



11/13/2014

Certified Mail

Mr. James Roberts  
Harrison Hub Fractionation Plant  
10 East Main Street  
Salineville, OH 43945

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0634005028  
Permit Number: P0117446  
Permit Type: Initial Installation  
County: Harrison

Dear Permit Holder:

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

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

**How to appeal this permit**

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

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

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

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

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

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

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

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

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

Sincerely,



Erica R. Engel-Ishida, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-SEDO



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Harrison Hub Fractionation Plant**

|                |                      |
|----------------|----------------------|
| Facility ID:   | 0634005028           |
| Permit Number: | P0117446             |
| Permit Type:   | Initial Installation |
| Issued:        | 11/13/2014           |
| Effective:     | 11/13/2014           |
| Expiration:    | 1/16/2023            |





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
Harrison Hub Fractionation Plant

**Table of Contents**

|   |    |
|---|----|
| Authorization .....   | 1  |
| A. Standard Terms and Conditions .....  | 3  |
| 1. What does this permit-to-install and operate ("PTIO") allow me to do?.....   | 4  |
| 2. Who is responsible for complying with this permit? .....   | 4  |
| 3. What records must I keep under this permit? .....  | 4  |
| 4. What are my permit fees and when do I pay them?.....   | 4  |
| 5. When does my PTIO expire, and when do I need to submit my renewal application? .....   | 4  |
| 6. What happens to this permit if my project is delayed or I do not install or modify my source? .....  | 5  |
| 7. What reports must I submit under this permit? .....  | 5  |
| 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? ..... | 5  |
| 9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ...   | 5  |
| 10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? .....                                   | 6  |
| 11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? .....   | 6  |
| 12. What happens if one or more emissions units operated under this permit is/are shut down permanently? .....  | 6  |
| 13. Can I transfer this permit to a new owner or operator?.....   | 7  |
| 14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? .....  | 7  |
| 15. What happens if a portion of this permit is determined to be invalid? .....   | 7  |
| B. Facility-Wide Terms and Conditions.....  | 8  |
| C. Emissions Unit Terms and Conditions .....  | 11 |
| 1. J001, Railcar and Truck Loading System.....  | 12 |
| 2. T007, Refrigeration System – Four refrigerated atmospheric tanks controlled by a flare .....   | 19 |





**Final Permit-to-Install and Operate**  
Harrison Hub Fractionation Plant  
**Permit Number:** P0117446  
**Facility ID:** 0634005028  
**Effective Date:** 11/13/2014

## Authorization

Facility ID: 0634005028  
Application Number(s): A0049667  
Permit Number: P0117446  
Permit Description: Initial installation for T007, a refrigerated storage tank vented to the flare and J001, a loading rack that was previous de minimis and therefore not subject to permitting.  
Permit Type: Initial Installation  
Permit Fee: \$300.00  
Issue Date: 11/13/2014  
Effective Date: 11/13/2014  
Expiration Date: 1/16/2023  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Harrison Hub Fractionation Plant  
37905 Crimm Rd.  
Scio, OH 43988

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

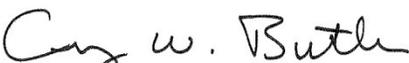
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



**Final Permit-to-Install and Operate**  
Harrison Hub Fractionation Plant  
**Permit Number:** P0117446  
**Facility ID:** 0634005028  
**Effective Date:** 11/13/2014

## Authorization (continued)

Permit Number: P0117446  
Permit Description: Initial installation for T007, a refrigerated storage tank vented to the flare and J001, a loading rack that was previous de minimis and therefore not subject to permitting.

