



Environmental Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

3/23/2012

Ms. Katarzyna Chruscik  
Tuscarawas Gas Processing Plant  
1001 Louisiana St.  
Houston, TX 77002

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0679035002  
Permit Number: P0109372  
Permit Type: Initial Installation  
County: Tuscarawas

Certified Mail

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

Dear Permit Holder:

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

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  
309 South Fourth Street, Room 222  
Columbus, OH 43215

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. This permit can be accessed electronically on the DAPCWeb page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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  
Tuscarawas Gas Processing Plant**

Facility ID:	0679035002
Permit Number:	P0109372
Permit Type:	Initial Installation
Issued:	3/23/2012
Effective:	3/23/2012
Expiration:	3/23/2022





Division of Air Pollution Control
Permit-to-Install and Operate
for
Tuscarawas Gas Processing Plant

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## Authorization

Facility ID: 0679035002

Application Number(s): A0043510

Permit Number: P0109372

Permit Description: Construction of a greenfield natural gas processing plant in Uhrichsville, Ohio (Tuscarawas Gas Processing Plant) to process field gas collected from the Utica and Marcellus shales at off-site production operations. The Uhrichsville plant will process up to approximately 300 million standard cubic feet per day (mmscfd) of field gas to produce pipeline-grade natural gas, ethane, propane, butane, and natural gasoline.

Permit Type: Initial Installation

Permit Fee: \$3,450.00

Issue Date: 3/23/2012

Effective Date: 3/23/2012

Expiration Date: 3/23/2022

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Tuscarawas Gas Processing Plant  
9097 Blizzard Ridge Road SE  
Uhrichsville, OH 44683

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

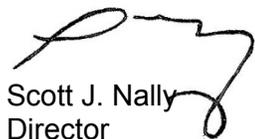
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0109372

Permit Description: Construction of a greenfield natural gas processing plant in Uhrichsville, Ohio (Tuscarawas Gas Processing Plant) to process field gas collected from the Utica and Marcellus shales at off-site production operations. The Uhrichsville plant will process up to approximately 300 million standard cubic feet per day (mmscfd) of field gas to produce pipeline-grade natural gas, ethane, propane, butane, and natural gasoline.

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

- Emissions Unit ID: B003**  
Company Equipment ID: B003  
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: P002**  
Company Equipment ID: P002  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P003**  
Company Equipment ID: P003  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P004**  
Company Equipment ID: P004  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P801**  
Company Equipment ID: P801  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable

**Group Name: Hot Oil Heaters**

<b>Emissions Unit ID:</b>	<b>B001</b>
Company Equipment ID:	B001
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B002</b>
Company Equipment ID:	B002
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

## **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. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. 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 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 Ohio EPA DAPC, Southeast District Office 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<sup>1</sup> 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 emissions 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.

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<sup>1</sup> Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

**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.

## **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.3.
  - 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. Emissions units B001, B002 and B003 contained in this permit are subject to 40 CFR Part 60, Subpart Dc. Emissions units P003 and P801 contained in this permit are subject to 40 CFR Part 60, Subparts KKK and VV. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulation (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office or local air agency. The permittee shall comply with all applicable requirements of 40 CFR Part 60 Subpart OOOO once it becomes rule.
3. Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F)(4)(b) was not necessary for this project, even though the maximum annual emission rate for hexane, an air toxic air contaminant as defined in OAC rule 3745-114-01, will be greater than 1.0 TPY (2.08 TPY). The majority of the hexane (1.43 TPY) is emitted from the three natural gas fired heaters, and those emissions do not need to be considered pursuant to DAPC's Engineering Guide 70, Question 11; the remaining hexane emissions are less than 1.0 TPY. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install and operate 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 material, 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 permit to install and operate.
4. If applicable, the permittee shall 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") no later than the date on which a regulated substance is first present above a threshold quantity in a process.

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

**1. B003, Molecular Sieve Regeneration Heater**

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

16.6 million BTU/hr input capacity natural gas-fired molecular sieve regeneration heater

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.098 lb/million BTU and 7.30 tons per year.  Carbon monoxide (CO) emissions shall not exceed 0.0824 lb/million BTU and 6.14 tons per year.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.014 lb/million BTU and 1.04 tons per year.  Particulate emissions (PE) shall not exceed 0.14 ton per year.  Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/million BTU and 0.40 ton per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule include compliance with OAC rules 3745-17-07(A) and 3745-17-10(B)(1).  See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/million BTU.
e.	40 CFR Part 60, Subpart Dc (40 CFR 60.40c – 60.84c)  [In accordance with 40 CFR 60.40c(a), this emissions unit is a steam generating unit for which construction, modification, or reconstruction commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).]	See b)(2)c. and d)(2) below.
f.	40 CFR 60.1-19	See e)(4) below.

(2) Additional Terms and Conditions

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, CO, SO<sub>2</sub>, 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 is less than 10 tons/yr.

- c. The only fuel combusted in this emissions unit is natural gas. Thus, this emissions unit is not subject to the SO<sub>2</sub> and particulate matter (PM) emissions limitations in 40 CFR 60.42c and 60.43c or the emissions monitoring requirements in 40 CFR 60.46c and 60.47c.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in 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 comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 60, Subpart Dc, including the following sections:

60.48c(g)(2)	Maintain records of the amount of each fuel combusted during each calendar month; only natural gas fuel combusted
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e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

- (4) The permittee shall submit notifications and reports to the appropriate Ohio EPA District office as required pursuant to 40 CFR Part 60, Subpart Dc, per the following section:

60.48c(a) and 60.7	Initial notifications
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f) Testing Requirements

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

a. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 0.098 lb/million BTU and 7.30 tons per year.

Applicable Compliance Method:

Compliance shall be based upon an emission factor of 0.098 lb/million BTU calculated by dividing the emission factor of 100 lbs/million cubic feet specified in AP-42 Table 1.4-1 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

$$\begin{aligned}
 \text{NO}_x \text{ (tons/yr)} &= \text{NO}_x \text{ emission factor (lb/million BTU)} \times \text{the maximum heat} \\
 &\quad \text{input rating of the combustion unit} \times 8,760 \text{ hours of} \\
 &\quad \text{operation per year} \times 1 \text{ ton}/2,000 \text{ lbs} \\
 &= 0.098 \text{ lb/million BTU} \times 16.6 \text{ million BTU/hr} \times 8,760 \text{ hrs/yr} \\
 &\quad \times 1 \text{ ton}/2,000 \text{ lbs} \\
 &= 7.30 \text{ tons per year}
 \end{aligned}$$

b. Emissions Limitations:

CO emissions shall not exceed 0.0824 lb/million BTU and 6.14 tons per year.

