



10/25/2013

Certified Mail

Mr. Rod Brumlow  
E2 Appalachian Compression LLC - Reusser  
8150 N. Central Expressway  
Suite 1100  
Dallas, TX 75206

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0656105005  
Permit Number: P0114578  
Permit Type: Initial Installation  
County: Monroe

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-SEDO



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
E2 Appalachian Compression LLC - Reusser**

Facility ID:	0656105005
Permit Number:	P0114578
Permit Type:	Initial Installation
Issued:	10/25/2013
Effective:	10/25/2013
Expiration:	10/25/2023





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
E2 Appalachian Compression LLC - Reusser

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**Final Permit-to-Install and Operate**  
E2 Appalachian Compression LLC - Reusser  
**Permit Number:** P0114578  
**Facility ID:** 0656105005  
**Effective Date:** 10/25/2013

## Authorization

Facility ID: 0656105005  
Application Number(s): A0047345, A0048177, A0048705  
Permit Number: P0114578  
Permit Description: Installation of a new 120 MMSCF/day natural gas compressor station and 2,000 bbl/day condensate management facility.  
Permit Type: Initial Installation  
Permit Fee: \$9,100.00  
Issue Date: 10/25/2013  
Effective Date: 10/25/2013  
Expiration Date: 10/25/2023  
Permit Evaluation Report (PER) Annual Date: Apr 1 - Mar 31, Due May 15

This document constitutes issuance to:

E2 Appalachian Compression LLC - Reusser  
Twp Hwy 68 and Twp Hwy 66  
Woodsfield, OH 43793

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

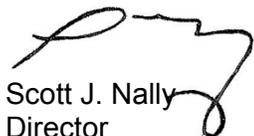
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740)385-8501

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0114578  
 Permit Description: Installation of a new 120 MMSCF/day natural gas compressor station and 2,000 bbl/day condensate management facility.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

- |                                   |                      |
|-----------------------------------|----------------------|
| <b>Emissions Unit ID:</b>         | <b>F001</b>          |
| Company Equipment ID:             | F002                 |
| Superseded Permit Number:         |                      |
| General Permit Category and Type: | Not Applicable       |
| <b>Emissions Unit ID:</b>         | <b>P012</b>          |
| Company Equipment ID:             | DEHY-2               |
| Superseded Permit Number:         |                      |
| General Permit Category and Type: | Not Applicable       |
| <b>Emissions Unit ID:</b>         | <b>P015</b>          |
| Company Equipment ID:             | Flash Gas Compressor |
| Superseded Permit Number:         |                      |
| General Permit Category and Type: | Not Applicable       |
| <b>Emissions Unit ID:</b>         | <b>P016</b>          |
| Company Equipment ID:             | BD                   |
| Superseded Permit Number:         |                      |
| General Permit Category and Type: | Not Applicable       |
| <b>Emissions Unit ID:</b>         | <b>P801</b>          |
| Company Equipment ID:             | F001                 |
| Superseded Permit Number:         |                      |
| General Permit Category and Type: | Not Applicable       |
| <b>Emissions Unit ID:</b>         | <b>T001</b>          |
| Company Equipment ID:             | T001                 |
| Superseded Permit Number:         |                      |
| General Permit Category and Type: | Not Applicable       |

**Group Name: NG Engines**

<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	CE-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P002</b>
Company Equipment ID:	CE-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	CE-3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P004</b>
Company Equipment ID:	CE-4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**  
E2 Appalachian Compression LLC - Reusser  
**Permit Number:** P0114578  
**Facility ID:** 0656105005  
**Effective Date:** 10/25/2013

<b>Emissions Unit ID:</b>	<b>P005</b>
Company Equipment ID:	CE-5
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P006</b>
Company Equipment ID:	CE-6
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P007</b>
Company Equipment ID:	CE-7
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P008</b>
Company Equipment ID:	CE-8
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P009</b>
Company Equipment ID:	CE-9
Superseded Permit Number:	
General Permit Category andType:	Not Applicable



**Final Permit-to-Install and Operate**  
E2 Appalachian Compression LLC - Reusser  
**Permit Number:** P0114578  
**Facility ID:** 0656105005  
**Effective Date:** 10/25/2013

## **A. Standard Terms and Conditions**



**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the



change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



**Final Permit-to-Install and Operate**  
E2 Appalachian Compression LLC - Reusser  
**Permit Number:** P0114578  
**Facility ID:** 0656105005  
**Effective Date:** 10/25/2013

## **B. Facility-Wide Terms and Conditions**



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.
2. The Ohio EPA has determined that this facility is subject to the requirements of 40 CFR Part 63 Subpart ZZZZ and 40 CFR Part 63, Subpart HH. Although Ohio EPA has determined that these Generally Available Control Technology NESHAP (GACT) apply, at this time Ohio EPA does not have the authority to enforce this standard. Instead, U.S. EPA has the authority to enforce this standard. Please be advised, that all requirements associated with this rule are in effect and shall be enforced by U.S. EPA. For more information on the area source rules, please refer to the following U.S. EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.
3. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart HH, National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities: P012. The complete MACT requirements, including the MACT General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Southeast District Office.
4. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: P001 – P009, & P015. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Southeast District Office.
5. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution: P012. The complete New Source Performance Standards (NSPS) requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Southeast District Office.
6. Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), is not necessary if/when the maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, is less than 1.0 ton per year (or are subject to a standard under 40 CFR Part 63). OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified PTIO prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials or use of new materials that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTIO.



**Final Permit-to-Install and Operate**  
E2 Appalachian Compression LLC - Reusser  
**Permit Number:** P0114578  
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## **C. Emissions Unit Terms and Conditions**



**1. P801, Fugitive equipment leaks**

**Operations, Property and/or Equipment Description:**

Fugitive equipment leaks from various components, including connectors, flanges, compressors, open ended lines, pump seals, and valves

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Fugitive volatile organic compounds (VOC) emissions shall not exceed 14.51 tons per rolling, 12-month period.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Leak Detection and Repair Program

a. The permittee shall develop and implement a leak detection and repair program designed to monitor and repair leaks from ancillary equipment and compressors



covered by this permit. This leak detection and repair program shall include the following elements:

