



**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AIR QUALITY PROGRAM**

**STATE ONLY SYNTHETIC MINOR OPERATING PERMIT**

Issue Date: March 22, 2022

Effective Date: April 5, 2022

Expiration Date: March 22, 2027

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to operate the air emission source(s) more fully described in this permit. This Facility is subject to all terms and conditions specified in this permit. Nothing in this permit relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each permit condition is set forth in brackets. All terms and conditions in this permit are federally enforceable unless otherwise designated.

**State Only Permit No: 63-00933**

Synthetic Minor

Federal Tax Id - Plant Code: 30-0528059-5

**Owner Information**

Name: MARKWEST LIBERTY MIDSTREAM & RESOURCES LLC

Mailing Address: 4600 JBARRY CT STE 500  
CANONSBURG, PA 15317-5854

**Plant Information**

Plant: MARKWEST LIBERTY MIDSTREAM & RESOURCES/JOHNSTON COMP STA

Location: 63 Washington County 63921 Chartiers Township

SIC Code: 1311 Mining - Crude Petroleum And Natural Gas

**Responsible Official**

Name: BRANDON BELFORD

Title: OPERATIONS DIRECTOR

Phone: (724) 416 - 0523

Email: babelford@marathonpetroleum.com

**Permit Contact Person**

Name: ALLIE JUAREZ

Title: G&P ENGINEER I

Phone: (412) 815 - 8886

Email: ajuarez@marathonpetroleum.com

[Signature] \_\_\_\_\_

MARK R. GOROG, P.E., ENVIRONMENTAL PROGRAM MANAGER, SOUTHWEST REGION



## SECTION A. Table of Contents

### Section A. Facility/Source Identification

Table of Contents  
Site Inventory List

### Section B. General State Only Requirements

- #001 Definitions.
- #002 Operating Permit Duration.
- #003 Permit Renewal.
- #004 Operating Permit Fees under Subchapter I.
- #005 Transfer of Operating Permits.
- #006 Inspection and Entry.
- #007 Compliance Requirements.
- #008 Need to Halt or Reduce Activity Not a Defense.
- #009 Duty to Provide Information.
- #010 Revising an Operating Permit for Cause.
- #011 Operating Permit Modifications
- #012 Severability Clause.
- #013 De Minimis Emission Increases.
- #014 Operational Flexibility.
- #015 Reactivation
- #016 Health Risk-based Emission Standards and Operating Practice Requirements.
- #017 Circumvention.
- #018 Reporting Requirements.
- #019 Sampling, Testing and Monitoring Procedures.
- #020 Recordkeeping.
- #021 Property Rights.
- #022 Alternative Operating Scenarios.
- #023 Reporting
- #024 Report Format

### Section C. Site Level State Only Requirements

- C-I: Restrictions
- C-II: Testing Requirements
- C-III: Monitoring Requirements
- C-IV: Recordkeeping Requirements
- C-V: Reporting Requirements
- C-VI: Work Practice Standards
- C-VII: Additional Requirements
- C-VIII: Compliance Certification
- C-IX: Compliance Schedule

### Section D. Source Level State Only Requirements

- D-I: Restrictions
- D-II: Testing Requirements
- D-III: Monitoring Requirements
- D-IV: Recordkeeping Requirements
- D-V: Reporting Requirements
- D-VI: Work Practice Standards
- D-VII: Additional Requirements

Note: These same sub-sections are repeated for each source!

### Section E. Source Group Restrictions

- E-I: Restrictions



## SECTION A. Table of Contents

- E-II: Testing Requirements
- E-III: Monitoring Requirements
- E-IV: Recordkeeping Requirements
- E-V: Reporting Requirements
- E-VI: Work Practice Standards
- E-VII: Additional Requirements

### Section F. Alternative Operating Scenario(s)

- F-I: Restrictions
- F-II: Testing Requirements
- F-III: Monitoring Requirements
- F-IV: Recordkeeping Requirements
- F-V: Reporting Requirements
- F-VI: Work Practice Standards
- F-VII: Additional Requirements

### Section G. Emission Restriction Summary

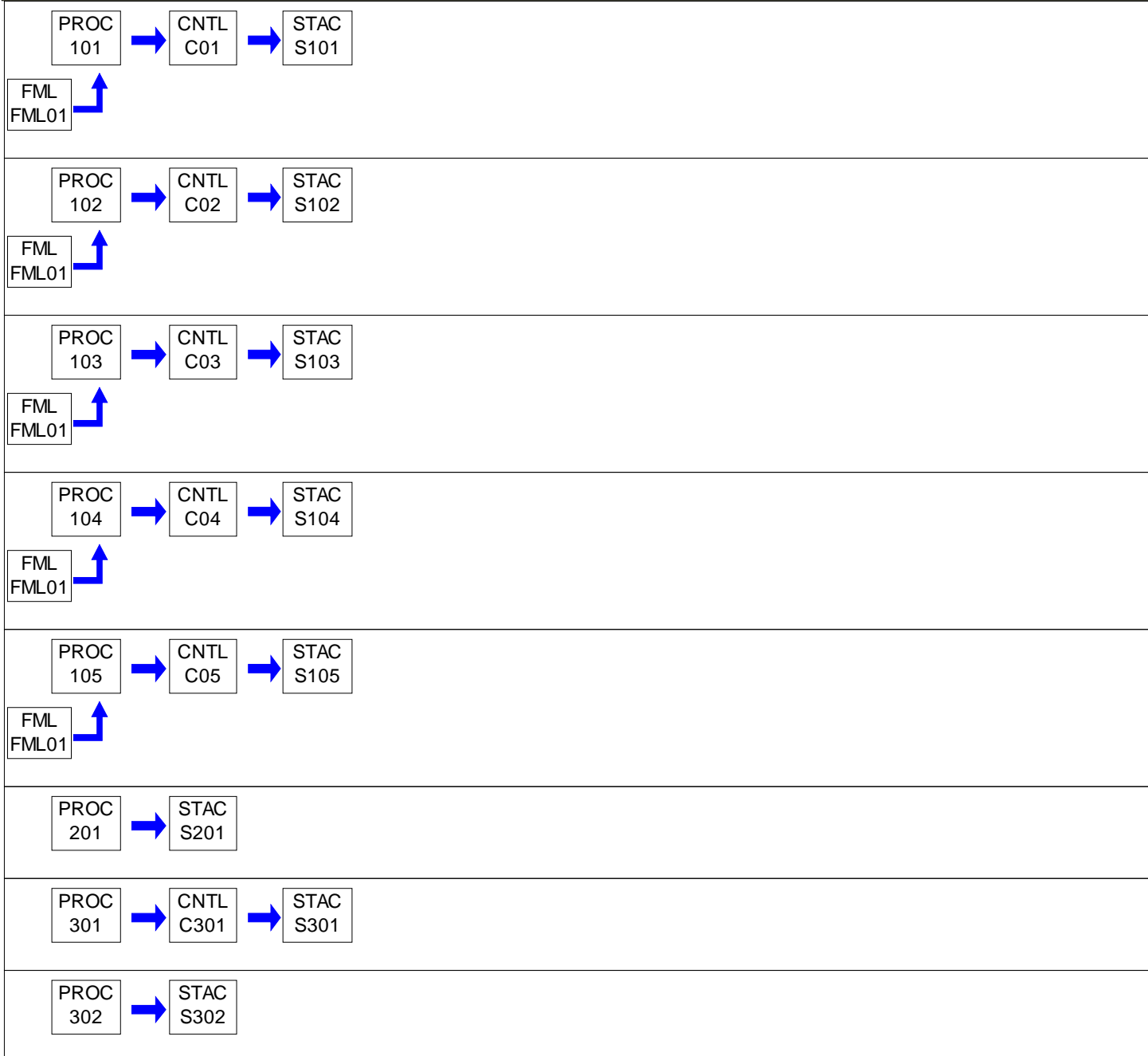
### Section H. Miscellaneous

**SECTION A. Site Inventory List**

Source ID	Source Name	Capacity/Throughput	Fuel/Material
101	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02779	9.727 MCF/HR	Natural Gas
102	CAT G3516 LE ENG (1340 BHP-HR),SN WPW02538	9.727 MCF/HR	Natural Gas
103	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02778	9.727 MCF/HR	Natural Gas
104	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02833	9.727 MCF/HR	Natural Gas
105	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02832	9.727 MCF/HR	Natural Gas
201	HEATERS/REBOILERS	0.635 MCF/HR	
301	TANKS/VESSELS	N/A	
302	METHANOL STORAGE TANKS		
303	CONDENSATE LOADOUT	N/A	CONDENSATE
401	GLYCOL DEHYDRATOR	1.875 MMCF/HR	
501	PNEUMATIC DEVICES	13.500 CF/HR	
601	VENTING/BLOWDOWNS	N/A	NATURAL GAS
701	FUGITIVES	N/A	
702	CRANKCASE VENTS	N/A	
801	PIGGING OPERATIONS	N/A	
C01	ENGINE 1 CATALYST		
C02	ENGINE 2 CATALYST		
C03	ENGINE 3 CATALYST		
C04	ENGINE 4 CATALYST		
C05	ENGINE 5 CATALYST		
C301	STORAGE TANKS/VESSELS VRU		
C401	7.0 MMBTU/HR FLARE INDUSTRIES FEF-48 ENCLOSED FLARE		
C801	HIGH-LOW PRESSURE JUMPERS		
FML01	NATURAL GAS LINE		
S101	ENGINE 1 STACK		
S102	ENGINE 2 STACK		
S103	ENGINE 3 STACK		
S104	ENGINE 4 STACK		
S105	ENGINE 5 STACK		
S201	HEATERS/REBOILERS STACK		
S301	TANKS/VESSELS STACK		
S302	METHANOL STORAGE TANKS STACK		
S401	GLYCOL DEHYDRATOR STACK		
Z303	CONDENSATE LOADOUT FUGITIVES		
Z501	PNEUMATIC DEVICES STACK		
Z601	VENTING/BLOWDOWNS STACK		
Z701	FUGITIVES STACK		
Z702	CRANKCASE VENTS FUGITIVES		

**SECTION A. Site Inventory List**

Source ID	Source Name	Capacity/Throughput	Fuel/Material
Z801	PIGGING OPERATIONS STACK		

**PERMIT MAPS**

**PERMIT MAPS**

PROC 303 → STAC Z303

PROC 401 → CNTL C401 → STAC S401

PROC 501 → STAC Z501

PROC 601 → STAC Z601

PROC 701 → STAC Z701

PROC 702 → STAC Z702

PROC 801 → CNTL C801 → STAC Z801

**SECTION B. General State Only Requirements****#001 [25 Pa. Code § 121.1]****Definitions.**

Words and terms that are not otherwise defined in this permit shall have the meanings set forth in Section 3 of the Air Pollution Control Act (35 P.S. § 4003) and in 25 Pa. Code § 121.1.

**#002 [25 Pa. Code § 127.446]****Operating Permit Duration.**

- (a) This operating permit is issued for a fixed term of five (5) years and shall expire on the date specified on Page 1 of this permit.
- (b) The terms and conditions of the expired permit shall automatically continue pending issuance of a new operating permit, provided the permittee has submitted a timely and complete application and paid applicable fees required under 25 Pa. Code Chapter 127, Subchapter I and the Department is unable, through no fault of the permittee, to issue or deny a new permit before the expiration of the previous permit.

**#003 [25 Pa. Code §§ 127.412, 127.413, 127.414, 127.446 & 127.703(b)]****Permit Renewal.**

- (a) The permittee shall submit a timely and complete application for renewal of the operating permit to the appropriate Regional Air Program Manager. The application for renewal of the operating permit shall be submitted at least six (6) months and not more than 18 months before the expiration date of this permit.
- (b) The application for permit renewal shall include the current permit number, a description of any permit revisions that occurred during the permit term, and any applicable requirements that were promulgated and not incorporated into the permit during the permit term. An application is complete if it contains sufficient information to begin processing the application, has the applicable sections completed and has been signed by a responsible official.
- (c) The permittee shall submit with the renewal application a fee for the processing of the application as specified in 25 Pa. Code § 127.703(b). The fees shall be made payable to "The Commonwealth of Pennsylvania Clean Air Fund" and submitted with the fee form to the respective regional office.
- (d) The renewal application shall also include submission of proof that the local municipality and county, in which the facility is located, have been notified in accordance with 25 Pa. Code § 127.413.
- (e) The application for renewal of the operating permit shall also include submission of supplemental compliance review forms in accordance with the requirements of 25 Pa. Code § 127.412(b) and § 127.412(j).
- (f) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information as necessary to address any requirements that become applicable to the source after the permittee submits a complete application, but prior to the date the Department takes action on the permit application.

