



4/17/2014

Certified Mail

Nathan Wheldon  
 Cadiz Gas Plant  
 1515 Arapahoe Street  
 Suite 1600 - Tower 1  
 Denver, CO 80202-2137

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
 Facility ID: 0634005029  
 Permit Number: P0115638  
 Permit Type: OAC Chapter 3745-31 Modification  
 County: Harrison

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. 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 PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

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

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

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

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

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

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

If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)3858501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

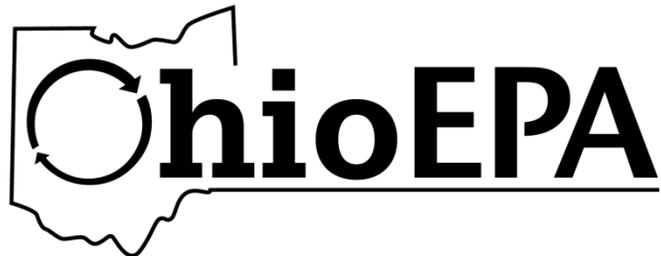
Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
Ohio EPA-SEDO; Pennsylvania; West Virginia



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Cadiz Gas Plant**

Facility ID:	0634005029
Permit Number:	P0115638
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	4/17/2014
Effective:	4/17/2014





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Cadiz Gas Plant

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## Authorization

Facility ID: 0634005029  
Facility Description: 140 MMscf/d Natural Gas Processing Facility  
Application Number(s): A0049091, A0049179  
Permit Number: P0115638  
Permit Description: Chapter 31 modification for the following emissions units (EUs): F001 (unpaved roadways and parking areas), J001 (loading operations of NGLs), P009 (emergency flare), P010 (equipment maintenance blowdowns) and P801 (equipment leaks).  
Permit Type: OAC Chapter 3745-31 Modification  
Permit Fee: \$1,000.00  
Issue Date: 4/17/2014  
Effective Date: 4/17/2014

This document constitutes issuance to:

Cadiz Gas Plant  
43071 Industrial Park Rd  
Cadiz, OH 43907

of a Permit-to-Install 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 a Permit-to-Install for the 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 emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



## Authorization (continued)

Permit Number: P0115638  
Permit Description: Chapter 31 modification for the following emissions units (EUs): F001 (unpaved roadways and parking areas), J001 (loading operations of NGLs), P009 (emergency flare), P010 (equipment maintenance blowdowns) and P801 (equipment leaks).

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

<b>Emissions Unit ID:</b>	<b>F001</b>
Company Equipment ID:	F001
Superseded Permit Number:	P0110243
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>J001</b>
Company Equipment ID:	J001
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P009</b>
Company Equipment ID:	P009
Superseded Permit Number:	P0110243
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P010</b>
Company Equipment ID:	P010
Superseded Permit Number:	P0110243
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P801</b>
Company Equipment ID:	P801
Superseded Permit Number:	P0110243
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install**  
Cadiz Gas Plant  
**Permit Number:** P0115638  
**Facility ID:** 0634005029  
**Effective Date:** 4/17/2014

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



## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.



- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Southeast District Office.



- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Southeast District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Ohio EPA DAPC, Southeast District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Southeast District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## **6. Compliance Requirements**

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted



local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Southeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.



**8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Southeast District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Southeast District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

**11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the



Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## **12. Permit-To-Operate Application**

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.



**13. Construction Compliance Certification**

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

**14. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

**18. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

**19. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.



**Final Permit-to-Install**  
Cadiz Gas Plant  
**Permit Number:** P0115638  
**Facility ID:** 0634005029  
**Effective Date:** 4/17/2014

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



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.
2. Specific emissions units contained in this permit are subject to 40 CFR Part 60, Subpart VVA (P009 and P801), and OOOO (P009 and P801). The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website: <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office of local air agency.
3. The emissions of 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), must be included in the total potential to emit (PTE) calculations for the facility.
4. The Cadiz Gas Plant must comply with the Used Oil Management Standards of OAC Chapter 3745-279.
5. Installation and operation of the emissions units contained in this permit is contingent upon the shutting down of emissions units P007 (Compressor Engine #7) and P008 (Compressor Engine #8) for the purposes of avoiding state modeling requirements for nitrogen oxide (NO<sub>x</sub>). Verification of the shutdown of P007 and P008 is to be provided through the Ohio EPA's eBusiness Center: Air Services online web portal.



