

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Craig W. Butler, Interim Director

2/14/2014

Certified Mail

Mr. Nathan Wheldon  
Arrowhead Compressor Station  
1515 Arapahoe St  
Tower 1, Suite 1600  
Denver, CO 80202

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: 0634005027  
Permit Number: P0115371  
Permit Type: Initial Installation  
County: Harrison

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  
Arrowhead Compressor Station**

Facility ID:	0634005027
Permit Number:	P0115371
Permit Type:	Initial Installation
Issued:	2/14/2014
Effective:	2/14/2014
Expiration:	2/14/2024





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
Arrowhead Compressor Station

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**Final Permit-to-Install and Operate**  
Arrowhead Compressor Station  
**Permit Number:** P0115371  
**Facility ID:** 0634005027  
**Effective Date:** 2/14/2014

## Authorization

Facility ID: 0634005027  
Application Number(s): A0048206, A0050060  
Permit Number: P0115371  
Permit Description: Compressor station, added dehy and flare as separate units and T008 for tank farm  
Permit Type: Initial Installation  
Permit Fee: \$3,200.00  
Issue Date: 2/14/2014  
Effective Date: 2/14/2014  
Expiration Date: 2/14/2024  
Permit Evaluation Report (PER) Annual Date: Oct 1 - Sept 30, Due Nov 15

This document constitutes issuance to:

Arrowhead Compressor Station  
E of Clements Rd and S of Jockey Hollow  
Athens Twp., OH 43977

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

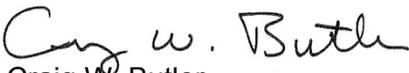
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

  
Craig W. Butler  
Interim Director



## Authorization (continued)

Permit Number: P0115371

Permit Description: Compressor station, added dehy and flare as separate units and T008 for tank farm

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

- Emissions Unit ID: P012**  
 Company Equipment ID: P012  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable
- Emissions Unit ID: P013**  
 Company Equipment ID: P013  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable
- Emissions Unit ID: P014**  
 Company Equipment ID: flare  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable
- Emissions Unit ID: P802**  
 Company Equipment ID: P802  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable
- Emissions Unit ID: T008**  
 Company Equipment ID: T2-T6  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable

**Group Name: Compressor Engines**

<b>Emissions Unit ID:</b>	<b>P006</b>
Company Equipment ID:	P006
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P007</b>
Company Equipment ID:	P007
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P008</b>
Company Equipment ID:	P008
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P009</b>
Company Equipment ID:	P009
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P010</b>
Company Equipment ID:	P010
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**

Arrowhead Compressor Station

**Permit Number:** P0115371

**Facility ID:** 0634005027

**Effective Date:** 2/14/2014

<b>Emissions Unit ID:</b>	<b>P011</b>
Company Equipment ID:	P011
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**  
Arrowhead Compressor Station  
**Permit Number:** P0115371  
**Facility ID:** 0634005027  
**Effective Date:** 2/14/2014

## **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**  
Arrowhead Compressor Station  
**Permit Number:** P0115371  
**Facility ID:** 0634005027  
**Effective Date:** 2/14/2014

## **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) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), for this project were not necessary because for the emissions units not exempted from modeling per OEPA Engineering Guide #69, maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year when controlled. 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.
  - 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, NESHAP for Stationary Reciprocating Internal Combustion Engines at Area Sources. Although Ohio EPA has determined that this GACT applies, at this time Ohio EPA does not have the authority to enforce this standard. Instead, US 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 US EPA. For more information on the area source rules, please refer to the following US EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.
3. Specific emissions units contained in this permit are subject to 40 CFR Part 60, Subparts JJJJ (P006, P007, P008, P009, P010, and P011), and OOOO (P006, P007, P008, P009, P010, and P011). The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the e-CFR website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office or local air agency.
4. Specific emissions units contained in this permit are subject to 40 CFR Part 63, Subpart HH (P012). The dehydration units at this facility are exempt per 63.764(e)(ii) from the requirements of 63.764(d)(2) due to the actual average emission of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 Mg/yr, as determined by the procedures specified in 63.772(b)(2) of 40 CFR 63, Subpart HH. The complete MACT requirements, including the MACT General Provisions may be accessed via the internet from the e-CFR website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office or local air agency.
5. Air contaminant sources that qualify as *de minimis* under OAC rule 3745-15-05, or are exempt under OAC rule 3745-31-03(A)(1) or (4) are not subject to emission standards established within this permit. Although this permit does not apply to *de minimis* or exempt sources, emissions from *de minimis* or