**#004 [25 Pa. Code § 127.703]****Operating Permit Fees under Subchapter I.**

- (a) The permittee shall pay the annual operating permit maintenance fee according to the following fee schedule in either paragraph (1) or (2) in accordance with 25 Pa. Code § 127.703(d) on or before December 31 of each year for the next calendar year.
- (1) For a synthetic minor facility, a fee equal to:
- (i) Four thousand dollars (\$4,000) for calendar years 2021—2025.
  - (ii) Five thousand dollars (\$5,000) for calendar years 2026—2030.
  - (iii) Six thousand three hundred dollars (\$6,300) for the calendar years beginning with 2031.

**SECTION B. General State Only Requirements**

(2) For a facility that is not a synthetic minor, a fee equal to:

- (i) Two thousand dollars (\$2,000) for calendar years 2021—2025.
- (ii) Two thousand five hundred dollars (\$2,500) for calendar years 2026—2030.
- (iii) Three thousand one hundred dollars (\$3,100) for the calendar years beginning with 2031.

(b) The applicable fees shall be made payable to "The Commonwealth of Pennsylvania Clean Air Fund" with the permit number clearly indicated and submitted to the respective regional office.

**#005 [25 Pa. Code §§ 127.450 (a)(4) and 127.464]****Transfer of Operating Permits.**

(a) This operating permit may not be transferred to another person, except in cases of transfer-of-ownership that are documented and approved by the Department.

(b) In accordance with 25 Pa. Code § 127.450(a)(4), a change in ownership of the source shall be treated as an administrative amendment if the Department determines that no other change in the permit is required and a written agreement has been submitted to the Department identifying the specific date of the transfer of permit responsibility, coverage and liability between the current and the new permittee and a compliance review form has been submitted to, and the permit transfer has been approved by, the Department.

(c) This operating permit is valid only for those specific sources and the specific source locations described in this permit.

**#006 [25 Pa. Code § 127.441 and 35 P.S. § 4008]****Inspection and Entry.**

(a) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Department or authorized representatives of the Department to perform the following:

(1) Enter at reasonable times upon the permittee's premises where a source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

(3) Inspect at reasonable times, any facilities, equipment including monitoring and air pollution control equipment, practices, or operations regulated or required under this permit;

(4) Sample or monitor, at reasonable times, any substances or parameters, for the purpose of assuring compliance with the permit or applicable requirements as authorized by the Clean Air Act, the Air Pollution Control Act, or the regulations promulgated under the Acts.

(b) Pursuant to 35 P.S. § 4008, no person shall hinder, obstruct, prevent or interfere with the Department or its personnel in the performance of any duty authorized under the Air Pollution Control Act or regulations adopted thereunder including denying the Department access to a source at this facility. Refusal of entry or access may constitute grounds for permit revocation and assessment of criminal and/or civil penalties.

(c) Nothing in this permit condition shall limit the ability of the EPA to inspect or enter the premises of the permittee in accordance with Section 114 or other applicable provisions of the Clean Air Act.

**#007 [25 Pa. Code §§ 127.441 & 127.444]****Compliance Requirements.**

(a) The permittee shall comply with the conditions of this operating permit. Noncompliance with this permit constitutes a violation of the Clean Air Act and the Air Pollution Control Act and is grounds for one or more of the following:



**SECTION B. General State Only Requirements**

- (1) Enforcement action
- (2) Permit termination, revocation and reissuance or modification
- (3) Denial of a permit renewal application

(b) A person may not cause or permit the operation of a source which is subject to 25 Pa. Code Article III unless the source(s) and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued for the source is operated and maintained in accordance with specifications in the applications and the conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to 25 Pa. Code Chapter 127 in a manner inconsistent with good operating practices.

(c) For purposes of Sub-condition (b) of this permit condition, the specifications in applications for plan approvals and operating permits are the physical configurations and engineering design details which the Department determines are essential for the permittee's compliance with the applicable requirements in this State-Only permit. Nothing in this sub-condition shall be construed to create an independent affirmative duty upon the permittee to obtain a predetermination from the Department for physical configuration or engineering design detail changes made by the permittee.

**#008 [25 Pa. Code § 127.441]****Need to Halt or Reduce Activity Not a Defense.**

It shall not be a defense for the permittee in an enforcement action that it was necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**#009 [25 Pa. Code §§ 127.442(a) & 127.461]****Duty to Provide Information.**

(a) The permittee shall submit reports to the Department containing information the Department may prescribe relative to the operation and maintenance of each source at the facility.

(b) The permittee shall furnish to the Department, in writing, information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Department copies of records that the permittee is required to maintain in accordance with this permit.

**#010 [25 Pa. Code § 127.461]****Revising an Operating Permit for Cause.**

This operating permit may be terminated, modified, suspended or revoked and reissued if one or more of the following applies:

- (1) The permittee constructs or operates the source subject to the operating permit so that it is in violation of the Air Pollution Control Act, the Clean Air Act, the regulations thereunder, a plan approval, a permit or in a manner that causes air pollution.
- (2) The permittee fails to properly or adequately maintain or repair an air pollution control device or equipment attached to or otherwise made a part of the source.
- (3) The permittee has failed to submit a report required by the operating permit or an applicable regulation.
- (4) The EPA determines that the permit is not in compliance with the Clean Air Act or the regulations thereunder.

**#011 [25 Pa. Code §§ 127.450, 127.462, 127.465 & 127.703]****Operating Permit Modifications**

(a) The permittee is authorized to make administrative amendments, minor operating permit modifications and significant operating permit modifications, under this permit, as outlined below:

**SECTION B. General State Only Requirements**

(b) Administrative Amendments. The permittee shall submit the application for administrative operating permit amendments (as defined in 25 Pa. Code § 127.450(a)), according to procedures specified in § 127.450 unless precluded by the Clean Air Act or its regulations.

(c) Minor Operating Permit Modifications. The permittee shall submit the application for minor operating permit modifications (as defined 25 Pa. Code § 121.1) in accordance with 25 Pa. Code § 127.462.

(d) Significant Operating Permit Modifications. The permittee shall submit the application for significant operating permit modifications in accordance with 25 Pa. Code § 127.465.

(e) The applicable fees shall be made payable to "The Commonwealth of Pennsylvania Clean Air Fund" with the permit number clearly indicated and submitted to the respective regional office.

**#012 [25 Pa. Code § 127.441]****Severability Clause.**

The provisions of this permit are severable, and if any provision of this permit is determined by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

**#013 [25 Pa. Code § 127.449]****De Minimis Emission Increases.**

(a) This permit authorizes de minimis emission increases in accordance with 25 Pa. Code § 127.449 so long as the permittee provides the Department with seven (7) days prior written notice before commencing any de minimis emissions increase. The written notice shall:

(1) Identify and describe the pollutants that will be emitted as a result of the de minimis emissions increase.

(2) Provide emission rates expressed in tons per year and in terms necessary to establish compliance consistent with any applicable requirement.

(b) The Department may disapprove or condition de minimis emission increases at any time.

(c) Except as provided below in (d), the permittee is authorized to make de minimis emission increases (expressed in tons per year) up to the following amounts without the need for a plan approval or prior issuance of a permit modification:

(1) Four tons of carbon monoxide from a single source during the term of the permit and 20 tons of carbon monoxide at the facility during the term of the permit.

(2) One ton of NO<sub>x</sub> from a single source during the term of the permit and 5 tons of NO<sub>x</sub> at the facility during the term of the permit.

(3) One and six-tenths tons of the oxides of sulfur from a single source during the term of the permit and 8.0 tons of oxides of sulfur at the facility during the term of the permit.

(4) Six-tenths of a ton of PM<sub>10</sub> from a single source during the term of the permit and 3.0 tons of PM<sub>10</sub> at the facility during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder or 25 Pa. Code Article III.

(5) One ton of VOCs from a single source during the term of the permit and 5.0 tons of VOCs at the facility during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder or 25 Pa. Code Article III.

(6) Other sources and classes of sources determined to be of minor significance by the Department.

(d) In accordance with § 127.14, the permittee is authorized to install the following minor sources without the need for a plan approval or permit modification:

**SECTION B. General State Only Requirements**

- (1) Air conditioning or ventilation systems not designed to remove pollutants generated or released from other sources.
- (2) Combustion units rated at 2,500,000 or less Btu per hour of heat input.
- (3) Combustion units with a rated capacity of less than 10,000,000 Btu per hour heat input fueled by natural gas supplied by a public utility or by commercial fuel oils which are No. 2 or lighter, viscosity less than or equal to 5.82 c St, and which meet the sulfur content requirements of 25 Pa. Code §123.22 (relating to combustion units). For purposes of this permit, commercial fuel oil shall be virgin oil which has no reprocessed, recycled or waste material added.
- (4) Space heaters which heat by direct heat transfer.
- (5) Laboratory equipment used exclusively for chemical or physical analysis.
- (6) Other sources and classes of sources determined to be of minor significance by the Department.
- (e) This permit does not authorize de minimis emission increases if the emissions increase would cause one or more of the following:
- (1) Increase the emissions of a pollutant regulated under Section 112 of the Clean Air Act except as authorized in Subparagraphs (c)(4) and (5) of this permit condition.
- (2) Subject the facility to the prevention of significant deterioration requirements in 25 Pa. Code Chapter 127, Subchapter D and/or the new source review requirements in Subchapter E.
- (3) Violate any applicable requirement of this permit, the Air Pollution Control Act, the Clean Air Act, or the regulations promulgated under either of the acts.
- (f) Emissions authorized under this permit condition shall be included in the monitoring, recordkeeping and reporting requirements of this permit.
- (g) Except for de minimis emission increases, installation of minor sources made pursuant to this permit condition and Plan Approval Exemptions under 25 Pa. Code § 127.14 (relating to exemptions), the permittee is prohibited from making changes or engaging in activities that are not specifically authorized under this permit without first applying for a plan approval. In accordance with § 127.14(b), a plan approval is not required for the construction, modification, reactivation, or installation of the sources creating the de minimis emissions increase.
- (h) The permittee may not meet de minimis emission threshold levels by offsetting emission increases or decreases at the same source.

**#014 [25 Pa. Code § 127.3]****Operational Flexibility.**

The permittee is authorized to make changes within the facility in accordance with the regulatory provisions outlined in 25 Pa. Code § 127.3 (relating to operational flexibility) to implement the operational flexibility requirements provisions authorized under Section 6.1(i) of the Air Pollution Control Act and the operational flexibility terms and conditions of this permit. The provisions in 25 Pa. Code Chapter 127 which implement the operational flexibility requirements include the following:

- (1) Section 127.14 (relating to exemptions)
- (2) Section 127.447 (relating to alternative operating scenarios)
- (3) Section 127.448 (relating to emissions trading at facilities with Federally enforceable emissions caps)
- (4) Section 127.449 (relating to de minimis emission increases)
- (5) Section 127.450 (relating to administrative operating permit amendments)

**SECTION B. General State Only Requirements**

(6) Section 127.462 (relating to minor operating permit modifications)

(7) Subchapter H (relating to general plan approvals and general operating permits)

**#015 [25 Pa. Code § 127.11]****Reactivation**

(a) The permittee may not reactivate a source that has been out of operation or production for at least one year unless the reactivation is conducted in accordance with a plan approval granted by the Department or in accordance with reactivation and maintenance plans developed and approved by the Department in accordance with 25 Pa. Code § 127.11a(a).

(b) A source which has been out of operation or production for more than five (5) years but less than 10 years may be reactivated and will not be considered a new source if the permittee satisfies the conditions specified in 25 Pa. Code § 127.11a(b).