**Final Permit-to-Install**  
Cadiz Gas Plant  
**Permit Number:** P0115638  
**Facility ID:** 0634005029  
**Effective Date:** 4/17/2014

## **C. Emissions Unit Terms and Conditions**



**1. F001, Unpaved Roadways and Parking Areas with a maximum of 13,357 vehicle miles traveled per year.**

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

Unpaved Roadways and Parking Areas with a maximum of 13,357 vehicle miles traveled per year (Chapter 31 Modification to PTIO P0110243, issued effective 09/28/2012).

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01.	No visible particulate emissions (PE) from unpaved roadways and parking areas except for a period of time not to exceed 3 minutes during any 60-minute observation period.  See b)(2)a. below
b.	OAC rule 3745-31-05(C), as effective 12/01/06	See b)(2)b. below.

(2) Additional Terms and Conditions

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



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

Permit to Install P0115638 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. speed limit of 15 miles per hour (mph) shall be posted and enforced on all plant roadways and, on an as needed basis, water shall be employed to reduce visible emissions; and
- ii. fugitive PM shall not exceed 5.4 tons per year, fugitive PM<sub>10</sub> shall not exceed 1.35 tons per year, and fugitive PM<sub>2.5</sub> shall not exceed 0.13 ton per year.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

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

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

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

- (3) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;



- c. the dates the control measures were implemented; and
- d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

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

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in Term b)(1) shall be determined in accordance with the following methods:

a. Emissions Limitation:

No visible PE from unpaved roadways and parking areas except for a period of time not to exceed 3 minutes during any 60-minute observation period.

Applicable Compliance Method:

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

b. Voluntary Emissions Limitation:

Fugitive PM shall not exceed 5.4 tons per year, fugitive PM<sub>10</sub> shall not exceed 1.35 tons per year, and fugitive PM<sub>2.5</sub> shall not exceed 0.13 tons per year.

Applicable Compliance Method:

Compliance shall be determined based on the emissions factor calculation for unpaved roadways and parking areas in AP-42 section 13.2.2 (Final: 12/2003). Initial compliance has been determined using inputs representing current conditions as follows:

$$E = [k(s/12)^a(W/3)^b][(365-p)/365]$$

Where:

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



s = silt content of road surface material (%) = 4.3%

W = mean vehicle weight (tons) = 28.48

a = constant (dimensionless) = 0.7 PM, 0.9 PM<sub>10</sub>/PM<sub>2.5</sub>

b = constant (dimensionless) = 0.45

k = particle size multiplier (dimensionless) = 4.9 PM, 1.5 PM<sub>10</sub>, 0.15 PM<sub>2.5</sub>

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

Therefore, E = 4.05 lbs PM/VMT, 1.01 PM<sub>10</sub>/VMT, 0.10 PM<sub>2.5</sub>/VMT

Maximum Travel = 13,357 VMT/year

(13,357 VMT/yr)(4.05lbs/VMT)(1 ton/2,000 lbs) = 27.05 TPY uncontrolled PM

(13,357 VMT/yr)(1.01lbs/VMT)(1 ton/2,000 lbs) = 6.75 TPY uncontrolled PM<sub>10</sub>

(13,357 VMT/yr)(0.10lbs/VMT)(1 ton/2,000 lbs) = 0.67 TPY uncontrolled PM<sub>2.5</sub>

Assume 80% control for reduced speed limit (RACM, Table 2.1.1)

(27.05 tons/year)(0.20) = 5.40 TPY controlled PM

(6.75 tons/year)(0.20) = 1.35 TPY controlled PM<sub>10</sub>

(0.67 tons/year)(0.20) = 0.13 TPY controlled PM<sub>2.5</sub>

g) Miscellaneous Requirements

(1) None.



**2. J001, Loading Operations**

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

Loading Operations of NGLs (Y-Grade Product) into Tanker Trucks from Pressurized Storage Vessels with a maximum annual throughput of 358,722 gallons (Chapter 31 Modification to PTIO P0110243, issued effective 09/28/2012).

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Volatile Organic Compound (VOC) emissions shall not exceed 0.20 tonper month averaged over a twelve-month, rolling period.  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 Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAWS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.