Applicable Compliance Method:

Compliance shall be based upon an emission factor of 0.0824 lb/million BTU calculated by dividing the emission factor of 84 lbs/million cubic feet specified in AP-42 Table 1.4-1 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, CO emissions 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.

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

$$\begin{aligned} \text{CO (tons/yr)} &= \text{CO emission factor (lb/million BTU)} \times \text{the maximum heat input rating of the combustion unit} \times 8,760 \text{ hours of operation per year} \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= 0.0824 \text{ lb/million BTU} \times 16.6 \text{ million BTU/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= 6.14 \text{ ton per year} \end{aligned}$$

c. Emissions Limitations:

SO<sub>2</sub> emissions shall not exceed 0.014 lb/million BTU and 1.04 tons per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.014 lb/million BTU calculated by dividing the emission factor of 14.3 lbs/million cubic feet calculated from the sulfur content of the fuel (per the permittee's application) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, SO<sub>2</sub> emissions 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.

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

$$\begin{aligned} \text{SO}_2 \text{ (tons/yr)} &= \text{SO}_2 \text{ emission factor (lb/million BTU)} \times \text{the maximum heat input rating of the combustion unit} \times 8,760 \text{ hours of operation per year} \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= 0.014 \text{ lb/million BTU} \times 16.6 \text{ million BTU/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= 1.04 \text{ tons per year} \end{aligned}$$

d. Emissions Limitations:

PE shall not exceed 0.020 lb/million BTU of actual heat input.

PE shall not exceed 0.14 ton per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.00186 lb/million BTU calculated by dividing the emission factor of 1.9 lbs/million cubic feet specified in AP-42 Table 1.4-2 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, PE 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", and the procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

$$\begin{aligned} \text{PE (ton/yr)} &= \text{PE emission factor (lb/million BTU) X the maximum heat} \\ &\quad \text{input rating of the combustion unit X 8,760 hours of} \\ &\quad \text{operation per year X 1 ton/2,000 lbs} \\ &= 0.00186 \text{ lb/million BTU X 16.6 million BTU/hr X 8,760} \\ &\quad \text{hrs/yr X 1 ton/2,000 lbs} \\ &= 0.14 \text{ ton per year} \end{aligned}$$

- e. Emissions Limitations:  
VOC emissions shall not exceed 0.0054 lb/million BTU and 0.40 tons per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.0054 lb/million BTU calculated by dividing the emission factor of 5.50 lbs/million cubic feet specified in AP-42 Table 1.4-2 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

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

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

$$\begin{aligned} \text{VOC (ton/yr)} &= \text{VOC emission factor (lb/million BTU) X the maximum heat} \\ &\quad \text{input rating of the combustion unit X 8,760 hours of} \\ &\quad \text{operation per year X 1 ton/2,000 lbs} \\ &= 0.0054 \text{ lb/million BTU X 16.6 million BTU/hr X 8,760 hrs/yr} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.40 \text{ ton per year} \end{aligned}$$

- f. Emissions Limitation:  
Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

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

g) Miscellaneous Requirements

- (1) None.

**2. J001, Natural Gas Liquids Loading Rack**

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

Loading of natural gas liquids (propane, butane, natural gasoline) from pressurized storage tanks into trucks and railcars with displaced VOC emissions captured by the vapor recovery system vented back to the pressurized storage tanks (99% capture efficiency) and fugitive VOC emissions from disconnection of loading hoses; maximum hourly throughput of 54,000 gallons (based on 6 trucks per hour at 9,000 gallons each) and maximum annual throughput of 4,599,000 bbl/yr of propane, 2,555,000 bbl/yr of butane and 1,533,000 bbl/yr of natural gasoline (total of 364,854,000 gallons/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.	ORC 3704.03(T)	Fugitive volatile organic compound (VOC) emissions shall not exceed 12.71 tons per rolling, 12-month period.  See b)(2)a.-f. below.

(2) Additional Terms and Conditions

a. For any transfer of natural gas liquids from a pressurized storage tank to a truck or railcar, the displaced vapors shall be collected by a vapor recovery system. The vapor recovery system shall be equipped with a vapor tight vapor line from the pressurized storage tanks to the truck or rail vessels and a means to ensure that the vapor line is connected before natural gas liquids are transferred. The

vapor recovery system shall be designed and operated to route at least 99 percent of displaced vapors from the loading process back to the pressurized storage tanks.

- b. All natural gas liquids loading lines, unloading lines and vapor lines shall be equipped with fittings which are vapor tight.
- c. All leaks in liquid lines and vapor lines shall be repaired within fifteen days after identification.
- d. The delivery vessel hatches shall be closed at all times during the loading of the delivery vessel.
- e. There shall be no leaks in the delivery vessel pressure/vacuum relief valves and hatch covers.
- f. The permittee shall not permit natural gas liquids to be spilled, discarded in sewers, stored in open containers or handled in any other manner that would result in evaporation.

c) Operational Restrictions

- (1) The vapor recovery system shall be kept in good working order and shall be used at all times during the loading of natural gas liquids into trucks and railcars.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain a log of the downtime for the vapor recovery system when this emissions unit is in operation.
- (2) While natural gas liquids are being loaded, the permittee shall monitor the vapor recovery system for leaks. If vapor leaks are detected, the permittee shall maintain a record of the following information:
  - a. the date the leak was detected;
  - b. the findings of the inspection for the leak, which shall indicate the location, nature, and severity of the leak;
  - c. the leak detection method;
  - d. the corrective action(s) taken to repair each leak and the date of final repair;
  - e. the reasons for any repair interval exceeding 15 calendar days (from the time of detection to the date of final repair) for each leak equal to or greater than one hundred per cent of the lower explosive limit as propane, as determined under paragraph (K) of OAC rule 3745-21-10; and
  - f. the inspector's name and signature.

