1, 11.2, 11.3, & 11.4 Submit Initial and Annual Reports in accordance with 40 CFR §60.5420a(b)(l), (4), and (9)

11.1, 11.2, 11.3, & 11.4 Maintain records of hours of operation or number of months since last rod packing replacement, date and time of rod packing replacement, and any deviations

11.4.1 No requirements according to 40 CFR §60.5420a(a)(1)

11.4.2 Submit performance test reports as specified in paragraph (b)(9) of 40 CFR §60.5420a

11.4.3 Maintain reporting and recordkeeping as required by 40 CFR §60.5420a(c)(3), (6)-(9), and (17), as applicable, to demonstrate compliance with 12.1.1.d

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		**Generator GEN1**
Emission unit ID number: GEN1	**Emission unit name:** PSI Industrial NG Generator	**List any control devices associated with this emission unit:** None
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Four Stroke, Rich Burn Natural Gas-Fired Generator Engine		
Manufacturer: Power Solutions International, Inc.	**Model number:** 21.9LTCAC HO	**Serial number:** N/A
Construction date: Post 06/01/2007	**Installation date:** 09//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 649 hp @ 1,800 rpm		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** N/A	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? X Yes ___ No		**If yes, is it?** ___ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating: 649 hp		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. Raw Natural Gas 4,490 scf/hr 39.33 MMscf/yr		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	<0.01%	negligible	1,231 Btu/scf

Emissions Data		**GEN1**
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	2.86	12.53
Nitrogen Oxides (NO_X) [1]	1.43	6.27
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)[2]	0.11	0.47
Total Particulate Matter (TSP)[2]	0.11	0.47
Sulfur Dioxide (SO_2)[2]	< 0.01	0.014
Volatile Organic Compounds (VOC)[1]	1.00	4.39
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
1, 1, 2, 2-Tetrachloroethane[2]	< 0.01	< 0.01
1,3-Butadiene[2]	< 0.01	1.6E-02
Acetaldehyde[2]	1.54E-02	6.75E-02
Acrolein[2]	1.45E-02	6.37E-02
Benzene[2]	< 0.01	3.82E-02
Ethylbenzene[2]	< 0.01	< 0.01
Formaldehyde[2]	1.13E-01	4.96E-01
Methanol[2]	1.69E-02	7.41E-02
Methylene Chloride[2]	< 0.01	< 0.01
PAH[2]	< 0.01	< 0.01
Toluene[2]	< 0.01	1.35E-02
Xylenes[2]	< 0.01	< 0.01
Other HAPs[2]	< 0.01	< 0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2[3]	647.99	2,838.2
CH_4[4]	0.012	0.053
N_2O[4]	< 0.01	< 0.01
CO_2e[5]	648.66	2,841.1

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. Certified Emissions
2. AP-42, Chapter 3.2, Table 3.2-3
3. 40 CFR Part 98, Subpart C, Table C-1
4. 40 CFR Part 98, Subpart C, Table C-2
5. 40 CFR Part 98, Subpart A, Table A-1, effective January 2014

Applicable Requirements **GEN1**

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

5.1.1 Maximum hourly and annual emission limits. Please reference Emissions Data above for exact limits.

5.1.3 Emissions limits in section 5.1.1 apply at all times except during periods of MSS that are < 30 minutes per occurrence. Operate engines in a manner consistent with good air pollution control practices, including periods of MSS. Comply with Subpart JJJJ and ZZZZ.

10.1 The units must meet requirements in NSPS JJJJ

10.2 Maximum emission standards for NSPS JJJJ

10.4.4 Propane fuel can be used in emergency operations up to 100 hours per year

13.1 The units must meet the requirements of MACT ZZZZ by meeting the requirements of NSPS JJJJ

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

5.1.3 Engine MSS emissions shall be included in the 12-month rolling total emissions.

5.3.1 Follow testing requirements as outlined in Section 3.3, 10.5, 11.2, and 11.3 of the permit

5.5.1 Follow reporting requirements as outlined in Section 3.5, 10.6, and 11.4 of this permit

10.4.1.b.2. Keep a maintenance plan and records of conducted maintenance , maintain emission certification

10.4.4 Maintain records of propane fuel use. If > 100 hours per year conduct a performance test to demonstrate compliance

10.4.6 Maintain and operate the AFR controller appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

10.5.1 Performance tests must be conducted in accordance with 40 CFR §60.4244, if required

10.6.1.a. Maintain records of: notifications, maintenance, and documentation the engine meets the emission standards

10.6.1.d. Submit performance tests within sixty (60) days per 40 CFR §60.4245(d), if required

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*TEG Dehydrator Still Vents DEHY1, DEHY2, DEHY 3 (each)*
Emission unit ID number: DEHY1, DEHY2, DEHY3 (each)	**Emission unit name:** TEG Dehydrator Still Vents (each)	**List any control devices associated with this emission unit:** BTEX Condenser & Flare (13C)
Provide a description of the emission unit (type, method of operation, design parameters, etc.): For each TEG Dehydrator Unit: The dehydrator still vents are controlled by a flare with at least 98% control efficiency and are equipped with a BTEX condenser unit.		
Manufacturer: TBD	**Model number:** TBD	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017 – 09//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 150 MMscfd, each		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** 54,750 MMscf, each	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data	***DEHY1, DEHY2, DEHY 3 (each)***	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	N/A	N/A
Nitrogen Oxides (NO_X) [1]	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$) [1]	N/A	N/A
Total Particulate Matter (TSP) [1]	N/A	N/A
Sulfur Dioxide (SO_2) [1]	N/A	N/A
Volatile Organic Compounds (VOC)[1]	0.33	1.43
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene[1]	0.023	0.10
Ethylbenzene[1]	< 0.01	0.014
n-Hexane[1]	< 0.01	0.036
Toluene[1]	0.053	0.23
Xylenes[1]	0.012	0.051
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2[1]	0.26	1.15
CH_4[1]	0.37	1.62
CO_2e[1]	9.50	41.62

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. ProMax Output

Applicable Requirements *DEHY1, DEHY2, DEHY3 (each)*

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

6.1.1 Dehydrator maximum daily throughput limit. Please reference data above for exact limits.

6.1.2 Flare maximum hourly and annual emission limits.

6.1.3 The flare shall be designed and operated in accordance with this section

6.1.4 Conduct a flare design evaluation in accordance with section 6.4.2 of the permit. At the Director's request, conduct a flare compliance assessment for concentration of sample and tip velocity in accordance with section 6.3.2 of the permit.

