



Environmental Protection Agency

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

10/23/2012

Mrs. Hillary Moseley
Utica Gas Services, LLC-Carrollton Compressor Facility
P.O. Box 18312
Oklahoma City, OK 73154

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0210012002
Permit Number: P0110188
Permit Type: Initial Installation
County: Carroll

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
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, Free Press Standard. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 Via E-Mail Notification
Ohio EPA-NEDO; Pennsylvania; West Virginia



Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

A description of the Carrollton Compressor Facility process is as follows: The natural gas inlet stream from surrounding area wells is compressed by ten (10) 1,775-hp Caterpillar G3606 engines (P004-P013), which will also have maintenance blowdowns (P015). Compressor discharge enters three (3) 75-MMSCFD triethylene glycol (TEG) dehydration units (P001-P003) before exiting the facility. In the dehydration processes, gas passes through a contactor vessel where water is absorbed by the glycol. The "rich" glycol containing water goes to the glycol dehydrator reboiler where heat is used to boil off the water. The heat is supplied by three (3) 2 mmBtu/hr natural gas-fired reboilers (B001-B003) that exhaust to the atmosphere, and are permit exempt. The dehydration unit has the option of using one of two (2) glycol pumps, an electric pump or secondary gas-injection pumps. Still vent vapors from the three (3) 75-MMSCFD dehydration units will be controlled by an air-cooled condenser.

Noncondensables will be routed to an enclosed flare (P014). The excess flash gas will be recompressed and routed to the inlet separator. Condensate from the inlet separator is stored in three (3) 400-bbl storage tanks (T001-T003). Produced water from the inlet separator is stored in three (3) 400-bbl storage tanks (T004-T006). All of the tanks are de minimis. Heat for the condensate stabilizer will be supplied by a 0.5 mmBtu/hr natural gas-fired heater treater burner (B004), which is permit exempt. Condensate truck loading also takes place at the facility (J001), as well as emissions from fugitive sources (P801). The Baldor IGLC420-2N generator (P016) will be used for emergency power and will therefore be limited to 500 hours per year of operation.

The VRU will capture all the emissions from the condensate tank. Under normal operations, the VRU is a closed system and no emissions are released to the atmosphere. The emissions from the condensate tank can also be routed to the enclosed flare (P014).

3. Facility Emissions and Attainment Status: Carroll County is currently in attainment for all criteria pollutants. Potential uncontrolled facility emissions of VOC are greater than 100 TPY, so the facility is requesting federally enforceable restrictions to synthetic minor out of Title V. Potential uncontrolled HAP emissions from the dehydration units and engines would also be greater than 25 TPY, so the federally enforceable restrictions will also be used to synthetic minor out of MACT. Per OAC rule 3745-77-01(X)(2), the fugitive emissions from the component leaks shall not be included in the determination of major source status
4. Source Emissions: Actual emissions with the use of a flare as a control device and oxidation catalysts for the engines will reduce emissions to less than or equal to the allowable emissions
5. Conclusion: The permit requirements that require usage of the flare as a control device with 98% destruction efficiency will ensure that the tanks and dehydrators remain below Title V and MACT thresholds. Usage of the oxidation catalysts will ensure that the engines remain below the thresholds as well.

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
NOx	90.31
CO	77.43
VOC	71.68
HAPs	1.14

PUBLIC NOTICE
10/23/2012 Issuance of Draft Air Pollution Permit-To-Install and Operate

Utica Gas Services, LLC-Carrollton Compressor Facility
2098 Panda Road SE,
Carrollton, OH 44615
Carroll County

FACILITY DESC.: Crude Petroleum and Natural Gas Extraction

PERMIT #: P0110188

PERMIT TYPE: Initial Installation

PERMIT DESC: Initial installation of a natural gas compressor facility. Site includes 10 engines, 3 dehydration units, 1 truck loading operation, fugitive component leaks, compressor blowdowns and an enclosed flare. De minimis or permit exempt units include an emergency generator, 6 storage tanks, 4 heaters and unpaved roads.

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: Jana Gannon, Ohio EPA DAPC, Northeast District Office, 2110 East Aurora Road, Twinsburg, OH 44087. Ph: (330)425-9171



DRAFT

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

Utica Gas Services, LLC-Carrollton Compressor Facility

Facility ID:	0210012002
Permit Number:	P0110188
Permit Type:	Initial Installation
Issued:	10/23/2012
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install and Operate

for
Utica Gas Services, LLC-Carrollton Compressor Facility

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Authorization

Facility ID: 0210012002

Application Number(s): A0044147

Permit Number: P0110188

Permit Description: Initial installation of a natural gas compressor facility. Site includes 10 engines, 3 dehydration units, 1 truck loading operation, fugitive component leaks, compressor blowdowns and an enclosed flare. De minimis or permit exempt units include an emergency generator, 6 storage tanks, 4 heaters and unpaved roads.

Permit Type: Initial Installation

Permit Fee: \$5,600.00 *DO NOT send payment at this time, subject to change before final issuance*

Issue Date: 10/23/2012

Effective Date: To be entered upon final issuance

Expiration Date: To be entered upon final issuance

Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

Utica Gas Services, LLC-Carrollton Compressor Facility
2098 Panda Road SE
Carrollton, OH 44615

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, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087
(330)425-9171

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: P0110188

Permit Description: Initial installation of a natural gas compressor facility. Site includes 10 engines, 3 dehydration units, 1 truck loading operation, fugitive component leaks, compressor blowdowns and an enclosed flare. De minimis or permit exempt units include an emergency generator, 6 storage tanks, 4 heaters and unpaved roads.