These records shall be retained and accessible for a period of 5 years.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit deviation (excursion) reports that identify each day that natural gas liquid is transferred via the loading rack and the vapor recovery system was not in operation. Each report shall be submitted within 30 days after the deviation occurs.
- (4) The permittee shall submit deviation (excursion) reports that identify each day when a leak is detected in the vapor recovery system or natural gas liquid transfer hoses other than from disconnection. Each report shall be submitted within 30 days after the deviation occurs.
- (5) Any leaks in vapor or liquid lines that are not repaired within 15 days after identification (in accordance with d)(2)) shall be reported to the Ohio EPA Southeast District office within 30 days after the repair is completed.

f) Testing Requirements

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

a. Emissions Limitation:

Fugitive VOC emissions shall not exceed 12.71 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation shall be demonstrated by the following calculation based on the emissions factors and throughputs in the permittee's application and the monitoring and recordkeeping requirements of d)(1) and d)(2):

$$\begin{aligned} \text{Fugitive VOC} &= [(\text{VOC EF for propane (lb/truck)} \times \text{maximum annual loading throughput of propane (bbl/yr)} \times \text{capacity of each truck (bbl)}) + (\text{VOC EF for isobutane (lb/truck)} \times \text{maximum annual loading throughput of isobutene (bbl/yr)} \times \text{capacity of each truck (bbl)}) + (\text{VOC EF for natural gasoline (lb/truck)} \times \text{maximum annual loading throughput of natural gasoline (bbl/yr)} \times \text{capacity of each truck (bbl)})] \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= [(0.91 \text{ lb/truck} \times 4,599,000 \text{ bbl/yr propane} \times 1 \text{ truck}/214 \text{ bbl}) + (0.46 \text{ lbs/truck} \times 2,555,000 \text{ bbl/yr isobutene} \times 1 \end{aligned}$$

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

Tuscarawas Gas Processing Plant

**Permit Number:** P0109372

**Facility ID:** 0679035002

**Effective Date:** 3/23/2012

$$\begin{aligned} & \text{truck/214 bbl)} + (0.05 \text{ lb/truck} \times 1,533,000 \text{ bbl/yr} \times \\ & \text{1truck/214 bbl)]} \times 1 \text{ ton/2,000 lbs} \\ = & 12.71 \text{ tons per rolling, 12-month period} \end{aligned}$$

Where:

VOC EF for propane = 0.91 lb/truck

VOC EF for isobutane = 0.46 lb/truck

VOC EF for natural gasoline = 0.05 lb/truck

Maximum annual throughput of propane = 4,599,000 bbl/yr;

Maximum annual throughput of isobutane = 2,555,000 bbl/yr; and

Maximum annual throughput of natural gasoline = 1,533,000 bbl/yr.

If required, the permittee shall perform test(s) to demonstrate the reduction efficiency of a vapor control system. These tests may include methods described in 40 CFR (Code of Federal Regulations) 63.11120 or another method approved by Ohio EPA, Southeast District Office.

g) Miscellaneous Requirements

(1) None.

**3. P002, Controlled Maintenance Blowdown Activities**

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

Periodic maintenance blowdown activities controlled with an air-assisted primary flare with a maximum heat input capacity of 29.32 million BTU per hour for the destruction of hydrocarbons; a maximum of 12,000 standard cubic feet per hour and 2,751,000 standard cubic feet per year of natural gas and process releases combusted in the primary flare with 98% destruction efficiency for VOC.

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. None.
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. None.
- b) **Applicable Emissions Limitations and/or Control Requirements**
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Volatile organic compound (VOC) emissions shall not exceed 26.79 pounds per hour and 0.15 ton per year.  Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 4.05 pounds per hour and 0.21 ton per year.  Carbon monoxide (CO) emissions shall not exceed 8.09 pounds per hour and 0.41 ton per year.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.0043 pound per hour and 0.02 ton per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 (Voluntary restriction to avoid BAT)	See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c. below.

(2) Additional Terms and Conditions

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

Permit to Install and Operate P0109372 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. Combustion of a maximum of 2,751,000 standard cubic feet per year of natural gas and process releases in the air-assisted primary flare; and
- ii. VOC emissions shall not exceed 0.15 ton per year.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

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

c) Operational Restrictions

- (1) The flare shall be operated with a flame present at all times when gases are vented to it.

- (2) The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design and the requirements contained in this permit.
- (2) The permittee shall record the following information each day for the flare and process operations:
  - a. all periods during which there was no pilot flame while emissions were routed to the flare;
  - b. the operating times for the flare (pilot only);
  - c. all periods during which the associated monitoring equipment was not in service; and
  - d. the blowdown volumes routed to the flare.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) As part of the annual Permit Evaluation Report (PER), this facility shall identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitations:  
VOC emissions shall not exceed 26.79 pounds per hour and 0.15 ton per year.

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:

$$\begin{aligned}
 \text{VOC (lbs/hr)} &= [(\text{pilot light/purge gas heat input (million BTU/hr)} \times \text{VOC emissions factor (lb/million BTU)}) + (\text{mass flaring rate for VOC (lb/hr)} \times \text{flare control efficiency})] \\
 &= [(0.31 \text{ million BTU/hr} \times 0.0054 \text{ lb/million BTU}) + (1,339.42 \times (1-0.98))] \\
 &= 26.79 \text{ lbs/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.31 million BTU/hr  
 Maximum hourly blowdown VOC mass flaring rate = 1,339.42 lbs/hr  
 Flare control efficiency for VOC = 98%  
 VOC EF (pilot light/purge gas) = 0.0054 lb/million BTU (AP-42 Table 1.4-2, 7/98)

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

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

$$\begin{aligned}
 \text{VOC (ton/yr)} &= [(\text{maximum annual pilot light/purge gas heat input rate (million BTU/yr)} \times \text{VOC emission factor (lb/million BTU)}) + (\text{maximum blowdown VOC mass firing rate (lbs/yr)} \times \text{flare control efficiency})] \times 1 \text{ ton}/2,000 \text{ lbs} \\
 &= [(2,680.56 \text{ million BTU/yr} \times 0.0054 \text{ lb/million BTU}) + (13,236 \text{ lbs/yr} \times (1-0.98))] \times 1 \text{ ton}/2,000 \text{ lbs} \\
 &= 0.15 \text{ ton per year.}
 \end{aligned}$$

Where:

Maximum annual pilot light/purge gas heat input rate = 2,680.56 million BTU/yr  
 Maximum annual blowdown mass flaring rate = 13,236 lbs/yr based on an estimate of the maximum number of blowdowns per year for each piece of equipment multiplied by the total VOC blowdown volume of each piece of equipment for each VOC compound vented to the flare

- b. Emissions Limitations:  
 NO<sub>x</sub> emissions shall not exceed 4.05 pounds per hour and 0.21 ton per year.

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:

$$\begin{aligned}
 \text{NO}_x \text{ (lbs/hr)} &= [(\text{pilot light/purge gas heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)})] \times \text{NO}_x \text{ emissions factor (lb/million BTU)} \\
 &= [(0.31 \text{ million BTU/hr} + 29.02 \text{ million BTU/hr}) \times 0.138 \text{ lb/million BTU}] \\
 &= 4.05 \text{ lbs/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.31 million BTU/hr  
 Maximum hourly flared material heat input = 29.02 million BTU/hr  
 NO<sub>x</sub> EF (pilot light/purge gas and flared material) = 0.138 lb/million BTU (TNRCC RG-109 "Air Permits Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers," Table 4).