6.2.1 The pilot shall be equipped with an alarm or remote alarm when the pilot is out

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

6.1.1 Dehydrator throughput shall be determined using a 12-month rolling total.

6.1.4 Maintain record of the flare design evaluation in accordance with 6.4.2 or comply with section 6.3.2

6.2.1 Continuously monitor the pilot flame, using a thermocouple or equivalent device, to show compliance with section 6.1.3.c

6.2.2 Monitor the throughput of dry natural gas to the dehydration system on a monthly basis for each unit

6.3.1 & 6.4.5 Conduct Method 22 test for at least two hours within one (1) year of initial startup to demonstrate compliance with section 6.1.3b. Maintain records of opacity tests.

6.3.2 At the Director's request, conduct a flare compliance assessment to demonstrate compliance with section 6.1.3

6.3.3 At the Director's request, demonstrate compliance with the HAP emission thresholds using GLYCalc

6.3.4 - 6.3.7, & 6.4.8 Determine actual average benzene emissions to demonstrate compliance with the one (1) tpy emission limit. Maintain records.

6.4.1 Maintain records of the times and duration of all periods which the pilot flame was absent to demonstrate compliance with section 6.1.3c and 6.2.1

6.4.2 Maintain record of the flare design evaluation to demonstrate compliance with section 6.1.4 and 6.3.2

6.4.3 Maintain records of testing conducted in accordance with 6.3.3 to demonstrate compliance with section 6.1.3 and 6.3.3

6.4.4 Document and maintain records required by sections 6.2 (monitoring) and 6.3 (testing)

6.4.6 Maintain records of PTE HAP calculations for the entire affected facility, including compressor engines and ancillary equipment to demonstrate compliance with section 4.1.2

6.4.7 Maintain records of dry natural gas throughput through the dehydration system to demonstrate compliance with section 6.1.1

6.4.9 Maintain all records required by section 6.4 for a period of five (5) years

6.5.1 If required by the Director to comply with section 6.3.3, submit a testing protocol at least thirty (30) days prior to any testing, submit notification at least fifteen (15) days prior to any testing, submit test results within sixty (60) days of completion, including supporting calculations and testing data

6.5.2 If deviations from the allowable visible emission requirements are discovered during observations using Method 9 or 22, report to the Director within ten (10) calendar days of the occurrence

6.5.3 If deviations from the flare design and operation criteria in section 6.1.3 occur, report to the Director within ten (10) calendar days of such deviation

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-	*TEG Dehydrator Flash Tanks DFLSH1, DFLSH2, DFLSH3 (each)*	
Emission unit ID number: DFLSH1, DFLSH2, DFLSH3 (each)	**Emission unit name:** TEG Dehydrator Flash Tanks (each)	**List any control devices associated with this emission unit:** Reboiler (16E, 19E, 22E) or VRU (14C/15C) as backup

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
For each TEG Dehydrator Unit: Vent gas from the flash gas tank is routed to the reboiler and used as fuel. As an alternate, flash gas is routed to the storage tanks via the VRU compressors onsite.

Manufacturer:	**Model number:**	**Serial number:**
TBD	TBD	N/A
Construction date:	**Installation date:**	**Modification date(s):**
TBD	08//2017 – 09//2017	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
150 MMscfd, each

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	54,750 MMscf, each	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___ Yes _**X**_ **No**	**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data	***DEHY1, DEHY2, DEHY3 (each)***
Criteria Pollutants	Potential Emissions
	PPH / TPY
Carbon Monoxide (CO) [1]	N/A / N/A
Nitrogen Oxides (NO_X) [1]	N/A / N/A
Lead (Pb)	N/A / N/A
Particulate Matter ($PM_{2.5}/PM_{10}$) [1]	N/A / N/A
Total Particulate Matter (TSP) [1]	N/A / N/A
Sulfur Dioxide (SO_2) [1]	N/A / N/A
Volatile Organic Compounds (VOC)[1]	0.98 / 4.28
Hazardous Air Pollutants	Potential Emissions
	PPH / TPY
Benzene[1]	< 0.01 / < 0.01
Ethylbenzene[1]	< 0.01 / < 0.01
n-Hexane[1]	0.022 / 0.094
Toluene[1]	< 0.01 / 0.011
Xylenes[1]	< 0.01 / < 0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions
	PPH / TPY
CO_2[1]	22.6 / 9.90
CH_4[1]	2.31 / 10.13
CO_2e[1]	60.10 / 263.23

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. ProMax Output

Applicable Requirements *DEHY1, DEHY2, DEHY3 (each)*

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354ERequirements:

6.1.1 Dehydrator maximum daily throughput limit.

6.1.5 The recycled reboilers shall be designed and operated in accordance with this section
7.1.1 Maximum design heat input of reboilers
7.1.2 No person shall cause, suffer, allow, or permit emission of smoke/PM greater than ten (10) percent opacity passed on a six minute block average *[45CSR§2-3.1.]*

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

6.1.1 Dehydrator throughput shall be determined using a 12-month rolling total.

6.2.2 Monitor the throughput of dry natural gas to the dehydration system on a monthly basis for each unit

6.3.3 At the Director's request, demonstrate compliance with the HAP emission thresholds using GLYCalc

6.3.4-6.3.7, & 6.4.8 Determine actual average benzene emissions to demonstrate compliance with the one (1) tpy emission limit. Maintain records.

