



6/12/2014

Certified Mail

Mr. Rod Brumlow
E2 Appalachian LLC - Batesville
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: 0661005027
Permit Number: P0115935
Permit Type: Initial Installation
County: Noble

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

How to give us feedback on your permitting experience

Please complete a survey at 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 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 LLC - Batesville**

| | |
|----------------|----------------------|
| Facility ID: | 0661005027 |
| Permit Number: | P0115935 |
| Permit Type: | Initial Installation |
| Issued: | 6/12/2014 |
| Effective: | 6/12/2014 |
| Expiration: | 6/12/2024 |



Division of Air Pollution Control
Permit-to-Install and Operate
for
E2 Appalachian LLC - Batesville

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Final Permit-to-Install and Operate
E2 Appalachian LLC - Batesville
Permit Number: P0115935
Facility ID: 0661005027
Effective Date: 6/12/2014

Authorization

Facility ID: 0661005027
Application Number(s): A0049384, A0050131, A0050363
Permit Number: P0115935
Permit Description: Initial installation of compressor station
Permit Type: Initial Installation
Permit Fee: \$6,600.00
Issue Date: 6/12/2014
Effective Date: 6/12/2014
Expiration Date: 6/12/2024
Permit Evaluation Report (PER) Annual Date: July 1 - June 30, Due Aug 15

This document constitutes issuance to:

E2 Appalachian LLC - Batesville
58380 St John Rd
Quaker City, OH 43773

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

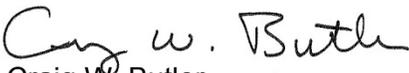
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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
Director



Authorization (continued)

Permit Number: P0115935
Permit Description: Initial installation of compressor station

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

| | |
|-----------------------------------|----------------|
| Emissions Unit ID: | F001 |
| Company Equipment ID: | F002 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | F002 |
| Company Equipment ID: | F003 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | J001 |
| Company Equipment ID: | J001 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P012 |
| Company Equipment ID: | H-5801A |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P013 |
| Company Equipment ID: | H-5801B |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P014 |
| Company Equipment ID: | SK-3500 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P017 |
| Company Equipment ID: | FL-8501-HP |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P018 |
| Company Equipment ID: | FL-8501-LP |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P019 |
| Company Equipment ID: | TO-8502 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P021 |
| Company Equipment ID: | BD |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P802 |



Company Equipment ID: F001 Equipment Leaks
 Superseded Permit Number:
 General Permit Category and Type: Not Applicable

Emissions Unit ID: T011
 Company Equipment ID: J001
 Superseded Permit Number:
 General Permit Category and Type: Not Applicable

Group Name: compressor engines

| | |
|-----------------------------------|----------------|
| Emissions Unit ID: | P001 |
| Company Equipment ID: | C-2701 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P002 |
| Company Equipment ID: | C-2702 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P003 |
| Company Equipment ID: | C-2703 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P004 |
| Company Equipment ID: | C-2704 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P005 |
| Company Equipment ID: | C-2705 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P006 |
| Company Equipment ID: | C-2706 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P007 |
| Company Equipment ID: | C-2707 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P008 |
| Company Equipment ID: | C-2708 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |

Group Name: dehydrator units

| | |
|-----------------------------------|----------------|
| Emissions Unit ID: | P010 |
| Company Equipment ID: | V-3501A |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P011 |
| Company Equipment ID: | V-3501B |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |



Final Permit-to-Install and Operate

E2 Appalachian LLC - Batesville

Permit Number: P0115935

Facility ID: 0661005027

Effective Date: 6/12/2014

Group Name: flash gas compressors

| | |
|----------------------------------|----------------|
| Emissions Unit ID: | P015 |
| Company Equipment ID: | C-3701 |
| Superseded Permit Number: | |
| General Permit Category andType: | Not Applicable |
| Emissions Unit ID: | P016 |
| Company Equipment ID: | C-3702 |
| Superseded Permit Number: | |
| General Permit Category andType: | Not Applicable |



Final Permit-to-Install and Operate
E2 Appalachian LLC - Batesville
Permit Number: P0115935
Facility ID: 0661005027
Effective Date: 6/12/2014

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
E2 Appalachian LLC - Batesville
Permit Number: P0115935
Facility ID: 0661005027
Effective Date: 6/12/2014

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) B.7.
 - 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, 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. Specific emissions units contained in this permit are subject to 40 CFR Part 60, Subparts JJJJ and OOOO (P001-P008 and P015-P016). 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. The facility in this permit is subject to 40 CFR Part 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 of 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:
 - a) Emergency generator (P009);
 - b) Reboiler heater (P012-P013);
 - c) Stabilizer heater (P014); and
 - d) Tanks (T011).
6. The Compressor Station must comply with the Used Oil Management Standards of OAC Chapter 3745-279.
7. 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.