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

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>Emissions Unit ID:</b>         | <b>J001</b>                      |
| Company Equipment ID:             | Railcar and Truck Loading System |
| Superseded Permit Number:         |                                  |
| General Permit Category and Type: | Not Applicable                   |
| <b>Emissions Unit ID:</b>         | <b>T007</b>                      |
| Company Equipment ID:             | Refrigerated Tank Storage Flare  |
| Superseded Permit Number:         |                                  |
| General Permit Category and Type: | Not Applicable                   |



**Final Permit-to-Install and Operate**  
Harrison Hub Fractionation Plant  
**Permit Number:** P0117446  
**Facility ID:** 0634005028  
**Effective Date:** 11/13/2014

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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



**Final Permit-to-Install and Operate**  
Harrison Hub Fractionation Plant  
**Permit Number:** P0117446  
**Facility ID:** 0634005028  
**Effective Date:** 11/13/2014

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



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) B.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 unit T007, contained in this permit, and emissions units P003, located at this facility (as identified in P0117878), are subject to 40 CFR Part 60, Subpart OOOO. Emissions unit P801, located at this facility (as identified in P0117878), is subject to 40 CFR Part 60, Subpart OOOO and portions of 40 CFR Part 60, Subpart VVa. Emissions units T001, T002, T003, T004, T005 and T006, located at this facility (as identified in P0110476), are subject to 40 CFR Part 60, Subpart Kb. Emissions unit B001, located at this facility (as identified in P0110476), is subject to 40 CFR Part 60, Subpart Db. 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.
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 ton per year (3.179 tons per year). The majority of the hexane (1.807 tons per year) is emitted from J001, Natural gas loading rack controlled by a flare, and those emissions do not need to be considered pursuant to DAPC's Engineering Guide 70, Question 11. The remaining hexane emissions from this project are less than 1.0 ton per year. 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.
5. Air contaminant sources that qualify as de minimis under OAC rule 3745-15-05, or are exempt under OAC rule 3745-31-03(A)(1) or (4) are not subject to emission standards established within this permit. Although this permit does not apply to de minimis or exempt sources, emissions from de minimis or exempt sources must be included in the total potential to emit (PTE) calculations for this permit. PTE calculations should include sources such as:
  - a) Controlled Blowdown Emissions/Loading Area (de minimis per OAC rule 3745-15-05);
  - b) Closed and Cold Drain Systems, P002 (de minimis per OAC rule 3745-15-05);



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

Harrison Hub Fractionation Plant

**Permit Number:** P0117446

**Facility ID:** 0634005028

**Effective Date:** 11/13/2014

- c) Emergency Fire Pump Engine, P001 (Permit-by-rule – PBR ID PBR09942);
- d) Process wastewater tanks, (de minimis per OAC rule 3745-15-05); and
- e) Pressurized propane and butane storage tanks (de minimis per OAC rule 3745-15-05 and exempt per OAC rule 3745-31-03(A)(1)(I)).
- f) 150 kW emergency generator for the LPG flare blower (permit exempt per OAC rule 3745-31-03(pp))



**Final Permit-to-Install and Operate**  
Harrison Hub Fractionation Plant  
**Permit Number:** P0117446  
**Facility ID:** 0634005028  
**Effective Date:** 11/13/2014

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



**1. J001, Railcar and Truck Loading System**

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

Natural Gas Liquids Loading Rack: The railcar and truck loading system is a closed loop vapor balance system used to load propane, butane, condensate and natural gasoline product from the on-site storage tanks and production units into railcars and trucks. Loading hose blowdowns associated with propane and mixed butanes emissions and emissions from rail cars containing nitrogen associated with off-site customer unloading are vented to P003 (HP flare). P003 has a manufacturer's guaranteed hydrocarbon destruction and removal efficiency (DRE) of 98%. Potential emissions from rail car loading and truck unloading associated with natural gasoline product and condensate are vapor balanced back to the 750 bbl tanks and then controlled by the storage and loading flare. Potential emissions from rail car loading and truck unloading, associated with natural gasoline product and condensate, are vapor balanced back to the 750 bbl tanks and then controlled by the storage and loading flare.