- i. An initial and then annual inspection of the ancillary and associated equipment and compressors shall be conducted to determine if a leak exists. Leaks shall be determined through the use of an analyzer meeting U.S. EPA Method 21, 40 CFR Part 60, Appendix A.
  - ii. The analyzer shall be operated and maintained following the instrument manufacturer's operation and maintenance instructions.
  - iii. A leak shall be determined if the instrument reading is equal to or greater than 10,000 ppm total VOC or the "leak detected" instrument reading required per any applicable rule.
  - iv. Documentation that includes the following:
    - (a) the date the inspection was conducted;
    - (b) the name of the employee conducting the leak check;
    - (c) the identification of any component that was determined to be leaking; and
    - (d) the date the component was repaired and determined to no longer be leaking.
- b. The records associated with the leak detection and repair program shall be maintained for at least 5 years and shall be made available to the Director or his representative upon verbal or written request.
- e) **Reporting Requirements**
- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- f) **Testing Requirements**
- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Fugitive VOC emissions shall not exceed 14.51 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual VOC limitation is based upon the maximum number of components and type of service (gas/vapor and light liquid) expected at the natural gas production site and the % of VOC of the material in each type of service. Emissions factors from U.S. EPA's "Protocol for Equipment Leak Emission Estimates", Table 2-4, for Oil and Gas production Operations (a conservative estimate), were used to calculate the tons per month averaged over a 12-month rolling period. The emissions limitation for fugitive leaks from ancillary and associated equipment is based upon the summation of the following calculations:

Component Type      # of components x emission factor x % VOC = lb VOC/hr

In Gas/Vapor Service

Number of connectors (6,950) x 0.00044 lb/hr x 17% VOC = 0.52 lb VOC/hr

Number of valves (970) x 0.00992 lb/hr x 17%VOC = 1.63 lbs VOC/hr

Number of flanges (1,730) x 0.00086 lb/hr x 17% VOC = 0.25 lb VOC/hr

Number of compressor seals (12) x 0.01940 lb/hr x 17% VOC = 0.04 lb VOC/hr

Number of relief valves (85) x 0.01940 lb/hr x 17% VOC = 0.28 lb VOC/hr

Number of other components (440) x 0.00441 lb/hr x 17% VOC = 0.33 lb VOC/hr

In Light Liquid Service

Number of connectors (355) x 0.000463 lb/hr x 100% VOC = 0.163 lb VOC/hr

Number of valves (70) x 0.00551 lb/hr x 17% VOC = 0.065 lb VOC/hr

Number of flanges (125) x 0.00024 lb/hr x 100% VOC = 0.030 lb VOC/hr

The total summation of VOC emissions per hour shall be multiplied by 8,760 hours per year and divided by 2,000 pounds to calculate the tons, per year fugitive VOC emissions to demonstrate compliance.

g) Miscellaneous Requirements

(1) None.



**2. F001, Unpaved Roadways and Parking Areas.**

**Operations, Property and/or Equipment Description:**

Unpaved roadways and parking areas with a maximum of 876 vehicle miles traveled per year.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive particulate emissions (PE) shall not exceed 0.21 tons/year.  No visible PE from unpaved roadways and parking areas except for a period of time not to exceed three minutes during any 60-minute observation period.  Best available control measures that are sufficient to minimize or eliminate visible PE of fugitive dust (See b)(2)a. through b)(2)g.)
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)h. below.
c.	OAC rule 3745-17-07(B)	See b)(2)i. below.
d.	OAC rule 3745-17-08(B)	See b)(2)j. below.



- (2) Additional Terms and Conditions
- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05. Then these emission limits/control measures no longer apply.
  - b. The permittee shall employ best available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to treat the unpaved roadways and parking areas by application of chemical stabilization/dust suppressants and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
  - c. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for unpaved roadways and parking areas that are covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.
  - d. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
  - e. Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure(s) specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas of no visible PE except for a period of time not to exceed six minutes during any sixty-minute observation period.



- f. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.
- g. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.
- h. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to particulate emissions from this air contaminant source since the uncontrolled potential to emit for particulate is less than 10 tons/yr.

- i. This emissions unit is exempt from the visible emissions limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e), because the emissions unit is not located within areas identified in "Appendix A" of OAC rule 3745-17-08.
- j. This emissions unit is not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to prevent fugitive dust, do not apply to this emissions unit pursuant to OAC rule 3745-17-08(A)(1).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:

<u>unpaved roadways and parking areas</u>	<u>minimum inspection frequency</u>
all roads and parking areas	daily

- (2) The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.



- (3) The permittee shall maintain records of the following information:
  - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and
  - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in Term d)(3)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

Fugitive PE shall not exceed 0.21 ton per year.

Applicable Compliance Method:

Compliance with annual emissions limitations shall be determined based on the emission factor calculations for unpaved roadways and parking areas in AP-42 section 13.2.2, (11/06). Initial compliance has been determined utilizing inputs provided by the permittee in their application as follows:

$$EF = ((k \times (s/12)^a \times (W/3)^b) / ((365-p)/365))$$

Where:

EF = size-specific emission factor (lb/VMT)

k (lb/VMT) = 4.9



a = 0.7

b = 0.45

s = % surface material silt content = 10

W = mean vehicle weight (tons) = 53

p = number of rain days per year >0.01 in. = 140

Therefore, EF = 9.68 lb/VMT

Maximum travel = 876 VMT/year

$(876 \text{ VMT/year})(9.68 \text{ lb/VMT})(1 \text{ ton}/2,000 \text{ lbs}) = 4.24 \text{ TPY uncontrolled PE}$

Assume 95% control efficiency for roadway watering

$(4.24)(1-0.95) = 0.21 \text{ TPY controlled PE}$

b. Emissions Limitation:

No visible PE from unpaved roadways and parking areas except for a period of time not to exceed three minutes during any 60-minute observation period.

Applicable Compliance Method:

If required, visible emissions of fugitive dust shall be determined according to USEPA Method 22, with the modifications found in OAC rule 3745-17-03(B)(4).

g) Miscellaneous Requirements

(1) None.



**3. P015, Flash Gas Compressor**

**Operations, Property and/or Equipment Description:**

215 horsepower flash gas compressor engine - Caterpillar G3406 NA, 4-stroke rich burn, naturally aspirated, 14.59 liter total displacement, controlled with NSCR and maintain proper air fuel ratio, 95.6% control efficiency for NO<sub>x</sub> and, 92% control efficiency for CO. Engine model year: 2011.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) **Applicable Emissions Limitations and/or Control Requirements**