exempt sources must be included in the total PTE calculations for this permit. PTE calculations should include sources such as:

- a) Dehydrator reboiler (2.0 MMBtu/hr) heater, B001 (*de minimis* and exempt per 3745-15-05 & 3745-31-03(A)(1)(a)),
  - b) Material Loadout, J002 and Roadways and Parking Areas, F002 (*de minimis* per OAC rule 3745-15-05),
  - c) Methanol Tank, T007 (*de minimis* and exempt per 3745-31-03(A)(1)(I)).
6. The Compressor Station must comply with the Used Oil Management Standards of OAC Chapter 3745-279.
7. Abbreviations throughout are as follows:

**Pollutants**

NO <sub>x</sub>	nitrogen oxides
CO	carbon monoxide
VOC	volatile organic carbon
SO <sub>2</sub>	sulfur dioxide
PE	particulate emissions
CO <sub>2</sub> e	carbon dioxide equivalents

**Units**

TPY	tons per year
lb	pound
g	gram or gallon, depending
Mg	megagram
bbl	barrel
ppmvd	parts per million volumetric dry
MM	million
Btu	British thermal units
hp	horsepower
bhp	brake horsepower
hr	hour
m	month
yr	year

**Regulations**

OAC	Ohio Administrative Code
ORC	Ohio Revised Code
CFR	Code of Federal Regulations
e-CFR	Electronic Code of Federal Regulation
BAT	Best Available Technology
MACT	Maximum Achievable Control Technology
NSPS	New Source Performance Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
GACT	Generally Available Control Technology



**Final Permit-to-Install and Operate**

Arrowhead Compressor Station

**Permit Number:** P0115371

**Facility ID:** 0634005027

**Effective Date:** 2/14/2014

General

PTE	Potential to Emit
PTIO	Permit to Install and Operate
PTO	Permit to Operate
PER	Permit Evaluation Report
SIP	SIP
NAAQS	National Ambient Air Quality Standards
VRU	Vapor Recovery Unit



**Final Permit-to-Install and Operate**  
Arrowhead Compressor Station  
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## **C. Emissions Unit Terms and Conditions**



**1. P012**

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

Dehydration process, including emissions of off-gas from the glycol regeneration unit controlled by a 5.45 MMBtu/hr flare (P014) with 100% capture and 98% control of VOC

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	Install a flare and capture system with a design capture efficiency of 100% and a design control efficiency of at least 98% for VOC emissions.  See b)(2)a. below.
b.	OAC rule 3745-31-05(C), as effective 12/01/06	See b)(2)b. below.
c.	40 CFR Part 63, Subpart HH (40 CFR 63.760-63.779)  [In accordance with 40 CFR 63.760(a)(2)-(3), this emissions unit processes, upgrades, or stores natural gas or hydrocarbon liquids prior to the point of custody transfer from the facility.]	See (d)(1) below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	40 CFR 63.1-15 (40 CFR 63.764)	Table 2 of Subpart HH of 40 CFR Part 63 shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the 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 10 tons per year. However, that rule revision has not yet been approved by US EPA as a revision to Ohio's SIP. Therefore, until the SIP revision occurs and the US EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the SIP federally-approved SIP for Ohio. Once US 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 US EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

This permit takes into account the following voluntary restriction as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3):