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

- Emissions Unit ID: J001
Company Equipment ID: TL-1
Superseded Permit Number:
General Permit Category and Type: Not Applicable
Emissions Unit ID: P014
Company Equipment ID: FLARE-1
Superseded Permit Number:
General Permit Category and Type: Not Applicable
Emissions Unit ID: P015
Company Equipment ID: BD
Superseded Permit Number:
General Permit Category and Type: Not Applicable
Emissions Unit ID: P801
Company Equipment ID: FUG
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Group Name: Engines

Table with 2 columns: Emissions Unit ID and details (Company Equipment ID, Superseded Permit Number, General Permit Category and Type). Rows include P004, P005, P006, P007, and P008.

Emissions Unit ID:	P009
Company Equipment ID:	C-6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P010
Company Equipment ID:	C-7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P011
Company Equipment ID:	C-8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P012
Company Equipment ID:	C-9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P013
Company Equipment ID:	C-10
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name: Glycol Dehydration Units

Emissions Unit ID:	P001
Company Equipment ID:	DEHY-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	DEHY-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	DEHY-3
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, Northeast 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 submitting¹ 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.

¹Permittees 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) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.
2. The Ohio EPA has determined that this facility is subject to the requirements of 40 CFR Part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines at Area Sources. Although Ohio EPA has determined that this Generally Available Control Technology NESHAP (GACT) applies, at this time Ohio EPA does not have the authority to enforce this standard. Instead, U.S. EPA has the authority to enforce this standard. Please be advised, that all requirements associated with this rule are in effect and shall be enforced by U.S. EPA. For more information on the area source rules, please refer to the following U.S. EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.
3. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart HH, National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities: P001 - P003. The complete MACT requirements, including the MACT General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Northeast District Office.
4. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: P004 – P013. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Northeast District Office.
5. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution: P004 – P013. The complete New Source Performance Standards (NSPS) requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Northeast District Office.
6. This permit establishes the following facility-wide terms and conditions for purposes of establishing federally enforceable requirements to limit the PTE for hazardous air pollutant (HAP) emissions for purposes of avoiding Maximum Achievable Control Technology (MACT) regulations and Title V permitting requirements:
 - a) 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(D)(1)(b)	See B.6.a)(2).

(2) Additional Terms and Conditions

- a. The maximum annual hazardous air pollutant (HAP) emissions generated at this facility (see B.6.a)(2)b) shall not exceed 9.9 tons per year for any individual HAP and 24.9 tons per year for any total combined HAPs, based on a rolling, 12-month summation of emissions.
- b. The facility-wide HAP restrictions apply to all emissions units that generate HAP emissions at this facility including permitted emissions units, de minimis, and OAC rule 3745-31-03(A)(1) exempt emissions units.

b) Operational Restrictions

- (1) None.

c) Monitoring and/or Recordkeeping Requirements.

- (1) The permittee shall collect and record the following HAP information each month for all emission units at the facility combined:
- a. The total emission rate for each individual HAP from the condensate loaded in emission unit J001, in tons, based on the following:

 multiply the VOC emissions from C.1.f)(1)(a) by the HAP emission factors obtained from USEPA's the Emission Inventory Improvement Program, Volume III, Chapter 11, Gasoline Marketing (Stage I and Stage II), Table 11.3-2 (Revised Final January 2001);
 - b. The total emission rate for each individual HAP from the compressor blowdowns in emission unit P015, in tons, based on the following:

 calculate the HAP emissions using the equation in C.3.f)(1)(a), substituting the "mole % of each HAP component/month" for the "mole % of each VOC component/month";

- c. The total emission rate for each individual HAP from the fugitive equipment leaks in emission unit P801, in tons, based on the following:
- calculate the HAP emissions using the equations in C.4.f)(1)(a), substituting the “% HAP” for the “% VOC”, provided by the company’s speciated gas analysis;
- d. The total emission rate for each individual HAP from the natural gas engines in emission units P004 – P013, in tons, based on the following:
- multiply the emission factors (in pound/million Btu of heat input) from the U.S. EPA reference document AP-42, Compilation of Air Pollutant Emission Factors, Section 3.2, Table 3.2-2 (7/00) by the maximum heat input of 13.40 mmBtu/hr, and multiply by the control efficiency of the oxidation catalyst (1 – 0.85). Then divide by 2000 lbs/ton and multiply by 8,760 hrs/yr, or;
- when calculating formaldehyde emissions, divide 0.04 g/BHP-hr (the manufacturer supplied emission factor, including the 85% control efficiency of the catalytic converter) by 454 g/lb, and then multiply by 1,775 brake-horsepower (the maximum power output rating of this unit). Then divide by 2000 lbs/ton and multiply by 8,760 hrs/yr;
- e. The total emission rate for each individual HAP from the dehydration units in emission units P001 – P003, in tons, based on the following:
- The permittee may determine the HAP emissions using the GRI-GLYCalc™ model, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit(s) and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled “Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions” (GRI-95/0368.1);
- Potential HAP and/or benzene emissions estimates shall be based on the maximum glycol circulation rate(s), in gallons per minute (gpm); the worst case pollutant concentrations from representative extended gas analyses of the inlet wet gas; and the maximum natural gas flow rate, as determined by 40 CFR 63.772(b)(1)(i); or for a new unit, potential emissions shall be estimated in accordance with 40 CFR 63.760(a) and increased by a factor of 1.2;
- f. The total emission rate for each individual HAP from each “de minimis” and exempt emission units, in tons;
- g. The total emission rate for each individual HAP from all emissions units, in tons [summation of c)(1)a through c)(1)f.];
- h. The total emission rate for total combined HAPs from all emissions units, in tons [summation of c)(1)g.];