**#016 [25 Pa. Code § 127.36]****Health Risk-based Emission Standards and Operating Practice Requirements.**

(a) When needed to protect public health, welfare and the environment from emissions of hazardous air pollutants from new and existing sources, the permittee shall comply with the health risk-based emission standards or operating practice requirements imposed by the Department, except as precluded by §§ 6.6(d)(2) and (3) of the Air Pollution Control Act [35 P.S. § 4006.6(d)(2) and (3)].

(b) A person challenging a performance or emission standard established by the Department has the burden to demonstrate that performance or emission standard does not meet the requirements of Section 112 of the Clean Air Act.

**#017 [25 Pa. Code § 121.9]****Circumvention.**

No person may permit the use of a device, stack height which exceeds good engineering practice stack height, dispersion technique or other technique which, without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise be in violation of 25 Pa. Code Article III, except that with prior approval of the Department, the device or technique may be used for control of malodors.

**#018 [25 Pa. Code §§ 127.402(d) & 127.442]****Reporting Requirements.**

(a) The permittee shall comply with the applicable reporting requirements of the Clean Air Act, the regulations thereunder, the Air Pollution Control Act and 25 Pa. Code Article III including Chapters 127, 135 and 139.

(b) The permittee shall submit reports to the Department containing information the Department may prescribe relative to the operation and maintenance of any air contamination source.

(c) Reports, test data, monitoring data, notifications and requests for renewal of the permit shall be submitted to the:

Regional Air Program Manager  
PA Department of Environmental Protection  
(At the address given in the permit transmittal letter, or otherwise notified)

(d) Any records or information including applications, forms, or reports submitted pursuant to this permit condition shall contain a certification by a responsible official as to truth, accuracy and completeness. The certifications submitted under this permit shall require a responsible official of the facility to certify that based on information and belief formed after reasonable inquiry, the statements and information in the documents are true, accurate and complete.

(e) Any records, reports or information submitted to the Department shall be available to the public except for such

**SECTION B. General State Only Requirements**

records, reports or information which meet the confidentiality requirements of § 4013.2 of the Air Pollution Control Act and §§ 112(d) and 114(c) of the Clean Air Act. The permittee may not request a claim of confidentiality for any emissions data generated for the facility.

**#019 [25 Pa. Code §§ 127.441(c) & 135.5]****Sampling, Testing and Monitoring Procedures.**

(a) The permittee shall comply with the monitoring, recordkeeping or reporting requirements of 25 Pa. Code Chapter 139 and the other applicable requirements of 25 Pa. Code Article III and additional requirements related to monitoring, reporting and recordkeeping required by the Clean Air Act and the regulations thereunder including the Compliance Assurance Monitoring requirements of 40 CFR Part 64, where applicable.

(b) Unless alternative methodology is required by the Clean Air Act and regulations adopted thereunder, sampling, testing and monitoring required by or used by the permittee to demonstrate compliance with any applicable regulation or permit condition shall be conducted in accordance with the requirements of 25 Pa. Code Chapter 139.

**#020 [25 Pa. Code §§ 127.441(c) and 135.5]****Recordkeeping.**

(a) The permittee shall maintain and make available, upon request by the Department, the following records of monitored information:

- (1) The date, place (as defined in the permit) and time of sampling or measurements.
- (2) The dates the analyses were performed.
- (3) The company or entity that performed the analyses.
- (4) The analytical techniques or methods used.
- (5) The results of the analyses.
- (6) The operating conditions as existing at the time of sampling or measurement.

(b) The permittee shall retain records of any required monitoring data and supporting information for at least five (5) years from the date of the monitoring, sample, measurement, report or application. Supporting information includes the calibration data and maintenance records and original strip-chart recordings for continuous monitoring instrumentation, and copies of reports required by the permit.

(c) The permittee shall maintain and make available to the Department upon request, records including computerized records that may be necessary to comply with the reporting, recordkeeping and emission statement requirements in 25 Pa. Code Chapter 135 (relating to reporting of sources). In accordance with 25 Pa. Code Chapter 135, § 135.5, such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions.

**#021 [25 Pa. Code § 127.441(a)]****Property Rights.**

This permit does not convey any property rights of any sort, or any exclusive privileges.

**#022 [25 Pa. Code § 127.447]****Alternative Operating Scenarios.**

The permittee is authorized to make changes at the facility to implement alternative operating scenarios identified in this permit in accordance with 25 Pa. Code § 127.447.

**SECTION B. General State Only Requirements****#023 [25 Pa. Code §135.3]****Reporting**

(a) If the facility is a Synthetic Minor Facility, the permittee shall submit by March 1 of each year an annual emissions report for the preceding calendar year. The report shall include information for all active previously reported sources, new sources which were first operated during the preceding calendar year, and sources modified during the same period which were not previously reported. All air emissions from the facility should be estimated and reported.

(b) A source owner or operator of a Synthetic Minor Facility may request an extension of time from the Department for the filing of an annual emissions report, and the Department may grant the extension for reasonable cause.

**#024 [25 Pa. Code §135.4]****Report Format**

If applicable, the emissions reports shall contain sufficient information to enable the Department to complete its emission inventory. Emissions reports shall be made by the source owner or operator in a format specified by the Department.

**SECTION C. Site Level Requirements****I. RESTRICTIONS.****Emission Restriction(s).****# 001 [25 Pa. Code §121.7]****Prohibition of air pollution.**

No person may permit air pollution as that term is defined in the act.

**# 002 [25 Pa. Code §123.1]****Prohibition of certain fugitive emissions**

(a) No person may permit the emission into the outdoor atmosphere of fugitive air contaminant from a source other than the following:

- (1) Construction or demolition of buildings or structures.
- (2) Grading, paving and maintenance of roads and streets.
- (3) Use of roads and streets. Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets.
- (4) Clearing of land.
- (5) Stockpiling of materials.
- (6) Open burning operations.
- (7) Blasting in open pit mines. Emissions from drilling are not considered as emissions from blasting.
- (8) Coke oven batteries, provided the fugitive air contaminants emitted from any coke oven battery comply with the standards for visible fugitive emissions in §§ 123.44 and 129.15 (relating to limitations of visible fugitive air contaminants from operation of any coke oven battery; and coke pushing operations).
- (9) Sources and classes of sources other than those identified in paragraphs (1)-(8), for which the operator has obtained a determination from the Department that fugitive emissions from the source, after appropriate control, meet the following requirements:
  - (i) the emissions are of minor significance with respect to causing air pollution; and
  - (ii) the emissions are not preventing or interfering with the attainment or maintenance of any ambient air quality standard.
- (b) An application form for requesting a determination under either subsection (a)(9) or 129.15(c) is available from the Department. In reviewing these applications, the Department may require the applicant to supply information including, but not limited to, a description of proposed control measures, characteristics of emissions, quantity of emissions, and ambient air quality data and analysis showing the impact of the source on ambient air quality. The applicant shall be required to demonstrate that the requirements of subsections (a)(9) and (c) and 123.2 (relating to fugitive particulate matter) or of the requirements of 129.15(c) have been satisfied. Upon such demonstration, the Department will issue a determination, in writing, either as an operating permit condition, for those sources subject to permit requirements under the act, or as an order containing appropriate conditions and limitations.
- (c) [See Work Practice Standards.]
- (d) The requirements contained in subsection (a) and 123.2 do not apply to fugitive emissions arising from the production of agricultural commodities in their unmanufactured state on the premises of the farm operation.

**# 003 [25 Pa. Code §123.2]****Fugitive particulate matter**

A person may not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source specified in 123.1(a)(1) -- (9) (relating to prohibition of certain fugitive emissions) if such emissions are visible at the point the

**SECTION C. Site Level Requirements**

emissions pass outside the person's property.

**# 004 [25 Pa. Code §123.31]****Limitations**

(a) Not applicable.

(b) A person may not permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source in such a manner that the malodors are detectable outside the property of the person on whose land the source is being operated.

(c) Not applicable.

**# 005 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

Facility-wide emissions of the pollutants listed below shall not exceed the following limits on a 12-month rolling basis for all air contamination sources and air cleaning devices:

99.8 TPY NO<sub>x</sub>  
 36.7 TPY CO  
 36.5 TPY VOC  
 0.2 TPY SO<sub>x</sub>  
 2.3 TPY PM-10  
 2.3 TPY PM-2.5  
 12.7 TPY HAP (Total)  
 5.9 TPY HCHO

**# 006 [25 Pa. Code §129.14]****Open burning operations**

(a) Air basins. Not applicable.

(b) Outside of air basins. No person may permit the open burning of material in an area outside of air basins in a manner that:

- (1) The emissions are visible, at any time, at the point such emissions pass outside the property of the person on whose land the open burning is being conducted.
- (2) Malodorous air contaminants from the open burning are detectable outside the property of the person on whose land the open burning is being conducted.
- (3) The emissions interfere with the reasonable enjoyment of life or property.
- (4) The emissions cause damage to vegetation or property.
- (5) The emissions are or may be deleterious to human or animal health.

(c) Exceptions: The requirements of subsections (a) and (b) do not apply where the open burning operations result from:

- (1) A fire set to prevent or abate a fire hazard, when approved by the Department and set by or under the supervision of a public officer.
- (2) A fire set for the purpose of instructing personnel in fire fighting, when approved by the Department.
- (3) A fire set for the prevention and control of disease or pests, when approved by the Department.
- (4) A fire set in conjunction with the production of agricultural commodities in their unmanufactured state on the premises of the farm operation.
- (5) A fire set for the purpose of burning domestic refuse, when the fire is on the premises of a structure occupied solely as a dwelling by two families or less and when the refuse results from the normal occupancy of such structure.
- (6) A fire set solely for recreational or ceremonial purposes.



**SECTION C. Site Level Requirements**

(7) A fire set solely for cooking food.

(d) Clearing and grubbing wastes. The following is applicable to clearing and grubbing wastes:

(1) As used in this subsection the following terms shall have the following meanings:

**Air curtain destructor** -- A mechanical device which forcefully projects a curtain of air across a pit in which open burning is being conducted so that combustion efficiency is increased and smoke and other particulate matter are contained.

**Clearing and grubbing wastes** -- Trees, shrubs, and other native vegetation which are cleared from land during or prior to the process of construction. The term does not include demolition wastes and dirt laden roots.

(2) Subsection (a) notwithstanding, clearing and grubbing wastes may be burned in a basin subject to the following requirements:

(i) Air curtain destructors shall be used when burning clearing and grubbing wastes.

(ii) Each proposed use of air curtain destructors shall be reviewed and approved by the Department in writing with respect to equipment arrangement, design and existing environmental conditions prior to commencement of burning. Proposals approved under this subparagraph need not obtain plan approval or operating permits under Chapter 127 (relating to construction modification, reactivation and operation of sources).

(iii) Approval for use of an air curtain destructor at one site may be granted for a specified period not to exceed 3 months, but may be extended for additional limited periods upon further approval by the Department.

(iv) The Department reserves the right to rescind approval granted if a determination by the Department indicates that an air pollution problem exists.

(3) Subsection (b) notwithstanding clearing and grubbing wastes may be burned outside of an air basin, subject to the following limitations:

(i) Upon receipt of a complaint or determination by the Department that an air pollution problem exists, the Department may order that the open burning cease or comply with subsection (b) of this section.

(ii) Authorization for open burning under this paragraph does not apply to clearing and grubbing wastes transported from an air basin for disposal outside of an air basin.

(4) During an air pollution episode, open burning is limited by Chapter 137 (relating to air pollution episodes) and shall cease as specified in such chapter.

**II. TESTING REQUIREMENTS.**

**# 007 [25 Pa. Code §127.441]**

**Operating permit terms and conditions.**

Performance testing shall be conducted as follows:

a. The Owner/Operator shall submit one electronic copy of a pre-test protocol to the appropriate regional office of the Department and to the Department's Division of Source Testing and Monitoring for review at least 90 days prior to the performance of any EPA reference method stack test. The Owner/Operator shall submit one electronic copy of a one-time protocol to the appropriate regional office of the Department and to the Department's Division of Source Testing and Monitoring for review for the use of a portable analyzer and may repeat portable analyzer testing without additional protocol approvals provided that the same method and equipment are used. All proposed performance test methods shall be identified in the pre-test protocol and approved by the Department prior to testing.