- i. Emissions from the dehydrator glycol regeneration unit shall be vented to a flare with 100% capture and a minimum of 98% control efficiency for VOC.
- ii. VOC emissions shall not exceed 3.79 TPY.

c) Operational Restrictions

- (1) The permittee shall operate the flare at all times the dehydrator glycol regeneration unit is in operation for the control of VOC emissions and shall maintain the flare in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modification deemed necessary by the permittee.
- (2) In the event the flare is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired or otherwise returned to these documented operating conditions.
- (3) Emissions from the dehydrator glycol regeneration unit shall be vented to a flare with a minimum of 98% control efficiency for VOC.



d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, or operating manuals for the flare, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.
- (2) The permittee shall conduct periodic inspections of the flare to determine whether it is operating in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the permittee or operator. These inspections shall be performed at a frequency that shall be based upon the recommendation of the manufacturer and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency, and it shall be made available to the Ohio EPA upon request.
- (3) In addition to the recommended periodic inspections, not less than once each calendar year, the permittee shall conduct a comprehensive inspection of the flare while the emissions unit is shut down and perform any needed maintenance and repair to ensure that it is operated in accordance with the manufacturer's recommendations.
- (4) The permittee shall document each inspection (periodic and annual) of the flare and shall maintain the following information:
  - a. The date of the inspection;
  - b. A description of each/any problem identified and the date it was corrected;
  - c. A description of any maintenance and repairs performed; and
  - d. The name of the person who performed the inspection.

These records shall be maintained at the facility for not less than five years from the date the inspection and any necessary maintenance or repairs were completed and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.

- (5) The permittee shall maintain records that document any time periods when the flare was not in service when the emissions unit(s) was/were in operation, as well as a record of all operations during which the flare was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee. These records shall be maintained for a period of not less than five years and shall be made available to the Ohio EPA upon request.
- (6) The permittee shall comply with the applicable recordkeeping requirements required under 40 CFR Part 63, Subpart HH, including the following sections:

63.774(d)	Record the actual annual benzene emissions calculated as provided by rule.
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e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) 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.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

VOC emissions shall not exceed 3.69 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

Gas Stream Emissions:

$$(1 - 0.98) * \frac{42.14 \text{ lb}}{\text{hr}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} = 3.69 \text{ TPY}$$

Where:

- 42.14 = uncontrolled VOC emission rate from regenerator off-gas
- 0.98 = flare control efficiency
- 8,760 = operating hours
- 2,000 = conversion factor

b. Design Efficiency:

Install a flare and capture system with a design capture efficiency of 100% and a design control efficiency of at least 98% for VOC emissions.

Applicable Compliance Method:

Compliance is demonstrated by the manufacturer's guaranteed specifications for the flare control efficiency of at least 98%.



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g) Miscellaneous Requirements

(1) None.



**2. P013**

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

Equipment Maintenance Blowdown emissions based on 36 events per year and 61 lb/blowdown (approximately 1.2 tons/yr)

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 VOC emissions shall not exceed 0.10 tons/m as a rolling, 12-month average.  See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the 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 10 tons per year. However, that rule revision has not yet been approved by US EPA as a revision to Ohio's SIP. Therefore, until the SIP revision occurs and the US EPA



approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the SIP federally-approved SIP for Ohio. Once US 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 US 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 VOC emissions from this air contaminant source since the uncontrolled potential to emit for VOC emissions is less than 10 tons/yr.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain the following records on a monthly basis:
  - a. The date, number and type of each maintenance blowdown event;
  - b. Mole % of each VOC constituent in the gas stream obtained by representative sampling and analysis;
  - c. Total volume of gas emitted from each maintenance blowdown event; and
  - d. Total volume of gas emitted from all maintenance blowdown events as a rolling, 12-month total.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) 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.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitation:

Fugitive VOC emissions shall not exceed 0.10 tons/m as a rolling, 12-month average.