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

- c) Operational Restrictions
  - (1) The permittee shall minimize the amount of fugitive emissions of VOC by conducting all loading activities in a manner consistent with safety and good air pollution control practices.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) None.
- e) Reporting Requirements
  - (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
  - (2) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- f) Testing Requirements
  - (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emissions Limitation:

VOC emissions shall not exceed 0.20 ton per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

Compliance with the VOC emissions limitation shall be based upon the following calculation using the inputs provided in the permittee's application:

Liquid losses = (10% of hose volume) x (Y-grade density) x (Annual number of trucks)

Gas losses = (90% of hose volume) x (Y-grade density) x (Annual number of trucks)

VOC (tons/yr) = [(Liquid Losses + Gas Losses) x (VOC Content)] / (2,000 lbs/ton)

VOC (tons/month) = (VOC tons/yr) / (12 months/year)

Where:



Liquid Losses = (0.025 gallons) x (4.42 lb/gallon) x (44,840 trucks per year) = 4,871.51 lbs/year

Gas Losses = (0.030 scf) x (0.13 lb/scf) x (44,840 trucks per year) = 171.94 lbs/year

VOC Content = 96.73%

Therefore:

$[(4,871.81 \text{ lbs/year liquid losses} + 171.94 \text{ lbs/year gas losses}) \times 96.73\%] / 2,000 \text{ lbs/ton} = 2.44 \text{ tons/year}$

$(2.44 \text{ tons/year}) / (12 \text{ months/year}) = \mathbf{0.20 \text{ ton per month averaged over a twelve-month, rolling period}}$

g) Miscellaneous Requirements

(1) None.



3. P009, Emergency Flare

Operations, Property and/or Equipment Description:

Emergency Flare operated at 1.31 MMBtu/hr to account for pilot emissions only. The emergency flare is used for control of VOC emissions from pressurized process equipment (Chapter 31 Modification to PTIO P0110243, issued effective 09/28/2012).

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 0.047 tonper month averaged over a twelve-month, rolling period.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.04 tonper month averaged over a twelve-month, rolling period.</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 0.00028 tonper month averaged over a twelve-month, rolling period.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 0.0026 tonper month averaged over a twelve-month, rolling period.</p> <p>See b)(2)a. below.</p>
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.
c.	<p>40 CFR Part 60, Subparts A and VVa            (40 CFR 60.18, 60.480a-489a)</p> <p>[In accordance with 40 CFR 60.482-10a, this emissions unit consists of a flare and closed vent system used to</p>	See c)(1), d(1), and e(2) below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	control equipment leak emissions from process units subject to the standards of NSPS OOOO.]	

(2) Additional Terms and Conditions

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

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

c) Operational Restrictions

- (1) The permittee shall comply with the applicable restrictions required under 40 CFR Part 60, Subparts A, OOOO, and VVa, including the following sections:

60.5400(a), 60.482-10a(d), 60.482-10a(m), and 60.18(e)	Operate closed vent systems and control devices used to comply with the provisions of 40 CFR 60, Subpart VVa at all times when emissions may be vented to them.
60.5400(a), 60.482-10a(d) and 60.18(c)(1)	Design and operate the flare with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
60.5400(a), 60.482-10a(d) and 60.18(c)(2)	Operate the flare with a flame present at all times.
60.5400(a), 60.482-10a(d), 60.18(c)(3), 60.18(c)(3)(ii),	Adhere to the minimum net heating value of gas specified in 60.18(c)(3)(ii) and maximum



60.18(c)(5), 60.18(f)(3), (4), and (6)	tip velocity specifications in 60.18(c)(5). Calculate heat content as specified in 60.18(f)(3). Calculate exit velocities as specified in 60.18(f)(4) and (6).*
60.5400(a) and 60.482-10a(g)	Repair detected leaks in the closed vent system.
60.5400(a) and 60.482-10a(h)	Allowances for delay of repair for leaks in closed vent systems.

\* The permittee may choose to comply with any alternative standards provided in 40 CFR 60, Subparts A, OOOO, of VVa.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall comply with the applicable monitoring and recordkeeping requirements under 40 CFR Part 60, Subparts A, OOOO, and VVa including the following sections:

60.5400(a), 60.482-10a(e), and 60.18(d)	Monitor the control device to ensure it is operated and maintained in conformance with its design.
60.5400(a), 60.482-10a(f), 60.485a(b)	Inspect each closed vent system, except as provided in 60.482-10a(i)-(k).
60.5400(a), 60.482-10a(d), 60.18(d), 60.18(f)(2)	Install, calibrate, operate and maintain the heat sensing monitoring device to monitor the presence of the flare pilot flame.
60.5400(a), 60.482-10a(l)	Maintain required records for all inspections of the closed vent systems.
60.5400(e), 60.486a(d)	Record the required information on design requirements and keep in a readily accessible location.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts A, OOOO, and VVa, including the following sections:



60.7(a)	Initial notification of the date construction of the affected facility commenced and the actual date of initial startup of the affected facility.
60.5400(e), 60.487a(a)	Submit semiannual reports beginning 6 months after the initial startup date.
60.5400(e), 60.487a(b)-(c)	Include all required information in the initial semiannual report.  Include all required information in each subsequent semiannual report.