- i. For the first 12 calendar months following the issuance of this permit, the cumulative monthly individual HAP emissions and cumulative monthly total combined HAPs emissions, in tons; and
- j. After the first 12 calendar months following the issuance of this permit, the rolling, 12-month individual HAP emissions and total combined HAPs emissions, in tons.

d) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports for the following emissions unit(s) that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. an identification for each month during which the rolling, 12-month individual HAP emissions exceeded 9.9 tons/yr based on a rolling, 12-month summation; and
 - ii. an identification for each month during which the rolling, 12-month total combined HAP emissions exceeded 24.9 tons/yr based on a rolling, 12-month summation.
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Ohio EPA Northeast District Office.

e) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in B.6.a)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual HAP emissions generated at this facility (see B.6.a)(2)b) shall not exceed 9.9 tons per year for any individual HAP, based on a rolling, 12-month summation of emissions.

Applicable Compliance Method:

Compliance shall be demonstrated based on the record keeping requirements specified in c)(1).

b. Emission Limitation:

The maximum annual HAP emissions generated at this facility (see B.6.a)(2)b) shall not exceed 24.9 tons per year for any total combined HAPs, based on a rolling, 12-month summation of emissions.

Applicable Compliance Method:

Compliance shall be demonstrated based on the record keeping requirements specified in c)(1).

C. Emissions Unit Terms and Conditions

1. J001, TL-1

Operations, Property and/or Equipment Description:

Condensate truck loading.

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. b)(1)c, b)(2)d, b)(2)e, c)(1), d)(1), e)(1) and f)(1)a.

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	The requirements established pursuant to this rule are equivalent to the requirements of OAC rule 3745-31-05(D). See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b.
c.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V)	Volatile organic compound (VOC) emissions shall not exceed 5.03 tons as a rolling, 12-month summation. See b)(2)c, b)(2)d, b)(2)e and c)(1).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 revisions 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 limitations/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 State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than ten tons per year.

- c. All condensate loading lines shall be equipped with fittings which are vapor tight.
- d. The delivery vessel hatches shall be closed at all times during the loading of the delivery vessel.
- e. The permittee shall not permit condensate 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 annual throughput rate of condensate for this emissions unit shall not exceed 621,000 gallons per year, based upon a rolling, 12-month summation of the condensate throughput rates.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information:
 - a. the throughput of condensate for each month, in gallons; and
 - b. the rolling, 12-month summation of the condensate throughput, in gallons.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. 5.03 tons VOCs as a rolling, 12-month summation; and

- ii. 621,000 gallons condensate throughput as a rolling, 12-month summation.
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

VOC emissions shall not exceed 5.03 tons as a rolling, 12-month summation.

Applicable Compliance Method:

VOC emissions shall be based on multiplying a loading loss factor (L*) by the rolling, 12-month summation of the condensate throughput, in tons, divided by 2000.

The loading loss factor was derived using AP-42, Section 5.2, "Loading Loss Equation".

$$*L = 12.46 \text{ SPM/T}$$

where:

L = loading loss, pounds per 1000 gallons loaded;

S = saturation factor, 1.45 for splash fill;

P = vapor pressure of liquid loaded (@ 52 °F = 6.9301);

M = molecular weight of vapor = 60; and

T = temperature of bulk liquid = 509.7 °R.

A safety factor of 10% was also added to the annual emission rate to account for potential fluctuations in gas composition.

g) Miscellaneous Requirements

(1) None.

2. P014, FLARE-1

Operations, Property and/or Equipment Description:

15.8125 mmBtu/hr enclosed flare (controlling the dehydration units' post-condenser emissions and providing back-up control for the vapor recovery unit or for when the flash gas compressor is down)

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 _x) emissions shall not exceed 1.08 lbs/hr and 4.71 tpy. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b.
c.	ORC 3704.03(T)	Carbon monoxide (CO) emissions shall not exceed 25.63 tons per rolling, 12-month period. See c)(1) and c)(2).
d.	OAC rule 3745-17-07(A)	See b)(2)c.
e.	OAC rule 3745-17-11(B)	See b)(2)d.

(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_x emissions from this air contaminant source since the uncontrolled potential to emit for NO_x is less than 10 tons/yr.

c. The emissions from the flare are exempt from the visible PE limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

d. The uncontrolled mass rate of PE from the flare is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero.

c) Operational Restrictions

(1) The permittee shall burn only natural gas in this emissions unit.