Applicable Compliance Method:

The VOC emissions limitation was derived by the calculation below using the inputs provided in the permittee's application. Compliance with the VOC emissions limitation shall be determined by the calculation below and the records as required in d)(1) of this permit:

$$6 \text{ engines} * \frac{61 \text{ lb}}{\text{event}} * \frac{36 \text{ events}}{\text{yr}} * 18.06\% \text{ VOC} * \frac{1 \text{ ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 0.10 \frac{\text{ton}}{\text{m rolling 12}}$$

Where:

- 6 = number of engines
- 61 = pounds VOC emitted per event
- 36 = number of events per year
- 18.06 = percent VOC content
- 2,000 = conversion factor
- 12 = conversion factor

g) Miscellaneous Requirements

(1) None.



**3. P014**

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

5.45 MMBtu/hr Flare for 98% control of VOC emissions from the dehydrator glycol regeneration unit

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) and ORC 3704.03(T)	CO emissions shall not exceed 1.09 tons/m as a rolling, 12-month average.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	NO <sub>x</sub> emissions shall not exceed 0.27 tons/m as a rolling, 12-month average.  VOC emissions from the pilot shall not exceed 0.01 tons/m as a rolling, 12-month average.  See b)(2)a. below.
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the 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 10 tons per year. However, that rule revision has not yet been approved by US EPA as a revision to Ohio's SIP. Therefore, until the SIP revision occurs and the US EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the SIP federally-approved SIP for Ohio. Once US 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 US 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 NO<sub>x</sub> emissions and VOC emissions from the pilot gas from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub> and VOC emissions from the pilot gas is less than 10 tons/yr.

c) Operational Restrictions

- (1) The permittee shall operate the flare at all times the dehydrator glycol regeneration unit is in operation for the control of VOC emissions and shall maintain the flare in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modification deemed necessary by the permittee.
- (2) In the event the flare is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired or otherwise returned to these documented operating conditions.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, or operating manuals for the flare, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.
- (2) The permittee shall conduct periodic inspections of the flare to determine whether it is operating in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the permittee or operator. These inspections shall be performed at a frequency that shall be based upon the recommendation of the manufacturer and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency, and it shall be made available to the Ohio EPA upon request.
- (3) In addition to the recommended periodic inspections, not less than once each calendar year, the permittee shall conduct a comprehensive inspection of the flare while the emissions unit is shut down and perform any needed maintenance and repair to ensure that it is operated in accordance with the manufacturer's recommendations.



- (4) The permittee shall document each inspection (periodic and annual) of the flare and shall maintain the following information:
  - a. The date of the inspection;
  - b. A description of each/any problem identified and the date it was corrected;
  - c. A description of any maintenance and repairs performed; and
  - d. The name of the person who performed the inspection.

These records shall be maintained at the facility for not less than five years from the date the inspection and any necessary maintenance or repairs were completed and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.

- (5) The permittee shall maintain records that document any time periods when the flare was not in service when the emissions unit(s) was/were in operation, as well as a record of all operations during which the flare was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee. These records shall be maintained for a period of not less than five years and shall be made available to the Ohio EPA upon request.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) 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.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

CO emissions shall not exceed 1.09 tons/m as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

$$\frac{0.55 \text{ lb}}{\text{MMBtu}} * \frac{5.45 \text{ MMBtu}}{\text{hr}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 1.09 \frac{\text{tons}}{\text{m rolling 12}}$$



Where:

- 0.55 = emissions factor [from TNRCC RG-109, Table 4 for other flares combusting low-level Btu waste streams]
- 5.45 = maximum heat input capacity of emissions unit
- 8,760 = operating hours
- 2,000 = conversion factor
- 12 = conversion factor

b. Emissions Limitation:

NO<sub>x</sub> emissions shall not exceed 0.27 tons/m as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

$$\frac{0.138 \text{ lb}}{\text{MMBtu}} * \frac{5.45 \text{ MMBtu}}{\text{hr}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 0.27 \frac{\text{tons}}{\text{m rolling 12}}$$

Where:

- 0.138 = emissions factor [from TNRCC RG-109, Table 4 for other flares combusting high-level Btu waste streams]
- 5.45 = maximum heat input capacity of emissions unit
- 8,760 = operating hours
- 2,000 = conversion factor
- 12 = conversion factor

c. Emissions Limitation:

VOC emissions shall not exceed 0.01 tons/m as a rolling, 12-month average.