8. The reports required by this permit may be submitted through 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.
9. The permittee shall submit an annual PER to Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
10. Abbreviations throughout are as follows:

Pollutants

| | |
|-----------------|-------------------------|
| NO _x | nitrogen oxides |
| CO | carbon monoxide |
| VOC | volatile organic carbon |
| PE | particulate emissions |

Units

| | |
|-----|------------------------|
| TPY | tons per year |
| lb | pound |
| gal | gallon |
| scf | standard cubic feet |
| hp | horsepower |
| EF | emissions factor |
| VMT | vehicle miles traveled |
| 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 |

General

| | |
|------|-------------------------------|
| PTE | Potential-to-Emit |
| PTIO | Permit-to-Install-and-Operate |



Final Permit-to-Install and Operate

E2 Appalachian LLC - Batesville

Permit Number: P0115935

Facility ID: 0661005027

Effective Date: 6/12/2014

PER Permit Evaluation Report
SIP State Implementation Plan
NAAQS National Ambient Air Quality Standards



Final Permit-to-Install and Operate
E2 Appalachian LLC - Batesville
Permit Number: P0115935
Facility ID: 0661005027
Effective Date: 6/12/2014

C. Emissions Unit Terms and Conditions



1. F001 Roadways and Parking Areas

Operations, Property and/or Equipment Description:

Fugitive dust from roadways and parking areas with a maximum of 3,733 VMT/yr (unpaved) and 498 VMT/yr (paved)

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 | Develop and implement a site-specific work practice plan designed as described in d)(1) below to minimize or eliminate fugitive dust emissions. See b)(2)a. below. |
| b. | OAC rule 3745-31-05(C), as effective 12/01/2006 | See b)(2)b. below. |

(2) Additional Terms and Conditions

a. The permittee shall begin using the Work Practice Plan within 30 days from the date Ohio EPA approved the initial plan. As needs warrant, the permittee can modify the Work Practice Plan. The permittee cannot begin using any modified Work Practice Plan until such time as the Southeast District Office approves the revised plan.



- 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. Permittee agrees to apply water or other dust suppressants to reduce fugitive dust emissions on unpaved roadways and parking areas by 70%;
- ii. Total fugitive PE shall not exceed 6.6 tons/yr.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall develop and implement a site-specific work practice plan designed to minimize or eliminate fugitive dust from the permittees paved and unpaved roadways and parking areas. This work practice plan shall include, at a minimum, the following elements:
 - a. An identification of each segment of unpaved roadway or parking area for which the plan applies.
 - b. A determination of the frequency that each roadway or parking area will be inspected to determine if additional control measures are needed.
 - c. The identification of the record keeping form/record that will be used to track the inspection and treatment of the roadways. This form/record should include, at a minimum, the following elements:
 - i. Roadway or parking area segment inspected;
 - ii. Date inspected;
 - iii. Name of employee doing the inspection;
 - iv. Result of the inspection (needs treated or does not need treated);
 - v. A description of why no treatment was needed;
 - vi. Date treated;
 - vii. Name of employee treating the segment; and
 - viii. Method used to treat the segment.



- d. A description of how and where the records shall be maintained.
- (2) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas at frequencies described in the Work Practice Plan. The purpose of the inspections is to determine the need for implementing 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 records required to be collected under the Work Practice Plan, and
 - b. the date and reason any element of the Work Practice Plan was not implemented.
- e) Reporting Requirements
 - (1) Within 30 days from the final issuance of this permit, the permittee shall submit their proposed Work Practice Plan to the Southeast District Office.
 - (2) See Section B. 8-9.
- 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:

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. Permittee agrees to apply water or other dust suppressants to reduce fugitive dust emissions on unpaved roadways and parking areas by 70%;
 - ii. Total fugitive PE shall not exceed 6.6 tons/yr.