(2) The flare shall be designed and operated as follows:

a. The flare shall be operated with a 98% destruction efficiency.

b. The flare shall be operated at all times when emissions may be vented to it.

c. A pressure sensor shall be maintained at all times on the flare to detect the need for a flame.

d. The device to monitor the flare for the presence of a flame shall be in operation at all times the pressure sensor detects a need for a flame.

e. There shall be no visible particulate emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, operate, and maintain a pressure sensor and flame detection device to monitor the need for a flame and presence of a flame, respectively, 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.
- (2) The permittee shall record the following information each day for the flare and process operations:
 - a. all periods during which the pressure sensor and/or flame detection device were not functioning properly; and
 - b. the operating times for the flare and monitoring equipment.
- (3) The permittee shall maintain records of each day a fuel other than natural gas is burned in this emissions unit.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. use of natural gas only as a fuel in the flare; and
 - ii. the destruction efficiency of 98% for the flare.
 - b. all periods of time during which the pressure sensor and/or flame detection device were not functioning properly or the flare was not maintained as required in this permit.
 - c. the probable cause of each deviation (excursion);
 - d. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - e. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

NO_x emissions shall not exceed 1.08 lbs/hr and 4.71 tpy.

Applicable Compliance Method:

The hourly emission rate specified above was established by multiplying the emission factor from AP-42, Table 13.5-1 (revised 1/95), of 0.068 lbNO_x/mmBtu by the maximum heat input rate of 15.8125 mmBtu/hr.

The tpy emission limitation was developed by multiplying the short-term allowable NO_x emission limitation (1.08 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

If required, compliance with the hourly NO_x emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7.

- b. Emission Limitation:

CO emissions shall not exceed 25.63 tons per rolling, 12-month period.

Applicable Compliance Method:

The emission rate specified above was established by multiplying the emission factor from AP-42, Table 13.5-1 (revised 1/95), of 0.37 lb CO/mmBtu by the maximum heat input rate of 15.8125 mmBtu/hr. This number was then multiplied by the maximum annual hours of operation (8,760 hours), and then divided by 2,000 lbs per ton.

If required, compliance with the CO emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 10.

c. Emission Limitation:

There shall be no visible particulate emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

Compliance with the visible particulate emissions limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.

d. Emission Limitation:

The flare shall be operated with at least 98% destruction efficiency.

Applicable Compliance Method:

If the flare complies with the control requirements specified in c)(2)b through c)(2)e, compliance with the 98% control efficiency requirement shall be assumed.

g) Miscellaneous Requirements

- (1) None.

3. P015, Compressor Maintenance Blowdowns

Operations, Property and/or Equipment Description:

Uncontrolled compressor maintenance blowdown releases from periodic maintenance blowdown activities from equipment in natural gas service.

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. b)(1)a, c)(1), c)(2), d)(1), e)(1) and f)(1)a.

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(D) (Synthetic minor to avoid Title V) ORC 3704.03(T)	Volatile organic compound (VOC) emissions shall not exceed 15.14 tons per rolling, 12-month period. See c)(1) and c)(2).

(2) Additional Terms and Conditions

a. None.

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.

- (2) The annual volume of natural gas released from this emissions unit shall not exceed 2,310,000 scf per year, based upon a rolling, 12-month summation of the natural gas release rates.

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

- (1) The permittee shall maintain monthly records of the following information:
- a. number of compressor blowdown events;
 - b. mole % of each VOC component in the gas stream using a representative analysis;
 - c. the volume of gas emitted from all compressor blowdown events for each month, in scf; and
 - d. the rolling, 12-month summation of the volume of gas emitted from all compressor blowdown events, in scf.

e) **Reporting Requirements**

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. 15.14 tons VOCs as a rolling, 12-month summation; and
 - ii. 2,310,000 scf natural gas released per year as a rolling, 12-month summation;
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

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

- a. Emissions Limitation:

Fugitive VOC emissions shall not exceed 15.14 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):

$$\begin{aligned} \text{VOC (tons/month)} &= \text{sum of the following for each VOC component:} \\ &= [\text{molecular weight} \times (\text{volume of gas emitted/month}) \times \\ &\quad (\text{mole \% of each VOC component/month}) / \text{molar volume} \\ &\quad \text{conversion}] \times (1 \text{ ton}/2,000 \text{ pounds}) \end{aligned}$$

where:

molecular weight = constant, in lb/lb-mole;

volume of gas emitted/month = from records specified in d)(1)c, in scf;

mole % of each VOC component/month = from analysis required in d)(1)b, in %;
and

molar volume conversion = 379.4 scf/lb-mole, at 60 deg F and 1 atm.

g) Miscellaneous Requirements

- (1) None.

4. 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.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive emissions of volatile organic compounds (VOC) shall not exceed 6.73 tons per year, which shall be repaired as soon as possible following detection. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b.

(2) Additional Terms and Conditions

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

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

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

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

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Leak Detection and Repair Program

- a. The permittee shall develop and implement a leak detection and repair program designed to monitor and repair leaks from ancillary equipment and compressors covered by this permit. This leak detection and repair program shall include the following elements:
 - i. An initial and then annual inspection of the ancillary and associated equipment and compressors shall be conducted to determine if a leak exists. Leaks shall be determined through the use of an analyzer meeting U.S. EPA Method 21, 40 CFR Part 60, Appendix A.
 - ii. The analyzer shall be operated and maintained following the instrument manufacturer's operation and maintenance instructions.
 - iii. A leak shall be determined if the instrument reading is equal to or greater than 10,000 ppm total VOC or the "leak detected" instrument reading required per any applicable rule.
 - iv. Documentation that includes the following:
 - (a) the date the inspection was conducted;
 - (b) the name of the employee conducting the leak check;
 - (c) the identification of any component that was determined to be leaking; and
 - (d) the date the component was repaired and determined to no longer be leaking.