6.4.4 Document and maintain records required by sections 6.2 (monitoring) and 6.3 (testing)

6.4.6 Maintain records of PTE HAP calculations for the entire affected facility, including compressor engines and ancillary equipment to demonstrate compliance with section 4.1.2

6.4.7 Maintain records of dry natural gas throughput through the dehydration system to demonstrate compliance with section 6.1.1

6.4.9 Maintain all records required by section 6.4 for a period of five (5) years
7.2.1 At such reasonable times as the Secretary may designate, conduct Method 9 emission observations to demonstrate compliance with section 7.1.2
7.3.1 Conduct Method 9 tests or utilize measurements from continuous opacity monitoring systems approved by the director to demonstrate compliance with section 7.1.2 *[45CSR§2-3.2.]*
7.4.1 Maintain records of all monitoring data required by section 7.2.1

7.5.1 If deviations from the allowable visible emission requirements are discovered during observations using Method 9 or 22, report to the Director within ten (10) calendar days of the occurrence

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*TEG Dehydrator Reboilers DREB1, DREB2, DREB3 (each)*
Emission unit ID number: DREB1, DREB2, DREB3 (each)	**Emission unit name:** TEG Dehydrator Reboilers (each)	**List any control devices associated with this emission unit:** None
Provide a description of the emission unit (type, method of operation, design parameters, etc.): For each Natural Gas-Fired Dehydrator Reboiler: Vent gas from the flash gas tank is routed to the reboiler and used as fuel. As an alternate, flash gas is routed to the storage tanks via the VRU compressors onsite.		
Manufacturer: TBD	**Model number:** TBD	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017 – 09//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1.5 MMBtu/hr, each		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** 12.9 MMscf/yr	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? X Yes ___ No		**If yes, is it?** ___ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating: 1.5 MMBtu/hr, each		**Type and Btu/hr rating of burners:** 1.5 MMBtu/hr, each
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. Natural Gas 12.9 MMscf/yr		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	<0.01%	negligible	1,020 Btu/scf

Emissions Data		*DREB1, DREB2, DREB3 (each)*
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	0.12	0.54
Nitrogen Oxides (NO_X) [1]	0.15	0.64
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)[2]	0.011	0.049
Total Particulate Matter (TSP) [2]	0.011	0.049
Sulfur Dioxide (SO_2) [2]	< 0.01	< 0.01
Volatile Organic Compounds (VOC)[2]	< 0.01	0.035
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde[3]	< 0.01	< 0.01
Total HAPs (including HCHO) [3]	< 0.01	0.012
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2[4]	175.9	770.4
CH_4[5]	< 0.01	0.015
N_2O[5]	< 0.01	< 0.01
CO_2e[6]	176.1	771.2

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. AP-42, Chapter 1.4, Table 1.4-1
2. AP-42, Chapter 1.4, Table 1.4-2
3. AP-42, Chapter 1.4, Table 1.4-3
4. 40 CFR Part 98, Subpart C, Table C-1
5. 40 CFR Part 98, Subpart C, Table C-2
6. 40 CFR Part 98, Subpart A, Table A-1, effective January 2014

Applicable Requirements	*DREB1, DREB2, DREB3 (each)*

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

7.1.1 Maximum design heat input of reboilers

7.1.2 No person shall cause, suffer, allow, or permit emission of smoke/PM greater than ten (10) percent opacity passed on a six minute block average *[45CSR§2-3.1.]*

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

7.2.1 At such reasonable times as the Secretary may designate, conduct Method 9 emission observations to demonstrate compliance with section 7.1.2

7.3.1 Conduct Method 9 tests or utilize measurements from continuous opacity monitoring systems approved by the director to demonstrate compliance with section 7.1.2 *[45CSR§2-3.2.]*

7.4.1 Maintain records of all monitoring data required by section 7.2.1

7.5.1 If deviations from the allowable visible emission requirements are discovered during observations using Method 9 or 22, report to the Director within ten (10) calendar days of the occurrence

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*Condensate Tanks T01, T02, T03 (each)*
Emission unit ID number: T01, T02, T03 (each)	**Emission unit name:** Condensate Tanks (each)	**List any control devices associated with this emission unit:** VRU (14C/15C)
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Atmospheric Condensate Storage Tanks that are controlled with a VRU and recycled back into the process		
Manufacturer: TBD	**Model number:** TBD	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 400 barrels, each		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** 4,599,000 gal/yr (combined)	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		***T01, T02, T03 (each)***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO_X)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO_2)	N/A	N/A
Volatile Organic Compounds (VOC) [1]	0.021	0.092
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene[1]	< 0.01	< 0.01
Toluene[1]	< 0.01	< 0.01
Ethylbenzene[1]	< 0.01	< 0.01
Xylene[1]	< 0.01	< 0.01
n-Hexane[1]	< 0.01	< 0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CH_4[1]	N/A	< 0.01
CO_2e[1]	N/A	0.076

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. ProMax Output

Applicable Requirements *T01, T02, T03 (each)*

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

8.1.1 Route all VOC and HAP emissions from the tanks (Unit IDs: T01-T03) to a VRU System with at least 98% efficiency

8.1.2 Install, maintain, and operate the VRUs and associated monitoring equipment in a manner consistent with safety and good air pollution control practices or more stringent limits *[45CSR§13-5.11.]*

8.1.3 Maximum annual throughput limits from the tanks (Unit IDs: T01-T03)

8.1.5 *Additional VRU Requirements* – three (3) of the four (4) options must be utilized: install run status sensing equipment, install an automatic by-pass recycle system, install blanket gas with automatic throttling, and/or a install a compressor with a variable drive