**SECTION C. Site Level Requirements**

b. The Owner/Operator shall notify the Regional Air Quality Manager and Division of Source Testing and Monitoring at least 15 days prior to any performance test so that an observer may be present at the time of the test. This notification may be sent by email. Notification shall not be made without prior receipt of a protocol acceptance letter from the Department.

c. A complete test report shall be submitted to the Department no later than 60 calendar days after completion of the onsite testing portion of an emission test program.

d. Pursuant to 25 Pa. Code §139.53(b) a complete test report shall include a summary of the emission results on the first page of the report indicating if each pollutant measured is within permitted limits and a statement of compliance or noncompliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:

1. A statement that the owner or operator has reviewed the report from the emissions testing body and agrees with the findings.
2. Permit number(s) and condition(s) which are the basis for the evaluation.
3. Summary of results with respect to each applicable permit condition.
4. Statement of compliance or non-compliance with each applicable permit condition.

e. Pursuant to 25 Pa. Code §139.3, all submittals shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.

f. All testing shall be performed in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection.

g. Pursuant to 25 Pa. Code §139.53(a)(1) and §139.53(a)(3), all electronic submittals shall be sent to [RAepstacktesting@pa.gov](mailto:RAepstacktesting@pa.gov) for the Department's Division of Source Testing and Monitoring and to [RAEPSWstacktesting@pa.gov](mailto:RAEPSWstacktesting@pa.gov) for the Southwest Region.

h. The permittee shall ensure all federal reporting requirements contained in the applicable subpart of 40 CFR are followed, including timelines more stringent than those contained herein. In the event of an inconsistency or any conflicting requirements between state and the federal, the most stringent provision, term, condition, method, or rule shall be used by default.

**III. MONITORING REQUIREMENTS.****# 008 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall conduct a fractional natural gas analysis performed on the inlet natural gas to the facility at a minimum of once per quarter of each calendar year. Each sample shall be collected no sooner than 30 days from the previous sample.

**# 009 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

A facility-wide inspection shall be conducted at a minimum of once per day when the Facility is visited by the Owner/Operator. The facility-wide inspection shall be conducted for the presence of the following:

- a. Visible stack emissions;
- b. Fugitive emissions; and
- c. Potentially objectionable odors at the property line.

These observations are to ensure continued compliance with source-specific visible emission limitations, fugitive emissions prohibited under 25 Pa. Code §123.1 or §123.2, and potentially objectionable odors prohibited under 25 Pa. Code §123.31. Observations for visible stack emissions shall be conducted during daylight hours and all observations shall be conducted while sources are in operation. If visible stack emissions, fugitive emissions, or potentially objectionable odors are apparent, the Owner/Operator shall take corrective action.

**SECTION C. Site Level Requirements****IV. RECORDKEEPING REQUIREMENTS.****# 010 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall maintain the following comprehensive and accurate records:

- a. Monthly hours of operation for each engine and each flare.
- b. Monthly fuel consumption for each engine and each flare.
- c. Records including a description of testing methods, results, all engine operating data collected during tests, and a copy of the calculations performed to determine compliance with emission standards for each internal combustion engine.
- d. Copies of the report that demonstrates that the engines were operating at rated bhp and speed conditions during performance testing.
- e. Copies of the manufacturer's recommended maintenance schedule for all air contamination sources and air cleaning devices including, but not limited to, each engine, dehydrator, catalyst, flare, and VRU.
- f. Records of any maintenance conducted on each air contamination source and air cleaning device including, but not limited to, each engine, dehydrator, catalyst, flare, and VRU.
- g. Records of catalyst inlet and outlet temperature readings performed at a minimum of once per day on each compressor engine operated during the month.
- h. The dehydrator VOC and benzene emissions using GRI-GLYCalc data from no less recent than the previous year if the natural gas composition has changed or an alternative method approved by the Department.
- i. Records of actual natural gas throughput per day and the daily glycol circulation rate for the dehydrator.
- j. Records of the stripping gas rate of the dehydration unit at a minimum of twice per day (24-hour period). Records of stripping gas usage (in scf) shall also be maintained on a 12-month rolling basis.
- k. Records of a fractional natural gas analysis performed on the inlet natural gas to the facility at a minimum of once per quarter of each calendar year.
- l. Records of emissions of methanol from the dehydration unit and associated flare on a 12-month rolling basis.
- m. Records of the date, time, duration, volume of natural gas released, and emissions from each blowdown and emergency shutdown at the facility. These records shall also indicate if compressors were blowdown to suction pressure or to atmosphere.
- n. Records of each visible stack, fugitive, and potentially objectionable odor inspection shall be maintained in a log and at a minimum include the date, time, name and title of the observer, along with any corrective action taken as a result.
- o. Records of any leak detected and associated repair activity through the leak detection and repair or maintenance program.
- p. Facility-wide 12-month rolling totals of the following pollutants: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, PM-10, PM-2.5, HAPs (including benzene and methanol) and greenhouse gases as CO<sub>2</sub> equivalent (CO<sub>2</sub>e).
- q. Records of pigging events in accordance with Section D, Source 801, Condition #001 of this state-only operating permit.
- r. Records of total throughput through the condensate/produced water tanks and the methanol storage tanks (by volume) on a 12-month rolling basis.
- s. Records of maintenance conducted on the uninterrupted power supply (UPS) battery backup system.

**SECTION C. Site Level Requirements**

t. Records of the performance testing reports of the enclosed air-assisted flare.

**# 011 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

All logs and required records shall be maintained on site or at an alternative location acceptable to the Department for a minimum of five years and shall be made available to the Department upon request.

**V. REPORTING REQUIREMENTS.****# 012 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

Malfunction reporting shall be conducted as follows:

(a) The permittee shall report malfunctions, emergencies or incidents of excess emissions to the Department. A malfunction is any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. An emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the owner or operator of a facility which requires immediate corrective action to restore normal operation and which causes the emission source to exceed emissions, due to unavoidable increases in emissions attributable to the situation. An emergency shall not include situations caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

(b) When the malfunction, emergency or incident of excess emissions poses an imminent danger to the public health, safety, welfare, or environment, it shall be reported to the Department and the County Emergency Management Agency by telephone within one (1) hour after the discovery of the malfunction, emergency or incident of excess emissions. The owner or operator shall submit a written or emailed report of instances of such malfunctions, emergencies or incidents of excess emissions to the Department within three (3) business days of the telephone report.

(c) The report shall describe the following:

1. name, permit or authorization number, and location of the facility,
2. nature and cause of the malfunction, emergency or incident,
3. date and time when the malfunction, emergency or incident was first observed,
4. expected duration of excess emissions,
5. estimated rate of emissions,
6. corrective actions or preventative measures taken.
7. the 12-month rolling sum of emissions (including, but not limited to, criteria pollutants, VOCs, benzene, methanol, formaldehyde, greenhouse gases, and total HAPs), including any emission increases that occurred as a result of the malfunction event.

(d) Any malfunction, emergency or incident of excess emissions that is not subject to the notice requirements of paragraph (b) of this condition shall be reported to the Department by telephone within 24 hours (or by 4:00 PM of the next business day, whichever is later) of discovery and in writing or by e-mail within five (5) business days of discovery. The report shall contain the same information required by paragraph (c), and any permit specific malfunction reporting requirements.

(e) During an emergency an owner or operator may continue to operate the source at their discretion provided they submit justification for continued operation of a source during the emergency and follow all the notification and reporting requirements in accordance with paragraphs (b)-(d), as applicable, including any permit specific malfunction reporting requirements.

(f) Reports regarding malfunctions, emergencies or incidents of excess emissions shall be submitted to the appropriate DEP Regional Office Air Program Manager.

(g) Any emissions resulted from malfunction or emergency are to be reported in the annual emissions inventory report, if the annual emissions inventory report is required by permit or authorization.

**SECTION C. Site Level Requirements****# 013 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

(a) The owner or operator of the facility shall submit to the Air Program Manager of the appropriate DEP Regional Office an annual certification of compliance with the terms and conditions in this state-only operating permit for the previous year, including the emission limitations, standards, or work practices. This Compliance Certification Form must be included in the annual report as described in paragraph (b) below.

(b) The annual report is required to be submitted in electronic format, unless otherwise requested by the Department, to the Air Program Manager of the appropriate DEP Regional Office, the reporting period shall begin on January 1st of each calendar year to December 31st of each calendar year, unless otherwise approved by the Department. The initial reporting period shall begin upon the date of issuance of this state-only operating permit to December 31st of the respective year. The initial and subsequent annual reports shall be submitted within 60 days of the end of the reporting periods. General information required on all reports includes:

- (i) Company Name;
- (ii) Facility Site Name;
- (iii) The state-only operating permit authorization number;
- (iv) Either:

(A) The address of the site; or

(B) A description of the site and the location using latitude and longitude coordinates of the site in decimal degrees to an accuracy and precision of 5 decimal degrees using the North American Datum of 1983;

(v) The beginning and ending dates of the reporting period;

(vi) The Certification Form described in paragraph (a) above, which must include:

(A) The statement: "Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."; and

(B) The signature of the certifying Responsible Official;

(vii) Identification of each source included in the report;

(viii) The identification of each term or condition of the state-only operating permit that is the basis of the certification, the compliance status, and the methods used for determining the compliance status of the source; and

(ix) The records of the facility's emissions to demonstrate compliance with facility-wide emissions limitations.

**# 014 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

In accordance with the malfunction reporting requirements of Section C of this operating permit, MarkWest shall indicate if the uninterrupted power supply (UPS) battery backup system was used for each reportable malfunction.

**# 015 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4]****Subpart A - General Provisions****Address.**

The Facility is subject to New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines (40 CFR Part 60 Subpart JJJJ) and for Crude Oil and Natural Gas Production, Transmission and Distribution (40 CFR Part 60 Subpart OOOO); and National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities (40 CFR Part 63 Subpart HH) and for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63 Subpart ZZZZ). In accordance with 40 CFR §60.4 and 40 CFR §63.9, copies of all requests, reports, applications, submittals and other communications regarding the affected facilities shall be forwarded to both EPA and the Department at the addresses listed below unless otherwise noted.

Associate Director

Office of Air Enforcement and Compliance Assistance 3AP20

US EPA Region III

**SECTION C. Site Level Requirements**

1650 Arch Street  
Philadelphia, PA 19103-2029

Pennsylvania Department of Environmental Protection  
Southwest Regional Office  
Air Quality Program  
400 Waterfront Drive  
Pittsburgh, PA 15222  
412-442-4000

**# 016 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.7]****Subpart A - General Provisions****Notification and record keeping.**

The Owner/operator shall provide EPA with the notifications required by 40 CFR §60.7. Required notifications may include but are not necessarily limited to: date of commencement of construction (within 30 days after starting construction), actual start-up date (within 15 days after equipment start-up), physical or operational changes which may increase the emission rate of any air pollutant to which a standard applies (60 days or as soon as practicable before equipment start-up), and opacity observations (within 30 days).

**VI. WORK PRACTICE REQUIREMENTS.****# 017 [25 Pa. Code §123.1]****Prohibition of certain fugitive emissions**

(c) A person responsible for any source specified in subsections (a)(1) -- (7) or (9) shall take all reasonable actions to prevent particulate matter from becoming airborne. These actions shall include, but not be limited to, the following:

(1) Use, where possible, of water or chemicals for control of dust in the demolition of buildings or structures, construction operations, the grading of roads, or the clearing of land.

(2) Application of asphalt, oil, water or suitable chemicals on dirt roads, material stockpiles and other surfaces which may give rise to airborne dusts.

(3) Paving and maintenance of roadways.

(4) Prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

**# 018 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

All air contamination sources and air cleaning devices authorized under this state-only operating permit shall be operated per the manufacturer's specifications and maintained in accordance with the manufacturer's recommended maintenance schedule.

**# 019 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

An uninterrupted power supply (UPS) battery backup system shall be available and operated in the event of a power failure.