- b. The records associated with the leak detection and repair program shall be maintained for at least 5 years and shall be made available to the Director or his representative upon verbal or written request.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

Fugitive emissions of VOC shall not exceed 6.73 tons per year.

Applicable Compliance Method:

The annual VOC limitation is the estimated potential-to-emit based upon the maximum number of components and type of service (gas/vapor and light liquid) expected at the natural gas production site. The appropriate emissions factors from U.S. EPA's "Protocol for Equipment Leak Emission Estimates", Table 2-4, for Oil and Gas production Operations (a conservative estimate), shall be used to demonstrate compliance with the rolling, 12 month limit. The facility's potential emissions from ancillary and associated equipment shall be documented from the summation of the following calculations:

Component Type # of components x emission factor x % VOC* = lb VOC/hr

In Gas/Vapor Service

Number of connectors (300) x 0.000441 lb/hr x % VOC = lb VOC/hr

Number of valves (250) x 0.00992 lb/hr x %VOC = lb VOC/hr

Number of flanges (400) x 0.00086 lb/hr x % VOC = lb VOC/hr

Number of compressor seals (10) x 0.01940 lb/hr x % VOC = lb VOC/hr

Number of relief valves (25) x 0.01940 lb/hr x % VOC = lb VOC/hr

Number of other components (5) x 0.0194 lb/hr x % VOC = lb VOC/hr

*Where: % VOC = 23.2307 per company's analysis

In Light Liquid Service

Number of connectors (40) x 0.000463 lb/hr x % VOC = lb VOC/hr

Number of valves (60) x 0.00551 lb/hr x % VOC = lb VOC/hr

Number of flanges (0) x 0.00024 lb/hr x % VOC = lb VOC/hr

Number of pump seals (4) x 0.0287 lb/hr x % VOC = lb VOC/hr

Number of relief valves (0) x 0.01653 lb/hr x % VOC = lb VOC/hr

Number of other components (4) x 0.01653 lb/hr x % VOC = lb VOC/hr

*where: % VOC = 100 per company's analysis

The total summation of VOC emissions per hour shall be multiplied by 8760 hours per year and divided by 2000 pounds to calculate the estimated rolling ton per year fugitive VOC emissions for the demonstration of compliance.

- g) Miscellaneous Requirements
 - (1) None.

5. Emissions Unit Group -Engines: P004,P005,P006,P007,P008,P009,P010,P011,P012,P013,

EU ID	Operations, Property and/or Equipment Description
P004	1,775 HP natural gas-fired Caterpillar G3606 engine #1.
P005	1,775 HP natural gas-fired Caterpillar G3606 engine #2.
P006	1,775 HP natural gas-fired Caterpillar G3606 engine #3.
P007	1,775 HP natural gas-fired Caterpillar G3606 engine #4.
P008	1,775 HP natural gas-fired Caterpillar G3606 engine #5.
P009	1,775 HP natural gas-fired Caterpillar G3606 engine #6.
P010	1,775 HP natural gas-fired Caterpillar G3606 engine #7.
P011	1,775 HP natural gas-fired Caterpillar G3606 engine #8.
P012	1,775 HP natural gas-fired Caterpillar G3606 engine #9.
P013	1,775 HP natural gas-fired Caterpillar G3606 engine #10.

All engines are 4-stroke, lean burn, natural gas-fired, spark ignition engines controlled by a catalytic oxidation system with 90% control for carbon monoxide and 70% control for volatile organic compounds.

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. b)(1)j, d)(4), d)(5), d)(6), d)(7) and e)(7)