(Chapter 31 modification to increase maximum annual throughput due to the installation of Train #3 to a previously de minimis unit)

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

|    | Applicable Rules/Requirements                      | Applicable Emissions Limitations/Control Measures  |
|----|--|--|
| a. | OAC rule 3745-31-05(A)(3), as effective 02/20/2013 | <p>Volatile organic compound (VOC) emissions shall not exceed 3.87 tons per month, as a rolling, 12-month average.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not 0.16 ton per month as a rolling, 12-month</p> |



|    | Applicable Rules/Requirements                             | Applicable Emissions Limitations/Control Measures  |
|----|---|--|
|    |   | average.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.87 ton per month as a rolling, 12-month average.<br><br>Particulate emissions (PE) shall not exceed 0.013 ton per month as a rolling, 12-month average.<br><br>See b)(2)a. and b)(2)b. |
| b. | OAC rule 3745-31-05(A)(3)(a)(ii), as effective 02/20/2013 | See b)(2)c.  |

(2) Additional Terms and Conditions

- a. Permit-to-install and operate P0117446 for this emissions unit also takes into account the installation and operation of flare(s) with a design control efficiency of at least 98% for VOC emissions, as proposed by the permittee.
- b. This Best Available Control (BAT) emissions limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These rule paragraphs apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a) (the less than 10 tons per year BAT exemption) into the Ohio SIP.  
  
 The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the NOx, or particulate emissions from this air contaminant source since the potential to emit for NOx, and particulate emissions is less than 10 tons/yr.
- d. Fugitive emissions from this emissions unit are accounted for under emissions unit P801.
- e. The emissions limitations established for this emissions unit do not include emissions that would result from upset/emergency situations. The emissions resulting from upset/emergency conditions would be reported in accordance with OAC rule 3745-15-06.

c) Operational Restrictions

- (1) The permittee shall install and operate a flare for the control of VOC emissions whenever this emissions unit is in operation and shall maintain the flare in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modifications deemed necessary by the permittee.



- (2) In the event the flare is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired or otherwise returned to these documented operating conditions.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain annual records of the throughput of the emissions unit, in gallons.
- (2) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, or operating manuals for the HP flare (P003) and the Storage and Loading flare, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.
- (3) The permittee shall conduct periodic inspections of the HP flare (P003) and the Storage and Loading flare to determine whether they are operating in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the permittee or operator. These inspections shall be performed at a frequency that shall be based upon the recommendation of the manufacturer and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency, and it shall be made available to Ohio EPA upon request.
- (4) In addition to the recommended periodic inspections, not less than once each calendar year, the permittee shall conduct a comprehensive inspection of the HP flare (P003) and the Storage and Loading flare, in accordance with the manufacturer's recommendations and perform any needed maintenance and repair to ensure that it is operated in accordance with the manufacturer's recommendations.
- (5) The permittee shall document each inspection (periodic and annual) of the HP flare (P003) and the Storage and Loading flare and shall maintain the following information:
  - a. The date of the inspection;
  - b. A description of each/any problem identified and the date it was corrected;
  - c. A description of any maintenance and repairs performed; and
  - d. The name of the person who performed the inspection.

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

- (6) The permittee shall maintain records that document any time periods when the HP flare (P003) and the Storage and Loading flare were not in service when the emissions unit(s) was/were in operation, as well as a record of all operations during which the flare was not operated according to the manufacturer's recommendations with any documented



modifications made by the permittee. These records shall be maintained for a period of not less than five years and shall be made available to Ohio EPA upon request.

e) Reporting Requirements

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

f) Testing Requirements

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

a. Emissions Limitation:

VOC emissions shall not exceed 3.87 tons per month, as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation using the loading loss emissions factors calculated in accordance with AP-42 Section 5.2 and the information submitted in A0049667:

$$L_{L \text{ Condensate}} = 8.256 \text{ lb} / 1,000 \text{ gallons}$$

$$L_{L \text{ Gasoline}} = 5.787 \text{ lb} / 1,000 \text{ gallons}$$

Therefore,

$$\begin{aligned} & \left[ \left[ (8.256 \text{ lb}/1,000 \text{ gallons of condensate}) * \text{Maximum annual throughput of} \right. \right. \\ & \left. \left. \text{condensate/year (153,300,000 gallons)} * (1-\text{control efficiency of flare (1-98\%)} / \right. \right. \\ & \left. \left. 2,000 \text{ lbs/ton} \right] \right. \end{aligned}$$