8.1.6 The VRUs shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

8.1.7 The closed vent system shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-335E Requirements:

8.2.1 Monitor throughput to the storage vessels (Unit IDs: T01-T03) on a monthly basis
8.2.2 Monitor the VRUs in accordance with the plans and specifications and manufacturer's recommendations to demonstrate compliance with section 8.1.1
8.2.3a Conduct Initial AVO within 180 days of start-up, repair leaks as soon as practicable, grease requirements, delay of repair requirements
8.2.3b&c Conduct Annual AVO inspections (with visual bypass inspection) within 365 calendar days from date of previous inspection, repair leaks as soon as practicable, grease requirements, delay of repair requirements
8.2.3d&e Maintain a written plan for unsafe or difficult to inspect requirements that determines frequency of inspections*[45CSR§**13-5.11**]*
8.3.1. Maintain all records required by section 8.3 for five (5) years.
8.3.2 Maintain records of VRU equipment inspections and/or preventative maintenance procedures.
8.3.3 Maintain records according to this section of any malfunction or operational shutdown of the VRU during which excess emissions occur.
8.3.4 Maintain records of the aggregate throughput for the storage tanks on a monthly and 12-month rolling total for a period of five (5) years to demonstrate compliance with 8.1.3 and 8.1.4
8.3.5 Maintain a copy of all design records of the process, maintenance records of equipment and any downtime hours associated with the VRUs.
8.3.6 Maintain records of the additional monitoring required in section 8.1.5 to demonstrate compliance with the 98% control efficiency in section 8.1.1
8.3.7 Maintain initial compliance records, annual visual inspections, bypass inspections or each time the key is checked out or each time the alarm is sounded, each occurrence that the control device was bypassed, and unsafe or difficult to inspect designations to demonstrate compliance with the closed vent system monitoring requirements. *[45CSR§13-5.11]*

8.4.1 At the Director's request, report deviations when the control device was operated outside of the parameters defined in the monitoring plan
8.4.2 Notify the director if VRU downtime in excess of 2% based on the 12-month rolling total within ten (10) calendar days.

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*Condensate/Produced Water Settling Tank T04*
Emission unit ID number: T04	**Emission unit name:** Condensate/Produced Water Settling Tank	**List any control devices associated with this emission unit:** VRU (14C/15C)
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Atmospheric Condensate/Produced Water Storage Tank that is controlled with a VRU and recycled back into the process. Flash emissions occur in this tank and condensate and produced water are separated and routed to their respective storage tanks.		
Manufacturer: TBD	**Model number:** TBD	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 500 barrels		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** 5,978,700 gal/yr	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		***T04***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO_X)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO_2)	N/A	N/A
Volatile Organic Compounds (VOC) [1]	1.64	7.18
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene[1]	< 0.01	< 0.01
Toluene[1]	< 0.01	< 0.01
Ethylbenzene[1]	< 0.01	< 0.01
Xylene[1]	< 0.01	< 0.01
n-Hexane[1]	3.34E-02	1.46E-01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2e[1]	N/A	53

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. ProMax Ouptut

Applicable Requirements ***T04***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

8.1.1 Route all VOC and HAP emissions from the tank (Unit IDs: T04) to a VRU System with at least 98% efficiency

8.1.2 Install, maintain, and operate the VRUs and associated monitoring equipment in a manner consistent with safety and good air pollution control practices or more stringent limits *[45CSR§13-5.11.]*

8.1.3 Maximum annual throughput limits from the tank (Unit IDs: T04)

8.1.4 Maximum hourly and annual emission limits for the settling tank (Unit ID: T04)

8.1.5 *Additional VRU Requirements* – three (3) of the four (4) options must be utilized: install run status sensing equipment, install an automatic by-pass recycle system, install blanket gas with automatic throttling, and/or a install a compressor with a variable drive

8.1.6 The VRUs shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

8.1.7 The closed vent system shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

8.2.1 Monitor throughput to the storage vessels (Unit IDs: T04) on a monthly basis

8.2.2 Monitor the VRUs in accordance with the plans and specifications and manufacturer's recommendations to demonstrate compliance with section 8.1.1

8.2.3a Conduct Initial AVO within 180 days of start-up, repair leaks as soon as practicable, grease requirements, delay of repair requirements

8.2.3b&c Conduct Annual AVO inspections (with visual bypass inspection) within 365 calendar days from date of previous inspection, repair leaks as soon as practicable, grease requirements, delay of repair requirements

8.2.3d&e Maintain a written plan for unsafe or difficult to inspect requirements that determines frequency of inspections*[45CSR§**13-5.11**]*

8.3.1. Maintain all records required by section 8.3 for five (5) years.

8.3.2 Maintain records of VRU equipment inspections and/or preventative maintenance procedures.

8.3.3 Maintain records according to this section of any malfunction or operational shutdown of the VRU during which excess emissions occur.

8.3.4 Maintain records of the aggregate throughput for the storage tanks on a monthly and 12-month rolling total for a period of five (5) years to demonstrate compliance with 8.1.3 and 8.1.4

8.3.5 Maintain a copy of all design records of the process, maintenance records of equipment and any downtime hours associated with the VRUs.

8.3.6 Maintain records of the additional monitoring required in section 8.1.5 to demonstrate compliance with the 98% control efficiency in section 8.1.1

8.3.7 Maintain initial compliance records, annual visual inspections, bypass inspections or each time the key is checked out or each time the alarm is sounded, each occurrence that the control device was bypassed, and unsafe or

difficult to inspect designations to demonstrate compliance with the closed vent system monitoring requirements. *[45CSR§13-5.11]*

8.4.1 At the Director's request, report deviations when the control device was operated outside of the parameters defined in the monitoring plan

8.4.2 Notify the director if VRU downtime in excess of 2% based on the 12-month rolling total within ten (10) calendar days.