(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	Carbon monoxide (CO) emissions from the stack serving this emissions unit shall not exceed 1.18 lbs/hr and 5.18 tpy. Nitrogen oxides (NO _x) emissions from the stack serving this emissions unit shall not exceed 1.96 lbs/hr and 8.56 tpy.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Volatile organic compound (VOC) emissions from the stack serving this emissions unit shall not exceed 0.82 lb/hr and 3.59 tpy (not including formaldehyde).</p> <p>Visible particulate emissions (PE) from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average.</p> <p>Compliance with 40 CFR Part 60, Subpart OOOO.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-11 and 40 CFR Part 60, Subpart JJJJ.</p> <p>See b)(2)a.</p>
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b.
c.	OAC rule 3745-17-07(A)(1)	The emission limitation required by this applicable is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-17-11(B)(5)(b)	PE shall not exceed 0.062 pound/million Btu of actual heat input.
e.	OAC rule 3745-18-06	This emissions unit is exempt from the requirements of OAC rule 3745-18-06 pursuant to OAC rule 3745-18-06(A).
f.	<p>40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230 – 60.4248)</p> <p>[In accordance with 40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1, this emissions unit is a 1,775 HP, natural gas-fired, stationary spark internal combustion engine manufactured after July 1, 2010 that is located at a new natural gas compressor station and is subject to the emission limitations and control measures specified in this section.]</p>	<p>NO_x emissions shall not exceed 1.0 g/hp-hr and 82 ppmvd at 15% oxygen (O₂).</p> <p>CO emissions shall not exceed 2.0 g/hp-hr and 270 ppmvd at 15% O₂.</p> <p>VOC emissions shall not exceed 0.7 g/hp-hr and 60 ppmvd at 15% O₂.</p> <p>[40 CFR Part 60.4233(e) and 40 CFR Part 60, Subpart JJJJ, Table 1]</p> <p>See b)(2)c, c)(2), d)(2), e)(4), e)(5) and f)(2).</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	40 CFR Part 60.1 – 60.19 (40 CFR 60.4246)	Table 3 to Subpart JJJJ of 40 CFR Part 60 – Applicability of General Provisions to Subpart JJJJ shows which part of the General Provisions in 40 CFR Part 60.1 – 60.19 apply.
h.	40 CFR Part 60, Subpart OOOO In accordance with 40 CFR 63.5365(c), this emissions unit is a reciprocating compressor subject to the Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution. 40 CFR 60.5385	The reciprocating compressor, constructed, modified, or reconstructed after 8/23/11 and located between the wellhead and the point of custody transfer to the natural transmission and storage segment, shall meet the requirements of 40 CFR Part 60, Subpart OOOO no later than 10/15/12 or upon initial startup following that date; and by tracking either the hours of operation or number of months between compressor rod packing replacement. See c)(3), d)(3), e)(4) and e)(6).
i.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6590(c)(1))	A new or reconstructed area source operating in compliance with 40 CFR Part 60, Subpart JJJJ is the demonstration of compliance for 40 CFR Part 63, Subpart ZZZZ.
j.	ORC 3704.03(F)(4)(d)	See d)(4), d)(5), d)(6), d)(7) and e)(7).

(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, these emission limitations/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_x, CO and VOC emissions from this air contaminant source since the controlled potentials to emit for NO_x, CO and VOC are less than 10 tons/yr.

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

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

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The permittee shall comply with the applicable restrictions of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4234	Duration of compliance with emission standards
60.4243(b)	Maintenance requirements
60.4243(e)	Alternative fuel
60.4243(g)	AFR controllers

- (3) Beginning on 10/15/12 or upon initial startup if the reciprocating compressor is installed after this date, the permittee shall replace the reciprocating compressor rod packing every 26,000 hours of operation; or if not tracking the hours of operation, within 36 months following 10/15/12 or the date of startup (whichever is later), and every 36 months from the date of the last rod packing replacement.

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 record keeping requirements of 40 CFR Part 60, Subpart JJJJ, including the following sections:

60.4245(a)(1)	Keeping records of notifications and supporting documentation
60.4243(b)(2)(ii) and 60.4245(a)(2)	Keeping of maintenance plan and records of maintenance conducted on the engine

- (3) Beginning on 10/15/12 or upon initial startup if the reciprocating compressor is installed after this date, the permittee shall either continuously monitor and record the number of hours of operation or track the number of months since the last rod packing replacement. Records shall be maintained of the date and time of the replacement of the compressor rod packing for each reciprocating compressor in operation at the facility. Records of deviations from the 26,000 hours or 36 months of operation between rod packing replacements shall also be maintained. These records shall be retained for at least 5 years.

- (4) The federally enforceable permit-to-install and operate (FEPTIO) application for this/these emissions unit(s), P004 – P013, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., “X” hours per day and “Y” days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/\text{X} \times 5/\text{Y} = 4 \text{ TLV}/\text{XY} = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminant(s):

Toxic Contaminant: formaldehyde

TLV (mg/m³): 0.37

Maximum Hourly Emission Rate (lbs/hr): 1.7

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 6.77

MAGLC (ug/m³): 8.77

The permittee, has demonstrated that emission of formaldehyde, from emissions unit(s) P004 – P013, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F).

- (5) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials*, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials*, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

*The composition of the gas being processed may vary due to the nature of the industry. The company will sample the gas semiannually to perform a detailed gas analysis in order to determine if the composition has changed such that it will result in an increase in emissions of any toxic air contaminant.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (7) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (4) Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
 - a. construction date (no later than 30 days after such date);
 - b. actual start-up date (within 15 days after such date);
 - c. date of performance testing (if required, at least 30 days prior to testing); and
 - d. notification of any physical or operational change to the existing facility which may increase the emission rate of any air pollutant to which the standard applies (unless that change is specifically exempted under the NSPS or in 40 CFR 60.14(e)) shall be postmarked 60 days before the change is commenced (or as soon as practicable) and shall include information describing the precise nature of the change, productive capacity of the facility before and after the change, and the expected completion date of the change.

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
50 West Town Street, Suite 700
P. O. Box 1049
Columbus, Ohio 43216-1049

and

Northeast District Office of the Ohio EPA
Division of Air Pollution Control
2110 E. Aurora Rd, Twinsburg, Ohio 44087.