Applicable Compliance Method:

$$\frac{0.00539 \text{ lb}}{\text{MMBtu}} * \frac{5.45 \text{ MMBtu}}{\text{hr}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{1 \text{ ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{\text{m 12 rolling}} = 0.01 \frac{\text{tons}}{\text{m}} \text{rolling 12}$$

Where:

- 0.00539 = emissions factor, AP-42 Section 1.4, Table 1.4-3
- 5.45 = total heat input
- 8,760 = operating hours
- 2,000 = conversion factor
- 12 = conversion factor

g) Miscellaneous Requirements



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(1) None.



4. P802

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

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.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive VOC emissions shall not exceed 0.26 tons/m as a rolling, 12-month average.  See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the 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 10 tons per year. However, that rule revision has not yet been approved by US EPA as a revision to Ohio's SIP. Therefore, until the SIP revision occurs and the US EPA



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approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the SIP federally-approved SIP for Ohio. Once US 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 US 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 VOC emissions from this air contaminant source since the uncontrolled potential to emit for VOC emissions is less than 10 tons/yr.

- c) Operational Restrictions

- (1) None.

- d) Monitoring and/or Recordkeeping Requirements

- (1) None.

- e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
  - (2) 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.

- f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

- Fugitive VOC emissions shall not exceed 0.26 tons/m as a rolling, 12-month average.

- Applicable Compliance Method:

- Compliance with the fugitive VOC emissions limitation shall be demonstrated by the following calculation based on the emissions factors provided in Table 2-4 of US EPA's Protocol for Equipment Leak Emission Estimates (11/95) for components in gas, light oil, and water/oil service and the information provided in the permittee's application:



$$\sum (\text{component count} * \text{max leak rates} * \text{VOC fraction} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{1 \text{ ton}}{2,000 \text{ lb}} * \frac{1 \text{ yr}}{12 \text{ m rolling}})$$

= 0.26 ton/m rolling 12

Where:

Component	Service Type	Facility component count	Max leak rate (lb/hr)	VOC fraction (%)
Connectors/flange	Gas	90	0.093	18.06
Open-ended lines	Gas	6	0.032	18.06
Valves	Gas	90	1.071	18.06
Other* (Compressors)	Gas	6	0.140	18.06
Connectors/flange	Light oil	6	0.020	95.40
Pump seals	Light oil	1	0.206	95.40
Valves	Light oil	6	0.238	95.40
Connectors/flange	Water/oil	6	0.010	95.40
Pump seals	Water/oil	1	0.000	95.40
Valves	Water/oil	6	0.009	95.40

\* includes compressors, drains/vents, pressure safety valves and sample points

g) Miscellaneous Requirements

- (1) None.