(3) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

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

a. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 0.047 ton per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

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

$$\begin{aligned}
 \text{NO}_x \text{ (lbs/hr)} &= \text{pilot light/purge gas heat input (million Btu/hr)} \times \text{NO}_x \text{ emissions factor (lb/million Btu)} \\
 &= 1.31 \text{ million Btu/hr} \times 0.098 \text{ lb/million Btu} \\
 &= 0.129 \text{ lb/hr}
 \end{aligned}$$

Where:

$$\text{Maximum hourly pilot light/purge gas heat input} = 1.31 \text{ million Btu/hr}$$

$$\text{NO}_x \text{ EF (pilot light/purge gas and flared material)} = 0.098 \text{ lb/million Btu (AP-42, Section 1.4, Table 1.4-1, 2, 3).}$$

Therefore:

$$\left[ \frac{0.129 \text{ lb/hr} \times 8,760 \text{ hrs/year}}{2,000 \text{ lbs/ton}} \right] \div (12 \text{ months/year}) = \mathbf{0.047 \text{ ton per month averaged over a twelve-month, rolling period}}$$

If required, the NO<sub>x</sub> emission factor shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR,



Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

b. Emissions Limitations:

CO emissions shall not exceed 0.04 ton per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

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

$$\begin{aligned}
 \text{CO (lbs/hr)} &= \text{pilot light/purge gas heat input (million Btu/hr)} \times \text{CO emissions factor (lb/million Btu)} \\
 &= 1.31 \text{ million Btu/hr} \times 0.08235 \text{ lb/million Btu} \\
 &= 0.108 \text{ lb/hr}
 \end{aligned}$$

Where:

$$\text{Maximum hourly pilot light/purge gas heat input} = 1.31 \text{ million Btu/hr}$$

CO EF (pilot light/purge gas and flared material) = 0.08235 lb/million Btu (AP-42, Section 1.4, Table 1.4-1, 2, 3).

Therefore:

$$\begin{aligned}
 &[(0.108 \text{ lb/hr} \times 8,760 \text{ hrs/year}) / (2,000 \text{ lbs/ ton})] / (12 \text{ months/year}) = \mathbf{0.04 \text{ ton}} \\
 &\mathbf{\text{per month averaged over a twelve-month, rolling period}}
 \end{aligned}$$

If required, the CO emission factor shall be determined according to test Methods 1 - 4, and 10 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

c. Emissions Limitations:

SO<sub>2</sub> emissions shall not exceed 0.00028 ton per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

Compliance with the SO<sub>2</sub> emissions limitations shall be based upon the following calculations using the inputs provided in the permittee's application:

$$\begin{aligned}
 \text{SO}_2 \text{ (lbs/hr)} &= \text{pilot light/purge gas heat input (million Btu/hr)} \times \text{SO}_2 \text{ emissions factor (lb/million Btu)} \\
 &= 1.31 \text{ million Btu/hr} \times 0.000588 \text{ lb/million Btu} \\
 &= 0.000772 \text{ lbs/hr}
 \end{aligned}$$



Where:

Maximum hourly pilot light/purge gas heat input = 1.31 million Btu/hr

SO<sub>2</sub> EF (pilot light/purge gas and flared material) = 0.000588 lb/million Btu calculated using the standard natural gas sulfur content provided in AP-42, Section 1.4.

Therefore:

$$[(0.000772\text{lb/hr} \times 8,760 \text{ hrs/year}) / (2,000 \text{ lbs/ ton})] / (12 \text{ months/year}) = \mathbf{0.00028 \text{ ton per month averaged over a twelve-month, rolling period}}$$

If required, the SO<sub>2</sub> emission factor shall be determined according to test Methods 1 - 4, and 6 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

d. Emissions Limitations:

VOC emissions shall not exceed 0.0026 ton per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

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

$$\begin{aligned} \text{VOC (lbs/hr)} &= \text{pilot light/purge gas heat input (million Btu/hr)} \times \text{VOC} \\ &= \text{emissions factor (lb/million Btu)} \\ &= 1.31 \text{ million Btu/hr} \times 0.00539 \text{ lb/million Btu} \\ &= 0.0071\text{lbs/hr} \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 1.31 million Btu/hr