**# 020 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The permittee shall operate and maintain the UPS battery backup system in accordance with the manufacturer's specifications and good operating practices. Maintenance of the UPS battery backup system shall include, but not be limited to, the following:

**SECTION C. Site Level Requirements**

- The permittee shall conduct a weekly inspection of the UPS batteries to check battery and voltage levels.
- The permittee shall conduct an annual battery test to determine that the batteries are operating in accordance with the manufacturer's specifications.

**VII. ADDITIONAL REQUIREMENTS.****# 021 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

Each quarterly fractional natural gas analysis performed on the inlet natural gas to the facility shall be evaluated for impacts on the actual emissions from this facility.

**# 022 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

If, at any time, the Department has cause to believe that air contaminant emissions from the sources listed in this State-Only Operating Permit may be in excess of the limitations specified in, or established pursuant to this State-Only Operating Permit, the permittee may be required to conduct test methods and procedures deemed necessary by the Department to determine the actual emissions rate. Such testing shall be conducted in accordance with 25 Pa. Code Chapter 139, where applicable, and in accordance with any restrictions or limitations established by the Department at such time as it notifies the company that testing is required.

**# 023 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall submit notice to the Department for evaluation of any de minimis emissions increases at this facility in accordance with Section B, Condition 13 and 25 Pa. Code §127.449. Any de minimis emissions increases that triggers, or has the potential to trigger, any additional regulatory requirements shall not be implemented until reviewed and authorized by the Department in writing.

**# 024 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

Additional equipment may be installed, or currently authorized equipment may be modified at the facility without additional authorization provided that the following conditions (i) through (iii) are met. Replacement unit as defined in 25 Pa. Code §121.1 may be installed without additional authorization provided that the following conditions (ii) through (iii) are met.

- (i) The owner or operator complies with the requirements of 25 Pa. Code §127.449(a), (b), and (d) through (i);
- (ii) The equipment being installed, modified, or replaced meets the current applicable BAT Compliance Requirements;
- (iii) The owner or operator submits written notification at least five business days prior to the commencement of operation of a source of their intent to do so. The owner or operator shall also include the date of completion of construction of the source in the notice. When multiple sources at the facility are subject to different commencement of operation schedules, written notice shall be submitted to DEP prior to the commencement of operation of each source. The written notification shall also include the following additional information:

- (A) The manufacturer, model, rated capacity, and serial number of the equipment;
- (B) A certification from the owner or operator that the equipment will meet all applicable terms and conditions of this state-only operating permit;
- (C) The notification shall be signed by a Responsible Official and shall acknowledge that the certifying party is aware of the penalties for unsworn falsification to governmental authorities as established under 18 Pa. C.S. §4904. The certification shall also state that based on information and belief formed after reasonable inquiry, that the information in the notice is true, accurate, and complete; and
- (D) The notice shall identify and describe the pollutants that will be emitted as a result of the de minimis emissions increase and provide emission rates in tons per year and in terms necessary to establish compliance with any applicable requirement.

**VIII. COMPLIANCE CERTIFICATION.**

**SECTION C. Site Level Requirements**

No additional compliance certifications exist except as provided in other sections of this permit including Section B (relating to State Only General Requirements).

**IX. COMPLIANCE SCHEDULE.**

No compliance milestones exist.



**SECTION D. Source Level Requirements**

Source ID: 101

Source Name: COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02779

Source Capacity/Throughput:

9.727 MCF/HR

Natural Gas

Conditions for this source occur in the following groups: CATERPILLAR G3516LE ENGINES  
SUBPART JJJJ REQUIREMENTS

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**SECTION D. Source Level Requirements**

Source ID: 102

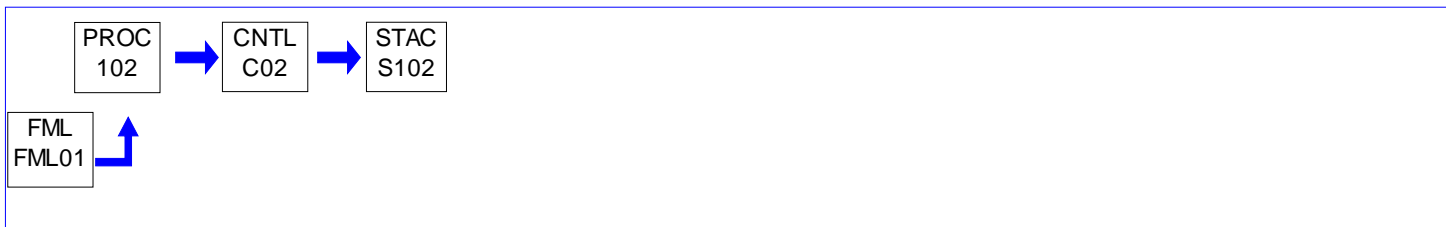
Source Name: CAT G3516 LE ENG (1340 BHP-HR),SN WPW02538

Source Capacity/Throughput:

9.727 MCF/HR

Natural Gas

Conditions for this source occur in the following groups: CATERPILLAR G3516LE ENGINES  
SUBPART JJJJ REQUIREMENTS

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**SECTION D. Source Level Requirements**

Source ID: 103

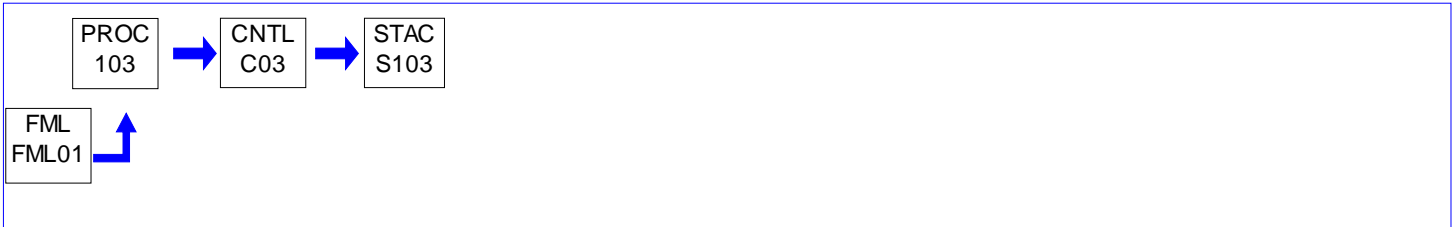
Source Name: COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02778

Source Capacity/Throughput:

9.727 MCF/HR

Natural Gas

Conditions for this source occur in the following groups: CATERPILLAR G3516LE ENGINES  
SUBPART JJJJ REQUIREMENTS

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

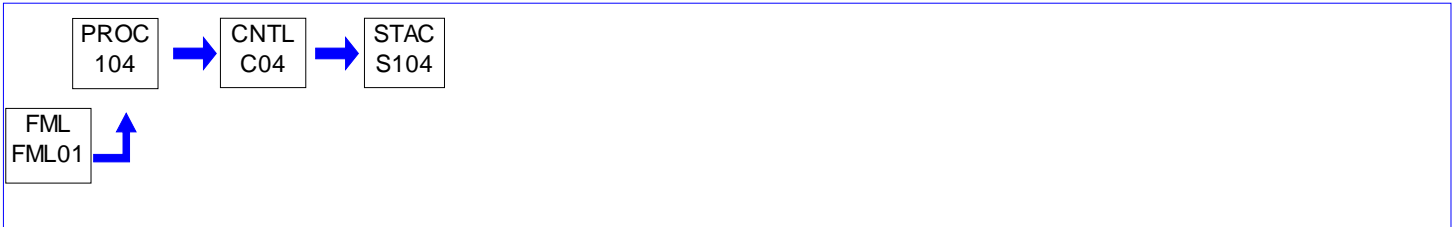
**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**SECTION D. Source Level Requirements**

Source ID: 104                      Source Name: COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02833  
 Source Capacity/Throughput:                      9.727 MCF/HR                      Natural Gas

Conditions for this source occur in the following groups: CATERPILLAR G3516LE ENGINES  
 SUBPART JJJJ REQUIREMENTS

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**SECTION D. Source Level Requirements**

Source ID: 105

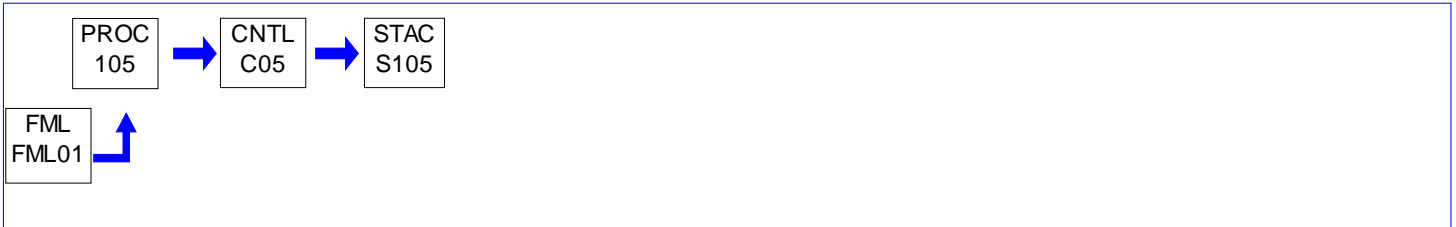
Source Name: COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02832

Source Capacity/Throughput:

9.727 MCF/HR

Natural Gas

Conditions for this source occur in the following groups: CATERPILLAR G3516LE ENGINES  
SUBPART JJJJ REQUIREMENTS

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements) and/or Section E (Source Group Restrictions).

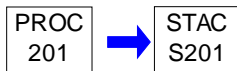
**SECTION D. Source Level Requirements**

Source ID: 201

Source Name: HEATERS/REBOILERS

Source Capacity/Throughput:

0.635 MCF/HR

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

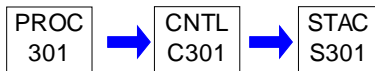
**SECTION D. Source Level Requirements**

Source ID: 301

Source Name: TANKS/VESSELS

Source Capacity/Throughput:

N/A

**I. RESTRICTIONS.****Emission Restriction(s).****# 001 [25 Pa. Code §129.57]****Storage tanks less than or equal to 40,000 gallons capacity containing VOCs**

The provisions of this section shall apply to above ground stationary storage tanks with a capacity equal to or greater than 2,000 gallons which contain volatile organic compounds with vapor pressure greater than 1.5 psia (10.5 kilopascals) under actual storage conditions. Storage tanks covered under this section shall have pressure relief valves which are maintained in good operating condition and which are set to release at no less than 0.7 psig (4.8 kilopascals) of pressure or 0.3 psig (2.1 kilopascals) of vacuum or the highest possible pressure and vacuum in accordance with state or local fire codes or the National Fire Prevention Association guidelines or other national consensus standards acceptable to the Department. Section 129.56(g) (relating to storage tanks greater than 40,000 gallons capacity containing volatile organic compounds) applies to this section. Petroleum liquid storage vessels which are used to store produced crude oil and condensate prior to lease custody transfer shall be exempt from the requirements of this section.

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.****# 002 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall maintain the following records for this air contamination source:

- a.) Records of any maintenance conducted on each VRU;
- b.) Records of any maintenance conducted on the thief hatches in accordance with the manufacturer's recommended maintenance schedule;
- c.) Records of total throughput through the condensate/produced water tanks (by volume) on a 12-month rolling basis.

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**SECTION D. Source Level Requirements****VI. WORK PRACTICE REQUIREMENTS.****# 003 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall ensure that all storage and/or condensate tanks at this facility have, at a minimum, 8-inch thief hatches and pressure relief valves. Maintenance of the thief hatches shall be conducted in accordance with the manufacturer's recommended maintenance schedule.

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

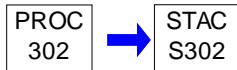


**SECTION D. Source Level Requirements**

Source ID: 302

Source Name: METHANOL STORAGE TANKS

Source Capacity/Throughput:

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.**

# 001 [25 Pa. Code §127.441]

**Operating permit terms and conditions.**

The permittee shall maintain records of the total throughput through the methanol storage tanks on a 12-month rolling basis.

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**SECTION D. Source Level Requirements**

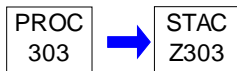
Source ID: 303

Source Name: CONDENSATE LOADOUT

Source Capacity/Throughput:

N/A

CONDENSATE

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VI. WORK PRACTICE REQUIREMENTS.****# 001 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The permittee shall use submerged loading when conducting tank truck loadout of condensate and/or produced water.

