



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
RICHLAND COUNTY**

**CERTIFIED MAIL**

Street Address:

50 West Town Street, Suite 700

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 03-17413**

**Fac ID: 0370000164**

**DATE: 2/26/2008**

Columbia Gas - Lucas Compressor Station  
Kasey Gabbard  
1700 MacCorkle Avenue  
Charleston, WV 25314

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

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

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

CC: USEPA

NWDO



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**Permit To Install  
Terms and Conditions**

**Issue Date: 2/26/2008  
Effective Date: 2/26/2008**

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**FINAL PERMIT TO INSTALL 03-17413**

Application Number: 03-17413  
Facility ID: 0370000164  
Permit Fee: **\$400**  
Name of Facility: Columbia Gas - Lucas Compressor Station  
Person to Contact: Kasey Gabbard  
Address: 1700 MacCorkle Avenue  
Charleston, WV 25314

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**4307 State Route 39  
Perrysville, Ohio**

Description of proposed emissions unit(s):  
**2.9 MMBtu/hr gas-fired reboiler and 4.4 MMBtu/hr natural gas-fired flare.**

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

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Chris Korleski  
Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. State and Federally Enforceable Permit-To-Install General Terms and Conditions

#### 1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - i. The date, place (as defined in the permit), and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
  - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written

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reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

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

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

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

## **3. Risk Management Plans**

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

**4. Title IV Provisions**

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

**5. Severability Clause**

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

**6. General Requirements**

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

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## **7. Fees**

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

## **8. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

## **9. Compliance Requirements**

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

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- iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

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

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

#### **11. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

#### **12. Air Pollution Nuisance**

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

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### **13. Permit-To-Install**

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

## **B. State Only Enforceable Permit-To-Install General Terms and Conditions**

### **1. Compliance Requirements**

The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

### **2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

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

### **3. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing

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of any transfer of this permit.

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**4. Authorization To Install or Modify**

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**5. Construction of New Sources(s)**

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**6. Public Disclosure**

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

**7. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

**8. Construction Compliance Certification**

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If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the permit-to-install application and the terms and conditions of the permit-to-install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

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

**C. Permit-To-Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)  
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	9.22
Benzene	0.72

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**Part II - FACILITY SPECIFIC TERMS AND CONDITIONS**

**A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions**

None

**B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions**

None

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

**Operations, Property, and/or Equipment -(P001) - Triethylene glycol natural gas dehydrator no. 1 with regeneration boiler (2.9 MMBtu/hr) and flare (4.4 MMBtu/hr)**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)(b)	See A.I.2.a and A.I.2.b
OAC rule 3745-31-05(C)	2.10 pounds of volatile organic compounds (VOC) per hour; 4.60 tons of VOC per year (See A.I.2.c)  0.0198 lb of benzene per million standard cubic foot (MMscf) of natural gas processed; 0.36 tons of benzene per year (See A.I.2.d)
OAC rule 3745-17-10(B)	0.02 lbs of particulate emissions (PE) per MMBtu of actual heat input from natural gas combustion in regenerator
OAC rule 3745-17-07(A)	Visible particulate emissions from the regenerator combustion exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule
OAC rule 3745-17-11(B)	See A.I.2.f (for flare)
OAC rule 3745-17-07(A)	See A.I.2.g (for flare)
OAC rule 3745-18-06(A)	See A.I.2.i
OAC rule 3745-18-06(E)	See A.I.2.e
OAC rule 3745-21-08(B)	See A.I.2.h

**2. Additional Terms and Conditions**

- 2.a The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable rule limit of 0.02 pounds of particulate per million Btu of actual heat input under OAC rule 3745-17-10(C)(1).
- 2.b The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the nitrogen oxide (NOx), carbon monoxide

Emissions Unit ID: P001

(CO), sulfur dioxide (SO<sub>2</sub>), and emissions of particulate matter less than ten microns in size (PM<sub>10</sub>) from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub>, CO, SO<sub>2</sub>, and PM<sub>10</sub> is each less than ten tons per year.

- 2.c** Permit to Install 03-17413 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).
- i. use of a flare achieving a 98% destruction efficiency for VOC emissions from the regenerator.