If required, NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

$$\begin{aligned}
 \text{NO}_x \text{ (ton/yr)} &= [(\text{maximum annual pilot light/purge gas heat input rate (million BTU/yr)} + (\text{maximum flared gas heat input rate (million BTU/yr)})] \times \text{NO}_x \text{ emission factor (lb/million BTU)} \times 1 \text{ ton/2,000 lbs} \\
 &= [(2,680.56 \text{ million BTU/yr} + 310 \text{ million BTU/yr}) \times 0.138 \text{ lb/million BTU}] \times 1 \text{ ton/2,000 lbs} \\
 &= 0.21 \text{ ton per year.}
 \end{aligned}$$

Where:

Maximum annual pilot light/purge gas heat input rate = 2,680.56 million BTU/yr  
 Maximum annual flared gas heat input rate = 310 million BTU/yr

- c. Emissions Limitations:  
 CO emissions shall not exceed 8.09 pounds per hour and 0.41 ton per year.

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:

$$\begin{aligned}
 \text{CO (lbs/hr)} &= [(\text{pilot light/purge gas heat input (million BTU/hr)} + (\text{flared material heat input (million BTU/hr)})] \times \text{CO emissions factor (lb/million BTU)} \\
 &= [(0.31 \text{ million BTU/hr} + 29.02 \text{ million BTU/hr}) \times 0.276 \text{ lb/million BTU}] \\
 &= 8.09 \text{ lbs/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.31 million BTU/hr  
 Maximum hourly flared material heat input = 29.02 million BTU/hr  
 CO EF (pilot light/purge gas) = 0.276 lb/million BTU (TNRCC RG-109 "Air Permits Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers," Table 4).

If required, CO emissions 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.

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

$$\begin{aligned}
 \text{CO(ton/yr)} &= [(\text{maximum annual pilot light/purge gas heat input rate (million BTU/yr)} + \text{maximum flared gas heat input rate (million BTU/yr)}) \times \text{CO emission factor (lb/million BTU)} \times 1 \text{ ton}/2,000 \text{ lbs} \\
 &= [(2,680.56 \text{ million BTU/yr} + 310 \text{ million BTU/yr}) \times 0.276 \text{ lb/million BTU}] \times 1 \text{ ton}/2,000 \text{ lbs} \\
 &= 0.41 \text{ ton per year.}
 \end{aligned}$$

Where:

Maximum annual pilot light/purge gas heat input rate = 2,680.56 million BTU/yr  
 Maximum annual flared gas heat input rate = 310 million BTU/yr

- d. Emissions Limitations:  
 SO<sub>2</sub> emissions shall not exceed 0.0043 pound per hour and 0.02 ton per year.

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:

$$\begin{aligned}
 \text{SO}_2 \text{ (lb/hr)} &= \text{pilot light/purge gas heat input (million BTU/hr)} \times \text{SO}_2 \text{ emissions factor (lb/million BTU)} \\
 &= 0.31 \text{ million BTU/hr} \times 0.014 \text{ lb/million BTU} \\
 &= 0.0043 \text{ lb/hr}
 \end{aligned}$$

Where:

Maximum hourly pilot light/purge gas heat input = 0.31 million BTU/hr  
 SO<sub>2</sub> EF (pilot light/purge gas) = 0.014 lb/million BTU calculated by dividing the emission factor of 14.3 lbs/million cubic feet calculated from the sulfur content of the fuel (per the permittee's application) by the heating value of natural gas of 1,020 BTU/cubic foot

If required, SO<sub>2</sub> emissions 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.

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

$$\begin{aligned} \text{SO}_2 \text{ (ton/yr)} &= \text{SO}_2 \text{ emission factor (lb/million BTU)} \times \text{pilot/purge gas} \\ &\quad \text{maximum heat input rate (million BTU/hr)} \times 8,760 \text{ hours of} \\ &\quad \text{operation per year} \times 1 \text{ ton/2,000 lbs} \\ &= 0.014 \text{ lb/million BTU} \times 0.31 \text{ million BTU/hr} \times 8,760 \text{ hrs/yr} \times \\ &\quad 1 \text{ ton/2,000 lbs} \\ &= 0.02 \text{ ton per year} \end{aligned}$$

g) Miscellaneous Requirements

- (1) None.

**4. P003, Emergency Pressure Release Control Flare**

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

Non-assisted smokeless flare with a maximum heat input capacity of 0.31 million BTU per hour used to control emergency releases of hydrocarbon emissions from pressure relief devices; operated at a maximum of 300 standard cubic feet per hour to maintain pilot burners and destroy purge gas, except during an emergency

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.138 lb/million BTU and 0.19 ton per year.  Carbon monoxide (CO) emissions shall not exceed 0.276 lb/million BTU and 0.37 ton per year.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.014 lb/million BTU and 0.019 ton per year.  Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/million BTU and 0.0073 ton per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule include compliance with 40 CFR Part 60, Subpart KKK.  See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
c.	40 CFR Part 60, Subparts A, KKK and VV (40 CFR 60.18, 60.630–60.636, 60.482-1(a) and (b), 60.482-4 and 60.482-10)  [In accordance with 40 CFR 60.630(a) and (b), this emissions unit consists of a flare used to control leaks from pressure relief devices in a process unit in an onshore natural gas processing plant constructed after January 20, 1984.]	See b)(2)c.-h. and c)(2) below.

(2) Additional Terms and Conditions

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, CO, SO<sub>2</sub>, 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 is less than 10 tons/yr.

- c. No later than 180 days after initial startup, the permittee shall demonstrate compliance with the applicable requirements of 40 CFR 60. 60.482-1(a) and (b), 60.482-4 and 60.482-10, except as provided in 40 CFR 60.633.
- d. The flare shall be designed and operated with no visible emissions, except for a total of five minutes during any two consecutive hours.
- e. Compliance with 40 CFR 60.482–1 to 60.482–10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485.
- f. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482–10 is exempted from the requirements of paragraphs (a) and (b) of 40 CFR 60.482-4.
- g. Pursuant to 40 CFR 60.633(g) and 60.482-10(d), flares used to comply with 40 CFR 60.482 shall comply with the requirements of 40 CFR 60.18.
- h. On August 23, 2011, U.S. EPA issued proposed Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution (NSPS Subpart OOOO). The permittee shall comply with all applicable standards in the final version of NSPS Subpart OOOO in lieu of NSPS Subpart KKK upon promulgation.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit, except during an emergency.
- (2) The permittee shall comply with the applicable restrictions required under 40 CFR Part 60, Subparts A, KKK and VV, including the following sections:

60.632(a), 60.633(g) and 60.18(c)(2)	Operate flare with a flame present at all times.
60.632(a), 60.633(g), 60.18(c)(3)(ii) and 60.18(c)(4)	Adhere to the minimum net heating value of gas specified in 60.18(c)(3)(ii) and maximum tip velocity specifications in 60.18(c)(4).
60.632(a) and 60.482-10(g)	Repair detected leaks in vapor collection system or closed vent system.
60.632(a) and 60.482-10(h)	Allowances for delay of repair of leaks in vapor collection system or closed vent system.