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Nitrogen oxide (NO <sub>x</sub> ) emissions from the stack serving this emissions unit shall not exceed 0.24lb/hr and 1.04 TPY.  Carbon monoxide (CO) emissions from the stack serving this emissions unit shall not exceed 0.47lb/hr and 2.08 TPY.  Volatile organic compounds (VOC) emissions from the stack serving this emissions unit shall not exceed 0.09lb/hr and 0.42 TPY.  PE emissions from the stack serving this emissions unit shall not exceed 0.03lb/hr and 0.14 TPY.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Visible particulate emissions (PE) shall not exceed 10% opacity from the stack serving this emissions unit, as a 6-minute average.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A), OAC rule 3745-17-11(B) and 40 CFR Part 60, Subpart JJJJ.</p> <p>See b)(2)a. below.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/2006	See b)(2)c. below.
d.	OAC rule 3745-17-11(B)(5)(a)	<p>Particulate emissions (PE) shall not exceed 0.310 lb/MMBtu of actual heat input.</p> <p>This emissions limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
e.	OAC rule 3745-17-07(A)(1)	<p>Visible PE from the exhaust stack serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.</p> <p>This emissions limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
f.	OAC rule 3745-18-06	This emissions unit is exempt from the requirements of OAC rule 3745-18-06 pursuant to OAC rule 3745-18-06(A).
g.	<p>40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230 – 60.4248)</p> <p>[In accordance with 40 CFR 60.4230(a) and 40 CFR 60.4230(a)(4)(iii), this emissions unit is a stationary spark ignition internal</p>	<p>NOx emissions shall not exceed 1.0 g/hp-hr or 82ppmvd at 15% oxygen (O<sub>2</sub>).</p> <p>CO emissions shall not exceed 2.0 g/hp-hr or 270 ppmvd at 15% O<sub>2</sub>.</p> <p>VOC emissions shall not exceed 0.7 g/hp-</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	combustion engine manufactured after July 1, 2008, and is subject to the emission limitations and control measures specified in this section.]	hr or 60ppmvd at 15% O <sub>2</sub> .  [40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1]  These emissions limitations are less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.  See b)(2)d. below.
h.	40 CFR Part 60.1 – 19 (40 CFR 60.4246)	Table 3 to Subpart JJJJ of 40 CFR Part 60 – Applicability of General Provisions to Subpart JJJJ shows which part of the General Provisions in 40 CFR Part 60.1 – 19 apply.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05. Then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.  
  
 The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, and CO from this air contaminant source since the calculated annual emission rate for NO<sub>x</sub>, and CO is less than 10 tons/yr taking into account the federally enforceable rule limit of NO<sub>x</sub> emissions shall not exceed 1.0 g/hp-hr or 82ppmvd and CO emissions shall not exceed 2.0 g/hp-hr or 270 ppmvd under 40 CFR Part 60, Subpart JJJJ.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.



The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO<sub>2</sub>, VOC, and PE from this air contaminant source since the uncontrolled potential to emit for SO<sub>2</sub>, VOC, and PE is less than 10 tons/yr.

- d. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4236(a)	Compliance deadlines based on installation date
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c) Operational Restrictions

- (1) The permittee shall burn only gaseous fuels in this emissions unit.
- (2) The permittee shall comply with the applicable restrictions of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4234	Operation and maintenance to achieve compliance with emission standards for the life of the engine
60.4243(b)(2) and 60.4243(b)(2)(i)	Operation and maintenance requirements
60.4243(e)	Use of propane for up to 100 hours per year during emergencies
60.4243(g)	Use of air to fuel ratio (AFR) controllers and AFR operation and maintenance requirements

- (3) The engine is controlled by a Miratech Corporation NSCRto meet the emissions limitations for NO<sub>x</sub>, and CO. The permittee must follow all manufacturer specifications to guarantee the manufacturer emission limits warranty as provided in the permittee's application.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than gaseous fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall comply with the applicable monitoring and record keeping requirements of 40 CFR Part 60, Subpart JJJJ, including the following sections:



60.4243(b)(2)(i), 60.4245(a)(2), and 60.4245(a)(4)	Keep maintenance plan, and records of conducted maintenance and documentation that the engine meets the emissions standards.
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- (3) Upon initial startup, the permittee shall continuously monitor and record the number of hours of operation and perform all maintenance as required by the Miratech Corporation. Records shall be maintained of the date of any completed required maintenance to demonstrate compliance with the Miratech Corporation emissions limit warranty. Records of deviations from the Miratech Corporation emissions limit warranty shall also be maintained. These records shall be retained for at least 5 years. The permittee shall also check each compressor seal annually for leaks.

e) Reporting Requirements.

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than gaseous fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) The permittee shall submit deviation (excursion) reports that identify each occurrence that the permittee failed to complete required maintenance in this emissions unit per the Miratech Corporation emissions limit warranty. Each report shall be submitted within 30 days after the deviation occurs.
- (4) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts JJJJ and A, including the following sections:

60.4245(d)	Submit performance test copies within 60 days after the test has been completed
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f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:



a. Emissions Limitation:

Visible PE shall not exceed 10% opacity from the stack serving this emissions unit, as a 6-minute average.

Visible PE from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

b. Emissions Limitations:

PE shall not exceed 0.03 lb/hr and 0.14 ton per year.

PE shall not exceed 0.310 lb/MMBtu of actual heat input.

Applicable Compliance Method:

The short term emission limitation was established by multiplying an emission factor of 0.0194 pound/million Btu, the emission factor is specified in AP-42 Table 3.2-2 (7/00), by the maximum heat input of the engine of 1.66 million Btu/hour (0.03 lb/hr as submitted in application).

If required, particulate emissions shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation was established by multiplying the lb/hr emissions limitation by 8,760 hours of operation and dividing by 2,000 tons per year.

c. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 1.0 g/hp-hr or 82 ppmvd at 15% oxygen (O<sub>2</sub>).

NO<sub>x</sub> emissions from the stack serving this emissions unit shall not exceed 0.24 lb/hr and 1.04TPY.

Applicable Compliance Methods:

The short term emission limitation was determined by multiplying 0.50 g/bhp-hr, the emission factor specified in the manufacturer's catalyst warranty obtained from the Miratech Corporation, by 215 bhp, the power output rating of this unit, and dividing by 453.59 g/lb (0.24 lb/hr as submitted in application).



Compliance shall be demonstrated based upon the emission testing requirements specified in f)(2).

Compliance with the annual emission limitation was established by multiplying the lb/hr emissions limitation above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

d. Emissions Limitations:

CO emissions shall not exceed 2.0 g/hp-hr or 270 ppmvd at 15% O<sub>2</sub>.

CO emissions from the stack serving this emissions unit shall not exceed 0.47 lb/hr and 2.08TPY.

Applicable Compliance Method:

The short term emission rate was determined by multiplying 1.0 g/bhp-hr, the emission factor specified in the manufacturer's catalyst warranty obtained from the Miratech Corporation, by 215 bhp, the power output rating of this unit, and dividing by 453.59 g/lb (0.47lb/hr as submitted in application).

Compliance shall be demonstrated based upon the emission testing requirements specified in f)(2).

Compliance with the annual emission limitation was established by multiplying the lb/hr emissions limitation above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

e. Emissions Limitations:

VOC emissions shall not exceed 0.7 g/hp-hr or 60 ppmvd at 15% O<sub>2</sub>.

VOC emissions from the stack serving this emissions unit shall not exceed 0.09lb per hour and 0.42 ton per year.