**5. Emissions Unit Group: 2,370 HP (17.78 MMBtu/hr) Caterpillar Engines, P006 – P011**

EU ID	Operations, Property and/or Equipment Description
P006	Compressor Engine #3 – 2,370 HP (17.78 MMBtu/hr) Caterpillar G3608 - natural gas-fired four-stroke lean burn internal combustion engine equipped with an oxidation catalyst controlling CO (95% reduction) and VOC (75% reduction).
P007	Compressor Engine #4 – 2,370 HP (17.78 MMBtu/hr) Caterpillar G3608 - natural gas-fired four-stroke lean burn internal combustion engine equipped with an oxidation catalyst controlling CO and VOC (95% reduction) and VOC (75% reduction).
P008	Compressor Engine #5 – 2,370 HP (17.78 MMBtu/hr) Caterpillar G3608 - natural gas-fired four-stroke lean burn internal combustion engine equipped with an oxidation catalyst controlling CO and VOC (95% reduction) and VOC (75% reduction).
P009	Compressor Engine #6 – 2,370 HP (17.78 MMBtu/hr) Caterpillar G3608 - natural gas-fired four-stroke lean burn internal combustion engine equipped with an oxidation catalyst controlling CO and VOC (95% reduction) and VOC (75% reduction).
P010	Compressor Engine #7 – 2,370 HP (17.78 MMBtu/hr) Caterpillar G3608 - natural gas-fired four-stroke lean burn internal combustion engine equipped with an oxidation catalyst controlling CO and VOC (95% reduction) and VOC (75% reduction).
P011	Compressor Engine #8 – 2,370 HP (17.78 MMBtu/hr) Caterpillar G3608 - natural gas-fired four-stroke lean burn internal combustion engine equipped with an oxidation catalyst controlling CO and VOC (95% reduction) and VOC (75% reduction).

- 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) and ORC 3704.03(T)	Install engines designed to meet 0.5 g NO <sub>x</sub> /bhp-hr.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Install engines designed to meet 0.14 g CO/bhp-hr and 0.28 g VOC/bhp-hr.  PE shall not exceed 0.006 tons/m as a rolling, 12-month average.  See b)(2)a. below.
c.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)b. below.
d.	OAC rule 3745-31-05(C)	See b)(2)c. below.
e.	40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230 – 60.4248)  [In accordance with 40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1, this emissions unit is a 2370 hp, natural gas-fired, stationary spark internal combustion engine manufactured after July 1, 2007 that is located at a new natural gas compressor station and is subject to the emission limitations and control measures specified in this section.]	NO <sub>x</sub> emissions shall not exceed 1.00 g/hp-hr or 82 ppmvd at 15% O <sub>2</sub> .  CO emissions shall not exceed 2.0 g/hp-hr or 270 ppmvd at 15% O <sub>2</sub> .  VOC emissions shall not exceed 0.7 g/hp-hr or 60 ppmvd at 15% O <sub>2</sub> .  [40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1]  See b)(2)d. below.
f.	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.
g.	40 CFR 60, Subpart OOOO (60.5360-60.5430)  [In accordance with 40 CFR 63.5365(c), this emissions unit is a reciprocating compressor subject to the Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.]	The reciprocating compressor, constructed, modified, or reconstructed after 8/23/11 and located between the wellhead and the point of custody transfer to the natural transmission and storage segment, shall meet the requirements of 40 CFR 60, Subpart OOOO no later than 10/15/12 or upon initial startup following that date; and by tracking either the hours of operation or number of months between compressor road packing replacement.
h.	40 CFR 60, Subpart A (60.1-60.19)	General provisions may apply.
i.	OAC rule 3745-17-11(B)(5)(b)	PE shall not exceed 0.062 pound/MMBtu actual heat input.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		This emission limitation is less stringent than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as US EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP.
j.	OAC rule 3745-17-07(A)(1)	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.

(2) Additional Terms and Conditions

a. The permittee has satisfied the 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 10 tons per year. However, that rule revision has not yet been approved by US EPA as a revision to Ohio's SIP. Therefore, until the SIP revision occurs and the US EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the SIP federally-approved SIP for Ohio. Once US 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 US 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 SO<sub>2</sub> or PE emissions from this air contaminant source since the uncontrolled potential to emit for SO<sub>2</sub> or PE emissions is less than 10 tons/yr.

c. This rule paragraph applies once US EPA approves the December 1, 2006 version of OAC rule 3745-31-05. This permit takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC 3745-31-05(A)(3):

- i. Installation and operation of an oxidation catalyst for controlling CO (95% reduction) and VOC (75% reduction);
- ii. CO emissions shall not exceed 3.20 TPY;
- iii. VOC emissions shall not exceed 6.40 TPY.