60.632(a), 60.633(g), 60.482-10(m) and 60.18(e)	Operate closed vent systems and control devices used to comply with provisions of 40 CFR 60.482 at all times when emissions may be vented to them.
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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, except during an emergency.
- (2) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 60, Subparts A, KKK and VV, including the following sections:

60.632(a), 60.633(g), 60.482-10(e) and 60.18(d)	Monitor control device to ensure it is operated and maintained in conformance with its design.
60.632(d), 60.633(g), 60.482-10(f) and 60.485(b)	Inspect each closed vent system, except as provided in 60.482-10(i)-(k).
60.632(a), 60.633(g) and 60.482-10(l)	Record inspection information.
60.632(a), 60.633(g) and 60.18(f)(2)	Monitor presence of flare pilot flame using a thermocouple or equivalent device.
60.632(a), 60.633(g) and 60.18(f)(3)	Calculate the net heating value of the gas being combusted in the flare.
60.632(a), 60.633(g) and 60.18(f)(4) and (5)	Calculate the maximum exit velocity of the flare.
60.632(e) and 60.486(d)	Maintain records of design requirements for closed vent systems and control devices.
60.632(e) and 60.486(e)	Record information pertaining to equipment subject to the requirements of 60.482-1 to 60.482-10 in a log.

e) Reporting Requirements

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

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit, except during an emergency. Each report shall be submitted within 30 days after the deviation occurs.
- (4) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts KKK and VV, 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.
60.632(e), 60.636 and 60.487(a)	Submit semiannual reports beginning six months after the initial startup date.
60.632(e), 60.636 and 60.487(b) and (c)	Initial and subsequent semiannual report requirements.

f) Testing Requirements

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

a. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 0.138 lb/million BTU and 0.19 ton per year.

Applicable Compliance Method:

Compliance shall be based upon an emission factor of 0.138 lb/million BTU specified in TNRCC RG-109 "Air Permits Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers," Table 4.

If required, NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

$$\begin{aligned} \text{NO}_x \text{ (ton/yr)} &= \text{NO}_x \text{ emission factor (lb/million BTU) X pilot/purge gas} \\ &\quad \text{maximum heat input rate for flare (from} \\ &\quad \text{permittee's application) X 8,760 hours of operation per year} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.138 \text{ lb/million BTU X 0.31 million BTU/hr X 8,760 hrs/yr X} \\ &\quad \text{1 ton/2,000 lbs} \\ &= 0.19 \text{ ton per year} \end{aligned}$$

b. Emissions Limitations:

CO emissions shall not exceed 0.276 lb/million BTU and 0.37 ton per year.

Applicable Compliance Method:

Compliance shall be based upon an emission factor of 0.276 lb/million BTU specified in TNRCC RG-109 "Air Permits Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers," Table 4.

If required, CO emissions 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.

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

$$\begin{aligned} \text{CO (ton/yr)} &= \text{CO emission factor (lb/million BTU) X pilot/purge gas} \\ &\quad \text{maximum heat input rate for flare (from} \\ &\quad \text{permittee's application) X 8,760 hours of operation per year} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.276 \text{ lb/million BTU X 0.31 million BTU/hr X 8,760 hrs/yr} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.37 \text{ ton per year} \end{aligned}$$

c. Emissions Limitations:

SO<sub>2</sub> emissions shall not exceed 0.014 lb/million BTU and 0.019 ton per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.014 lb/million BTU calculated by dividing the emission factor of 14.3 lbs/million cubic feet calculated from the sulfur content of the fuel (per the permittee's application) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, SO<sub>2</sub> emissions 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.

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

$$\begin{aligned} \text{SO}_2 \text{ (ton/yr)} &= \text{SO}_2 \text{ emission factor (lb/million BTU) X pilot/purge gas} \\ &\quad \text{maximum heat input rate for flare (from} \\ &\quad \text{permittee's application) X 8,760 hours of operation per year} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.014 \text{ lb/million BTU X 0.31 million BTU/hr X 8,760 hrs/yr} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.019 \text{ ton per year} \end{aligned}$$

- d. Emissions Limitations:  
VOC emissions shall not exceed 0.0054 lb/million BTU and 0.0073 ton per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.0054 lb/million BTU calculated by dividing the emission factor of 5.50 lbs/million cubic feet specified in AP-42 Table 1.4-2 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

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

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

$$\begin{aligned} \text{VOC (ton/yr)} &= \text{VOC emission factor (lb/million BTU) X pilot/purge gas} \\ &\quad \text{maximum heat input rate for flare (from} \\ &\quad \text{permittee's application) X 8,760 hours of operation per year} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.0054 \text{ lb/million BTU X 0.31 million BTU/hr X 8,760 hrs/yr} \\ &\quad \text{X 1 ton/2,000 lbs} \\ &= 0.0073 \text{ ton per year} \end{aligned}$$

- e. Emissions Limitation:  
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, KKK and VV pursuant to 40 CFR 60.18(f)(1), 60.632(d) and 60.485. 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 60.485(g)(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 while the emissions unit is operating at or near its maximum capacity under normal operating conditions (burning of pilot fuel and purge gas only), unless otherwise specified or approved by the Ohio EPA, Southeast District Office.
  - 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.

**5. P004, Uncontrolled Maintenance Blowdown Activities**

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

Releases from periodic maintenance blowdown activities from equipment in natural gas service; a maximum of 117,600 standard cubic feet per hour and 1.35 million cubic feet per year of uncontrolled releases

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive volatile organic compound (VOC) emissions shall not exceed 7.41 tons per year.  See b)(2)a. and c)(1) below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06 (Voluntary restriction to avoid BAT)	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 measures no longer apply.