The potential to emit for VOC emissions from the flare is 4.60 tons VOC/year and was determined by adding natural gas combustion emissions and the 2% uncontrolled emissions from the flare. Natural gas combustion emissions were determined by multiplying the AP-42 emission factor from Table 13.5-1 (reformatted 1/1995), of 0.14 lb VOC/MMBtu, by the maximum firing capacity (4.40 MMBtu/hr). Uncontrolled flare emissions were determined by employing the GRI's GLYCalc, Version 4.0 computer program taking into account a flare control efficiency of 98 percent, by weight for the dehydrator emissions. The resulting hourly emission rate of combustion and uncontrolled emissions (2.10 lbs/hr) was multiplied by a maximum operating schedule of 4,380 hours per year. The maximum operating schedule is based on a physical constraint associated with dehydration demands.

VOC emissions from natural gas combustion from the regenerator are considered negligible for permitting purposes.

- 2.d** Permit to Install 03-17413 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of establishing legally and practically enforceable requirements representing the potential to emit for emissions of benzene
- i. 0.0198 pound of benzene per MMscf of natural gas processed based on a 98 percent destruction efficiency for the flare.

The annual emission rate for benzene from this emissions unit is 0.36 ton per year and was determined by multiplying the emission limitation of 0.0198 pound of benzene per MMscf of natural gas processed by a maximum annual throughput of 36,364 MMscf of natural gas.

The voluntary restriction is being established to avoid the control requirements of 40 CFR, Part 63, Subpart HHH in accordance with 40 CFR 63.1274(d)(2). Hence, there are no requirements established pursuant to 40 CFR 63.1274(d)(2) because the benzene emissions from this emissions unit are limited to less than

Emissions Unit ID: P001

1 ton per year.

- 2.e** There are no sulfur dioxide emission limitations established by OAC rule 3745-18 for equipment associated with this emissions unit that is not considered "fuel burning equipment" because the process weight rate is less than 1000 pounds per hour and is therefore exempt pursuant to OAC rule 3745-18-06(C).
- 2.f** The uncontrolled mass rate of particulate emissions 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. "Process weight" is defined in OAC rule 3745-17-01 (B)(17).
- 2.g** 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.
- 2.h** The "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08 (B) are satisfied by the design of the emissions unit.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. On June 24, 2003, that rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP), however, until the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.i** The combustion emissions from the regenerator are exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

## II. Operational Restrictions

1. The flare shall be operated and maintained in accordance with the following:
  - a. The flare shall be designed and operated with no visible emissions as determined

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by "Method 22, 40 CFR, Part 60, Appendix A," except for periods not to exceed a total of five minutes during any 120 consecutive minutes.

- b. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times. If an electric arc ignition system is employed, the arcing shall pulse continually.
  - c. The net heating value of the gas being controlled in the flare, as determined by the method specified in Paragraph (P)(2) of Rule 3745-21-10 of the Administrative Code, shall be 200 Btu/scf or greater.
  - d. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in Paragraph (P)(3) of Rule 3745-21-10 of the Administrative Code, less than 60 feet per second.
  - e. the permittee shall ensure the flare is operated and maintained in conformance with its design.
2. The permittee shall burn natural gas as the singular fuel supplement for this emissions unit.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a supplemental 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 flare shall be monitored with a thermocouple or any other equivalent device to detect the presence of a pilot flame. If an electric arc ignition system is employed, the arcing shall be monitored to detect any failure.
3. The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall record the following each day:

- a. All periods of time during which there was no pilot flame.
- b. A log of the downtime for the flare and monitoring equipment when the associated

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emissions unit was in operation.

4. The permittee shall collect and record the following information each month for this emissions unit:
  - a. the amount of natural gas processed in this emissions unit;
  - b. the benzene emissions, in pounds, calculated using GRI's GLYCalc, Version 4.0 computer program based on the amount of natural gas processed and the 98% destruction efficiency; and
  - c. the annual, year to date, benzene emissions from processed natural gas [sum of (a) for each calendar month to date from January to December].

#### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all periods of time during which there was no pilot flame (the reports shall include the date, time, and duration of each such occurrence); and
  - b. all exceedances of the 0.0198 pound of benzene per MMscf of natural gas processed.