VOC EF (pilot light/purge gas) = 0.00539 lb/million Btu (AP-42 Table 1.4-2, 7/98)

Therefore:

Therefore:

$$[(0.0071 \text{ lb/hr} \times 8,760 \text{ hrs/year}) / (2,000 \text{ lbs/ ton})] / (12 \text{ months/year}) = \mathbf{0.0026 \text{ ton per month averaged over a twelve-month, rolling period}}$$

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



- e. Emissions Limitations:  
The flare shall be designed and operated with no visible emissions, except for a total of five minutes during any two consecutive hours.  
  
Applicable Compliance Method:  
Visible particulate emissions shall be determined according to USEPA Method 22. See f)(2).
- (2) Performance testing shall be conducted as required in 40 CFR Part 60, Subpart A and OOOO pursuant to 40 CFR 60.18(f)(1), 60.5410(e)(5), and 60.5413(a)(1). The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emission testing shall be conducted within 180 days after initial startup of such facility.
  - b. The emissions testing shall be conducted to demonstrate compliance with the visible emission limitations for the flare in accordance with the requirements of 40 CFR 60.5413(a)(1).
  - c. The following test method shall be employed to demonstrate compliance with the allowable emission rate: visible emissions - Method 22 of 40 CFR 60, Appendix A.
  - d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
  - e. No later than thirty (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 emissions test(s).
  - f. 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.



g. A comprehensive written report on the results of the emissions 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 test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

g) Miscellaneous Requirements

(1) None.



**4. P010, Equipment Maintenance Blowdown Emissions**

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

Equipment Maintenance Blowdown emissions where it is not feasible to vent to a flare to control emissions (Chapter 31 Modification to PTIO P0110243, issued effective 09/28/2012).

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive volatile organic compound (VOC) emissions shall not exceed 2.26 tons per month averaged over a twelve-month, rolling period.  See b)(2)a. and c)(1) 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 Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3744-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3749-31-05, then these emission limits/control measures no longer apply.

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



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

c) Operational Restrictions

- (1) The permittee shall minimize the frequency and size of blowdown events by conducting routine operation and maintenance activities in a manner consistent with safety and good air pollution control practices.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain the following records on a monthly basis:
  - a. The date, number and type of each maintenance blowdown event;
  - b. Total volume of gas emitted from each maintenance blowdown event; and
  - c. Total volume of gas emitted from all maintenance blowdown events as a rolling, 12-month total.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

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

- a. Emissions Limitation:

Fugitive VOC emissions shall not exceed 2.26 tons per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

Compliance with the monthly VOC emissions limitation shall be based upon the following calculation using the inputs provided in the permittee's application and the recordkeeping requirements in d)(1):

$$\begin{aligned} \text{VOC (tons/yr)} = & \\ & [(\text{VOC estimate for P001-P004 blowdowns} \times \# \text{ of blowdown events per year}) \\ & + (\text{VOC estimate for P005-P006 blowdowns} \times \# \text{ of blowdown events per year}) \\ & + (\text{VOC estimate for P007-P008 blowdowns} \times \# \text{ of blowdown events per year}) \end{aligned}$$



+ (VOC & HAP estimate for ESD blowdowns X # of ESD blowdown events per year)]  
/ 2,000 lbs/ton

VOC (ton/month) =  
(VOC tons/year) / (12 months/1 year)

Where:

VOC emissions estimate for each P001-P004 blowdown event = 38 lbs/event  
VOC emissions estimate for each P005-P006 blowdown event = 61 lbs/event  
VOC emissions estimate for each P007-P008 blowdown event = 122 lbs/event  
VOC & HAP emissions estimate for each ESD blowdown event = 13,345 lbs/event

Estimated number of blowdown events/year = 4

Estimated number of ESD blowdown events/year = 4

Therefore:

$[(38 \text{ lbs/event} \times 4 \text{ blowdown events/year}) + (61 \text{ lbs/event} \times 4 \text{ blowdown events/year}) + (122 \text{ lbs/event} \times 4 \text{ blowdown events/year}) + (13,345 \text{ lbs/event} \times 4 \text{ ESD blowdown events/year})] / 2,000 \text{ lbs/ton} = 27.13 \text{ tons/year}$

$(27.13 \text{ tons/year}) / (12 \text{ months/year}) = \mathbf{2.26 \text{ tons per month averaged over a twelve-month, rolling period}}$

g) Miscellaneous Requirements

(1) None.