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

Permit to Install and Operate P0109372 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. A maximum of 1.35 million cubic feet per year of uncontrolled process releases; and
- ii. Fugitive VOC emissions shall not exceed 7.41 tons per 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. Number of each type of maintenance blowdown event;
  - b. Total volume of gas emitted from each type of maintenance blowdown event; and
  - c. Total volume of gas emitted from all maintenance blowdown events.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

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

a. Emissions Limitation:  
Fugitive VOC emissions shall not exceed 7.41 tons per year.

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 and the recordkeeping requirements in d)(1):

$$\text{VOC (tons/yr)} = \frac{[(\text{VOC estimate for inlet equipment blowdowns} \times \# \text{ of inlet equipment blowdown events per year}) + (\text{VOC estimate for residue equipment blowdowns} \times \# \text{ of residue equipment blowdown events per year}) + (\text{VOC estimate for product loading equipment blowdowns} \times \# \text{ of product loading equipment blowdown events per year}) + (\text{VOC estimate for acid gas compressor equipment blowdowns} \times \# \text{ of acid gas compressor equipment blowdown events per year})] \times 1 \text{ ton}/2,000 \text{ pounds}}{1}$$

Where:

VOC estimate for each inlet equipment blowdown event = 796.52 lbs/event  
VOC estimate for each residue equipment blowdown event = 0 lb/event  
VOC estimate for each product loading equipment blowdown event = 477.63 lbs/event  
VOC estimate for each acid gas compressor equipment blowdown event = 0.25 lb/event

g) Miscellaneous Requirements

(1) None.

**6. P801, Fugitive Equipment Leaks**

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

Fugitive VOC emissions from various equipment components, including valves, pumps, flanges, connectors, open-ended lines, compressors, drains/vents, pressure safety valves and sample points

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Volatile organic compound (VOC) emissions shall not exceed 29.72 tons per rolling, 12-month period.
b.	40 CFR Part 60, Subparts A, KKK and VV (40 CFR 60.630–60.636, 60.482-1(a), (b) and (d) and 60.482-2 through 10)  [In accordance with 40 CFR 60.630(a) and (b), this emissions unit includes fugitive leaks from equipment in a process unit in an onshore natural gas processing plant constructed after January 20, 1984.]	See b)(2)a.-e. and c)(1) below.

(2) Additional Terms and Conditions

- a. In accordance with 40 CFR Part 60 Subparts KKK and VV, the following pieces of equipment are affected facilities in a process unit in an onshore natural gas processing plant constructed after January 20, 1984. Fugitive leaks from the following equipment are covered by this permit and subject to the NSPS requirements: valves, pump seals, connectors, flanges, open-ended lines, compressors and pressure relief devices.
- b. No later than 180 days after initial startup, the permittee shall demonstrate compliance with the applicable requirements of 40 CFR 60.482-1(a), (b) and (d) and 60.482-2 through 60.482-10, except as provided in 40 CFR 60.633.
- c. Compliance with 40 CFR 60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485.
- d. Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5).
- e. On August 23, 2011, U.S. EPA issued proposed Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution (NSPS Subpart OOOO). The permittee shall comply with all applicable standards in the final version of NSPS Subpart OOOO in lieu of NSPS Subpart KKK upon promulgation.

c) Operational Restrictions

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

60.632(a) and 60.482-2(b)(2)(ii)	Designate visual indications 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.
60.632(a) and 60.482-2(c)(1)	Repair detected leaks from pumps in light liquid service not later than 15 calendar days after detection, except as provided in 60.482-9.
60.632(a) and 60.482-2(c)(2)	Attempt first repair of detected leaks from pumps in light liquid service within 5 days after each leak is detected.
60.632(a) and 60.482-2(d)	Meet the requirements of 60.482-2(d) for pumps equipped with a dual mechanical seal system in lieu of 60.482-2(a).

60.632(a), 60.482-2(e) and 60.486(e)	Meet the requirements of 60.482-2(e) for pumps designated for no detectable emissions (less than 500 ppm above background) in lieu of 60.482-2(a), (c) and (d).
60.632(a), 60.482-2(g) and 60.486(f)(1)	Meet the requirements of 60.482-2(g) for pumps designated as unsafe to monitor in lieu of 60.482-2(a) and (d)(4) – (6).
60.632(a) and 60.482-3(a)	Equip each compressor with a seal system that includes a barrier fluid system that prevents leakage of VOC to the atmosphere, except as provided in 60.482-1(c) and 60.482-3(h), (i), and (j).
60.632(a) and 60.482-3(b) through (g)	Operate each compressor seal system and barrier fluid system in accordance with 40.482-3(b) through (g).
60.632(a) and 60.482-3 and 60.633(f)	Reciprocating compressors in wet gas service are exempt from the compressor control requirements in 60.482-3.
60.632(a), 60.482-3(i) and 60.486(e)	Meet the requirements of 60.482-3(i) for compressors designated for no detectable emissions (less than 500 ppm above background) in lieu of 60.482-3(a) through (h).
60.632(a), 60.482-4 and 60.633(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 60.482-9, and attempt first repair within 5 days after each leak is detected.*
60.632(a) and 60.482-4(d)	Meet the requirements of 60.482-4(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).
60.632(a), 60.482-5 and 60.633(c)	Sampling connection systems are exempt from the requirements of 60.482-5.
60.632(a) and 60.482-6(a)(1)	Equip each open-ended valve or line with a cap, blind flange, plug or a second valve, except as provided in 482-6(d) and (e).

60.632(a), 60.482-6(a)(2) and (b) through (e)	Operate each open-ended valve or line in compliance with the requirements of 60.482-5(a)(2) and (b) through (e).
60.632(a), 60.482-7(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 60.482-9, and attempt first repair within 5 days after each leak is detected.
60.632(a) and 60.482-7(e)	Use best practices in the first attempt at repair of leaks from valves in gas/vapor or light liquid service.
60.632(a) and 60.482-7(f)	Meet the requirements of 60.482-7(f) for valves in gas/vapor or light liquid service designated for no detectable emissions (less than 500 ppm above background) in lieu of 60.482-7(a).
60.632(a) and 60.482-7(g)	Meet the requirements of 60.482-7(g) for valves in gas/vapor or light liquid service designated as unsafe to monitor in lieu of 60.482-7(a).
60.632(a) and 60.482-7(h)	Meet the requirements of 60.482-7(h) for valves in gas/vapor or light liquid service designated as difficult to monitor in lieu of 60.482-7(a).
60.632(a) and 60.482-8(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 60.482-9, and attempt first repair within 5 days after each leak is detected.
60.632(a) and 60.482-8(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.
60.632(a) and 60.482-9	Comply with the requirements in 60.482-9 for delays of repair.