Applicable Compliance Method:

Compliance with the fugitive PE limitation shall be determined by using the emission factor equations in Section 13.2.2, in Compilation of Air Pollutant



Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 11/06) for unpaved roadways. Should further updates in AP-42 occur, the most current equations for unpaved roads shall be used.

Unpaved roadways:

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

where:

EF = particulate emission factor (lb/VMT)

k = 4.9 (AP-42, 13.2.2 11/2006)

s = surface material silt content (%) = 10 (AP-42, Table 13.2.2-1 (11/2006))

a = 0.7 (AP-42, 13.2.2 11/2006)

W = mean vehicle weight (tons) = 53

b = 0.45 (AP-42, 13.2.2 11/2006)

p = number of days/yr with > 0.01 inch precipitation = 140

$$EF = 9.78 \text{ lb/VMT}$$

Maximum travel = 3,733 miles/year

$$(3,733 \text{ VMT/year})(9.78 \text{ lb/VMT})(1 \text{ ton}/2,000 \text{ lb}) = 18.3 \text{ tons/year}$$

70% control efficiency watering of roadways

$$(18.3 \text{ tons/yr})(1-0.7) = 5.42 \text{ ton/year}$$

Plus

Paved roadways:

$$EF = ((k*(s/L)^{0.91}(W)^{1.02})((1-(1.2*p/8,760)))$$

where:

EF = particulate emission factor (lb/VMT)

k = 0.11 (AP-42, 13.2.1 11/2006)

sL = surface material silt content = 9.7 g/m² (AP-42, Table 13.2.2-1 (11/2006))

W = mean vehicle weight (tons) = 53

p = number of days/yr with > 0.01 inch precipitation = 140



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EF = 4.91 lb/VMT

Maximum travel = 498 miles/year

$(498 \text{ VMT/year})(4.91 \text{ lb/VMT})(1 \text{ ton}/2,000 \text{ lb}) = 1.22 \text{ tons/year}$

g) Miscellaneous Requirements

(1) None.



2. P021 Blowdowns

Operations, Property and/or Equipment Description:

Flash gas compressor blowdowns (controlled by high pressure flare, 5.0 MMscf/d, with 100% capture and 98% control efficiency), 1.45 MMscf maximum/yr over 26 or fewer depressurizations per annum

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 high pressure flare with 100% capture and 98% design control efficiency for VOC. 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. 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 federally-approved SIP for Ohio. Once US EPA approves the December 1, 2006 version of OAC rule 3745-31-05, 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 PTE for VOC is less than 10 tons/yr.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the flare of this emissions unit.

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 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.
- (3) 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 Ohio EPA upon request.
- (4) 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.
- (5) 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.

- (6) 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 were 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 Ohio EPA upon request.

- (7) The permittee shall maintain the following records on a monthly basis:

- a. The date, number and type of each maintenance blowdown event;
- b. Percent fraction VOC 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 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.
- (2) See Section B. 8-9.

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 high pressure flare with 100% capture and 98% design control efficiency for VOC.

Applicable Compliance Method:

Compliance is demonstrated by flare manufacturer's design efficiency with 100% capture and 98% design control efficiency.



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g) Miscellaneous Requirements

- (1) None.



3. P018 Low Pressure Flare

Operations, Property and/or Equipment Description:

26,155 total MMBtu/yr low pressure flare controlling truck loading (J001) and flash gas from condensate stabilizer (and *de minimis* tanks when VRU is down for maintenance), pilot emissions permitted at 8,760 hr/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 | NO _x emissions shall not exceed 0.075 ton/m as a rolling, 12-month average. CO emissions shall not exceed 0.393 ton/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. 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 federally-approved SIP for Ohio. Once US EPA approves the December 1, 2006 version of OAC rule 3745-31-05, 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_x and CO emissions from this air contaminant source since the uncontrolled PTE for NO_x and CO is less than 10 tons/yr.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the flare of this emissions unit.

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 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.
- (3) 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 Ohio EPA upon request.
- (4) 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.
- (5) 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.

- (6) 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 were 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 Ohio EPA upon request.

e) Reporting Requirements

- (1) 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.
- (2) See Section B. 8-9.