$$\begin{aligned} & \left. + \left[ (5.787 \text{ lb}/1,000 \text{ gallons}) * \text{Maximum annual throughput of gasoline/year} \right. \right. \\ & \left. \left. (112,723,368 \text{ gallons}) * (1-\text{control efficiency of the flare (1-98\%)} / 2,000 \text{ lbs/ton}) \right] \right] \end{aligned}$$

$$\begin{aligned} & \left. + \left[ (\text{VOC emission factor for propane from unloading of nitrogen from rail cars} \right. \right. \\ & \left. \left. (13.6 \text{ lb/MMscf} - \text{From AP-42 Table 1.4-2 and 1.4-3 (7/98) adjusted for heating} \right. \right. \\ & \left. \left. \text{value of fuel}) * \text{Combustion Percentage (98\% - from permittee's application)} * \right. \right. \\ & \left. \left. \text{Maximum propane inert blowdown (0.000095 MMscf/hr)} * (8,760 \text{ hrs/yr}) / (2,000} \right. \right. \\ & \left. \left. \text{lbs/ton}) \right] \right] \end{aligned}$$



+ (VOC emission factor for butane from unloading of nitrogen from rail cars (17.9 lb/MMscf - From AP-42 Table 1.4-2 and 1.4-3 (7/98) adjusted for heating value of fuel) x Combustion Percentage (98% - from permittee's application) x Maximum butane inert blowdown (0.001243 MMscf/hr)X (8,760 hrs/yr) / (2,000 lbs/ton)

+ 109.99 lbs/hr propane to plant flare - from permittee's application x %VOC in propane (98.91% - from permittee's application) x 1-Plant Flare control efficiency (98% - from permittee's application)X (8,760 hrs/yr) / (2,000 lbs/ton)

+ 200.86 lbs/hr butane to plant flare - from permittee's application x %VOC in propane (100% - from permittee's application) x 1-Plant Flare control efficiency (98% - from permittee's application)X (8,760 hrs/yr) / (2,000 lbs/ton)]

/ (12 months/rolling year)

= (12.66 tons/year from condensate loading losses) + (6.52 tons/year from gasoline loading losses) + (0.056 tons/year from propane unloading of nitrogen) + (0.096 tons/year from butane unloading of nitrogen) + (9.53 tons/year from propane to plant flare) + (17.60 tons/year from butane to plant flare)

/ (12 months/rolling year)

= 3.87 tons/month

b. Emissions Limitation:

NOx emissions shall not 0.16 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

(NOx emission factor for combustion related to propane from unloading of nitrogen from rail cars (171.1 lb/MMscf - AP-42 Table 13.5-1 (9/91) x heating value of propane (2516)) x Combustion Percentage (98% - from permittee's application) x Maximum propane inert blowdown (0.000095 MMscf/hr)

+ (NOx emission factor for combustion related to butane from unloading of nitrogen from rail cars (224.5 lb/MMscf - AP-42 Table 13.5-1 (9/91) x heating value of butane (2516)) x Combustion Percentage (98% - from permittee's application) x Maximum butane inert blowdown (0.001243 MMscf/hr) X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.159 lb/hr from combustion related to propane from unloading of nitrogen from rail cars + (0.273 lb/hr from combustion related to butane from unloading of nitrogen from rail cars] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months

= 0.16 ton per month, as a rolling, 12-month summation



c. Emissions Limitation:

CO emissions shall not exceed 0.87 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

(CO emission factor for combustion related to propane from unloading of nitrogen from rail cars (930.9 lb/MMscf - AP-42 Table 13.5-1 (9/91) x heating value of propane (2516)) x Combustion Percentage (98% - from permittee's application) x Maximum propane inert blowdown (0.000095 MMscf/hr)