**5. P801, Equipment Leaks**

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

Equipment leaks from various components, including connectors, flanges, compressors, pump seals, and valves (Chapter 31 Modification to PTIO P0110243, issued effective 09/28/2012).

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive emissions of Volatile Organic Compounds (VOC) shall not exceed 0.74 ton per month averaged over a twelve-month, rolling period.  See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.
c.	40 CFR Part 60, Subparts A, OOOO, and VVa (40 CFR 60.5360-60.5430, 40 CFR 60.482-2a, 60.482-4a-60.482-11a)  [In accordance with 40 CFR 60.5365(f), this emissions unit includes the group of all equipment except compressors, within a process unit at an onshore natural gas processing plant.]	See c)(1), and d)(1) below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS



pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

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

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

c) Operational Restrictions

- (1) The permittee shall comply with the applicable restrictions required under 40 CFR Part 60, Subpart OOOO, including the following sections:

60.5400(a) and 60.482-2a(b)(2)(ii)	Designate visual indication of liquids dripping from a pump seal as a leak, and repair the leak within 15 days of detection by eliminating visual indications of liquids dripping.
60.5400(a), 60.482-2a(c)(1)	Repair detected leaks from pumps in light liquid service not later than 15 calendar days after detection, except as provided in 60.482-9a.
60.5400(a) and 60.482-2a(c)(2)	Attempt first repair of detected leaks from pumps in light liquid service within 5 days after each leak is detected.
60.5400(a) and 60.482-2a(d)	Meet the requirements of 60.482-2a(d) for pumps equipped with a dual mechanical seal system.
60.5400(a), 60.482-2a(e) and 60.486a(e)	Meet the requirements of 60.482-2a(e) for pumps designated for no detectable emissions (less than 500ppm above background) in lieu of 60.482-2a(a), (c) and (d).
60.5400(a), 60.482-2a(g) and 60.486a(f)	Meet the requirements of 60.482-2(g) for pumps designated as unsafe to monitor in lieu of 60.482-2a(a) and (d)(4)-(6).
60.5400(a), 60.482-4a and 60.5401(b)(3)	Repair detected leaks from pressure relief devices in gas/vapor service as soon as practicable, but not later than 15 calendar



	days after detection, except as provided in 60.482-9a, and attempt first repair within 5 days after each leak is detected.*
60.5400(a) and 60.482-4a(d)	Meet the requirements of 60.482-4a(d)(2) for any pressure relief device equipped with a rupture disk upstream of the pressure relief device in lieu of 60.482-4(a) and (b).
60.5400(a), 60.482-5a and 60.5401(c)	Sampling connection systems are exempt from the requirements of 60.482-5a.
60.5400(a) and 60.482-6a(a)(1)	Equip each open-ended valve or line with a cap, blind flange, plug or a second valve, except as provided in 60.482-1a(c), (d) and (e).
60.5400(a), 60.482-6a(a)(2) and (b) through (e)	Operate each open-ended valve or line in compliance with the requirements of 60.482-6a(a)(2) and (b) through (e).
60.5400(a), 60.482-7a(d)(1) and (2)	Repair detected leaks from valves in gas/vapor or light liquid service as soon as practicable, but not later than 15 calendar days after detection, except as provided in 60.482-9a, and attempt first repair within 5 days after each leak is detected.
60.5400(a) and 60.482-7a(e)	Use best practices in the first attempt at repair of leaks from valves in gas/vapor or light liquid service.
60.5400(a) and 60.482-7a(f)	Meet the requirements of 60.482-7a(f) for valves in gas/vapor or light liquid service designated for no detectable emissions (less than 500 ppm above background) in lieu of 60.482-7a(a).
60.5400(a) and 60.482-7a(g)	Meet the requirements of 60.482-7a(g) for valves in gas/vapor or light liquid service designated as unsafe to monitor in lieu of 60.482-7a(a).
60.5400(a) and 60.482-7a(h)	Meet the requirements of 60.482-7a(h) for valves in gas/vapor or light liquid service designated as difficult to monitor in lieu of 60.482-7a(a).
60.5400(a) and 60.482-8a(c)	Repair detected leaks from pumps and valves in heavy liquid service, pressure relief devices