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:

NO_x emissions shall not exceed 0.075 ton/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:

Flare Emissions:

$$\frac{25,170 \text{ MMBtu}}{\text{yr}} * \frac{0.068 \text{ lb NO}_x}{\text{hr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 0.071 \frac{\text{ton}}{\text{m rolling 12}}$$

Where:

- 0.068 = uncontrolled NO_x emission rate from flare
- 25,170 = annual throughput
- 2,000 = conversion factor
- 12 = conversion factor



Pilot Emissions:

$$\frac{985 \text{ MMBtu}}{\text{yr}} * \frac{0.098 \text{ lb NO}_x}{\text{hr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 0.004 \frac{\text{ton}}{\text{m rolling 12}}$$

Where:

- 0.098 = uncontrolled NO_x emission rate from flare
- 985 = annual throughput
- 2,000 = conversion factor
- 12 = conversion factor

b. Emissions Limitation:

CO emissions shall not exceed 0.39 ton/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:

Flare Emissions:

$$\frac{25,170 \text{ MMBtu}}{\text{yr}} * \frac{0.37 \text{ lb CO}}{\text{hr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 0.39 \frac{\text{ton}}{\text{m rolling 12}}$$

Where:

- 0.37 = uncontrolled NO_x emission rate from flare pilot
- 25,170 = annual throughput
- 2,000 = conversion factor
- 12 = conversion factor

Pilot Emissions:

$$\frac{985 \text{ MMBtu}}{\text{yr}} * \frac{0.082 \text{ lb CO}}{\text{hr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}} = 0.003 \frac{\text{ton}}{\text{m rolling 12}}$$

Where:

- 0.082 = uncontrolled NO_x emission rate from flare pilot
- 985 = annual throughput
- 2,000 = conversion factor
- 12 = conversion factor

g) Miscellaneous Requirements

- (1) None.



4. P802 Equipment Leaks

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) and ORC 3704.03(T) | VOC emissions shall not exceed 2.19 tons/m as a rolling, 12-month average. |

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) See Section B. 8-9.



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:

VOC emissions shall not exceed 2.19 tons/m as a 12-month, rolling 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 (11/1995) for components in gas, light oil, and water/oil service and the information provided in the permittee's application:

$$\sum (componentcount * maxleakrates * VOCfraction * \frac{8,760 hr}{yr} * \frac{ton}{2,000 lb} * \frac{yr}{12 mrolling}) = \frac{2.19 tons}{mrolling 12}$$

Where component counts, max leak rates, and VOC fractions are based on the data provided in the permittee's application.

g) Miscellaneous Requirements

(1) None.



5. J001 Loading Rack

Operations, Property, and/or Equipment Description:

Two truck loading racks, condensate/produced water and stabilized condensate, controlled by low pressure flare (P018) (76,650 MMgal/yr maximum, 8,760 hr/yr, 98% control efficiency)

a) This permit document constitutes a PTI issued in accordance with ORC 3704.03(F) and a PTO issued in accordance with ORC 3704.03(G).

(1) For the purpose of a PTI 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 PTO 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 a low pressure flare with 99.2% capture and 98% control efficiency for VOC. |

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain annual records of the throughput of the emissions unit, in gallons.

(2) 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.

- (3) 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 Ohio EPA upon request.
- (4) 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.
- (5) 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.

- (6) The permittee shall maintain records that document any time periods when the flare were 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 Ohio EPA upon request.
- e) Reporting Requirements
 - (1) See Section B. 8-9.
 - 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:



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a. Design Efficiency:

Install a low pressure flare with 99.2% capture and 98% control efficiency for VOC.

Applicable Compliance Method:

Compliance is demonstrated by flare manufacturer's design of 99.2% capture and 98% control efficiency for VOC.

g) Miscellaneous Requirements

(1) None.