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

d) Monitoring and/or Recordkeeping Requirements

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

60.632(a), 60.482-2(a)(1) and 60.485(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 60.482-1(f) and 60.482-2(d), (e) and (f).
60.632(a) and 60.482-2(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 60.482-1(f).
60.632(a) and (d), 60.482-2(b)(1) and 60.485(b)(1)	Detect leaks from pumps in light liquid service at an instrument rating of 10,000 ppm.
60.632(a) and 60.482-2(b)(2)(i)	Monitor each pump in light liquid service in accordance with 60.485(b) within 5 days of discovery of liquids dripping from the pump seal.*
60.632(a) and 60.482-2(h)	Alternate inspection requirements for pumps located at unmanned plant sites.
60.632(a), 60.482-4 and 60.633(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 60.485(b).*
60.632(a) and (d), 60.633(b)(2), 60.482-4 and 60.485(b)(1)	Detect leaks from pressure relief devices in gas/vapor service at an instrument rating of 10,000 ppm.*
60.632(a) and 60.482-7(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 60.482-1(f) and 60.482-7(f), (g) and (h).*
60.632(a) and (d), 60.482-7(b) and 60.485(b)(1)	Detect leaks from valves in gas/vapor and light liquid service at an instrument rating of 10,000 ppm.

60.632(a) and 60.482.7(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.*
60.632(a) and 60.482-7(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 every 3 months.*
60.632(a) and 60.482-7(c)(2)	Monitor leaking valves in gas/vapor or light liquid service monthly until a leak is not detected for 2 successive months.
60.632(a) and 60.482-8(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 60.482-8(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.
60.632(a) and (d), 60.482-8(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.
60.632(d) and 60.485(d) through (f)	Comply with procedures and sampling requirements for determining VOC service and light liquid service.*
60.632(e) and 60.635(b)	Maintain required information for pressure relief devices.*
60.632(e), 60.486(b) and (c)	Maintain required information for detected leaks.
60.632(e) and 60.486(e)	Maintain required information pertaining to equipment subject to the requirements of 60.482-1 to 60.482-10.
60.632(e) and 60.486(f)	Maintain required information for valves subject to 60.482-7(g) and (h) and all pumps subject to 60.482-2(g).
60.632(e) and 60.486(h)	Maintain required information on design criteria in 60.482-2(d)(5).

60.632(e), 60.635(c) and 60.486(j)	Maintain required information for reciprocating compressors in wet gas service used to apply for the exemption in 60.633(f).
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\* The permittee may choose to comply with any alternative standards provided in 40 CFR Part 60, Subparts KKK and VV.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts KKK and VV, 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
60.632(e), 60.636 and 60.487(a)	Submit semiannual reports beginning six months after the initial startup date
60.632(e), 60.636 and 60.487(b) and (c)	Initial and subsequent semiannual report requirements

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitation:  
 VOC emissions shall not exceed 29.72 tons per rolling, 12-month period.  
  
 Applicable Compliance Method:  
 Compliance with the rolling, 12-month VOC emissions limitation shall be demonstrated by the following calculation based on the emissions factors (lb/hr/source) in Table 2-4, the LDAR monitoring control efficiencies in Table 5-2 in U.S. EPA's Protocol for Equipment Leak Emission Estimates (11/95) for

components in gas, heavy oil, light oil and water/oil service and the recordkeeping in d)(1):

$$\begin{aligned}
 \text{VOC} = & [(\# \text{ of valves in gas service} \times \text{gas service valve EF} \times \text{gas service valve} \\
 & \text{control efficiency}) + (\# \text{ of valves in heavy oil service} \times \text{heavy oil service} \\
 & \text{valve EF}) + (\# \text{ of valves in light oil service} \times \text{light oil service valve EF} \times \\
 & \text{light oil service valve control efficiency}) + (\# \text{ of valves in water/oil service} \\
 & \times \text{water/oil service valve EF}) + (\# \text{ of pumps in gas service} \times \text{gas service} \\
 & \text{pump EF}) + (\# \text{ of pumps in light oil service} \times \text{light oil service pump EF} \times \\
 & \text{light oil service pump control efficiency}) + (\# \text{ of pumps in water/oil service} \\
 & \times \text{water/oil service pump EF}) + (\# \text{ of connectors in gas service} \times \text{gas} \\
 & \text{service connector EF}) + (\# \text{ of connectors in heavy oil service} \times \text{heavy oil} \\
 & \text{service connector EF}) + (\# \text{ of connectors in light oil service} \times \text{light oil} \\
 & \text{service connector EF}) + (\# \text{ of connectors in water/oil service} \times \text{water/oil} \\
 & \text{service connector EF}) + (\# \text{ of flanges in gas service} \times \text{gas service flange} \\
 & \text{EF}) + (\# \text{ of flanges in heavy oil service} \times \text{heavy oil service flange EF}) + (\# \\
 & \text{of flanges in light oil service} \times \text{light oil service EF}) + (\# \text{ of flanges in} \\
 & \text{water/oil service} \times \text{water/oil service flange EF}) + (\# \text{ of open-ended lines in} \\
 & \text{gas service} \times \text{gas service open-ended line EF}) + (\# \text{ of open-ended lines} \\
 & \text{in heavy oil service} \times \text{heavy oil service open-ended line EF}) + (\# \text{ of open-} \\
 & \text{ended lines in light oil service} \times \text{light oil service open-ended line EF}) + (\# \\
 & \text{of open-ended lines in water/oil service} \times \text{water/oil service open-ended} \\
 & \text{line EF}) + (\# \text{ of other points in gas service} \times \text{gas service other equipment} \\
 & \text{EF}) + (\# \text{ of other points in heavy oil service} \times \text{heavy oil service other} \\
 & \text{equipment EF}) + (\# \text{ of other points in light oil service} \times \text{light oil service} \\
 & \text{other equipment EF}) + (\# \text{ of other points in water/oil service} \times \text{water/oil} \\
 & \text{service other equipment EF})] \times 8,760 \text{ hours/year} \times 1 \text{ ton}/2,000 \text{ lbs}
 \end{aligned}$$

Where:

Valve EFs = 1.0E-02 lb/hr/source for gas service, 1.8E-05 lb/hr/source for heavy oil service, 5.5E-03 lb/hr/source for light oil service and 2.2E-04 lb/hr/source for water/oil service;

Pump Seal EFs = 5.3E-03 lb/hr/source for gas service, 2.9E-02 lb/hr/source for light oil service and 5.3E-05 lb/hr/source for water/oil service;