Applicable Compliance Method:

The short term emission limitation was determined by multiplying 0.20 g/bhp-hr, the emission factor specified in the manufacturer's engine specification sheet obtained from Caterpillar, by 215 bhp, the power output rating of this unit, and dividing by 453.59 g/lb (0.09lb/hr as submitted in application).

Compliance shall be demonstrated based upon the emission testing requirements specified in f)(2).

The annual emission limitation was established by multiplying the lb/hr emissions limitation above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.



- (2) The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with 40 CFR 60.4243(b)(2)(i) and the procedures specified in 40 CFR Part 60, Appendix A, 40 CFR 60.8, 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ, Table 2 and the following requirements:
- a. An initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in b)(1)a., and b)(1)g. for VOC, NO<sub>x</sub> and CO, within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
  - b. If the stationary internal combustion engine is rebuilt or undergoes major repair or maintenance, the permittee shall conduct a subsequent performance test.
  - c. Each performance test must be conducted within 10% of 100% peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 2 of 40 CFR Part 60, Subpart JJJJ.
  - d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office's refusal to accept the results of the emission test(s).
  - e. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - f. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.
- g) Miscellaneous Requirements
- (1) None.



**4. T001 – Condensate/Produced Water Storage Tanks and Truck Loading**

**Operations, Property and/or Equipment Description:**

2 - 3,000 barrel stabilized condensate fixed roof tanks, 2 - 400 barrel produced water fixed roof tanks, 2 - 400 barrel raw condensate fixed roof tanks, and 1 - 400 barrel settling fixed roof tank and associated submerged or bottom fill truck loading; emissions from each tank and truck loading controlled by vapor recovery units (VRUs) and routed back to the upstream side of the gas compression process except during periods of maintenance (maximum of 10% of the time), when emissions from each tank and truck loading is routed to a low pressure flare with 98% control efficiency; maximum hourly fuel input rate of 6.315 million BTU and maximum annual fuel input rate of 6,445 million BTU.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.43 lb/hr and 0.23 TPY.  Carbon monoxide (CO) emissions shall not exceed 2.31 lbs/hr and 1.05 TPY.  Volatile organic compound (VOC) emissions shall not exceed 2.65 lbs/hr and 1.17 TPY.  There shall be no visible particulate emissions (visible PE) from the flare,



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.  See b)(2)a., c)(1) and c)(2). below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-31-05(C), as effective 12/01/06 (Voluntary restriction to avoid BAT for VOC)	See b)(2)c. below.
d.	OAC rule 3745-17-07(A)	See b)(2)d. below.
e.	OAC rule 3745-17-11(B)	See b)(2)e. below.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally–approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, CO, SO<sub>2</sub> and PE emissions from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub>, CO, SO<sub>2</sub> and PE is less than 10 tons/yr.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

Permit to Install and Operate P0114578 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):





recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than gaseous fuels was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) As part of the annual Permit Evaluation Report (PER), this facility shall identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 0.43lb/hr and 0.23 TPY.

Applicable Compliance Method:

Compliance with the NO<sub>x</sub> emissions limitations is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{NO}_x(\text{lbs/hr}) &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{NO}_x \text{ emissions factor (lb/million BTU)})] \\
 &= [(0.112 \text{ million BTU/hr} \times 0.098 \text{ million BTU}) + (6.205 \text{ million BTU/hr} \times 0.068 \text{ lb/million BTU})] \\
 &= 0.43 \text{ lb/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.112 million BTU/hr

Maximum hourly flared material heat input = 6.205 million BTU/hr

NO<sub>x</sub> EF (pilot light/purge gas and flared material) = 0.068 lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.098 lb/million BTU.

The hourly emission rate specified above was established by multiplying the emission factor from AP-42, Table 13.5-1 (revised 1/95), of 0.068 lbNO<sub>x</sub>/mmBtu by the maximum heat input rate from the process of 6.205mmBtu/hr.



If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the TPY emission limitation is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{NO}_x(\text{lbs/hr}) &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{NO}_x \text{ emissions factor (lb/million BTU)})] \\
 &= [(981 \text{ million BTU/yr} \times 0.098 \text{ million BTU)} + (5,460 \text{ million BTU/yr} \times 0.068 \text{ lb/million BTU})] \\
 &= 0.23 \text{ TPY}
 \end{aligned}$$

Where:

Maximum yearly pilot light/purge gas heat input = 981 million BTU/hr

Maximum yearly flared material heat input = 5,460 million BTU/hr

NO<sub>x</sub> EF (pilot light/purge gas and flared material) = 0.068 lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.098 lb/million BTU.

b. Emission Limitations:

CO emissions shall not exceed 2.31lbs/hr and 1.05 TPY.

Applicable Compliance Method:

Compliance with the CO emissions limitations is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{CO}(\text{lbs/hr}) &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{NO}_x \text{ emissions factor (lb/million BTU)})] \\
 &= [(0.112 \text{ million BTU/hr} \times 0.08 \text{ million BTU)} + (6.205 \text{ million BTU/hr} \times 0.37\text{lb/million BTU})] \\
 &= 2.31 \text{ lbs/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.112 million BTU/hr



Maximum hourly flared material heat input = 6.205 million BTU/hr

CO EF (pilot light/purge gas and flared material) = 0.37 lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.08lb/million BTU.

The hourly emission rate specified above was established by multiplying the emission factor from AP-42, Table 13.5-1 (revised 1/95), of 0.37lbCO<sub>x</sub>/mmBtu by the maximum heat input rate from the process of 6.205mmBtu/hr.

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the TPY emission limitation is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{CO(lbs/hr)} &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{CO emissions factor (lb/million BTU)})] \\
 &= [(981 \text{ million BTU/yr} \times 0.08 \text{ million BTU}) + (5,460 \text{ million BTU/yr} \times 0.37\text{lb/million BTU})] \\
 &= 1.05 \text{ TPY}
 \end{aligned}$$

Where:

Maximum yearly pilot light/purge gas heat input = 981 million BTU/hr

Maximum yearly flared material heat input = 5,460 million BTU/hr

CO EF (pilot light/purge gas and flared material) = 0.37lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.08 lb/million BTU.

c. Emission Limitation:

VOC emissions shall not exceed 2.65 lbs/hr and 1.17 TPY.