6. P001-P008 Compressor Engines

| EU ID | Operations, Property and/or Equipment Description |
|-------|---|
| P001 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P002 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P003 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P004 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P005 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P006 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P007 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 2013 |
| P008 | 1,680 hp Waukesha natural gas-fired, rich burn, turbocharged compressor engine with oxidation catalyst (control efficiencies: NO _x and CO 98%; VOC 87%), manufactured 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 |
|----|--|---|
| a. | OAC rule 3745-31-05(A)(3), as effective 11/30/2001 | Install an engine designed to meet 0.268 g NO _x /bhp-hr. Install an engine designed to meet 0.254 |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | | <p>g CO/bhp-hr.</p> <p>Install an engine designed to meet 0.06 g VOC/bhp-hr.</p> <p>PE shall not exceed 0.10 ton/m as a rolling, 12-month average.</p> <p>See b)(2)a. below.</p> |
| b. | OAC rule 3745-31-05(C), as effective 12/01/2006 | 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. | <p>40 CFR Part 60, Subpart JJJJ (40 CFR 60. 4230 – 60.4248)</p> <p>[In accordance with 40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1, this emissions unit is a 1,380 hp, natural gas-fired, stationary spark internal combustion engine manufactured after July 1, 2010 that is located at a new natural gas compressor station and is subject to the emission limitations and control measures specified in this section.]</p> | <p>NO_x emissions shall not exceed 1.0 g/hp-hr.</p> <p>CO emissions shall not exceed 2.0 g/hp-hr.</p> <p>VOC emissions shall not exceed 0.7 g/hp-hr.</p> <p>[40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1]</p> |
| e. | 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. |
| f. | <p>40 CFR Part 60, Subpart OOOO (40 CFR 60.5360 – 60.5430)</p> <p>[In accordance with 40 CFR Part 60.5365(c), this emissions unit is a reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment.]</p> | <p>The reciprocating compressor rod packing shall be replaced either before the compressor has operated for 26,000 hours or prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.</p> <p>[40 CFR Part 60.5385(a)(1)-(2).]</p> |
| g. | 40 CFR Part 60.1-19 (40 CFR 60.4246) | Table 3 to Subpart OOOO of 40 CFR Part 60 – Applicability of General Provisions to Subpart OOOO shows which part of the General Provisions in 40 CFR Part 60.1- |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| | | 19 apply. |
| h. | OAC rule 3745-17-11(B)(5)(b) | PE shall not exceed 0.062 lb/MMBtu actual heat input. |
| i. | 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 federally-approved SIP for Ohio. Once US EPA approves the December 1, 2006 version of OAC rule 3745-31-05, 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. Engines shall operate with oxidation catalysts with a minimum control efficiency of 98% for NO_x and CO and 87% VOC emissions;
- ii. NO_x emissions shall not exceed 4.4 TPY; and
- iii. CO emissions shall not exceed 4.1 TPY.

- c. 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 and PE emissions from this air contaminant source since the uncontrolled PTE for VOC and PE is less than 10 tons/yr.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the flare of 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 | Emission standards |
| 60.4243(b) | How long must I meet the emission standards |
| 60.4243(b)(2) | Purchasing a non-certified engine and demonstrating compliance |
| 60.4243(b)(2)(ii) | Maintenance plan and records of conducted maintenance |
| 60.4243(e) | Using propane as an alternative fuel |
| 60.4243(g) | Air-to-fuel ratio controllers with operation of three-way catalysts/non-selective catalytic reduction |
| 60.4246 | General provisions |

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:

| | |
|-------------------|--|
| 60.4243(b)(2) | Purchasing a non-certified engine and demonstrating compliance |
| 60.4243(b)(2)(ii) | Maintenance plan and records of conducted maintenance |
| 60.4243(e) | Using propane as an alternative fuel |
| 60.4244(a) | Performance testing relative to peak |
| 60.4244(b) | Performance tests during periods of startup, shutdown, or malfunction |
| 60.4244(c) | Separate test runs for each performance test required |
| 60.4244(d) | NO _x mass per unit output emission limitation |
| 60.4244(e) | CO mass per unit output emission limitation |
| 60.4244(f) | Calculating emissions of VOC |
| 60.4244(g) | Measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A and correcting to differences between these methods and Method 25A |



| | |
|---------------|---|
| 60.4245(a)(1) | Notifications submitted to comply with this subpart |
| 60.4245(a)(2) | Maintenance conducted on the engine |
| 60.4245(a)(4) | Not a certified engine or is a certified engine operating in a non-certified manner |

e) Reporting Requirements

- (1) 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.
- (2) See Section B. 8-9.
- (3) The permittee shall submit notifications and reports to Ohio EPA, SEDO as required pursuant to 40 CFR Part 60, Subpart JJJJ, per the following sections:

| | |
|------------|--|
| 60.4245(c) | Stationary SI ICE greater than or equal to 500 HP that have not been certified must submit an initial notification |
| 60.4245(d) | Stationary SI ICE that are subject to performance testing |

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. 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. Engines shall operate with oxidation catalysts with a minimum control efficiency of 98% for NO_x and CO and 87% VOC emissions;
- ii. NO_x emissions shall not exceed 4.4 TPY; and
- iii. CO emissions shall not exceed 4.1 TPY.

Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 0.268 g NO_x/bhp-hr and 0.254 g CO/bhp-hr.



b. Design Efficiency:

Install an engine designed to meet 0.268 g NO_x/bhp-hr.

Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 0.268 g NO_x/bhp-hr.

c. Design Efficiency:

Install an engine designed to meet 0.254 g CO/bhp-hr.

Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 0.254 g CO/bhp-hr.

d. Design Efficiency:

Install an engine designed to meet 0.06 g VOC/bhp-hr.

Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 0.06 g VOC/bhp-hr.

e. Emissions Limitation:

PE shall not exceed 0.10 ton/m as a rolling, 12-month average.

Applicable Compliance Method:

$$\frac{13.778 \text{ MMBtu}}{\text{hr}} * \frac{0.01941 \text{ lb PE}}{\text{MMBtu}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{yr}}{12 \text{ m rolling}}$$

$$= 0.10 \frac{\text{ton}}{12 \text{ m rolling}}$$

f. Emissions Limitation:

NO_x emissions shall not exceed 1.0 g/hp-hr.

Applicable Compliance Method:

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

g. Emissions Limitation:

CO emissions shall not exceed 2.0 g/hp-hr.



Applicable Compliance Method:

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

h. Emissions Limitation:

VOC emissions shall not exceed 0.7 g/hp-hr.

Applicable Compliance Method:

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

i. Emissions Limitation:

PE shall not exceed 0.062 lb/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, SEDO.

j. 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.

- (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. In addition, the permittee must conduct an initial performance test.

The permittee has chosen to demonstrate compliance with the emission standards specified in §60.4233(e), OAC rule 3745-31-05(A)(3) and ORC 3704.03(T) by performing a stack test, and therefore the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the procedures specified in 40 CFR 60.4244; 40 CFR Part 60, Subpart JJJJ Table 1; and the following requirements:



Final Permit-to-Install and Operate

E2 Appalachian LLC - Batesville

Permit Number: P0115935

Facility ID: 0661005027

Effective Date: 6/12/2014

- a. An initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in 40 CFR 60.4233(e), OAC rule 3745-31-05(A)(3) for VOC, NO_x, 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 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 1 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.



7. P010 Dehydration Process

Operations, Property and/or Equipment Description:

Two 80 MMscf/d dehydration units; each includes a glycol dehydration unit re-boiler and gas-condensate-glycol separator (flash separator); still vent emissions vented to a thermal oxidizer with 100% capture and 98% control efficiency for VOC reduction; flash gas not used as fuel for process is vented to thermal oxidizer with minimum 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 11/30/2001 | Install a thermal oxidizer with 100% capture and 98% control efficiency for VOC. CO emissions shall not exceed 0.37 ton/m as a rolling, 12-month average. See b)(2)a. below. |
| b. | OAC rule 3745-31-05(C), as effective 12/01/2006 | 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. | 40 CFR Part 63, Subpart HH (40 CFR 63.760-63.779) [In accordance with 40 CFR | See b)(2)d. below. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| | 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.] | |
| e. | 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 federally-approved SIP for Ohio. Once US EPA approves the December 1, 2006 version of OAC rule 3745-31-05, 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. The thermal oxidizer shall operate when EU is in operation with control efficiency for VOC emissions of 98% reduction and
- ii. VOC emissions shall not exceed 1.9 tons/yr.

- c. 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 CO emissions from this air contaminant source since the uncontrolled PTE for CO is less than 10 tons/yr.

- d. The dehydration units controlled by the thermal oxidizer and located at this facility are subject to 40 CFR Part 63, Subpart HH, National Emission Standards for Hazardous Air Pollutants (NESHAP) From Oil and Natural Gas Production Facilities. 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 megagram per year, as determined by the procedures specified in 63.772(b)(2) of 40 CFR Part 63, Subpart HH.

c) **Operational Restrictions**

- (1) The permittee shall operate the thermal oxidizer 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 thermal oxidizer 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 thermal oxidizer, 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 thermal oxidizer 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 thermal oxidizer 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 thermal oxidizer 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 thermal oxidizer 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. |
|-----------|--|

e) Reporting Requirements

- (1) See Section B. 8-9.

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. 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. The thermal oxidizer shall operate when EU is in operation with control efficiency for VOC emissions of 98% reduction and
- ii. VOC emissions shall not exceed 1.9 tons/yr.