Connector EFs = 4.4E-04 lb/hr/source for gas service, 1.7E-05 lb/hr/source for heavy oil service, 4.6E-04 lb/hr/source for light oil service and 2.4E-04 lb/hr/source for water/oil service;

Flange EFs = 8.6E-04 lb/hr/source for gas service, 8.6E-07 lb/hr/source for heavy oil service, 2.4E-04 lb/hr/source for light oil service and 6.4E-06 lb/hr/source for water/oil service;

Open-ended line EFs = 4.4E-03 lb/hr/source for gas service, 3.1E-04 lb/hr/source for heavy oil service, 3.1E-03 lb/hr/source for light oil service and 5.5E-04

lb/hr/source for water/oil service;

Other\* EFs = 1.9E-02 lb/hr/source for gas service, 7.0E-05 lb/hr/source for heavy oil service, 1.7E-02 lb/hr/source for light oil service and 3.1E-02 lb/hr/source for water/oil service; and

LDAR monitoring control efficiencies = 67% for valves in gas service, 61% for valves in light oil service and 45% for pump seals in light oil service.

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

g) Miscellaneous Requirements

(1) None.

**7. Emissions Unit Group - Hot Oil Heaters: B001, B002**

EU ID	Operations, Property and/or Equipment Description
B001	Hot Oil Heater #1
B002	Hot Oil Heater #2

84.7 million BTU/hr input capacity natural gas-fired hot oil process heaters used to maintain temperature of hot oil system used to provide heat to various portions of the plant

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. None.
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.098 lb/million BTU.  Carbon monoxide (CO) emissions shall not exceed 0.0824 lb/million BTU.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.014 lb/million BTU and 5.21 tons per year.  Particulate emissions (PE) shall not exceed 0.69 ton per year.  Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/million BTU and 2.01 tons per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule include compliance with OAC rules 3745-17-07(A) and 3745-17-10(B)(1).  See b)(2)a. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
d.	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/million BTU of actual heat input.
f.	40 CFR Part 60, Subpart Dc (40 CFR 60.40c – 60.84c)  [In accordance with 40 CFR 60.40c(a), this emissions unit is a steam generating unit for which construction, modification, or reconstruction commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).]	See b)(2)c. and d)(2) below.
g.	40 CFR 60.1-19	See e)(4) 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 SO<sub>2</sub>, VOC and particulate emissions from this air contaminant source since the uncontrolled potential to emit for SO<sub>2</sub>, VOC and particulate is less than 10 tons/yr.

- c. The only fuel combusted in this emissions unit is natural gas. Thus, this emissions unit is not subject to the SO<sub>2</sub> and particulate matter (PM) emissions limitations in 40 CFR 60.42c and 60.43c or the emissions monitoring requirements in 40 CFR 60.46c and 60.47c.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in 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 comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 60, Subpart Dc, including the following sections:

60.48c(g)(2)	Maintain records of the amount of each fuel combusted during each calendar month; only natural gas fuel combusted
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e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

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

60.48c(a) and 60.7	Initial notifications
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f) Testing Requirements

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

- a. Emissions Limitation:  
 NO<sub>x</sub> emissions shall not exceed 0.098 lb/million BTU.

Applicable Compliance Method:

Compliance shall be based upon an emission factor of 0.098 lb/million BTU calculated by dividing the emission factor of 100 lbs/million cubic feet specified in AP-42 Table 1.4-1 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

- b. Emissions Limitation:  
 CO emissions shall not exceed 0.0824 lb/million BTU.

Applicable Compliance Method:

Compliance shall be based upon an emission factor of 0.0824 lb/million BTU calculated by dividing the emission factor of 84 lbs/million cubic feet specified in AP-42 Table 1.4-1 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, CO emissions 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 0.014 lb/million BTU and 5.21 tons per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.014 lb/million BTU calculated by dividing the emission factor

of 14.3 lbs/million cubic feet calculated from the sulfur content of the fuel (per the permittee's application) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, SO<sub>2</sub> emissions 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.

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

$$\begin{aligned}
 \text{SO}_2 \text{ (tons/yr)} &= \text{SO}_2 \text{ emission factor (lb/million BTU) X the maximum heat} \\
 &\quad \text{input rating of the combustion unit X 8,760 hours of} \\
 &\quad \text{operation per year X 1 ton/2,000 lbs} \\
 &= 0.014 \text{ lb/million BTU X 84.7 million BTU/hr X 8,760 hrs/yr} \\
 &\quad \text{X 1 ton/2,000 lbs} \\
 &= 5.21 \text{ tons per year}
 \end{aligned}$$

- d. Emissions Limitations:  
 PE shall not exceed 0.020 lb/million BTU of actual heat input.  
 PE shall not exceed 0.69 ton per year.

Applicable Compliance Method:  
 Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.00186 lb/million BTU calculated by dividing the emission factor of 1.9 lbs/million cubic feet specified in AP-42 Table 1.4-2 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

If required, PE 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", and the procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

$$\begin{aligned}
 \text{PE (ton/yr)} &= \text{PE emission factor (lb/million BTU) X the maximum heat} \\
 &\quad \text{input rating of the combustion unit X 8,760 hours of} \\
 &\quad \text{operation per year X 1 ton/2,000 lbs} \\
 &= 0.00186 \text{ lb/million BTU X 84.7 million BTU/hr X 8,760} \\
 &\quad \text{hrs/yr X 1 ton/2,000 lbs} \\
 &= 0.69 \text{ ton per year}
 \end{aligned}$$

- e. Emissions Limitations:  
VOC emissions shall not exceed 0.0054 lb/million BTU and 2.01 tons per year.

Applicable Compliance Method:

Compliance with the lb/million BTU emission limitation shall be based upon an emission factor of 0.0054 lb/million BTU calculated by dividing the emission factor of 5.50 lbs/million cubic feet specified in AP-42 Table 1.4-2 (7/98) by the heating value of natural gas of 1,020 BTU/cubic foot.

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

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

$$\begin{aligned} \text{VOC (tons/yr)} &= \text{VOC emission factor (lb/million BTU)} \times \text{the maximum heat} \\ &\quad \text{input rating of the combustion unit} \times 8,760 \text{ hours of} \\ &\quad \text{operation per year} \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= 0.0054 \text{ lb/million BTU} \times 84.7 \text{ million BTU/hr} \times 8,760 \text{ hrs/yr} \\ &\quad \times 1 \text{ ton}/2,000 \text{ lbs} \\ &= 2.01 \text{ tons per year} \end{aligned}$$

- f. Emissions Limitation:  
Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

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

- g) Miscellaneous Requirements

- (1) None.