Applicable Compliance Method:

Compliance with the VOC emissions limitations is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\text{VOC (lbs/hr)} = [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{VOC emissions factor (lb/million BTU)}) + (\text{mass flaring rate for VOC (lb/hr)} \times \text{flare control efficiency})]$$



$$= [(0.11 \text{ million BTU/hr} \times 0.0054 \text{ lb/million BTU}) + (132.5 \text{ lbs/hr} \times (1-0.98))]$$

$$= 2.65 \text{ lbs/hr}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.11 million BTU/hr  
 Maximum hourly VOC mass flaring rate = 132.5 lbs/hr  
 Flare control efficiency for VOC = 98%  
 VOC EF (pilot light/purge gas) = 0.0054 lb/million BTU (AP-42 Table 1.4-2, 7/98)

If required, VOC emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation is demonstrated by the following calculation:

$$\text{VOC (ton/yr)} = [(\text{maximum annual pilot light/purge gas heat input rate (million BTU/yr)} \times \text{VOC emission factor (lb/million BTU)} + (\text{maximum VOC mass firing rate (lbs/yr)} \times \text{flare control efficiency})] \times 1 \text{ ton}/2,000 \text{ lbs}$$

$$= [(985.1 \text{ million BTU/yr} \times 0.0054 \text{ lb/million BTU}) + (116,070 \text{ lbs/yr} \times (1-0.98))] \times 1 \text{ ton}/2,000 \text{ lbs}$$

$$= 1.17 \text{ TPY.}$$

Where:

Maximum annual pilot light/purge gas heat input rate = 985.1 million BTU/yr  
 Maximum annual mass flaring rate = 116,070 lbs/yr based on an estimate of time the VRUs are not operating.

d. Emission Limitation:

There shall be no visible particulate emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

g) Miscellaneous Requirements

- (1) None.



**5. P016, Controlled Maintenance Blowdown and Condensate Stabilization Operations**

**Operations, Property and/or Equipment Description:**

Periodic maintenance blowdowns controlled by an elevated high pressure primary flare with 98% destruction efficiency for VOC; during periods of flash gas compressor downtimes, the elevated high pressure primary flare also receives flash gas from the condensate stabilizers; Maximum flare fuel input rates of 28.876 million Btu/hr and 20,888 million Btu/yr, and maximum pilot fuel input rate of 0.112 million Btu/hr.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Volatile organic compound (VOC) emissions shall not exceed 9.57 lbs/hr and 3.47 TPY.  Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 1.97 lbs/hr and 0.76 TPY.  Carbon monoxide (CO) emissions shall not exceed 10.69 lbs/hr and 3.90 TPY.  See b)(2)a. below.
b.	OAC rule 3745-31-05(C), as effective 12/01/06 (Voluntary restriction to avoid BAT for VOC)	See b)(2)b. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)c. below.
d.	OAC rule 3745-17-07(A)	See b)(2)d. below.
e.	OAC rule 3745-17-11(B)	See b)(2)e. below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally–approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

Permit to Install and Operate P0114578 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. Combustion of a maximum of 17,000,000 standard cubic feet per year of natural gas and process releases in the primary flare and 893,520 standard cubic feet per year of gaseous fuel in the pilot; and
- ii. VOC emissions shall not exceed 3.47 tons per year.

c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, CO, SO<sub>2</sub> and particulate emissions from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub>, CO, SO<sub>2</sub> and particulate is less than 10 tons/yr.

d. The emissions from the flare are exempt from the visible PE limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.



- e. The uncontrolled mass rate of PE from the flare is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero.
- c) Operational Restrictions
- (1) The permittee shall burn only gaseous fuels in this emissions unit.
  - (2) The flare shall be operated with a flame present at all times when gases are vented to it.
  - (3) The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design and the requirements contained in this permit.
  - (2) The permittee shall record the following information each day for the flare and process operations:
    - a. all periods during which there was no pilot flame while emissions were routed to the flare;
    - b. the operating times for the flare (pilot only);
    - c. all periods during which the associated monitoring equipment was not in service; and
    - d. the blowdown volumes routed to the flare.
  - (3) For each day during which the permittee burns a fuel other than gaseous fuels, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- e) Reporting Requirements
- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
  - (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than gaseous fuels was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.



- (3) As part of the annual Permit Evaluation Report (PER), this facility shall identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:

VOC emissions shall not exceed 9.57 lbs/hr and 3.47 TPY.

Applicable Compliance Method:

Compliance with the VOC emissions limitations is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{VOC (lbs/hr)} &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \\
 &\text{VOC emissions factor (lb/million BTU)}) + (\text{mass flaring rate for VOC} \\
 &\text{(lb/hr)} \times \text{flare control efficiency})] \\
 &= [(0.11 \text{ million BTU/hr} \times 0.0054 \text{ lb/million BTU}) + (478.6 \text{ lbs/hr} \times (1 - \\
 &\quad 0.98))] \\
 &= 9.57 \text{ lbs/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.11 million BTU/hr  
 Maximum hourly blowdown/flash gas from condensate stabilization VOC mass flaring rate = 478.6 lbs/hr  
 Flare control efficiency for VOC = 98%  
 VOC EF (pilot light/purge gas) = 0.0054 lb/million BTU (AP-42 Table 1.4-2, 7/98)

If required, VOC emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation shall be demonstrated by the following calculation:

$$\begin{aligned}
 \text{VOC (ton/yr)} &= [(\text{maximum annual pilot light/purge gas heat input rate} \\
 &\text{(million BTU/yr)} \times \text{VOC emission factor (lb/million BTU)}) + (\text{maximum} \\
 &\text{blowdown VOC mass firing rate (lbs/yr)} \times \text{flare control efficiency})] \times 1 \\
 &\text{ton/2,000 lbs}
 \end{aligned}$$



$$= [(985.1 \text{ million BTU/yr} \times 0.0054 \text{ lb/million BTU}) + (346,310.4 \text{ lbs/yr} \times (1-0.98))] \times 1 \text{ ton}/2,000 \text{ lbs}$$

$$= 3.47 \text{ TPY.}$$

Where:

Maximum annual pilot light/purge gas heat input rate = 985.1 million BTU/yr  
 Maximum annual blowdown/flash gas from condensate stabilization mass flaring rate = 346,310.4 lbs/yr based on an estimate of the maximum number of blowdowns per year for each piece of equipment multiplied by the total VOC blowdown volume of each piece of equipment for each VOC compound vented to the flare.

b. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 1.97 lbs/hr and 0.76 TPY.

Applicable Compliance Method:

Compliance with the NO<sub>x</sub> emissions limitations is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\text{NO}_x(\text{lbs/hr}) = [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{NO}_x \text{ emissions factor (lb/million BTU)})]$$

$$= [(0.112 \text{ million BTU/hr} \times 0.098 \text{ million BTU}) + (28.867 \text{ million BTU/hr} \times 0.068 \text{ lb/million BTU})]$$

$$= 1.97 \text{ lbs/hr}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.112 million BTU/hr

Maximum hourly flared material heat input = 28.867 million BTU/hr

NO<sub>x</sub> EF (pilot light/purge gas and flared material) = 0.068 lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.098 lb/million BTU.