- b. Design Efficiency:

Install a thermal oxidizer with 100% capture and 98% control efficiency for VOC.

Applicable Compliance Method:

Compliance is demonstrated by the manufacturer's guaranteed specifications for the thermal oxidizer control efficiency of at least 98% with 100% capture.

- c. Emissions Limitation:

CO emissions shall not exceed 0.37 ton/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:

Pilot Gas Stream Emissions:

$$\frac{0.117096 \text{ MMBtu}}{\text{hr}} * \frac{84 \text{ lb CO}}{\text{MMscf}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{MMscf}}{1,020 \text{ MMBtu}} = 0.042 \text{ TPY}$$

Where:

- 0.117096 = throughput
- 84 = EF
- 8,760 = operating hours
- 2,000 = conversion factor
- 1,020 = conversion factor

Plus

$$\frac{2.719 \text{ MMBtu}}{\text{hr}} * \frac{0.37 \text{ lb CO}}{\text{MMBtu}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} = 4.41 \text{ TPY}$$

Where:

- 2.719 = throughput
- 0.37 = EF
- 8,760 = operating hours
- 2,000 = conversion factor

g) Miscellaneous Requirements

- (1) None.



8. P015-P016 Compressor Engines

| EU ID | Operations, Property and/or Equipment Description |
|--------------|---|
| P015 | 215 hp Caterpillar G3406NA natural gas-fired, rich burn, natural aspiration compressor engine (flash gas compressor engine) with high pressure flare and catalytic control of NO _x and CO (95.6 and 92 %, respectively); manufactured 2013 |
| P016 | 215 hp Caterpillar G3406NA natural gas-fired, rich burn, natural aspiration compressor engine (flash gas compressor engine) with high pressure flare and catalytic control of NO _x and CO (95.6 and 92 %, respectively); manufactured 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 |
|----|--|---|
| a. | OAC rule 3745-31-05(A)(3), as effective 11/30/2001 | Install an engine designed to meet 0.5 g NO _x /bhp-hr. Install an engine designed to meet 1.0 g CO/bhp-hr. Install an engine designed to meet 0.2 g VOC/bhp-hr. PE shall not exceed 0.012 ton/m as a rolling, 12-month average. See b)(2)a. below. |
| b. | OAC rule 3745-31-05(C), as | See b)(2)b. below. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|---|
| | effective 12/01/2006 | |
| c. | OAC rule 3745-31-05(A)(3)(b) | See b)(2)c. below. |
| d. | OAC rule 3745-17-11(B)(5)(b) | PE shall not exceed 0.062 pound/MMBtu actual heat input. |
| 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 1,380 hp, natural gas-fired, stationary spark internal combustion engine manufactured after July 1, 2010 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 _x emissions shall not exceed 1.0 g/hp-hr. CO emissions shall not exceed 2.0 g/hp-hr. VOC emissions shall not exceed 0.7 g/hp-hr. [40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1] |
| 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 Part 60, Subpart OOOO (40 CFR 60.5360 – 60.5430) [In accordance with 40 CFR Part 60.5365(c), this emissions unit is a reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment.] | The reciprocating compressor rod packing shall be replaced either before the compressor has operated for 26,000 hours or prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced. [40 CFR Part 60.5385(a)(1)-(2).] |
| h. | 40 CFR Part 60.1-19 (40 CFR 60.4246) | Table 3 to Subpart OOOO of 40 CFR Part 60 – Applicability of General Provisions to Subpart OOOO shows which part of the General Provisions in 40 CFR Part 60.1-19 apply. |
| i. | 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 federally–approved SIP for Ohio. Once US EPA approves the December 1, 2006 version of OAC rule 3745-31-05, 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. The catalytic oxidizer shall operate with minimum control efficiencies for NO_x and CO of 95.6 and 92%, respectively;
- ii. NO_x emissions shall not exceed 1.04 tons/yr; and
- iii. CO emissions shall not exceed 2.08 tons/ yr.
- c. 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 PE and VOC emissions from this air contaminant source since the uncontrolled PTE for PE and VOC is less than 10 tons/yr.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the flare of 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 | Emission standards |
| 60.4243(b) | How long must I meet the emission standards |
| 60.4243(b)(2) | Purchasing a non-certified engine and demonstrating compliance |
| 60.4243(b)(2)(ii) | Maintenance plan and records of conducted maintenance |



| | |
|------------|---|
| 60.4243(e) | Using propane as an alternative fuel |
| 60.4243(g) | Air-to-fuel ratio controllers with operation of three-way catalysts/non-selective catalytic reduction |
| 60.4246 | General provisions |