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

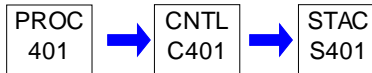
**SECTION D. Source Level Requirements**

Source ID: 401

Source Name: GLYCOL DEHYDRATOR

Source Capacity/Throughput:

1.875 MMCF/HR

**I. RESTRICTIONS.****Emission Restriction(s).****# 001 [25 Pa. Code §123.21]****General**

(a) This section applies to sources except those subject to other provisions of this article, with respect to the control of sulfur compound emissions.

(b) No person may permit the emission into the outdoor atmosphere of sulfur oxides from a source in a manner that the concentration of the sulfur oxides, expressed as SO<sub>2</sub>, in the effluent gas exceeds 500 parts per million, by volume, dry basis.

**# 002 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

Visible emissions from the flare stack shall not exceed the following limitations:

- Equal to or greater than 10% opacity for a period or periods aggregating more than three minutes in any one hour.
- Equal to or greater than 30% opacity at any time.

**Throughput Restriction(s).****# 003 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The stripping gas rate shall not exceed 65.0 scfm at any time nor 34,164,000 scf on a 12-month rolling basis.

**Control Device Efficiency Restriction(s).****# 004 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The enclosed air-assisted flare system installed at this facility shall include a 3-horsepower blower (with a variable frequency drive), a single point burner tip, a gas enrichment stream and shutdown/startup control logic panels, and shall raise regenerator off-gas Btu value to ensure a clean burn. The flare shall achieve a minimum 98% destruction and removal efficiency ("DRE").

**II. TESTING REQUIREMENTS.****# 005 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

MarkWest shall conduct an initial performance test to determine the destruction efficiency of the enclosed air-assisted flare within 180 days of authorization. Subsequent performance tests shall be conducted at a minimum of once every five years from the date of the previous test.

**# 006 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

**SECTION D. Source Level Requirements**

When conducting a performance test, the owner or operator must submit the test protocol for review and approval as described in Section C of this operating permit.

**# 007 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The owner or operator should conduct the following test procedures:

- (a) Conduct three test runs of at least one-hour duration while operating the control device.
- (b) Select the sampling port location and the number and location of traverse points at the exhaust using 40 CFR Part 60, Appendix A-1, Method 1 or 1A depending on stack diameter.
- (c) Sampling sites must be located at the inlet of the first control device and the outlet of the final control device;
- (d) Determine the effluent characteristics including:
  - (i) The flow velocity, stack temperature, static pressure, and barometric pressure using 40 CFR Part 60, Appendix A-1, Method 2 or 2C depending on stack diameter;
  - (ii) The gas density using 40 CFR Part 60, Appendix A-2, Method 3A; and
  - (iii) The moisture content using 40 CFR Part 60, Appendix A-3, Method 4.
- (e) To demonstrate compliance with (c), use 40 CFR Part 60, Appendix A-7, Method 25A to determine the Total Organic Compounds (TOC) and then convert to dry basis using the moisture content from (d)(iii) above and calculate the inlet and outlet mass rates as propane and the percent reduction.

**# 008 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.772]****Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities  
Test methods, compliance procedures, and compliance demonstrations.**

Test methods, compliance procedures, and compliance demonstrations.

a. N/A

b. Determination of glycol dehydration unit flowrate or benzene emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate or benzene emissions to meet the criteria for an exemption from control requirements under §63.764(e)(1).

1) The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

i. The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.

ii. The owner or operator shall document, to the Administrator's satisfaction, that the actual annual average natural gas flowrate to the glycol dehydration unit is less than 85 thousand standard cubic meters per day.

2) The determination of actual average benzene emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (b)(2)(ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

i. The owner or operator shall determine actual average benzene emissions using the model GRI-GLYCalc<sup>TM</sup>, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc<sup>TM</sup> 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

**SECTION D. Source Level Requirements**

procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or

ii. The owner or operator shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

c. - g. N/A

**III. MONITORING REQUIREMENTS.****# 009 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall monitor the stripping gas rate of the dehydration unit at a minimum of twice per day (per 24-hour period).

**IV. RECORDKEEPING REQUIREMENTS.****# 010 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall maintain the following comprehensive and accurate records:

- a.) Records of any maintenance conducted on each dehydrator and flare;
- b.) The dehydrator VOC and benzene emissions using GRI-GLYCalc data from no less recent than the previous year if the natural gas composition has changed or an alternative method approved by the Department;
- c.) Records of emissions of methanol from the dehydration unit and associated flare on a 12-month rolling basis;
- d.) Records of actual throughput per day and the glycol circulation rate for the dehydrator.
- e.) Records of the stripping gas rate of the dehydration unit at a minimum of twice per day (per 24-hour period). Records of stripping gas usage (in scf) shall also be maintained on a 12-month rolling basis.
- f.) Records of performance test reports of the enclosed air-assisted flare.

**# 011 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

MarkWest shall maintain records of the performance testing reports of the enclosed air-assisted flare for a minimum of five years and shall be made available to the Department upon request.

**# 012 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.774]****Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities Recordkeeping requirements.**

Recordkeeping requirements.

a. - c. N/A

d.  
1) An owner or operator of a glycol dehydration unit that meets the exemption criteria in §63.764(e)(1)(i) or §63.764(e)(1)(ii) shall maintain the records specified in paragraph (d)(1)(i) or paragraph (d)(1)(ii) of this section, as appropriate, for that glycol dehydration unit.

i. The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with §63.772(b)(1), or

ii. The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with

**SECTION D. Source Level Requirements**

§63.772(b)(2).

2) N/A

e. - f. N/A

**V. REPORTING REQUIREMENTS.**

**# 013 [25 Pa. Code §127.441]**

**Operating permit terms and conditions.**

Emissions from the dehydration unit and associated flare shall be included in the annual AES emission inventory reports as required in Section B, Condition #023 of this synthetic minor state-only operating permit.

**VI. WORK PRACTICE REQUIREMENTS.**

**# 014 [25 Pa. Code §127.441]**

**Operating permit terms and conditions.**

For the enclosed air-assisted flare at this facility, MarkWest shall:

(a) Ensure that the control device is maintained in a leak free condition.

(b) Install and operate a continuous burning pilot flame.

(c) Operate the combustion control device with no visible emissions, except for periods not to exceed a total of 1 minute during any 15-minute period. A visible emissions test using section 11 of EPA Method 22 of appendix A-7 of this part must be performed at least once every calendar month, separated by at least 15 days between each test. The observation period shall be 15 minutes. Devices failing the visible emissions test must follow manufacturer's repair instructions, if available, or best combustion engineering practice as outlined in the unit inspection and maintenance plan, to return the unit to compliant operation. All inspection, repair and maintenance activities for each unit must be recorded in a maintenance and repair log and must be available for inspection. Following return to operation from maintenance or repair activity, each device must pass a Method 22 of appendix A-7 of this part visual observation as described in this paragraph.

**VII. ADDITIONAL REQUIREMENTS.**

**# 015 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.760]**

**Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities  
Applicability and designation of affected source.**

The triethylene glycol dehydrator is subject to 40 CFR Part 63 Subpart HH – National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities.

**# 016 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.760]**

**Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities  
Applicability and designation of affected source.**

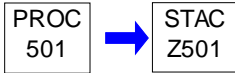
All terms used in 40 CFR Part 63 Subpart HH shall have the meaning given in 40 CFR §63.761 or else in the Clean Air Act and 40 CFR Part 63 Subpart A.

**SECTION D. Source Level Requirements**

Source ID: 501

Source Name: PNEUMATIC DEVICES

Source Capacity/Throughput: 13.500 CF/HR

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**SECTION D. Source Level Requirements**

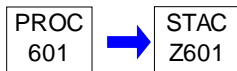
Source ID: 601

Source Name: VENTING/BLOWDOWNS

Source Capacity/Throughput:

N/A

NATURAL GAS

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.****# 001 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall maintain records of the date, time, duration, volume of natural gas released, and emissions from each blowdown and emergency shutdown at the facility.

**# 002 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

MarkWest shall maintain a log of when compressors are blowdown to suction pressure or to atmosphere.

**V. REPORTING REQUIREMENTS.****# 003 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

MarkWest shall report each emergency shutdown (ESD) event that occurs at this facility in accordance with the malfunction reporting requirements of Section C of this operating permit.

**VI. WORK PRACTICE REQUIREMENTS.****# 004 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator shall minimize blowdown gas generated as a result of equipment maintenance and emergency shutdowns to the extent practical. This may include, but shall not be limited to, venting the compressors to suction pressure when practical.



**SECTION D. Source Level Requirements****VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

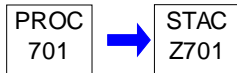
**SECTION D. Source Level Requirements**

Source ID: 701

Source Name: FUGITIVES

Source Capacity/Throughput:

N/A

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.****# 001 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

For each fugitive emissions component constructed and authorized to operate at this facility, the following applies:

(i) No later than 30 days after an emission source commences operation, and at least monthly thereafter, the owner or operator of a facility shall conduct an AVO inspection.

(ii) No later than 60 days after initial startup, and quarterly thereafter, the owner or operator shall conduct an LDAR program using either an OGI camera, a gas leak detector that meets the requirements of 40 CFR Part 60, Appendix A-7, Method 21, or other leak detection methods approved by the Division of Source Testing and Monitoring.

(A) The owner or operator may request, in writing, an extension of the LDAR inspection interval from the Air Program Manager of the appropriate DEP Regional Office.

(B) Any fugitive emissions components that are difficult-to-monitor or unsafe-to-monitor must be identified in the monitoring plan described in Condition 2(a) below.

(iii) The detection devices must be operated and maintained in accordance with manufacturer-recommended procedures, as required by the test method, or a Department-approved method.

(iv) A leak is defined as:

(A) Any positive indication, whether audible, visual, or odorous, determined during an AVO inspection;

(B) Any visible emissions detected by an OGI camera calibrated according to 40 CFR §60.18 and a detection sensitivity level of 60 grams/hour; or

(C) A concentration of 500 ppm calibrated as methane or greater detected by an instrument reading.

(v) For quarterly inspections using a gas leak detector in accordance with 40 CFR Part 60, Appendix A-7, Method 21, the owner or operator may choose to adjust the detection instrument readings to account for the background organic concentration level as determined according to the procedures in Section 8.3.2.

(vi) Any leak detected from a fugitive emission component shall be repaired by the owner or operator of the facility as expeditiously as practicable. A first attempt at repair must be attempted within 5 calendar days of detection, and repair must be completed no later than 15 calendar days after the leak is detected unless:

(A) The owner or operator must purchase parts, in which case the repair must be completed no later than 10 calendar days after the receipt of the purchased parts; or

**SECTION D. Source Level Requirements**

(B) The repair or replacement is technically infeasible, would require a vent blowdown, a compressor station, processing plant or transmission station shutdown, or would be unsafe to repair during operation of the unit, in which case the repair or replacement must be completed during the next scheduled compressor station, processing plant or transmission station shutdown, after a planned vent blowdown or within 2 years, whichever is earlier.

(vii) Once a fugitive emission component has been repaired or replaced, the owner or operator must resurvey the component as soon as practicable, but no later than 30 calendar days after the leak is repaired.

(A) For repairs that cannot be made during the monitoring survey when the leak is initially found, either a digital photograph must be taken of the component or the component must be tagged for identification purposes.

(B) A leak is considered repaired if:

- (1) There are no detectable emissions consistent with Section 8.3.2 of 40 CFR Part 60, Appendix A-7, Method 21;
- (2) A leak concentration of less than 500 ppm as methane is detected when the gas leak detector probe inlet is placed at the surface of the component;
- (3) There is no visible leak image when using an OGI camera calibrated at a detection sensitivity level of 60 grams/hour; or
- (4) There is no bubbling at the leak interface using a soap solution bubble test specified in Section 8.3.3 of 40 CFR Part 60, Appendix A-7, Method 21.

**IV. RECORDKEEPING REQUIREMENTS.****# 002 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

For fugitive emissions components, the owner or operator shall maintain the following records, including information on:

(a) The fugitive emissions monitoring plan in accordance with 40 CFR §60.5397a(b) through (d).