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		***Produced Water Tanks T05, T06, T07 (each)***
Emission unit ID number: T05, T06, T07 (each)	**Emission unit name:** Produced Water Tanks (each)	**List any control devices associated with this emission unit:** VRU (14C/15C)
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Atmospheric Produced Water Storage Tanks that are controlled with a VRU and recycled back into the process		
Manufacturer: TBD	**Model number:** TBD	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 400 barrels, each		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** 1,379,700 gal/yr (combined)	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		***T05, T06, T07 (each)***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO_X)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO_2)	N/A	N/A
Volatile Organic Compounds (VOC) [1]	< 0.01	< 0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene[1]	< 0.01	< 0.01
Toluene[1]	< 0.01	< 0.01
Ethylbenzene[1]	< 0.01	< 0.01
Xylene[1]	< 0.01	< 0.01
n-Hexane[1]	< 0.01	< 0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CH_4[1]	N/A	< 0.01
CO_2e[1]	N/A	< 0.01

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. ProMax Output

Applicable Requirements *T05, T06, T07 (each)*

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

8.1.1 Route all VOC and HAP emissions from the tanks (Unit IDs: T05-T07) to a VRU System with at least 98% efficiency

8.1.2 Install, maintain, and operate the VRUs and associated monitoring equipment in a manner consistent with safety and good air pollution control practices or more stringent limits *[45CSR§13-5.11.]*

8.1.3 Maximum annual throughput limits from the tanks (Unit IDs: T05-T07)

8.1.5 *Additional VRU Requirements* – three (3) of the four (4) options must be utilized: install run status sensing equipment, install an automatic by-pass recycle system, install blanket gas with automatic throttling, and/or a install a compressor with a variable drive

8.1.6 The VRUs shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

8.1.7 The closed vent system shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

8.2.1 Monitor throughput to the storage vessels (Unit IDs: T05-T07) on a monthly basis

8.2.2 Monitor the VRUs in accordance with the plans and specifications and manufacturer's recommendations to demonstrate compliance with section 8.1.1

8.2.3a Conduct Initial AVO within 180 days of start-up, repair leaks as soon as practicable, grease requirements, delay of repair requirements

8.2.3b&c Conduct Annual AVO inspections (with visual bypass inspection) within 365 calendar days from date of previous inspection, repair leaks as soon as practicable, grease requirements, delay of repair requirements

8.2.3d&e Maintain a written plan for unsafe or difficult to inspect requirements that determines frequency of inspections*[45CSR§**13-5.11**]*

8.3.1. Maintain all records required by section 8.3 for five (5) years.

8.3.2 Maintain records of VRU equipment inspections and/or preventative maintenance procedures.

8.3.3 Maintain records according to this section of any malfunction or operational shutdown of the VRU during which excess emissions occur.

8.3.4 Maintain records of the aggregate throughput for the storage tanks on a monthly and 12-month rolling total for a period of five (5) years to demonstrate compliance with 8.1.3 and 8.1.4

8.3.5 Maintain a copy of all design records of the process, maintenance records of equipment and any downtime hours associated with the VRUs.

8.3.6 Maintain records of the additional monitoring required in section 8.1.5 to demonstrate compliance with the 98% control efficiency in section 8.1.1

8.3.7 Maintain initial compliance records, annual visual inspections, bypass inspections or each time the key is checked out or each time the alarm is sounded, each occurrence that the control device was bypassed, and unsafe or difficult to inspect designations to demonstrate compliance with the closed vent system monitoring requirements. *[45CSR§13-5.11]*
8.4.1 At the Director's request, report deviations when the control device was operated outside of the parameters defined in the monitoring plan
8.4.2 Notify the director if VRU downtime in excess of 2% based on the 12-month rolling total within ten (10) calendar days.

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*Fuel Conditioning Heater FUEL1*
Emission unit ID number: FUEL1	**Emission unit name:** Fuel Conditioning Heater	**List any control devices associated with this emission unit:** None
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Fuel conditioning skid with a 0.5 MMBtu/hr heater to allow for more complete combustion of fuel at the compressor engines		
Manufacturer: TBD	**Model number:** TBD	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 0.5 MMBtu/hr		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** 4.29 MMscf/yr	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? X Yes ___ No		**If yes, is it?** ___ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating: 0.5 MMBtu/hr		**Type and Btu/hr rating of burners:** 0.5 MMBtu/hr
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. Natural Gas 4.29 MMscf/yr		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	<0.01%	negligible	1,020 Btu/scf

Emissions Data		***FUEL1***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	0.041	0.18
Nitrogen Oxides (NO_X) [1]	0.049	0.21
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$)[2]	< 0.01	0.016
Total Particulate Matter (TSP) [2]	< 0.01	0.016
Sulfur Dioxide (SO_2) [2]	< 0.01	< 0.01
Volatile Organic Compounds (VOC)[2]	< 0.01	0.012
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde[3]	< 0.01	< 0.01
Total HAPs (including HCHO) [3]	< 0.01	< 0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2[4]	58.63	256.8
CH_4[5]	< 0.01	< 0.01
N_2O[5]	< 0.01	< 0.01
CO_2e[6]	58.69	257.1

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. AP-42, Chapter 1.4, Table 1.4-1
2. AP-42, Chapter 1.4, Table 1.4-2
3. AP-42, Chapter 1.4, Table 1.4-3
4. 40 CFR Part 98, Subpart C, Table C-1
5. 40 CFR Part 98, Subpart C, Table C-2
6. 40 CFR Part 98, Subpart A, Table A-1, effective January 2014

Applicable Requirements	***FUEL1***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

<u>Permit R13-3354E Requirements:</u>
7.1.1 Maximum design heat input
7.1.2 No person shall cause, suffer, allow, or permit emission of smoke/PM greater than ten (10) percent opacity passed on a six minute block average *[45CSR§2-3.1.]*

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

<u>Permit R13-3354E Requirements:</u>
7.2.1 At such reasonable times as the Secretary may designate, conduct Method 9 emission observations to demonstrate compliance with section 7.1.2
7.3.1 Conduct Method 9 tests or utilize measurements from continuous opacity monitoring systems approved by the director to demonstrate compliance with section 7.1.2 *[45CSR§2-3.2.]*
7.4.1 Maintain records of all monitoring data required by section 7.2.1
7.5.1 **If deviations from the allowable visible emission requirements are discovered during observations using Method 9 or 22, report to the Director within ten (10) calendar days of the occurrence**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*Liquid Loadout LDOUT1*
Emission unit ID number: LDOUT1	**Emission unit name:** Liquid Loadout	**List any control devices associated with this emission unit:** None
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Loadout of condensate and produced water from storage tanks		
Manufacturer: N/A	**Model number:** N/A	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 300 bbl/day of condensate and 90 bbl/day of produced water		
Maximum Hourly Throughput: 260 bbl/hour	**Maximum Annual Throughput:** 390 bbl/day	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		***LDOUT1***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	N/A	N/A
Nitrogen Oxides (NO_X) [1]	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$) [1]	N/A	N/A
Total Particulate Matter (TSP) [1]	N/A	N/A
Sulfur Dioxide (SO_2) [1]	N/A	N/A
Volatile Organic Compounds (VOC) [1]	59.72	12.45
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene[1]	0.037	< 0.01
Toluene[1]	0.068	0.014
Ethylbenzene[1]	0.025	< 0.01
Xylene[1]	0.063	0.013
n-Hexane[1]	1.21	0.25
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2e[1]	445.32	92.86