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 |
|-------------------------|--|

- (3) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, operating manuals for the engine, 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.
- (8) The permittee shall comply with the applicable restrictions of 40 CFR Part 60, Subpart JJJJ, including the following sections:

| | |
|-------------------|--|
| 60.4243(b)(2) | Purchasing a non-certified engine and demonstrating compliance |
| 60.4243(b)(2)(ii) | Maintenance plan and records of conducted maintenance |
| 60.4243(e) | Using propane as an alternative fuel |
| 60.4243(f) | Stationary SI internal combustion engine less than or equal to 500 HP, non-certified, not operated and maintained to the manufacturer's written emission-related instructions, you are required to perform initial performance testing |
| 60.4244(a) | Performance testing relative to peak |
| 60.4244(b) | Performance tests during periods of startup, shutdown, or malfunction |
| 60.4244(c) | Separate test runs for each performance test required |
| 60.4244(d) | NO _x mass per unit output emission limitation |
| 60.4244(e) | CO mass per unit output emission limitation |
| 60.4244(f) | Calculating emissions of VOC |
| 60.4244(g) | Measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A and correcting to differences between these methods and Method 25A |
| 60.4245(a)(1) | Notifications submitted to comply with this subpart |
| 60.4245(a)(2) | Maintenance conducted on the engine |
| 60.4245(a)(4) | Not a certified engine or is a certified engine operating in a non-certified manner |



e) Reporting Requirements

- (1) 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.
- (2) See Section B. 8-9.

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. 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. The catalytic oxidizer shall operate with minimum control efficiencies for NO_x and CO of 95.6 and 92%, respectively;
- ii. NO_x emissions shall not exceed 1.04 tons/yr; and
- iii. CO emissions shall not exceed 2.08 tons/ yr.

- b. Design Efficiency:

Install an engine designed to meet 0.5 g NO_x/bhp-hr.

Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 0.5 g NO_x/bhp-hr.

- c. Design Efficiency:

Install an engine designed to meet 1.0 g CO/bhp-hr.

Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 1.0 g CO/bhp-hr.

- d. Design Efficiency:

Install an engine designed to meet 0.2 g VOC/bhp-hr.



Applicable Compliance Method:

Compliance is demonstrated by engine manufacturer's design efficiency of 0.2 g VOC/bhp-hr.

e. Emissions Limitation:

PE shall not exceed 0.012 ton/m as a rolling, 12-month average.

Applicable Compliance Method:

This emission limitation was established by the following calculation:

$$\frac{1.670 \text{ MMBtu}}{\text{hr}} * \frac{0.01941 \text{ lb PE}}{\text{MMBtu}} * \frac{8,760 \text{ hr}}{\text{yr}} * \frac{\text{ton}}{2,000 \text{ lb}} * \frac{\text{yr}}{12 \text{ m rolling}}$$

$$= 0.012 \frac{\text{ton}}{\text{m rolling 12}}$$

Where:

- 1.670 = throughput
- 0.01941 = EF
- 8,760 = maximum operating hours
- 2,000 = conversion factor
- 12 = conversion factor

f. Emissions Limitation:

NO_x emissions shall not exceed 1.0 g/hp-hr.

Applicable Compliance Method:

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

g. Emissions Limitation:

CO emissions shall not exceed 2.0 g/hp-hr.

Applicable Compliance Method:

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

h. Emissions Limitation:

VOC emissions shall not exceed 0.7 g/hp-hr.



Applicable Compliance Method:

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

i. Emissions Limitation:

PE shall not exceed 0.062 lb/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, SEDO.

j. 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.

- (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. In addition, the permittee must conduct an initial performance test.

The permittee has chosen to demonstrate compliance with the emission standards specified in §60.4233(e) and OAC rule 3745-31-05(A)(3) and by performing a stack test, and therefore the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the procedures specified in 40 CFR 60.4244; 40 CFR Part 60, Subpart JJJJ Table 1; and the following requirements:

- a. An initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in 40 CFR 60.4233(e), OAC rule 3745-31-05(A)(3) and ORC 3704.03(T) for VOC, NO_x, 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 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 1 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.