The hourly emission rate specified above was established by multiplying the emission factor from AP-42, Table 13.5-1 (revised 1/95), of 0.068 lbNO<sub>x</sub>/mmBtu by the maximum heat input rate from the process of 28.867mmBtu/hr.

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.



Compliance with the TPY emission limitation is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned} \text{NO}_x(\text{lbs/hr}) &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{NO}_x \text{ emissions factor (lb/million BTU)})] \\ &= [(981 \text{ million BTU/yr} \times 0.098 \text{ million BTU}) + (20,888 \text{ million BTU/yr} \times 0.068 \text{ lb/million BTU)}] \\ &= 0.76 \text{ TPY} \end{aligned}$$

Where:

Maximum yearly pilot light/purge gas heat input = 981 million BTU/hr

Maximum yearly flared material heat input = 20,888 million BTU/hr

NO<sub>x</sub> EF (pilot light/purge gas and flared material) = 0.068 lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.098 lb/million BTU.

c. Emissions Limitations:

CO emissions shall not exceed 10.69 lbs/hr and 3.90 TPY.

Applicable Compliance Method:

Compliance with the CO emissions limitations is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned} \text{CO}(\text{lbs/hr}) &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{NO}_x \text{ emissions factor (lb/million BTU)})] \\ &= [(0.112 \text{ million BTU/hr} \times 0.08 \text{ million BTU}) + (28.867 \text{ million BTU/hr} \times 0.37 \text{ lb/million BTU)}] \\ &= 10.69 \text{ lbs/hr} \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.112 million BTU/hr

Maximum hourly flared material heat input = 28.867 million BTU/hr

CO EF (pilot light/purge gas and flared material) = 0.37 lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.08lb/million BTU.



The hourly emission rate specified above was established by multiplying the emission factor from AP-42, Table 13.5-1 (revised 1/95), of 0.37lbCO<sub>x</sub>/mmBtu by the maximum heat input rate from the process of 28.867 mmBtu/hr.

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the TPY emission limitation is demonstrated based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{CO(lbs/hr)} &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{pilot material heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)} \times \text{CO emissions factor (lb/million BTU)})] \\
 &= [(981 \text{ million BTU/yr} \times 0.08 \text{ million BTU}) + (20,888 \text{ million BTU/yr} \times 0.37\text{lb/million BTU})] \\
 &= 3.90 \text{ TPY}
 \end{aligned}$$

Where:

Maximum yearly pilot light/purge gas heat input = 981 million BTU/hr

Maximum yearly flared material heat input = 20,888 million BTU/hr

CO EF (pilot light/purge gas and flared material) = 0.37lb/million BTU (The flare emission factor from AP-42, Table 13.5-1 (revised 1/95), and the Pilot light is from AP-42, Table 1-4) = 0.08 lb/million BTU.

- g) Miscellaneous Requirements
  - (1) None.



**6. P012, Glycol dehydrators**

**Operations, Property and/or Equipment Description:**

2 - 80 million scf/day TEG dehydration units. Each unit includes a permit exempt 1.5 million Btu per hour natural gas-fired glycol dehydration unit reboiler and gas-condensate-glycol (GCG) separator (flash separator). Both units will be vented to a single enclosed flare with a 98% control efficiency for VOC; maximum hourly fuel input rate of 3.8 million Btu/hr and maximum annual throughput of 33,454 million Btu/yr. Flare pilot is rated at 0.88 million Btu.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) **Applicable Emissions Limitations and/or Control Requirements**

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Nitrogen oxide (NOx) emissions shall not exceed 0.35 lb/hr and 1.52 TPY  Carbon monoxide (CO) emissions shall not exceed 1.49 lbs/hr and 6.51 TPY.  Volatile organic compound (VOC) emissions shall not exceed 0.62 lb/hr and 2.72 TPY.  There shall be no visible particulate emissions (PE) from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)a. below.
b.	OAC rule 3745-31-05(C) (Voluntary restriction to avoid BAT for VOC)	See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)c. below.
d.	OAC rule 3745-17-07(A)	See b)(2)d. below.
e.	OAC rule 3745-17-11(B)	See b)(2)e. below.
f.	40 CFR Part 63, Subpart HH (40 CFR 63.760-63.63.779)  [In accordance with 40 CFR 63.760(a)(1) and (2) and 63.760(b)(2), this emissions unit is a triethylene glycol (TEG) dehydration unit located at an oil and gas production facility that is an area source of hazardous air pollutant (HAP) emissions subject to the emissions limitations and control measures in this section.	See b)(2)f. below.
g.	40 CFR Part 63, Subpart A (40 CFR 63.1-63.16)	Pursuant to 40 CFR 63.774(a) and 63.775, Table 2 of Subpart HH of Part 63 – Applicability of 40 CFR Part 63 General Provisions to Subpart HH specifies the provisions of subpart A that apply and do not apply to owners or operators of affected sources subject to 40 CFR Part 63, Subpart HH.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standard (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 these emissions limitations/control measures no longer apply.



- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

Permit to install and operate P0114578 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. 100% capture of vapor vented to an enclosed flare;
- ii. Maximum VOC rate to enclosed flare with 98% control efficiency per year; and
- iii. VOC emissions shall not exceed 2.72 tons per year.

- c. This rule applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, CO, PE, and SO<sub>2</sub> emissions from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub>, CO, PE, and SO<sub>2</sub> are less than ten tons per year.

- d. The emissions from the flare are exempt from the visible PE limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- e. The uncontrolled mass rate of PE from the flare is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero.
- f. Pursuant to 40 CFR 63.764(e)(1)(ii), this emission unit is exempt from the requirements of paragraph (d) of 40 CFR 63.764 if the permittee maintains records of the determination that the actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures in 40 CFR 63.772(b)(2).

c) Operational Restrictions

- (1) The permittee shall burn only gaseous fuels in this emissions unit.
- (2) The flare shall be operated with a flame present at all times when gases are vented to it.
- (3) The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.



d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 63, Subparts HH and A, including the following sections:

63.774(d)(1)(ii) and 63.772(b)(2)	Maintain records of the actual average benzene emissions per year as determined in accordance with 63.772(b)(2).
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- (2) The permittee shall properly install, operate, and maintain a pressure sensor and flame detection device to monitor the need for a flame and presence of a flame, respectively, when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- (3) The permittee shall record the following information each day for the flare and process operations:
- a. all periods during which the pressure sensor and/or flame detection device were not functioning properly;
  - b. the operating times for the flare and monitoring equipment;
  - c. average hourly heat input (MMBtu/hr) to the flare; and
  - d. annual fuel heat input (MMBtu) to the flare.
- (4) The permittee shall maintain records of each day a fuel other than gaseous fuels is burned in this emissions unit.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than gaseous fuels was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) As part of the annual Permit Evaluation Report (PER), this facility shall identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.



f) Testing Requirements

- (1) Compliance with the emission limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

CO emissions shall not exceed 1.49 lbs/hr and 6.51 TPY.