	in light or heavy liquid service, and connectors as soon as practicable, but not later than 15 calendar days after detection, except as provided in 60.482-9a, and attempt first repair within 5 days after each leak is detected.
60.5400(a) and 60.482-8a(d)	Use best practices in the first attempt at repair of leaks from pumps and valves in heavy liquid service, pressure relief devices in light or heavy liquid service, and connectors.
60.5400(a) and 60.482-9a	Comply with the requirements in 60.482-9a for delays and repair.
60.5400(a) and 60.482-11a(d)	Repair detected leaks from connectors in gas/vapor or light liquid service as soon as practicable, but not later than 15 calendar days after detection, except as provided in 60.482-9a, and attempt first repair within 5 days after each leak is detected.
60.5400(a) and 60.482-11a(e)	Meet the requirements of 40 CFR 60.482-11a(e) for connectors that are designated as unsafe to monitor in lieu of 40 CFR part 60.482-11a(a) and (b).
60.5400(a) and 60.482-11a(f)	Meet the requirements of 40 CFR 60.482-11a(f) for connectors that are inaccessible, ceramic, or ceramic-lined in lieu of 40 CFR 60.482-11a(a) and (b).
60.5400(a) and 60.482-11a(g)	Identification requirements for connectors in gas/vapor or light liquid service.

\*The permittee may choose to comply with any alternative standards provided in 40 CFR Part 60, Subparts OOOO and VVa.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 60, Subpart OOOO and VVa, including the following sections:

60.5400(a) and (d), 60.482-2a(a)(1) and 60.485a(b)	Monitor each pump in light liquid service within 30 days after the end of the startup period and monthly thereafter to detect leaks, except as provided in 60.482-1a(f) and 60.482-2a(d), (e) and (f).
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60.5400(a) and 60.482-2a(a)(2)	Visually inspect each pump in light liquid service each week for indications of liquids dripping from the pump seal, except as provided in 60.482-1a(f).
60.5400(a) and (d), 60.482-2a(b)(1) and 60.485a(b)(1)	Detect leaks from pumps in light liquid service at an instrument rating of 5,000 ppm for pumps handling polymerizing monomers or at an instrument rating of 2,000 ppm for all other pumps.
60.5400(a) and 60.482-2a(b)(2)(i)	Monitor each pump in light liquid service in accordance with 60.485a(b) within 5 days of discovery of liquids dripping from the pump seal.*
60.5400(a) and 60.482-2a(h)	Alternate inspection requirements for pumps located at unmanned plant sites.
60.5400(a), 60.482-4a and 60.5401(b)(1)	Monitor each pressure relief device in gas/vapor service quarterly and within 5 days after each pressure release to detect leaks in accordance with 60.485a(b).*
60.5400(a) and (d), 60.5401(b)(2), 60.482-4a and 60.485a(b)	Detect leaks from pressure relief devices in gas/vapor service at an instrument rating of 500 ppm.*
60.5400(a) and 60.482-7a(a)	Monitor each valve in gas/vapor and light liquid service within 30 days after the end of the startup period and monthly thereafter to detect leaks, except as provided in 60.482-1a(c) and (f), 60.483-1a and 60.483-2a and 60.482-7a(f), (g) and (h).*
60.5400(a) and (d), 60.482-7a(b), and 60.485a(b)(1)	Detect leaks from valves in gas/vapor and light liquid service at an instrument rating of 500 ppm.
60.5400(a), 60.482-7a(c)(1)(i)	Monitor each valve in gas/vapor or light liquid service for which a leak is not detected for 2 successive months during the first month of each quarter until a leak is detected.*
60.5400(a), 60.482-7a(c)(1)(ii)	Monitor assigned subgroups of valves in gas/vapor or light liquid service that are inspected during a different month during the quarter, provided each subgroup is monitored ever 3 months.*