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. ProMax Output

Applicable Requirements	***LDOUT1***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

9.1.1 Maximum annual throughput limit for condensate liquid loadout. Please reference data above for exact limits.

9.1.2 Maximum annual throughput limit for produced water liquid loadout. Please reference data above for exact limits.

9.1.3 The loadout racks shall be designed and operated in accordance with this section

9.1.4 Truck loading shall be operated in accordance with the plans and specifications filed in Permit Application R13-3354

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

9.2.1 Follow monitoring requirements as outlined in Section 3.2 of the permit

9.3.1 Maintain records required by section 9.3 for a period of five (5) years

9.3.2 Maintain records of the aggregate throughput for the loadout rack on a monthly and 12-month rolling total

9.4.1 Follow reporting requirements as outlined in Section 3.5 of the permit

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*Venting Episodes VENT1*
Emission unit ID number: VENT1	**Emission unit name:** Venting Episodes	**List any control devices associated with this emission unit:** None
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Emissions account for compressor blowdowns, compressor startups, plant shutdowns, and high and low pressure pigging events.		
Manufacturer: N/A	**Model number:** N/A	**Serial number:** N/A
Construction date: TBD	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): Compressor Blowdowns – 936 events/year Compressor Startups – 936 events/year Plant Shutdown – 2 events/year Low Pressure Pigging – 395 events/year High Pressure Pigging – 520 events/year Vessel Cleaning/Maintenance - 39,300 scf/year		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** N/A	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		***VENT1***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	N/A	N/A
Nitrogen Oxides (NO_X) [1]	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$) [1]	N/A	N/A
Total Particulate Matter (TSP) [1]	N/A	N/A
Sulfur Dioxide (SO_2) [1]	N/A	N/A
Volatile Organic Compounds (VOC) [1]	N/A	22.53
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs[1]	N/A	0.46
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2e[1]	N/A	2,110

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. Engineering Estimates

Applicable Requirements	*VENT1*

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

14.1.1 Annual blowdown event limits. Please reference data above for exact limits.

14.1.2 Annual compressor startup event limits. Please reference data above for exact limits.

14.1.3 Annual low-pressure pigging event limits. Please reference data above for exact limits.

14.1.4 Annual high-pressure pigging event limits. Please reference data above for exact limits.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

14.2.1 Maintain records required by this section for a period of five (5) years

14.2.2 Maintain records of blowdown and pigging event counts and estimated volume on a monthly and 12-month rolling total to demonstrate compliance with sections 14.1.1 – 14.1.4 of this permit

14.3.1 If deviations from the permit conditions 14.1.1 – 14.1.4 occur, report to the Director within ten (10) calendar days of such deviation

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description-		*Fugitives FUG*
Emission unit ID number: FUG	**Emission unit name:** Fugitives	**List any control devices associated with this emission unit:** None
Provide a description of the emission unit (type, method of operation, design parameters, etc.): Emissions account for component fugitive leaks and haul roads.		
Manufacturer: N/A	**Model number:** N/A	**Serial number:** N/A
Construction date: N/A	**Installation date:** 08//2017	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): Haul Roads: Condensate Tank Trucks – 730 trips/year Haul Roads: Produced Water Tank Trucks – 365 trips/year Haul Roads: Passenger Trucks – 1,460 trips/year		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** N/A	**Maximum Operating Schedule:** 8,760 hr/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ___ Yes **_X_ No**		**If yes, is it?** ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		***FUG***
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [1]	N/A	N/A
Nitrogen Oxides (NO_X) [1]	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}/PM_{10}$) [1]	0.21	0.90
Total Particulate Matter (TSP) [1]	0.21	4.43
Sulfur Dioxide (SO_2) [1]	N/A	N/A
Volatile Organic Compounds (VOC) [1]	2.04	8.94
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs[1]	0.044	0.19
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO_2e[1]	N/A	177

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

1. Engineering Estimates

Applicable Requirements ***FUG***

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Permit R13-3354E Requirements:

12.1.1 *NSPS OOOOa standards* – a leak is any visible emission from a fugitive component observed using an optical gas imaging or an instrument reading of 500 ppm or greater using Method 21.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Permit R13-3354E Requirements:

12.1.1 LDAR Requirements

(a) Monitor all fugitive emission components in accordance with paragraphs (b)-(g) of this section. Keep records in accordance with paragraph (i) and report in accordance with paragraph (j)

(b)-(d) Develop written emissions monitoring plan in accordance with paragraph (c) and (d) of this section

(e)-(g) Each monitoring survey shall observe each fugitive component as defined in 40 CFR §60.5430a. The initial survey shall be conducted with sixty (60) days of startup of production then quarterly moving forward. Difficult or unsafe to inspect and winter requirements are also outlined.