+ (CO emission factor for combustion related to butane from unloading of nitrogen from rail cars (1221.7 lb/MMscf - AP-42 Table 13.5-1 (9/91) x heating value of butane (2516)) x Combustion Percentage (98% - from permittee's application) x Maximum butane inert blowdown (0.001243 MMscf/hr)

X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.865 lb/hr from combustion related to propane from unloading of nitrogen from rail cars + (1.488 lb/hr from combustion related to butane from unloading of nitrogen from rail cars] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months

= 0.87 ton per month, as a rolling, 12-month summation

d. Emissions Limitation:

PE shall not exceed 0.013 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

(PE emission factor for combustion related to propane from unloading of nitrogen from rail cars (18.8 lb/MMscf - From AP-42 Table 1.4-2 and 1.4-3 (7/98) adjusted for heating value of fuel) x Combustion Percentage (98% - from permittee's application) x Maximum propane inert blowdown (0.000095 MMscf/hr)

+ (PE emission factor for combustion related to butane from unloading of nitrogen from rail cars (24.7 lb/MMscf - From AP-42 Table 1.4-2 and 1.4-3 (7/98) adjusted for heating value of fuel) x Combustion Percentage (98% - from permittee's application) x Maximum butane inert blowdown (0.001243 MMscf/hr)

X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.017 lb/hr from combustion related to propane from unloading of nitrogen from rail cars + (0.03 lb/hr from combustion related to butane from unloading of nitrogen from rail cars] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months



= 0.013 ton per month, as a rolling, 12-month summation

e. Design Efficiency Standard:

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

Applicable Compliance Method:

Compliance is demonstrated by the manufacturer's design efficiency of a design control efficiency of at least 98% for VOC emissions, for the flare.

g) Miscellaneous Requirements

(1) None.



**2. T007, Refrigeration System – Four refrigerated atmospheric tanks controlled by a flare**

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

Refrigeration System - including four refrigerated (propane and butane) atmospheric storage tanks with a maximum capacity of 400,000 barrels of propane (200,000 bbls each) and 250,000 barrels of butane (125,000 bbls each); controlled by an emergency flare (refrigerated storage flare) during refrigeration process upsets or shut down for extended maintenance. The flare has a manufacturer guaranteed hydrocarbon destruction and removal efficiency (DRE) of 98%. During normal operations the refrigerated tank vapors are captured with a vapor recovery system, condensed and returned to the refrigerated tanks. The only expected emissions associated with the refrigerated system during normal operation are those associated with products of combustion from the refrigerated storage flare from pilot and purge gas, process leaks to the header and fugitive emissions, as covered under P801.

- 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 3745-31-05(A)(3), as effective 02/20/13 | Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.013 ton per month as a rolling, 12-month average.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.07 ton per month as a rolling, 12-month average.<br><br>Particulate emissions (PE) shall not exceed 0.002 ton per month as a rolling, |



|    | Applicable Rules/Requirements  | Applicable Emissions Limitations/Control Measures   |
|----|--|---|
|    |  | 12-month average.<br><br>VOC emissions shall not exceed 0.58 ton per month as a rolling, 12-month average.<br><br>See b)(2)a. and b)(2)d. |
| b. | OAC rule 3745-31-05(A)(3)(a)(ii), as effective 02/20/2013  | See b)(2)b.   |
| c. | 40 CFR Part 60, Subparts A and OOOO.<br>(40 CFR 60.18, 60.5360-5430)<br><br>[In accordance with 40 CFR 60.5412(a), this emissions unit consists of a flare and closed vent system used to control emissions from storage vessels in the oil and natural gas production segment.] | See c)(1), d(1), e(3), f(1)e., and f)(2).   |

(2) Additional Terms and Conditions

- a. This Best Available Control (BAT) emissions limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- b. These rule paragraphs apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a) (the less than 10 tons per year BAT exemption) into the Ohio SIP.
- c. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub>, CO, PE, or VOC emissions from this air contaminant source since the potential to emit for NO<sub>x</sub>, CO, PE and VOC is less than 10 tons/yr.
- d. Permit-to-install and operate P0117446 for this emissions unit also takes into account the installation and operation of a flare with a design control efficiency of at least 98% for VOC emissions, as proposed by the permittee.
- e. The emissions limitations established for this emissions unit do not include emissions that would result from upset/emergency situations. The emissions resulting from upset/emergency conditions would be reported in accordance with OAC rule 3745-15-06.