- (5) The permittee shall submit notifications and reports to the Ohio EPA, Northeast District Office as required pursuant to 40 CFR Part 60, Subpart JJJJ, per the following sections:

60.4245(c)	Must submit an initial notification
60.4245(d)	Must submit performance test copies within 60 days after the test has been completed

- (6) The permittee shall submit an initial annual report within 30 days after the end of the initial compliance period, or no later than 11/14/13 or within one year and 30 days of startup, whichever is later. Subsequent annual reports are due on the same date each year following the initial report. The annual reports shall include the following information:

- a. company name and address of the affected facility;
- b. identification of each affected facility included in the annual report*;
- c. beginning and ending dates of the reporting period;
- d. the identification of each reciprocating compressor;
- e. the cumulative number of hours of operation or the number of months of operation since initial startup of the reciprocating compressor, since the effective date of the NSPS, or since the previous reciprocating compressor rod packing replacement, whichever is later;
- f. records of any deviations from the 26,000 hours or 36 months of operation between rod packing replacements; and
- g. certification by the responsible official of truth, accuracy, and completeness.

* One report for multiple affected facilities may be submitted provided the report contains all of the information required and clearly identified for each.

- (7) The permittee shall include any changes made to a parameter or value used in the dispersion model that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect.

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. Emission Limitation:

CO emissions from the stack serving this emissions unit shall not exceed 1.18 lbs/hr and 5.18 tpy.

Applicable Compliance Method:

Compliance with the hourly emission limitation above shall be determined by dividing 0.28 g/BHP-hr (the manufacturer supplied emission factor, including the 90% control efficiency of the catalytic converter) by 454 g/lb, and then multiplying by 1,775 brake-horsepower (the maximum power output rating of this unit). A safety factor of 10% was also added to the hourly emission rate to account for potential fluctuations in gas composition.

The tpy emission limitation was developed by multiplying the short-term allowable CO emission limitation (1.18 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

If required, compliance with the hourly emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 10.

b. Emission Limitation:

NO_x emissions from the stack serving this emissions unit shall not exceed 1.96 lbs/hr and 8.56 tpy.

Applicable Compliance Method:

Compliance with the hourly emission limitation above shall be determined by dividing 0.50 g/BHP-hr (the manufacturer supplied emission factor) by 454 g/lb, and then multiplying by 1,775 brake-horsepower (the maximum power output rating of this unit).

The tpy emission limitation was developed by multiplying the short-term allowable NO_x emission limitation (1.96 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

If required, compliance with the hourly emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7E.

c. Emission Limitation:

VOC emissions from the stack serving this emissions unit shall not exceed 0.82 lb/hr and 3.59 tpy (not including formaldehyde).

Applicable Compliance Method:

Compliance with the hourly emission limitation above shall be determined by dividing 0.19 g/BHP-hr (the manufacturer supplied emission factor, including the 70% control efficiency of the catalytic converter) by 454 g/lb, and then multiplying by 1,775 brake-horsepower (the maximum power output rating of this unit). A safety factor of 10% was also added to the hourly emission rate to account for potential fluctuations in gas composition.

The tpy emission limitation was developed by multiplying the short-term allowable VOC emission limitation (0.82 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

If required, compliance with the hourly emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 18, 25 or 25A.

d. Emission Limitation:

Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

If required, compliance with this emission limitation shall be demonstrated through visible emissions observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

e. Emission Limitation:

PE shall not exceed 0.062 pound/million Btu of actual heat input.

Applicable Compliance Method:

Compliance with this emission limitation may be based upon an emission factor of 0.0000771 pound/million Btu of heat input. This emission factor is specified in the U.S. EPA reference document AP-42, Compilation of Air Pollutant Emission Factors, Section 3.2, Table 3.2-2 (7/00).

If required, compliance with this emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

f. Emission Limitations:

NO_x emissions shall not exceed 1.0 g/HP-hr and 82 ppmvd at 15% O₂.
CO emissions shall not exceed 2.0 g/HP-hr and 270 ppmvd at 15% O₂.
VOC emissions shall not exceed 0.7 g/HP-hr and 60 ppmvd at 15% O₂.

Applicable Compliance Method:

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

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the procedures specified in 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ Table 2 and the following requirements:

a. Conduct performance testing in the following manner:

i. if the permittee is purchasing a non-certified engine, an initial performance test shall be performed to demonstrate compliance with the mass emissions limitations in 40 CFR 60.4233(e) for VOC, NO_x and CO, within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. If the stationary internal combustion engine is rebuilt or undergoes major repair or maintenance, the permittee shall conduct a subsequent performance test.

c. Each performance test must be conducted within 10% of 100% peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 2 of 40 CFR Part 60, Subpart JJJJ.

d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast 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, Northeast District Office's refusal to accept the results of the emission test(s).

e. Personnel from the Ohio EPA, Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

- f. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast 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, Northeast District Office.

g) Miscellaneous Requirements

- (1) Any amendment to 40 CFR Part 60, Subpart OOOO shall supersede the compliance limitations and/or options contained in this permit.

6. Emissions Unit Group -Glycol Dehydration Units: P001,P002,P003,

EU ID	Operations, Property and/or Equipment Description
P001	Glycol dehydration unit
P002	Glycol dehydration unit
P003	Glycol dehydration unit

All units are natural gas glycol dehydration systems including a contact tower, flash tank separator with partial flow vented as fuel to the reboiler burner and the remaining flow vented to the condensate storage tank, and a glycol dehydration unit reboiler with still vent emissions vented through a condenser to Flare-1 with a 98% destruction efficiency (P014). (The reboiler burner is exempt from permitting per OAC rule 3745-31-03(A)(1)(a)).