(h) Repair timelines – as soon as practicable but no later than 30 calendar days after detection, resurvey of repairs as soon as practicable but no later than 30 calendar days after repair, delay of repair instructions, leak tagging instructions,

(i) Maintain records of surveys shall as specified in 40 CFR §60.5420a(c)(15)

(j) Submit annual reports in accordance with 40 CFR §60.5420a(b)(7)

12.2.2 *Initial Compliance Demonstration* - develop fugitive monitoring plan, conduct initial monitoring, maintain records, repair leaks, and submit initial annual report

12.2.2 *Continuous Compliance Demonstration* - conduct periodic monitoring, repair leaks, maintain records, and submit annual reports

12.4.1 *Notification Requirements* – No requirements according to 40 CFR §60. 5420a(a)(1)

12.4.2 Submit annual reports and performance tests as outlined in this section

12.4.3 Maintain records identified in 40 CFR §60.7(f) and as outlined in this section for five (5) years

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Attachment G Air Pollution Control Device Forms

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Oxidation Catalysts: 1C through 12C	**List all emission units associated with this control device.** Compressor Engine #1 through #12: C-100 though C-1200 (1E through 12E)	
Manufacturer: TBD	**Model number:** RT-3615-H	**Installation date:** 11//2017

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	_X_ **Other: Oxidation Catalyst**
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
CO	N/A	94%
VOC	N/A	49%
HCHO	N/A	88%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Permit R13-3354E Requirements:

5.1.4.a-b The compressor engines shall be equipped with oxidation catalysts and fitted with a closed-loop automatic air/fuel ratio feedback controller to ensure a lean-rich mixture. A high temperature alarm shall also be installed that shuts off the engine before deactivation of the catalyst occurs.

5.1.4.d No person shall knowingly: remove, bypass, defeat or render inoperative any air pollution control device subject to the requirements of this permit

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes **_X_ No**

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Unit does not meet the definition of a large Pollutant-Specific Emissions Unit (PSEU): a PSEU with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels. Units are subject to a NSPS standard (NSPS JJJJ) that is exempt per checklist. Therefore, CAM is not applicable per the instructions in Attachment H.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Permit R13-3354E Requirements:

5.1.4.a-b The compressor engines shall be equipped with oxidation catalysts and fitted with a closed-loop automatic air/fuel ratio feedback controller to ensure a lean-rich mixture. A high temperature alarm shall also be installed that shuts off the engine before deactivation of the catalyst occurs.

5.1.4.b Monitor the inlet catalyst temperature in accordance with manufacturer's specifications. If the engine shuts off due to high temperature, check for thermal deactivation of the catalyst before normal operations resume.

5.1.4.c Conduct periodic and annual maintenance according to the written O&M Plan

5.2.1 Maintain proper operation of the automatic air/fuel ratio controller or automatic feedback controller and follow O&M recommendation of the catalyst element manufacturer

5.4.1. Maintain maintenance records for the catalytic reduction device for five (5) years to demonstrate compliance with 5.1.4

11.1.1 Replace rod packing on or before the compressor has operated for 26,000 hours or 36 months

11.1, 11.2 & 11.3 Continuously monitor the hours of operation or number of months since last rod packing replacement

11.1, 11.2, 11.3, & 11.4 Submit Initial and Annual Reports in accordance with 40 CFR §60.5420a(b)(l), (4), and (9)

11.1, 11.2, 11.3, & 11.4 Maintain records of hours of operation or number of months since last rod packing replacement, date and time of rod packing replacement, and any deviations

11.4.1 No requirements according to 40 CFR §60.5420a(a)(1)

11.4.2 Submit performance test reports as specified in paragraph (b)(9) of 40 CFR §60.5420a

11.4.3 Maintain reporting and recordkeeping as required by 40 CFR §60.5420a(c)(3), (6)-(9), and (17), as applicable, to demonstrate compliance with 12.1.1.d

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Facility Flare: FLARE1 (31E)	**List all emission units associated with this control device.** TEG Dehydrator Still Vents: DEHY1, DEHY2, DEHY3	
Manufacturer: TBD	**Model number:** TBD	**Installation date:** 2017

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	**_X_ Flare**	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC	N/A	98%
HAPs	N/A	98%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Permit R13-3354E Requirements:

6.1.2 Flare maximum hourly and annual emission limits.

6.1.3 The flare shall be designed and operated in accordance with this section - non-assisted, no visible emissions (except for periods not to exceed 5 minutes during any 2 consecutive hours), flame shall be present at all times whenever emissions may be vented (except during MSS), net heating value and velocity requirements

6.1.4 Conduct a flare design evaluation in accordance with section 6.4.2 of the permit. At the Director's request, conduct a flare compliance assessment for concentration of sample and tip velocity in accordance with section 6.3.2 of the permit.

6.2.1 The pilot shall be equipped with an alarm or remote alarm when the pilot is out

6.1.4 Conduct a flare design evaluation in accordance with section 6.4.2.

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes _X_ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Unit does not meet the definition of a large Pollutant-Specific Emissions Unit (PSEU): a PSEU with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels. Units are subject to a MACT standard (MACT HH) that limits VOCs by way of benzene. Also, the Title V permit specifies a continuous compliance method of pilot monitoring. Both stipulations are considered exempt from CAM Plan instructions. Therefore, CAM is not applicable per the instructions in Attachment H.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Permit R13-3354E Requirements:

6.1.4 Maintain record of the flare design evaluation in accordance with 6.4.2 or comply with section 6.3.2

6.2.1 Continuously monitor the pilot flame, using a thermocouple or equivalent device, to show compliance with section 6.1.3.c

6.3.1 & 6.4.5 Conduct Method 22 test for at least two hours within one (1) year of initial startup to demonstrate compliance with section 6.1.3b. Maintain records of opacity tests.

6.3.2 At the Director's request, conduct a flare compliance assessment to demonstrate compliance with section 6.1.3

6.4.1 Maintain records of the times and duration of all periods which the pilot flame was absent to demonstrate compliance with section 6.1.3c and 6.2.1

6.4.2 Maintain record of the flare design evaluation to demonstrate compliance with section 6.1.4 and 6.3.2

6.4.3 Maintain records of testing conducted in accordance with 6.3.3 to demonstrate compliance with section 6.1.3 and 6.3.3

6.4.4 Document and maintain records required by sections 6.2 (monitoring) and 6.3 (testing)

6.4.9 Maintain all records required by section 6.4 for a period of five (5) years

6.5.1 If required by the Director to comply with section 6.3.3, submit a testing protocol at least thirty (30) days prior to any testing, submit notification at least fifteen (15) days prior to any testing, submit test results within sixty (60) days of completion, including supporting calculations and testing data