c) Operational Restrictions

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



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

Harrison Hub Fractionation Plant

**Permit Number:** P0117446

**Facility ID:** 0634005028

**Effective Date:** 11/13/2014

|   |   |
|---|---|
| 60.5395(a), 60.5410(e)(3),<br>60.5415(e)(1)   | Operate the flare to achieve at least a 95% reduction of emissions of VOC from the storage vessels.   |
| 60.5395(b), 60.5410(e)(4),<br>and 60.5411(b)  | Equip the storage tanks with a cover connected through a closed vent system to the flare. The cover and all openings in the cover must form a continuous barrier over the entire surface area of the liquid in the storage vessel and must be secured in a closed, sealed position whenever material is stored in the storage vessels except as provided by rule.   |
| 60.5411(a)(1),<br>60.5412(b)(1), and 60.18(e)   | Operate closed vent systems and control devices used to comply with the provisions of 60.5395 at all times when emissions may be vented to them.  |
| 60.5411(a)(2)   | Design and operate the closed vent system with no detectable emissions as demonstrated by § 60.5416(b).   |
| 60.5411(a)(3)   | Any valves associated with the closed vent system that are capable of diverting all or a portion of the emissions away from the flare must be equipped with bypass flow monitors or must be secured in the non-diverting position using a car-seal or a lock-and-key type configuration. Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to this requirement. |
| 60.5416(b)(9), (10), (11),<br>(12)  | Repair all leaks detected for the closed vent system within 15 days with a first attempt at repair occurring within 5 days of detection except as provided by rule (e.g., delay of repair, unsafe to inspect, difficult to inspect).  |
| 60.5412(a)(3) and<br>60.18(c)(1)  | Design and operate the flare with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.  |
| 60.5412(a)(3) and<br>60.18(c)(2)  | Operate the flare with a flame present at all times.  |
| 60.5412(a)(3), 60.18(c)(3),<br>60.18(c)(3)(i), 60.18(f)(4)<br>and (5)                     | Adhere to the diameter, hydrogen content, and exit velocity specifications in 60.18(c)(3)(i)(A). Calculate exit velocities as specified in 60.18(f)(4) and (5).*  |
| 60.5412(a)(3), 60.18(c)(3),<br>60.18(c)(3)(ii), 60.18(c)(4),<br>60.18(f)(3), (4), and (5) | 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). Calculate heat content as specified in 60.18(f)(3). Calculate exit velocities as specified in 60.18(f)(4) and (5).*   |



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

- (2) As the flare is used for upsets and periodic extended maintenance, start up and shut down emissions, an inherent operational limitation 2.98 MMSCF/yr of mixed butanes and 1.44 MMSCF/yr of propane has been established for the flaring of emissions from the refrigeration system.
- (3) The permittee shall install and operate a flare for the control of VOC emissions whenever this emissions unit is in operation and shall maintain the flare in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modifications deemed necessary by the permittee.
- (4) In the event the flare is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired or otherwise returned to these documented operating conditions.

d) Monitoring and/or Recordkeeping Requirements

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

|   |  |
|---|--|
| 60.5417(d)(1)(iii) and 60.5415(e)(2)(vii)(B). | Install, calibrate, operate, and maintain a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.  |
| 60.5417(c)(1)                                 | Detect and record the presence of a flare flame at least once every hour.  |
| 60.5417(c)(2), 60.18(d), 60.18(f)(2)          | Install, calibrate, operate, and maintain the heat sensing monitoring device in accordance with a site specific monitoring plan including the information required by rule.  |
| 60.5417(c)(3) and (4)                         | Conduct a continuous parameter monitoring system equipment performance check, system accuracy audit, or other audit procedure as specified in the site-specific monitoring plan at least once every 12 months. Conduct performance evaluations of the continuous parameter monitoring systems as specified in the site-specific monitoring plan. |
| 60.5416(a)(1)                                 | Conduct an initial inspection of all closed vent system joints, seams, or other connections that are permanently or semi-permanently sealed to demonstrate that the system operates with no detectable emissions. Conduct subsequent annual visual inspections for defects. Any defective  |