(b) Records of each monitoring survey which must include:

- (i) The facility name and location;
- (ii) The state-only operating permit number;
- (iii) The date, start time, and end time of the survey;
- (iv) The name of the operator(s) performing the survey;
- (v) The monitoring instrument used;
- (vi) The ambient temperature, sky conditions, and maximum wind speed at the time of the survey;
- (vii) Any deviations from the monitoring plan or a statement that there were none; and
- (viii) Documentation of each fugitive emission including:

(A) The identification of each component from which fugitive emissions were detected;

(B) The instrument reading of each fugitive emissions component that meets the leak definition in

Condition 1(b)(iv)(C) of this section;

(C) The status of repair of each component including:

- (1) The repair methods applied in each attempt to repair the component;
- (2) The tagging or digital photographing of each component not repaired during the monitoring survey in which the fugitive emissions were discovered;
- (3) The reasons a component was placed on delay of repair;
- (4) The date of successful repair of the component; and
- (5) The information on the instrumentation or method used to resurvey the component after repair, if it was not completed during the monitoring survey in which the fugitive emissions were discovered.

**# 003 [25 Pa. Code §127.441]****Operating permit terms and conditions.**



## SECTION D. Source Level Requirements

Records of each monitoring survey conducted during the reporting period shall be included for any annual report required by an applicable New Source Performance Standard (NSPS) or National Emissions Standard for Hazardous Air Pollutants (NESHAP).

The emissions from fugitive emissions components during the reporting period must be included in the annual AES emissions inventory reports as required in Section B, Condition #023 of this synthetic minor state-only operating permit.

### V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

### VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

### VII. ADDITIONAL REQUIREMENTS.

#### # 004 [25 Pa. Code §127.441]

##### Operating permit terms and conditions.

Acceptable leak detection methods include any of the following:

- a. Optical gas imaging instrument. Use an optical gas imaging instrument for equipment leak detection in accordance with 40 CFR Part 60, Subpart A, §60.18 of the Alternative work practice for monitoring equipment leaks, §60.18(i)(1)(i); §60.18(i)(2)(i) except that the monitoring frequency shall be annual using the detection sensitivity level of 60 grams per hour as stated in 40 CFR Part 60, Subpart A, Table 1: Detection Sensitivity Levels; § 60.18(i)(2)(ii) and (iii) except the gas chosen shall be methane, and §60.18(i)(2)(iv) and (v); §60.18(i)(3); §60.18(i)(4)(i) and (v); including the requirements for daily instrument checks and distances, and excluding requirements for video records. Any emissions detected by the optical gas imaging instrument is a leak unless screened with Method 21 (40 CFR part 60, appendix A-7) monitoring, in which case 10,000 ppm or greater is designated a leak. In addition, you must operate the optical gas imaging instrument to image the source types required by this subpart in accordance with the instrument manufacturer's operating parameters. Unless using methods in paragraph (b) of this condition, an optical gas imaging instrument must be used for all source types that are inaccessible and cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
- b. Method 21. Use the equipment leak detection methods in 40 CFR part 60, appendix A-7, Method 21. If using Method 21 monitoring, if an instrument reading of 10,000 ppm or greater is measured, a leak is detected. Inaccessible emissions sources, as defined in 40 CFR Part 60, are not exempt from this subpart. Owners or operators must use alternative leak detection devices as described in paragraph (a) or (b) of this condition to monitor inaccessible equipment leaks or vented emissions.
- c. Infrared laser beam illuminated instrument. Use an infrared laser beam illuminated instrument for equipment leak detection. Any emissions detected by the infrared laser beam illuminated instrument is a leak unless screened with Method 21 monitoring, in which case 10,000 ppm or greater is designated a leak. In addition, you must operate the infrared laser beam illuminated instrument to detect the source types required by this subpart in accordance with the instrument manufacturer's operating parameters.
- d. Acoustic leak detection device. Use the acoustic leak detection device to detect through-valve leakage. When using the acoustic leak detection device to quantify the through-valve leakage, you must use the instrument manufacturer's calculation methods to quantify the through-valve leak. When using the acoustic leak detection device, if a leak of 3.1 scf per hour or greater is calculated, a leak is detected. In addition, you must operate the acoustic leak detection device to monitor the source valves required by 40 CFR Part 60 Subpart W in accordance with the instrument manufacturer's operating parameters. Acoustic stethoscope type devices designed to detect through valve leakage when put in contact with the valve

**SECTION D. Source Level Requirements**

body and that provide an audible leak signal but do not calculate a leak rate can be used to identify non-leakers with subsequent measurement required to calculate the rate if through-valve leakage is identified. Leaks are reported if a leak rate of 3.1 scf per hour or greater is measured.

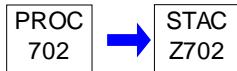
**SECTION D. Source Level Requirements**

Source ID: 702

Source Name: CRANKCASE VENTS

Source Capacity/Throughput:

N/A

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VI. WORK PRACTICE REQUIREMENTS.**

No additional work practice requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

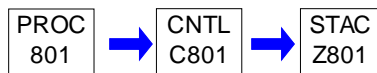
**SECTION D. Source Level Requirements**

Source ID: 801

Source Name: PIGGING OPERATIONS

Source Capacity/Throughput:

N/A

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**II. TESTING REQUIREMENTS.**

No additional testing requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.****# 001 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

For each pigging operation, the owner or operator shall maintain the following records, including information on:

- (a) The identification, location, and date of construction of each pig launcher or receiver;
- (b) Records of each pigging operation including the identification of the pig chamber used, the date and time of the pigging operation, and the type and volume of liquids cleared;
- (c) The launcher or receiver pressure prior to venting to the atmosphere, and prior to routing emissions to a flare, where applicable;
- (d) Gas composition data representative of the composition of gas at the facility.
- (e) The emissions calculation for each pig chamber, using the Department's spreadsheet found at <http://files.dep.state.pa.us/> or other equivalent method.

**V. REPORTING REQUIREMENTS.****# 002 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

For emission estimates from pigging operations, the permittee shall:

- a.) Include emissions from each pigging operation conducted during the reporting period in the emissions inventory report as specified in Section B, Condition #023 of this operating permit; and
- b.) Calculate the mass of VOC emissions from pigging operations at this facility using the Real Gas Law multiplied by a factor of 1.2.

**VI. WORK PRACTICE REQUIREMENTS.****# 003 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

For each launcher or receiver located at this facility, MarkWest shall install and use liquid containers with grounded steel

**SECTION D. Source Level Requirements**

receptacles that are covered at all times when not in use.

**# 004 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The owner or operator that conducts pigging operations shall employ best management practices to minimize the liquids present in the pig receiver chamber and to minimize emissions from the pig receiver chamber. These best management practices shall include, but not be limited to, the following:

- 1.) Connecting each high-pressure pig launcher and receiver by jumper lines to a low-pressure gathering line;
- 2.) Operating jumper lines to depressurize such launcher and receivers prior to opening the launcher or receiver hatch;
- 3.) Installing and using pig ramps in pig receivers;
- 4.) Installing liquids drain;
- 5.) Using ball valve type chambers or multiple pig chambers when appropriate; and
- 6.) Ensuring that the pigging chambers are charged with gas when conducting quarterly leak detection and repair (LDAR) monitoring in accordance with Section C of this operating permit.

**VII. ADDITIONAL REQUIREMENTS.**

No additional requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).



**SECTION E. Source Group Restrictions.**

Group Name: CATERPILLAR G3516LE ENGINES

Group Description: Requirements for 1,340-HP Caterpillar G3516LE Compressor Engines

Sources included in this group

ID	Name
101	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02779
102	CAT G3516 LE ENG (1340 BHP-HR),SN WPW02538
103	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02778
104	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02833
105	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02832

**I. RESTRICTIONS.****Emission Restriction(s).****# 001 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

a.) The Owner/Operator shall operate or equip each 1,340-HP Caterpillar G3516LE compressor engine with air cleaning devices capable of meeting the following emission levels:

- At rated bhp, and operating at rated speed: 1.50 gms/bhp-hr NO<sub>x</sub>;
- At rated bhp, and operating at rated speed: 0.19 gms/bhp-hr VOC (Non-Methane Non-Ethane Hydrocarbon (NMNEHC), as propane, excluding formaldehyde);
- At rated bhp, and operating at rated speed: 0.40 gms/bhp-hr CO;
- At rated bhp, and operating at rated speed: 0.08 gms/bhp-hr HCHO;
- At rated bhp, and operating at rated speed: 0.27 gms/bhp-hr VOC (includes HCHO).

b.) The Owner/Operator shall ensure that at operating conditions less than rated capacity, the engine shall, on a lb/hr basis, emit no more than it would emit at rated bhp and speed, which includes the following emission rates:

- 4.43 lbs/hr NO<sub>x</sub>;
- 0.56 lbs/hr VOC (Non-Methane Non-Ethane Hydrocarbon (NMNEHC), as propane, excluding HCHO);
- 1.18 lbs/hr CO;
- 0.24 lbs/hr HCHO; and
- 0.80 lbs/hr VOC (includes HCHO).

c.) The Owner/Operator shall ensure the engine meets the visible emissions standards, as determined by the methods described in 25 Pa. Code §123.43, by not exceeding the following limitations:

- (1) Equal to or greater than 10% for a period or periods aggregating more than three minutes in any one hour; and
- (2) Equal to or greater than 30% at any time.

d.) The Owner/Operator shall limit the engine's time spent at idle during startup or shutdown to a period appropriate for the operation of the engine and air pollution control equipment consistent with good air pollution control practices, not to exceed 30 minutes, during which time the emissions standards in (a), (b), and (c) above do not apply.

**II. TESTING REQUIREMENTS.****# 002 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

(a) When conducting a performance test for an engine, the owner or operator must submit a test protocol as described in Section C of this operating permit for review and approval.

(b) The owner or operator should conduct the following test procedures:

- (i) Conduct three test runs of at least one hour duration within 10% of 100% peak (or the highest achievable) load.
- (ii) Select the sampling port location and the number and location of traverse points at the exhaust using 40 CFR Part 60, Appendix A-1, Method 1 or 1A depending on stack diameter, or the sampling points selected according to 40 CFR Part 60,

**SECTION E. Source Group Restrictions.**

Appendix A-4, Method 7E Section 8.1.2.

(iii) Determine the effluent characteristics by either:

(A) Calculating the exhaust flow in accordance with 40 CFR Part 60, Appendix A-7, Method 19 and measuring the O<sub>2</sub> concentration using 40 CFR Part 60, Appendix A-2, Method 3A; or

(B) By measuring:

(1) The flow velocity, stack temperature, static pressure, and barometric pressure using 40 CFR Part 60, Appendix A-1, Method 2 or 2C depending on stack diameter;

(2) The gas density using 40 CFR Part 60, Appendix A-2, Method 3A; and

(3) The moisture content using 40 CFR Part 60, Appendix A-3, Method 4.

(iv) Simultaneous to the determination of the O<sub>2</sub> concentration in (iii)(A) or (B) above, determine:

(A) The NO<sub>x</sub> concentration of the exhaust gas using 40 CFR Part 60, Appendix A-4, Method 7E;

(B) The CO concentration of the exhaust gas using 40 CFR Part 60, Appendix A-4, Method 10;

(C) The NMNEHC concentration, as propane, excluding formaldehyde of the exhaust gas using ALT-106; and

(D) The formaldehyde concentration of the exhaust gas, if applicable, using 40 CFR Part 63, Appendix A, Method 320.

(c) If at any time the owner or operator operates the engine in excess of the highest achievable load plus 10%, the owner or operator must perform a stack test within 180 days from the anomalous operation.

**# 003 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

(a) When conducting periodic monitoring on an engine, the owner or operator may follow the procedures in (b) below. If the owner or operator decides to deviate from those procedures, they must submit a request to use an alternate procedure, in writing, at least 60 days prior to performing the periodic monitoring. In the alternate procedure request, the owner or operator must demonstrate the alternate procedure's equivalence to the standard procedure to the satisfaction of the Division of Source Testing and Monitoring.