6.5.2 If deviations from the allowable visible emission requirements are discovered during observations using Method 9 or 22, report to the Director within ten (10) calendar days of the occurrence

6.5.3 If deviations from the flare design and operation criteria in section 6.1.3 occur, report to the Director within ten (10) calendar days of such deviation

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: TEG Dehydrator Unit Reboilers: DREB1 (16E), DREB2 (19E), DREB3(22E)	**List all emission units associated with this control device.** TEG Dehydrator Flash Tanks: DFLSH1 (16C), DFLSH2 (17C), DFLSH3 (18C)	
Manufacturer: TBD	**Model number:** TBD	**Installation date:** 08//2017 – 09//2017

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	**_X_ Other: Reboiler w/ VRU backup**
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC	N/A	98%
HAPs	N/A	98%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Permit R13-3354E Requirements:

6.1.5 The recycled reboilers shall be designed and operated in accordance with this section – closed vent system, only fired with vapors from the flash tank (natural gas may be used as supplemental fuel), vapors/overheads from flash tank will be introduced into the flame zone of the reboiler, and when the flash tank gas cannot be used by the reboiler due to excess gas or the reboiler is offline, the gas shall be sent to the vapor recovery units (Unit IDs: VRU-100 and VRU-200) via the storage tanks to achieve a minimum control efficiency of 98%.
7.1.1 Maximum design heat input of reboilers
7.1.2 No person shall cause, suffer, allow, or permit emission of smoke/PM greater than ten (10) percent opacity passed on a six minute block average *[45CSR§2-3.1.]*

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes _X_ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Unit does not meet the definition of a large Pollutant-Specific Emissions Unit (PSEU): a PSEU with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels. Units are subject to a MACT standard (MACT HH) that limits VOCs by way of benzene. Also, the VRU backup has continuous compliance requirements by way of design and downtime monitoring. Both stipulations are considered exempt from CAM Plan instructions. Therefore, CAM is not applicable per instructions in Attachment H.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Permit R13-3354E Requirements:

7.2.1 At such reasonable times as the Secretary may designate, conduct Method 9 emission observations to demonstrate compliance with section 7.1.2

7.3.1 Conduct Method 9 tests or utilize measurements from continuous opacity monitoring systems approved by the director to demonstrate compliance with section 7.1.2 *[45CSR§2-3.2.]*

7.4.1 Maintain records of all monitoring data required by section 7.2.1

7.5.1 If deviations from the allowable visible emission requirements are discovered during observations using Method 9 or 22, report to the Director within ten (10) calendar days of the occurrence

See requirements in tanks section on VRUs that will be used as a backup control device for the flash tanks.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Vapor Recovery Units: VRU-100 (14C), VRU-200 (15C)	**List all emission units associated with this control device.** Condensate/Produced Water Tanks (T01 through T07)	
Manufacturer: TBD	**Model number:** TBD	**Installation date:** 10//2017

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	**_X_ Other: Vapor Recovery (VRU)**
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC	98%	N/A
HAPs	98%	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

VRU-100 is the primary VRU to collect storage tank vapors and VRU-200 is the backup VRU in times when the primary VRU is undergoing maintenance or shutdown. In the unlikely event that both VRU-100 and VRU-200 are under maintenance or are shutdown, a bypass system is in place to route tank vapors to the facility inlet. This is a closed loop system; however, to be conservative, only 98% capture efficiency was permitted.

Permit R13-3354E Requirements:

8.1.5 *Additional VRU Requirements* – three (3) of the four (4) options must be utilized: install run status sensing equipment, install an automatic by-pass recycle system, install blanket gas with automatic throttling, and/or a install a compressor with a variable drive

8.1.6 The VRUs shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

8.1.7 The closed vent system shall be designed and operated in accordance with this section *[45CSR§13-5.11]*

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes **_X_ No closed loop system, however claiming 98% efficiency.**

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Unit does not meet the definition of a large Pollutant-Specific Emissions Unit (PSEU): a PSEU with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels. The Title V permit contains continuous compliance requirements for VRU downtime and design records of the system. Therefore, CAM is not applicable per the instructions in Attachment H.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Permit R13-3354E Requirements:
8.2.2 Monitor the VRUs in accordance with the plans and specifications and manufacturer's recommendations to demonstrate compliance with section 8.1.1
8.2.3a Conduct Initial AVO within 180 days of start-up, repair leaks as soon as practicable, grease requirements, delay of repair requirements
8.2.3b&c Conduct Annual AVO inspections (with visual bypass inspection) within 365 calendar days from date of previous inspection, repair leaks as soon as practicable, grease requirements, delay of repair requirements
8.2.3d&e Maintain a written plan for unsafe or difficult to inspect requirements that determines frequency of inspections*[45CSR§**13-5.11**]*
8.3.1. Maintain all records required by section 8.3 for five (5) years.
8.3.2 Maintain records of VRU equipment inspections and/or preventative maintenance procedures.
8.3.3 Maintain records according to this section of any malfunction or operational shutdown of the VRU during which excess emissions occur.
8.3.5 Maintain a copy of all design records of the process, maintenance records of equipment and any downtime hours associated with the VRUs.
8.3.6 Maintain records of the additional monitoring required in section 8.1.5 to demonstrate compliance with the 98% control efficiency in section 8.1.1
8.3.7 Maintain initial compliance records, annual visual inspections, bypass inspections or each time the key is checked out or each time the alarm is sounded, each occurrence that the control device was bypassed, and unsafe or difficult to inspect designations to demonstrate compliance with the closed vent system monitoring requirements. *[45CSR§13-5.11]*
8.4.1 At the Director's request, report deviations when the control device was operated outside of the parameters defined in the monitoring plan
8.4.2 Notify the director if VRU downtime in excess of 2% based on the 12-month rolling total within ten (10) calendar days.

Attachment H Compliance Assurance Monitoring Plan Form

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☐ YES ☑ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☑ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

All potential PSEUs have control devices that are either required by emission limitations or standards in the exempt list (NSPS or MACT) and/or have conditions currently in the Title V permit and underlying construction permit with continuous compliance requirements such as design specifications and pilot monitoring.