Applicable Compliance Method:

The lb/hr emissions limitation for CO is based on the flare AP-42 emission factor of 0.37 lb CO/million Btu in Table 13.5-1, "Emission Factors for Flare Operations" and the maximum heat input rate from the process of 3.819 million Btu/hr plus the pilot burner AP-42 emission factor of 0.08 lb CO/million Btu Table 1.4-1, "Emissions Factors for NO<sub>x</sub> and CO from Natural Gas Combustion" and using the estimated pilot burner rating of 0.88 million Btu/hr. Estimated CO emissions shall be determined by the following calculations:

Flare emissions: 0.37 lb CO/million Btu x 3.819 million Btu/hr = 1.413 lbs CO/hr.  
Pilot emissions: 0.0824 lb CO/million Btu x 0.88 million Btu/hr = 0.073 lb CO/hr.  
1.413 lbs CO/hr from the Flare + 0.073 lb CO/hr from the Pilot = 1.49 lbs CO/hr.

If required, carbon monoxide emissions shall be determined according to test Methods 10, 10A and 10B as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation was established by multiplying the lb/hr emissions limitation by 8,760 hours of operation and dividing by 2,000 tons per year.

b. Emissions Limitations:

VOC emissions shall not exceed 0.62 lb/hr and 2.72 TPY.

Applicable Compliance Method:

The emissions limitation for VOC is based on results from the GRI GlyCalc model, Version 3.0 or higher (from the permittee's application) of 0.62 lb VOC/hr.

If required, organic compound emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.



Compliance with the annual emissions limitation was established by multiplying the lb/hr emissions limitation by 8,760 hours of operation and dividing by 2,000 tons per year.

c. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 0.35 lb/hr and 1.52TPY.

Applicable Compliance Method:

The lb/hr emissions limitation for NO<sub>x</sub> is based on the flare AP-42 emission factor of 0.068 lbNO<sub>x</sub>/million Btu Table 13.5-1, "Emission Factors for Flare Operations" and the maximum heat input rate from the process of 3.819 million Btu/hr plus the pilot burner AP-42 emission factor of 0.098 lbNO<sub>x</sub>/million Btu Table 1.4-1, "Emissions Factors for NO<sub>x</sub> and CO from Natural Gas Combustion" and using the estimated pilot burner rating of 0.88 million Btu/hr. Estimated NO<sub>x</sub> emissions shall be determined by the following calculations:

Flare emissions: 0.068 lbNO<sub>x</sub>/million Btu x 3.819 million Btu/hr = 0.260 lbNO<sub>x</sub>/hr  
Pilot emissions: 0.098 lbsNO<sub>x</sub>/hr x 0.88 million Btu/hr = 0.086 lbNO<sub>x</sub>/hr.  
0.260 lbNO<sub>x</sub>/hr from the Flare + 0.086 lbNO<sub>x</sub>/hr from the Pilot = 0.35 lbNO<sub>x</sub>/hr.

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation was established by multiplying the lb/hr emissions limitation by 8,760 hours of operation and dividing by 2,000 tons per year.

d. Emissions Limitations:

There shall be no visible PE from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

g) Miscellaneous Requirements

- (1) None.



**7. Emissions Unit Group -NG Engines: P001, P002, P003, P004, P005, P006, P007, P008, and P009**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P001	1,680Hp natural gas-fired, 4 stroke, rich burn compressor engine –GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P002	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P003	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P004	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P005	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P006	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P007	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P008	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.
P009	1,680 Hp natural gas-fired, 4 stroke, rich burn compressor engine – GE/Waukesha L7044GSI, controlled with NSCR and by maintaining proper air fuel ratio, 98% control efficiency for NO <sub>x</sub> and CO, 87% control efficiency for VOC. Engine model year: 2013.

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. None.
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. None.



b) Applicable Emissions Limitations and/or Control Requirements

- (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
h.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Nitrogen oxide (NO<sub>x</sub>) emissions from the stack serving this emissions unit shall not exceed 0.99 lb/hr and 4.35TPY.</p> <p>Carbon monoxide (CO) emissions from the stack serving this emissions unit shall not exceed 0.94 lb/hr and 4.12TPY.</p> <p>Volatile organic compounds (VOC) emissions from the stack serving this emissions unit shall not exceed 0.22 lb/hr and 0.97TPY.</p> <p>Visible particulate emissions (PE) shall not exceed 10% opacity from the stack serving this emissions unit, as a 6-minute average.</p> <p>PE emissions from the stack serving this emissions unit shall not exceed 0.27 lb/hr and 1.17 TPY.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)OAC rule, 3745-17-11 and 40 CFR Part 60, Subpart JJJJ.</p> <p>See b)(2)a. below.</p>
i.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 (Voluntary restriction to avoid BAT for NO <sub>x</sub> , and CO)	See b)(2)b. below.
j.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c. below.
k.	<p>40 CFR Part 60, Subpart JJJJ (40 CFR 60. 4230 – 60.4248)</p> <p>[In accordance with 40 CFR Part 60.4230(a) and 40 CFR Part</p>	<p>NO<sub>x</sub> emissions shall not exceed 2.0 g/hp-hr or 160ppmvd at 15% oxygen (O<sub>2</sub>).</p> <p>CO emissions shall not exceed 4.0 g/hp-hr or 540 ppmvd at 15% O<sub>2</sub>.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	60.4230(a)(4)(i), this emissions unit is a stationary spark ignition internal combustion engine manufactured after July 1, 2007, and is subject to the emission limitations and control measures specified in this section.]	<p>VOC emissions shall not exceed 1.0 g/hp-hr or 86ppmvd at 15% O<sub>2</sub>.</p> <p>[40 CFR 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1]</p> <p>This emission limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p> <p>See b)(2)d. below.</p>
I.	40 CFR Part 60.1 – 19 (40 CFR 60.4246)	Table 3 to Subpart JJJJ of 40 CFR Part 60 – Applicability of General Provisions to Subpart JJJJ shows which part of the General Provisions in 40 CFR Part 60.1 – 19 apply.
m.	OAC rule 3745-17-11(B)(5)(b)	<p>PE shall not exceed 0.062 pound/million Btu actual heat input.</p> <p>This emission limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
n.	OAC rule 3745-17-07(A)(1)	<p>Visible PE from the stack serving this emissions unit shall not exceed 20% opacity as a six-minute average, except as provided by the rule.</p> <p>This emission limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
o.	OAC rule 3745-18-06(E)	This emissions unit is exempt from the requirements of OAC rule 3745-18-06 pursuant to OAC rule 3745-18-06(A).