- 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. b)(1)g and d)(4)
 - (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. b)(1)c, b)(2)c, b)(2)e, b)(2)f, c)(1), d)(1), e)(1), f)(1)a, f)(1)b and f)(1)c
- 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 compounds (VOC) emissions from the flare shall not exceed 0.68 lb/hr. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b.
c.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V)	VOC emissions shall not exceed 2.96 tons as a rolling, 12-month summation. See b)(2)c, b)(2)e and b)(2)f.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	40 CFR Part 63, Subpart HH, National Emission Standards for HAP from Oil and Natural Gas Production Facilities, 40 CFR 63.760(b)(2)	Compliance with the applicable portions of 40 CFR Part 63, Subpart HH. Any final amendments to this rule will supersede any previous Subpart HH requirement(s) in this permit.
e.	40 CFR 63.764(e)	Exemption from control requirements. See b)(2)d.
f.	40 CFR 63.1 – 63.16	The General Provisions that apply are specified in Table 2 of 40 CFR Part 63, Subpart HH.
g.	ORC 3704.03(F)(4)(d)	See d)(4).

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 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 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 3745-31-05, then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the controlled potential to emit for VOC is less than 10 tons/yr.
- c. Dehydrator flash tank off-gases that are not used as fuel in the reboiler shall be directed to the condensate storage tank’s vapor recovery unit or flare.
- d. The glycol dehydration unit is exempt from the control requirements of §63.764(d) because the actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram/year, with federally enforceable controls in place.

- e. Maintenance of the temperature of the exhaust gases from the condenser and maintenance of the flare used to control VOC and HAPs will assure compliance with the rolling, 12-month summations. Additional monthly record keeping is not required since the annual limits are based on the emissions unit's potential to emit (at a throughput of 75 mmscf of natural gas/day and 98% destruction efficiency). See emissions unit P014 for flare requirements.
- f. The emissions from the dehydration unit's condenser shall be vented to the flare at all times the emissions unit is in operation. The flare shall have a minimum destruction efficiency of 98%. See emissions unit P014 for flare requirements.

c) Operational Restrictions

- (1) All emissions from the dehydrator still vent shall be vented to a condenser that shall meet the monitoring and record keeping requirements of this permit, when the emissions unit is in operation, including the following:
 - a. The condenser shall be operated at all times when gases are vented to it.
 - b. The condenser must be equipped with a temperature monitoring device that monitors and records the dehydration still vent temperature.
 - c. The condenser, temperature monitoring device and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- (2) The condenser temperature shall be maintained below 120 degrees Fahrenheit during operation of this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain the following records for the condenser:
 - a. monitor and record the temperature of the exit of the condenser on a daily basis (Monday through Friday, excluding major holidays); and
 - b. record all periods of time when the condenser is not operating correctly to control the emissions from the dehydration still vent.
- (2) The permittee shall maintain records of the annual facility natural gas or hydrocarbon liquid throughput for each year, in accordance with 40 CFR 63.760(a)(1)(ii).
- (3) The permittee shall maintain the following records for the actual average emissions of benzene from the glycol dehydration unit process vent in accordance with 63.772(b)(2), determined either uncontrolled or with federally enforceable controls in place:

- a. The permittee shall determine actual average benzene emissions using the model GRI-GLY Calc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLY Calc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled “Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions” (GRI-95/0368.1); or
 - b. The permittee shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement using the methods in 63.772(a)(1)(i) or (ii), or an alternative method according to 63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.
- (4) Modeling to demonstrate compliance with, the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit’s maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified FEPTIO prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new FEPTIO.

*The composition of the gas being processed may vary due to the nature of the industry. The company will sample the gas semiannually to perform a detailed gas analysis in order to determine if the composition has changed such that it will result in an increase in emissions of any toxic air contaminant.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. 0.68 lb/hr and 2.96 tons VOC as a rolling, 12-month summation; and
 - ii. all periods of time when the condenser outlet temperature exceeds 120 degrees F.
 - b. all periods of time (start time and date, and end time and date) when the continuous temperature monitoring device that continuously monitors and records condenser vapor outlet temperature is not working and process gas is being vented to the condenser;
 - c. the probable cause of each deviation (excursion);

- d. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- e. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the Director (the Ohio EPA Northeast District Office).

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

VOC emissions from the flare shall not exceed 0.68 lb/hr and 2.96 tons as a rolling, 12-month summation.

Applicable Compliance Method:

The permittee may determine the VOC emissions (excludes methane and ethane) using the GRI-GLYCalc™ model, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit(s) and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1);

Potential VOC and/or benzene emissions estimates shall be based on the maximum glycol circulation rate(s), in gallons per minute (gpm); the worst case pollutant concentrations from representative extended gas analyses of the inlet wet gas; and the maximum natural gas flow rate, as determined by 40 CFR 63.772(b)(1)(i); or for a new unit, potential emissions shall be estimated in accordance with 40 CFR 63.760(a) and increased by a factor of 1.2.

See emissions unit P014 for testing requirements.

b. Emission Limitation:

The flare shall have a minimum destruction efficiency of 98%.

Applicable Compliance Method:

Compliance shall be demonstrated by the design and operation specifications detailed in emissions unit P014.

g) Miscellaneous Requirements

- (1) The permittee shall meet the applicable requirements of the most current version of 40 CFR Part 63, Subpart HH following any amendments to these rules, which may supersede any requirements identified in this permit.