60.5400(a), 60.482-7a(c)(2)	Monitor leaking valves in gas/vapor or light liquid service monthly until a leak is not detected for 2 successive months.
60.5400(a) and 60.482-8a(a)(1) or (2)	Monitor pumps and valves in heavy liquid service, pressure relief devices in light or heavy liquid service, and connectors within 5 days and comply with 60.482-8a(b) through (d) if visual, audible, olfactory or other detection methods indicate a potential leak, or eliminate indications of leaks within 5 calendar days of detection.
60.5400(a) and (d), 60.482-8a(b) and 60.485(b)(1)	Detect leaks from pumps and valves in heavy liquid service, pressure relief devices in light or heavy liquid service, and connectors at an instrument rating of 10,000 ppm.
60.5400(a) and 60.482-11a(a) and (b)(3)	Monitor all connectors in gas/vapor and light liquid service for leaks within 12 months of compliance date or initial startup and thereafter in accordance with 60.482-11a(b)(3) to detect leaks, except as provided in 60.482-1a(c) and 60.482-11a(e).
60.5400(a) and (d), 60.482-11a(b)(1)-(2), and 60.485a(b)(1)	Detect leaks from connectors in gas/vapor and light liquid service at an instrument rating of 500 ppm.
60.5400(a), 60.482-11a(b)(3)(iv)	Monitor leaking connectors in gas/vapor or light liquid service within 90 days after repair to confirm that the connector is no longer leaking.
60.5400(a), 60.482-11a(c)	Procedures for calculating the percentage of leaking connectors in gas/vapor or light liquid service.
60.5400(d) and 60.482a(d) through (f)	Comply with procedures and sampling requirements for determining VOC service and light liquid service.*
60.5400(e) and 60.5421(b)	Maintain required information for pressure relief devices.*
60.5400(e), 60.486a(b) and (c)	Maintain required information for detected leaks.
60.5400(e) and 60.486a(e)	Maintain required information pertaining to equipment subject to the requirements of



	60.482-1a(a), (b), and (d), 60.482-2a, and 60.482-4a to 60.482-11a.
60.5400(e) and 60.486a(f)	Maintain required information for valves subject to 60.482-7a(g) and (h), all pumps subject to 60.482-2a(g), and all connectors subject to 60.482-11a(e).
60.5400(e) and 60.486a(h)	Maintain required information on design criteria in 60.482-2a(d)(5).

\*The permittee may choose to comply with any alternative standards provided in 40 CFR Part 60, Subparts OOOO and VVa.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts OOOO and VVa, including the following sections:

60.7(a)	Initial notification of the date construction of the affected facility commenced and the actual date of initial startup of the affected facility.
60.5400(e), and 60.487a(a)	Submit semiannual reports beginning six months after the initial startup date.
60.5400(e), 60.487a(b) and (c), and 60.5422	Initial and subsequent semiannual report requirements.
60.5400(e), 60.5422	Perform reporting with respect to VOC requirements.

- (3) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

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



Fugitive emissions of VOC shall not exceed 0.74 ton per month averaged over a twelve-month, rolling period.

Applicable Compliance Method:

Compliance with the monthly VOC emissions limitation shall be demonstrated by the following calculation based on the emissions factors (lb/hr/component) provided in Table 2-4 of U.S. EPA's Protocol for Equipment Leak Emission Estimates (11/95) for components in gas, light oil, and water/oil service:

$$\begin{aligned} \text{VOC} = & [(\# \text{ of valves in gas service} \times \text{gas service valve EF}) \\ & + (\# \text{ of valves in light oil service} \times \text{light oil service valve EF}) \\ & + (\# \text{ of pumps in gas service} \times \text{gas service pump EF}) \\ & + (\# \text{ of pumps in light oil service} \times \text{light oil service pump EF}) \\ & + (\# \text{ of connectors in gas service} \times \text{gas service connector EF}) \\ & + (\# \text{ of connectors in light oil service} \times \text{light oil service connector EF}) \\ & + (\# \text{ of flanges in gas service} \times \text{gas service flange EF}) \\ & + (\# \text{ of flanges in light oil service} \times \text{light oil service flange EF}) \\ & + (\# \text{ of other points in light oil service} \times \text{light oil service other equipment EF})], \\ & \text{then} \end{aligned}$$

$$\times 0.1558 \text{ VOC wt\%} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ lbs} / (12 \text{ months/year}) = \geq \mathbf{0.74 \text{ ton per month averaged over a twelve-month, rolling period}}$$

Where:

Valve EFs\* = 0.012lb/hr/source for gas service, and 0.0066lb/hr/source for light oil service;

Pump Seal EFs = 0.0064lb/hr/source for gas service, and 0.034lb/hr/source for light oil service;

Connector EFs = 0.0005lb/hr/source for gas service, and 0.0006lb/hr/source for light oil service;

Flange EFs = 0.001 lb/hr/source for gas service, and 0.0003 lb/hr/source for light oil service

Other\*\* EFs = 0.023lb/hr/source for gas service

\*Emissions factors calculated by converting kg/hr/source to lb/hr/source and then including a 20% scalar increase.



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

\*\*\*As an alternative to using the above emissions factors to calculate VOC emissions, the facility may use facility specific VOC information for site specific emissions factors.

g) Miscellaneous Requirements

- (1) None.