|                           |   |
|---------------------------|---|
|                           | components that are replaced must be inspected to demonstrate that these components operate with no detectable emissions.   |
| 60.5416(a)(2)             | Conduct initial and annual inspections of all closed vent system components other than those described under 60.5416(a)(1) to demonstrate that that system operates with no detectable emissions. Also conduct annual visual inspections for defects.   |
| 60.5416(a)(3)             | Conduct initial and annual inspections of the storage vessel covers to identify any defects.  |
| 60.5416(a)(4)             | Except for low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices, operate the bypass valve flow monitors to collect a reading at least once every 15 minutes or visually inspect all bypass valves secured in the non-diverting position at least monthly to verify that valve remains in the non-diverting position. |
| 60.5416(b)(1) through (8) | Conduct inspections of closed vent systems to detect leaks according to USEPA Method 21 and as provided by rule. The condition of no detectable emissions is defined as an organic concentration value less than 500 ppmv.  |
| 60.5420(c)(5)             | Maintain required records for storage vessels.  |
| 60.5420(c)(6)             | Maintain required records for inspections of closed vent systems.   |
| 60.5420(c)(7)             | Maintain required records for inspections of storage vessel covers.   |
| 60.5420(c)(8)             | Maintain required records for inspections of bypass valves.   |
| 60.5420(c)(9)             | Maintain required records for leaks and repairs of closed vent systems.   |
| 60.5420(c)(11)            | Maintain required records for continuous parameter monitoring systems.  |

- (2) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, or operating manuals for the flare, along with documentation of any modifications deemed necessary by the permittee. These documents shall be



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

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

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

- (6) The permittee shall maintain records that document any time periods when the flare was not in service when the emissions unit(s) was/were in operation, as well as, a record of all operations during which the flare was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee. These records shall be maintained for a period of not less than five years and shall be made available to the Ohio EPA upon request.
  - (7) The permittee shall collect and record the following each month during periods of process upsets, periodic extended maintenance, start up and shut down:
    - a. the total amount of propane, in MMscf, are vented to the flare; and
    - b. the total amount of mixed butanes, in MMscf, are vented 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) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subparts OOOO and A, including the following sections:

|   |   |
|---|---|
| 60.5420(a)(1)   | Initial notifications are not required for storage vessels.   |
| 60.5410(e)(8),<br>60.5420(b)(1), and<br>60.5420(b)(6) | Submit the required information for storage vessels in the initial annual report within 30 days of the end of the initial compliance period and in the subsequent reports due the same date each year as the initial annual report. |
| 60.5420(b)(7)   | Submit the results of performance testing to USEPA's WebFIRE database within 60 days of completing each performance test.   |

f) Testing Requirements

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

a. Emissions Limitation:

NO<sub>x</sub> emissions shall not exceed 0.013 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

NO<sub>x</sub> (ton/yr) = [(NO<sub>x</sub> emission factor for pilot (73.07 lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (100% - from permittee's application) X Maximum natural gas usage for pilot (0.000195 MMscf/hr - from permittee's application))

+ (NO<sub>x</sub> emission factor for purge gas (73.07 lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (98% - from permittee's application) X Maximum natural gas usage for purge gas (0.000290 MMscf/hr – from permittee's application))]

X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.01425 lbs/hr from pilot) + (0.0208 lb/hr from purge gas)] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months



= 0.013 ton per month, as a rolling, 12-month summation

b. Emissions Limitation:

CO emissions shall not exceed 0.07 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