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

60.4236(a)	Installation deadlines
60.4243(b)	Compliance demonstration

c) Operational Restrictions

- (1) The permittee shall burn only natural gas 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 compliance with emission standards
60.4243(b)	Maintenance requirements
60.4243(e)	Alternative fuel

- (3) The permittee shall install and operate the engines with an oxidation catalyst for the control of CO and VOC emissions whenever this emissions unit is in operation and shall maintain the engines in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modifications deemed necessary by the permittee.
- (4) In the event the engine is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the engine shall be expeditiously repaired or otherwise returned to these documented operating conditions.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, 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 restrictions of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4245(a), (c) and (d)	Notification, record keeping, and reporting requirements
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- (3) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, operating manuals for the engines, along with documentation of any modifications deemed necessary by the permittee. These documents shall be



maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.

- (4) The permittee shall conduct periodic inspections of the engine to determine whether it is operating in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the permittee or operator. These inspections shall be performed at a frequency that shall be based upon the recommendation of the manufacturer and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency, and it shall be made available to the Ohio EPA upon request.
- (5) In addition to the recommended periodic inspections, not less than once each calendar year the permittee shall conduct a comprehensive inspection of the engine while the emissions unit is shut down and perform any needed maintenance and repair to ensure that it is operated in accordance with the manufacturer's recommendations.
- (6) The permittee shall document each inspection (periodic and annual) of the engine and shall maintain the following information:
  - a. The date of the inspection;
  - b. A description of each/any problem identified and the date it was corrected;
  - c. A description of any maintenance and repairs performed; and
  - d. The name of the person who performed the inspection.

These records shall be maintained at the facility for not less than five years from the date the inspection and any necessary maintenance or repairs were completed and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.

- (7) The permittee shall maintain records that document any time periods when the oxidation catalyst was not in service when the emissions unit(s) was/were in operation, as well as a record of all operations during which the engine was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee. These records shall be maintained for a period of not less than five years and shall be made available to the Ohio EPA upon request.
- e) Reporting Requirements
- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
  - (2) 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.



- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (4) The permittee shall submit notifications and reports to the Ohio EPA, Southeast District Office as required pursuant to 40 CFR Part 60, Subpart JJJJ, per the following sections:

60.4243(b)(2)(ii) and 60.4245	Maintain records of maintenance plan and records of maintenance conducted on the engine
60.4245(a)	Maintain records of notifications and supporting documentation
60.4245(c)	Must submit an initial notification

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Design Efficiency:

Install engines designed to meet 0.5 g NO<sub>x</sub>/bhp-hr.

Applicable Compliance Method:

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

b. Emissions Limitation:

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

Applicable Compliance Method:

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

c. Design Efficiency:

Install engines designed to meet 0.14 g CO/bhp-hr.

Applicable Compliance Methods:

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



d. Emissions Limitation:

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

Applicable Compliance Method:

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

e. Design Efficiency:

Install engines designed to meet 0.28 g VOC/bhp-hr.

Applicable Compliance Method:

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

f. Emissions Limitation:

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

Applicable Compliance Method:

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

g. Emissions Limitation:

PE shall not exceed 0.006 tons/m as a rolling, 12-month average.

Applicable Compliance Method:

Compliance with the PE limitation shall be demonstrated by the following calculation based on the emissions factors and operational parameters provided in the permittee's application:

$$\frac{0.0034 \text{ g}}{\text{bhp} - \text{hr}} * 2,370 \text{ bhp} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{1 \text{ lb}}{453.59 \text{ g}} * \frac{1 \text{ ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}}$$

$$= 0.006 \frac{\text{tons}}{\text{rolling 12 m}}$$

h. Emissions Limitation:

PE shall not exceed 0.062 pound/MMBtu actual heat input.

Applicable Compliance Method:

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 US EPA-



approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

i. 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.

Applicable Compliance Method:

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

j. Emissions Limitations:

i. CO emissions shall not exceed 3.20 TPY;

ii. VOC emissions shall not exceed 6.40 TPY.