(b) Standardized Periodic Monitoring Procedure.

(i) Conduct three test runs of at least 20 minutes duration within 10% of 100% peak (or the highest achievable) load.

(ii) Determine NO<sub>x</sub> and CO emissions and O<sub>2</sub> concentrations in the exhaust with either an electro-chemical cell portable gas analyzer used and maintained in accordance with the manufacturer's specifications and following the procedures specified in the current version of ASTM D6522 or by following the procedures outlined in the engine performance testing requirements of this source-group.

(iii) If the measured NO<sub>x</sub> or CO emissions concentrations are in exceedance of the emissions limit, the owner or operator must perform a stack test in accordance with the Performance Testing Requirements of this section within 180 days of the periodic monitoring.

(c) The 2,500 hours of operation count resets after any performance test performed.

**# 004 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner or Operator of each natural gas-fired stationary spark ignition reciprocating internal combustion engine at this facility shall conduct an initial compliance performance test (stack test) within 180 days of startup of the engine. A continuous compliance performance test shall be conducted every 8,760 hours of operation or every three years and within 180 days of each reauthorization by the Department. Periodic monitoring shall be conducted every 2,500 hours of operation for each compressor engine. Performance testing and periodic monitoring shall be conducted in accordance with the requirements of this state-only operating permit, the Department's Division of Source Testing and Monitoring's Source Testing Manual, and 25 Pa. Code Chapter 139 requirements, unless otherwise directed by the Department.

**SECTION E. Source Group Restrictions.****III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.****# 005 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

For each engine, the owner or operator shall maintain the following records, including information on:

- (a) The state-only operating permit authorization number and the date each engine was authorized for use;
- (b) The make, model, and serial number of each engine;
- (c) Either a copy of the manufacturer's maintenance instructions or an alternative maintenance plan;
- (d) Records of maintenance conducted on each engine and any installed air pollution control devices;
- (e) A copy of the manufacturer's engine certification or vendor guarantees;
- (f) The results of each periodic monitoring;
- (g) The summary for each complete test report described in this source-group in Section E of this state-only operating permit; and
- (h) The emissions calculations for each engine in accordance with 25 Pa. Code §135.5.
- (i) Records of catalyst inlet and outlet temperature readings performed at a minimum of once per day on each compressor engine operated during the month.

**V. REPORTING REQUIREMENTS.**

No additional reporting requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**VI. WORK PRACTICE REQUIREMENTS.****# 006 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

The Owner/Operator of each reciprocating internal combustion engine authorized at this facility shall install, operate, and maintain a non-resettable hour meter.

**# 007 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

All Caterpillar G3516LE compressor engines authorized under this state-only operating permit shall be operated in accordance with the manufacturer's specifications and maintained according to the manufacturer's maintenance schedule. Manufacturer's specifications include, but are not limited to, the following:

- a.) Inlet temperature for the Miratech Miratech SP-ZES-30x31-12-XH1B2 catalysts (or equivalent) installed on the 1,340-bhp Caterpillar G3516LE engines shall be maintained at a minimum of 750°F under all operating conditions excluding startup, shutdown, and malfunction.
- b.) All catalysts installed on any air contamination source at this facility shall be operated with automatic air/fuel ratio controllers.

**VII. ADDITIONAL REQUIREMENTS.****# 008 [25 Pa. Code §127.441]****Operating permit terms and conditions.**

In instances of multiple applicable emission limitations, the most stringent emission limitation applies.

**SECTION E. Source Group Restrictions.**

Group Name: SUBPART JJJJ REQUIREMENTS

Group Description: Subpart JJJJ Requirements

Sources included in this group

ID	Name
101	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02779
102	CAT G3516 LE ENG (1340 BHP-HR),SN WPW02538
103	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02778
104	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02833
105	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02832

**I. RESTRICTIONS.****Emission Restriction(s).**

**# 001 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60 Subpart JJJJ Table 1] Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines Table 1 to Subpart JJJJ of Part 60.--**

Table 1 of 40 CFR Part 60 Subpart JJJJ is incorporated by reference. A summary of the applicable Subpart JJJJ emission limitations for the air contamination sources at this facility are as follows:

Sources 101-105, 1,340-HP Caterpillar G3516LE reciprocating internal combustion engines: 2.0 g/bhp-hr NO<sub>x</sub>; 4.0 g/bhp-hr CO; 1.0 g/bhp-hr VOC.

**# 002 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4233] Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?**

(a) - (d) Not applicable.

(e) 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 this subpart for their stationary SI ICE.

(f) - (h) Not applicable.

**II. TESTING REQUIREMENTS.**

**# 003 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4244] Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?**

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

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(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<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the

**SECTION E. Source Group Restrictions.**

engine exhaust using Equation 1 of this section:

(Formula omitted...refer to regulation for exact formula notation).

Image: "Equation 1"

Where:

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

Cd = Measured NOX concentration in parts per million by volume (ppmv).

$1.912 \times 10^{-3}$  = Conversion constant for ppm NOX 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:

(Formula omitted...refer to regulation for exact formula notation).

Image: "Equation 2"

Where:

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

Cd = Measured CO concentration in ppmv.

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

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

T = Time of test run, in hours.

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

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

(Formula omitted...refer to regulation for exact formula notation).

Image: "Equation 3"

Where:

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

Cd = VOC concentration measured as propane in ppmv.

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

**SECTION E. Source Group Restrictions.**

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

(Formula omitted...refer to regulation for exact formula notation).

"Equation 4"

Where:

RF<sub>i</sub> = Response factor of compound i when measured with EPA Method 25A.

CM<sub>i</sub> = Measured concentration of compound i in ppmv as carbon.

CA<sub>i</sub> = True concentration of compound i in ppmv as carbon.

(Formula omitted...refer to regulation for exact formula notation).

"Equation 5"

Where:

C<sub>icorr</sub> = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C<sub>imeas</sub> = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

(Formula omitted...refer to regulation for exact formula notation).

"Equation 6"

Where:

CP<sub>eq</sub> = Concentration of compound i in mg of propane equivalent per DSCM.

**III. MONITORING REQUIREMENTS.**

No additional monitoring requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**IV. RECORDKEEPING REQUIREMENTS.**

No additional record keeping requirements exist except as provided in other sections of this permit including Section B (State Only General Requirements).

**SECTION E. Source Group Restrictions.****V. REPORTING REQUIREMENTS.**

**# 004 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4245]  
Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines  
What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?**

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

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

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

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

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

(b) Not applicable.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

(d) 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.

**VI. WORK PRACTICE REQUIREMENTS.**

**# 005 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4234]  
Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines  
How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?**

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.

**# 006 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4243]  
Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines  
What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?**

(a) Not applicable.

(b) 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

**SECTION E. Source Group Restrictions.**

paragraphs (b)(1) and (2) of this section.

(1) Not applicable.

(2) 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 this section.

(i) Not applicable.

(ii) 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.

(c) - (f) Not applicable.

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR 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.

(h) - (i) Not applicable.

**VII. ADDITIONAL REQUIREMENTS.**

**# 007 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4246]  
Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines  
What parts of the General Provisions apply to me?**

Table 3 to this subpart shows which parts of the General Provisions in § 60.1 through 60.19 apply to you.

**# 008 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4248]  
Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines  
What definitions apply to this subpart?**

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

**# 009 [40 CFR Part 63 NESHAPS for Source Categories §40 CFR 63.6590]  
Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines  
What parts of my plant does this subpart cover?**

This subpart applies to each affected source.

(a) Affected source. An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) Not applicable.

(2) New stationary RICE.

(i) - (ii) Not applicable.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) Not applicable.



**SECTION E. Source Group Restrictions.**

(b) Not applicable.

(c) Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) - (7) Not applicable.

**SECTION F. Alternative Operation Requirements.**

No Alternative Operations exist for this State Only facility.

**SECTION G. Emission Restriction Summary.**

Source Id	Source Descriptor		
101	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02779		
Emission Limit			Pollutant
0.400	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	CO
1.180	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	CO
0.080	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	Formaldehyde
0.240	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	Formaldehyde
0.190	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NMNEHC
0.560	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NMNEHC
1.500	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NOX
4.420	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NOX
0.270	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	VOC
0.800	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	VOC
102	CAT G3516 LE ENG (1340 BHP-HR),SN WPW02538		
Emission Limit			Pollutant
0.400	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	CO
1.180	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	CO
0.080	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	Formaldehyde
0.240	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	Formaldehyde
0.190	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NMNEHC
0.560	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NMNEHC
1.500	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NOX
4.420	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NOX
0.270	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	VOC
0.800	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	VOC

**SECTION G. Emission Restriction Summary.**

Source Id	Source Description		
103	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02778		
Emission Limit			Pollutant
0.400	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	CO
1.180	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	CO
0.080	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	Formaldehyde
0.240	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	Formaldehyde
0.190	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NMNEHC
0.560	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NMNEHC
1.500	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NOX
4.420	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NOX
0.270	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	VOC
0.800	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	VOC
104	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02833		
Emission Limit			Pollutant
0.400	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	CO
1.180	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	CO
0.080	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	Formaldehyde
0.240	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	Formaldehyde
0.190	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NMNEHC
0.560	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NMNEHC
1.500	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NOX
4.420	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NOX
0.270	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	VOC
0.800	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	VOC

**SECTION G. Emission Restriction Summary.**

Source Id	Source Descriptor		
105	COMPRESSOR ENG EQUIPPED W/CATALYST (1340 BHP-HR),SN WPW02832		
Emission Limit		Pollutant	
0.400	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	CO
1.180	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	CO
0.080	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	Formaldehyde
0.240	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	Formaldehyde
0.190	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NMNEHC
0.560	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NMNEHC
1.500	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	NOX
4.420	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	NOX
0.270	GRAMS/HP-Hr	Manufacturer's Guarantee at Rated BHP and Speed	VOC
0.800	Lbs/Hr	Applies at Operating Conditions less than Rated Capacity (Excluding Startup and Shutdown)	VOC
401	GLYCOL DEHYDRATOR		
Emission Limit		Pollutant	
500.000	PPMV	25 Pa. Code 123.21 (dry basis)	SOX

**Site Emission Restriction Summary**

Emission Limit		Pollutant
99.800	Tons/Yr	25 Pa. Code 127.441
		NOX
36.700	Tons/Yr	25 Pa. Code 127.441
		CO
37.500	Tons/Yr	25 Pa. Code 127.441
		VOC
0.200	Tons/Yr	25 Pa. Code 127.441
		SOX
0.520	Tons/Yr	25 Pa. Code 127.441
		PM10
0.520	Tons/Yr	25 Pa. Code 127.441
		PM2.5
12.700	Tons/Yr	25 Pa. Code 127.441 (Total HAP)
		Hazardous Air Pollutants
5.900	Tons/Yr	25 Pa. Code 127.441 (Single HAP)
		Formaldehyde



**SECTION G. Emission Restriction Summary.**

**SECTION H. Miscellaneous.**

MarkWest Liberty Midstream and Resources, LLC is granted authorization to operate the following sources:

- Sources 101-105, five (5) 1,340-hp Caterpillar G3516LE stationary reciprocating internal combustion engines controlled by Miratech SP-ZES-30X31-12-XH1B2 catalysts (or equivalent);
- Source 201, one (1) 0.75 MMBtu/hr Reboiler;
- Source 301, (2) 400-bbl condensate/produced water storage tanks controlled by vapor recovery units (VRU);
- Source 302, one (1) 520-gallon Methanol Storage Tank;
- Source 303, Condensate Loadout;
- Source 401, a 45.0 MMscf/day Superior Fabrication dehydration unit controlled by a 7.0 MMBtu/hr Flare Industries FEF-48 enclosed flare;
- Source 501, Pneumatic Devices;
- Source 601, Venting/Blowdowns, which include facility-wide blowdowns (i.e. ESD events) and compressor blowdowns;
- Source 701, Fugitives, which includes connectors, flanges, open-ended lines, pump seals, and valves;
- Source 702, Crankcase Vents;
- Source 801, Pigging Operations with the use of high to low pressure jumpers; and
- Miscellaneous sources which includes rod packing and measurement analyzers.



\*\*\*\*\* End of Report \*\*\*\*\*

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