CO (ton/yr) = [(CO emission factor for pilot (397.60 lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (100% - from permittee's application) X Maximum natural gas usage for pilot (0.000195 MMscf/hr - from permittee's application))

+ (CO emission factor for purge gas (397.6 lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (98% - from permittee's application) X Maximum natural gas usage for purge gas (0.000290 MMscf/hr – from permittee's application))]

X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.078 lbs/hr from pilot) + (0.113 lb/hr from purge gas)] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months

= 0.07 ton per month, as a rolling, 12-month summation

c. Emissions Limitation:

PE shall not exceed 0.002 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

PE (ton/yr) = [(PE emission factor for pilot (8.1 lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (100% - from permittee's application) X Maximum natural gas usage for pilot (0.000195 MMscf/hr - from permittee's application))

+ (PE emission factor for purge gas (8.1 lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (98% - from permittee's application) X Maximum natural gas usage for purge gas (0.000290 MMscf/hr – from permittee's application))]

X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.002 lbs/hr from pilot) + (0.0023 lb/hr from purge gas)] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months

= 0.002 ton per month, as a rolling, 12-month summation



d. Emissions Limitation:

VOC emissions shall not exceed 0.58 ton per month as a rolling, 12-month average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the following calculation:

VOC (ton/yr) = [(VOC emission factor for pilot (5.8lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (100% - from permittee's application) X Maximum natural gas usage for pilot (0.000195 MMscf/hr - from permittee's application))

+ (VOC emission factor for purge gas (5.8lb/MMscf – AP-42 Table 13.5-1 (9/91)) X Combustion Percentage (98% - from permittee's application) X Maximum natural gas usage for purge gas (0.000290MMscf/hr – from permittee's application))

+ (Moles of VOC/hr (5.69 mol/hr – from permittee's application)) X (1 – Combustion Percent (98% - from permittee's application)) X Molecular weight (20.05 – from permittee's application) X % by wt. VOC (12.19% - from permittee's application))]

+ (total volume of process leaks to the flare header (500 scfh (340 scfh (propane) + 160 scfh (butane) – from permittee's application x mole percent (68% propane and 32% butane) – from permittee's application x % by wt. VOC (98.91% propane and 100% butane) – from permittee's application x Molecular weight (44.02 propane and 61.33 butane) – from permittee's application x moles per hour (0.90 propane and 0.42 butane) – from permittee's application

X 8,760 hours of operation per year X 1 ton/2,000 lbs X 1 year/12 months

= [(0.00113lbs/hr from pilot) + (0.00165lb/hr from purge gas) + (0.2844 lb/hr from purge gas fugitives) + (1.30 lb/hr from process leaks to the flare header)] X 8,760 hrs/yr X 1 ton/2,000 lbs X 1 year/12 months

= 0.58 ton per month, as a rolling, 12-month summation

e. Design Efficiency Standard:

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

Applicable Compliance Method:

Compliance is demonstrated by the manufacturer's design control efficiency of at least 98% for VOC emissions.



f. Emission Limitation:

The flare shall be designed and operated with no visible particulate emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

Compliance shall be demonstrated based upon visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22. See f)(2).

- (2) Performance testing shall be conducted as required in 40 CFR Part 60, Subparts A and OOOO pursuant to 40 CFR 60.18(f)(1), 60.5410(e)(5) and 60.5413(a)(1). The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted within 180 days after initial startup of such facility.
  - b. The emissions testing shall be conducted to demonstrate compliance with the visible particulate emission limitation for the flare in accordance with the requirements of 40 CFR 60.5413(a)(1).
  - c. The following test method shall be employed to demonstrate compliance with the allowable emission rate for visible particulate emissions - Method 22 of 40 CFR Part 60, Appendix A.
  - d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Ohio EPA, Southeast District Office. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
  - e. No later than thirty (30) days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office's refusal to accept the results of the emissions test(s).
  - f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the



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

Harrison Hub Fractionation Plant

**Permit Number:** P0117446

**Facility ID:** 0634005028

**Effective Date:** 11/13/2014

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

g) Miscellaneous Requirements

- (1) None.