Applicable Compliance Method:

CO emissions:

$$\frac{0.14 \text{ g}}{\text{bhp} - \text{hr}} * 2,370 \text{ bhp} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{1 \text{ lb}}{453.59} = 3.20 \text{ TPY}$$

VOC emissions:

$$\frac{0.28 \text{ g}}{\text{bhp} - \text{hr}} * 2,370 \text{ bhp} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{1 \text{ lb}}{453.59} = 6.40 \text{ TPY}$$

Where:

- 0.14 = CO EF manufacturer's specification
- 0.28 = VOC EF manufacturer's specification
- 2,370 = engine rating
- 8,760 = operating hours
- 2,000 = conversion factor
- 453.59 = conversion factor

- (2) When purchasing a non-certified engine, the permittee shall demonstrate compliance with the emission standards specified in 40 CFR 60.4233(e) and according to the requirements specified in 40 CFR 60.4244, as applicable. The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee has chosen to demonstrate compliance with the emission standards specified in §60.4233(e) and OAC rule 3745-31-05(A)(3) by performing a stack test, and therefore the permittee shall conduct, or have conducted, emission testing for this



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emissions unit in accordance with the procedures specified in 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 and design efficiencies in f)(1)a.-f. of this permit 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 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.



**6. T008**

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

Five Condensate Storage Tanks, 400 bbl (16,800 g) each, all working, breathing, and flashing emissions controlled and reduced 98% by VRU

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) 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) and ORC 3704.03(T)	Install a VRU that shall have at least an overall 98% design removal efficiency for VOC.
b.	40 CFR 60, Subpart OOOO (60.5360-60.5430)  [In accordance with 60.5365(e), this emissions unit constitutes a storage vessel that is located at an affected crude oil and natural gas production, transmission, and distribution facility.]	Each tank at this facility has a potential to emit after control of less than six TPY and are therefore exempt from the requirements of 40 CFR Part 60, Subpart OOOO.  Following the compliance date of October 15, 2013, each storage vessel constructed, modified, or reconstructed after August 23, 2011 and with VOC emissions calculated to exceed six TPY shall reduce VOC emissions by 95% or greater.
c.	40 CFR Part 60, Subpart A (60.1-60.19)	General provisions may apply.

(2) Additional Terms and Conditions

a. None.



c) Operational Restrictions.

- (1) The permittee shall operate the VRU at all times the tanks are in operation for the control of VOC emissions and shall maintain the VRU in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modification deemed necessary by the permittee.
- (2) In the event the VRU is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired or otherwise returned to these documented operating conditions.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, or operating manuals for the VRU, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.
- (2) The permittee shall conduct periodic inspections of the VRU to determine whether it is operating in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the permittee or operator. These inspections shall be performed at a frequency that shall be based upon the recommendation of the manufacturer and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency, and it shall be made available to the Ohio EPA upon request.
- (3) In addition to the recommended periodic inspections, not less than once each calendar year, the permittee shall conduct a comprehensive inspection of the VRU while the emissions unit is shut down and perform any needed maintenance and repair to ensure that it is operated in accordance with the manufacturer's recommendations.
- (4) The permittee shall document each inspection (periodic and annual) of the VRU and shall maintain the following information:
  - a. The date of the inspection;
  - b. A description of each/any problem identified and the date it was corrected;
  - c. A description of any maintenance and repairs performed; and
  - d. The name of the person who performed the inspection.

These records shall be maintained at the facility for not less than five years from the date the inspection and any necessary maintenance or repairs were completed and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.



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- (5) The permittee shall maintain records that document any time periods when the VRU was not in service when the emissions unit(s) was/were in operation, as well as a record of all operations during which the VRU was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee. These records shall be maintained for a period of not less than five years and shall be made available to the Ohio EPA upon request.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) 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.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Design Efficiency:

Install a VRU that shall have at least an overall 98% design removal efficiency for VOC.

Applicable Compliance Method

Compliance is demonstrated by VRU manufacturer's design efficiency with an overall control efficiency of 98%.

g) Miscellaneous Requirements

- (1) None.