(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

Permit-to-install and operate P0114578 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3):

- i. The emissions from the engine are vented to a oxidation catalyst controlling CO and NO<sub>x</sub> by 98 percent, at all times the emissions unit is in operation.
- ii. NO<sub>x</sub> emissions shall not exceed 4.35 tons/year.
- iii. CO emissions shall not exceed 4.12 tons/year.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, VOC and SO<sub>2</sub> emissions from this air contaminant source since the uncontrolled potential-to-emit for PE, VOC and SO<sub>2</sub> emissions is less than 10 tons/year.

- d. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4236(b)	Compliance deadlines based on installation date
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c) Operational Restrictions

- (1) The permittee shall burn only gaseous fuel in this emissions unit.



- (2) The permittee shall comply with the applicable restrictions of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4234	Duration of operate and maintain engine in compliance with emission standards over the life of the engine
60.4243(b)(2) and 60.4243(b)(2)(ii)	Operation and maintenance requirements for non-certified engines
60.4243(e)	Use of propane for up to 100 hours per year during emergencies
60.4243(g)	Use of air to fuel ratio (AFR) controllers and AFR operation and maintenance requirements

- (3) The engine is controlled by a Maxim Silencer Corporation NSCRto meet the BAT annual emission rate for NOx, and CO. The permittee must follow all manufacturer specifications to guarantee the manufacturer emission limits warranty. Specifications as provided in the permittee's application.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than gaseous fuels, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall comply with the applicable monitoring and record keeping requirements of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4243(b)(2)(ii), 60.4245(a)(i), 60.4245(a)(2) and 60.4245(a)(4)	Keep maintenance plan and records of conducted maintenance, and documentation that the engine meets the emissions standards
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- (3) Upon initial startup, the permittee shall continuously monitor and record the number of hours of operation and perform all maintenance as required by the Maxim Silencer Corporation. Records shall be maintained of the date of any completed required maintenance to demonstrate compliance with the Maxim Silencer Corporation emissions limit warranty. Records of deviations from the Maxim Silencer Corporation emissions limit warranty shall also be maintained. These records shall be retained for at least 5 years. The permittee shall also check each compressor seal annually for leaks.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section



of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than gaseous fuels was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) The permittee shall submit deviation (excursion) reports that identify each occurrence that the permittee failed to complete required maintenance in this emissions unit per the Maxim Silencer Corporation emissions limit warranty. Each report shall be submitted within 30 days after the deviation occurs.
- (4) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts JJJJ and A, including the following sections:

60.4245(c) and 60.7(a)(1)	Submit an initial notification (non certified engines)
60.4245(d)	Submit performance test copies within 60 days after the test has been completed

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 2.0 g/hp-hr or 160 ppmvd at 15% O<sub>2</sub>.

NO<sub>x</sub> emissions from the stack serving this emissions unit shall not exceed 0.99 lb/hr and 4.35 TPY.

Applicable Compliance Methods:

The lb/hr emission limitation was determined by multiplying 0.268 g/bhp-hr, the emission factor specified in the manufacturer's engine specification sheet obtained from Waukesha, by 1,680 bhp, the power output rating of this unit, and dividing by 453.59 g/lb (0.99 lb/hr as submitted in application).

Compliance shall be demonstrated based upon the emission testing requirements specified in f)(2).



Compliance with the annual emission limitation is demonstrated by multiplying the lb/hr emissions limitation above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

b. Emissions Limitations:

CO emissions shall not exceed 4.0 g/hp-hr or 540 ppmvd at 15% O<sub>2</sub>.

CO emissions from the stack serving this emissions unit shall not exceed 0.94 lb/hr and 4.12 TPY.

Applicable Compliance Methods:

The lb/hr emission limitation was determined by multiplying 0.254 g/bhp-hr, the emission factor specified in the manufacturer's engine specification sheet obtained from Waukesha, by 1,680 bhp, the power output rating of this unit, and dividing by 453.59 g/lb (0.94lb/hr as submitted in application).

Compliance shall be demonstrated based upon the emission testing requirements specified in f)(2).

Compliance with the annual emission limitation is demonstrated by multiplying the lb/hr emissions limitation above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

c. Emissions Limitations:

VOC emissions shall not exceed 1.0 g/hp-hr or 86 ppmvd at 15% O<sub>2</sub>.

VOC emissions from the stack serving this emissions unit shall not exceed 0.22 lb/hr and 0.97 TPY.

Applicable Compliance Methods:

The lb/hr emission limitation was determined by multiplying 0.060 g/bhp-hr, the emission factor specified in the manufacturer's engine specification sheet obtained from Waukesha, by 1,680 bhp, the power output rating of this unit, and dividing by 453.59 g/lb (0.22 lb/hr as submitted in application).

Compliance shall be demonstrated based upon the emission testing requirements specified in f)(2).

Compliance with the annual emission limitation is demonstrated by multiplying the lb/hr emissions limitation above by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

d. Emissions Limitation:

Visible PE from the stack serving this emissions unit shall not exceed 20% opacity as a six-minute average, except as provided by the rule.



Visible PE shall not exceed 10% opacity from the stack serving this emissions unit, as a 6-minute average.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

e. Emissions Limitations:

PE shall not exceed 0.062 pound/million Btu of actual heat input.

PE emissions from the stack serving this emissions unit shall not exceed 0.27 lb/hr and 1.17 TPY.

Applicable Compliance Method:

The short term emission limitation was established by multiplying an emission factor of 0.0194 pound/million Btu, the emission factor is specified in AP-42 Table 3.2-2 (7/00), by the maximum heat input of the engine (13.78million Btu/hour).

If required, compliance with the hourly emission rate shall be determined according to 40 CFR Part 60, Appendix A, U.S. EPA Methods 1 - 5.

Compliance with the annual emission limitation is demonstrated by multiplying the short term emission rate by the maximum hours of operation, 8,760 hours/year, and dividing by 2,000 pounds/ton.

- (2) The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with 40 CFR 60.4243(b)(2)(i) and the procedures specified in 40 CFR Part 60, Appendix A, 40 CFR 60.8, 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ, Table 2 and the following requirements:
- a. An initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in b)(1)a., and b)(1)g. for VOC, NO<sub>x</sub> and CO, within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
  - b. If the stationary internal combustion engine is rebuilt or undergoes major repair or maintenance, the permittee shall conduct a subsequent performance test.
  - c. Each performance test must be conducted within 10% of 100% peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 2 of 40 CFR Part 60, Subpart JJJJ.
  - d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s)



of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office's refusal to accept the results of the emission test(s).

- e. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

g) Miscellaneous Requirements

- (1) None.