The quarterly deviation reports shall be submitted in accordance with paragraph the General Terms and Conditions of this permit.

2. The permittee shall submit deviation (excursion) reports that identify each day when a supplemental fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit annual written reports that summarize the actual annual OC (benzene) emissions. The reports shall be submitted by January 31 of each year, shall include the calculations, and shall cover the previous calendar year.
4. The permittee shall submit quarterly summaries that include a log of the downtime for the flare and monitoring equipment when the associated emissions unit was in operation.

#### V. Testing Requirements

1. Compliance with the allowable emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:

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2.10 pounds of VOC per hour

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly allowable VOC emission limitation by adding natural gas combustion emissions and the 2% uncontrolled emissions from the flare. Natural gas combustion emissions were determined by multiplying the AP-42 emission factor from Table 13.5-1 (reformatted 1/1995), of 0.14 lb VOC/MMBtu, by the maximum firing capacity (4.40 MMBtu/hr). Uncontrolled flare emissions were determined by employing the GRI's GLYCalc, Version 4.0 computer program taking into account a flare control efficiency of 98 percent, by weight for the dehydrator emissions.

b. Emission Limitation:

4.60 tons of VOC per year

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable VOC emission limitation by multiplying the hourly emission limitation by a maximum operating schedule of 4,380 hours per year. The maximum operating schedule is based on a physical constraint associated with dehydration demands

c. Emission Limitation:

0.02 lbs of PE per MMBtu of actual heat input from natural gas combustion in regenerator

Applicable Compliance Method:

The permittee shall demonstrate compliance by multiplying the AP-42 emission factor from Table 1.4-2 (revised 7/1998), of 7.6 lbs PE/MMscf by the heat content of scf/1020 Btu. If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

d. Emission Limitation:

0.0198 lbs of benzene per million standard cubic foot of natural gas processed

Applicable Compliance Method:

The permittee shall demonstrate compliance with the allowable benzene emission limitation by employing the GRI's GLYCalc, Version 4.0 computer program utilizing a flare control efficiency of 98 percent, by weight, in addition to the amount of natural gas processed.

e. Emission Limitation:

Emissions Unit ID: P001

0.36 ton of benzene per year

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable benzene emission limitation through the recordkeeping requirements specified in section A.III.4 of the terms and conditions of this permit.

f. Emission Limitation:

Visible PE emissions from the regenerator combustion exhaust stack shall not exceed 20 percent opacity, as a six-minute average, except as otherwise provided by rule.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the visible PE limitation in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

**VI. Miscellaneous Requirements**

None

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**B. State Only Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

**Operations, Property, and/or Equipment -(P001) - Triethylene glycol natural gas dehydrator no. 1 with regeneration boiler (2.9 MMBtu/hr) and flare (4.4 MMBtu/hr)**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
ORC 3704.03(F)(3)(c) OAC rule 3745-114-01	See A.III. and A.IV.

2. **Additional Terms and Conditions**

- 2.a None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

1. The permit to install for emission units P001 and P002 was evaluated based on the actual materials and the design materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The "Toxic Air Contaminant Statue", ORC 3704.03(F), was applied to these emissions units 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 (in addition to benzene that emits less than one ton per year) using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 Toxics Emissions, Option A", as follows:
  - a. the exposure limit, expressed as time-weighted average concentration for a

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conventional 8-hour workday and a 40-hour workweek, for each toxic compound emitted from the emission units, (as determined from the raw materials processed 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 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 units, 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 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: Benzene TLV (mg/m<sup>3</sup>): 1.5973  
 Maximum Hourly Emission Rate (lbs/hr): 0.3306  
 Predicted 1-Hour Maximum Ground-Level Concentration (µg/m<sup>3</sup>): 8.317  
 MAGLC (µg/m<sup>3</sup>): 38.03

Toxic Contaminant: Toluene TLV (mg/m<sup>3</sup>): 188.405  
 Maximum Hourly Emission Rate (lbs/hr): 0.4810  
 Predicted 1-Hour Maximum Ground-Level Concentration (µg/m<sup>3</sup>): 12.10  
 MAGLC (µg/m<sup>3</sup>): 4485.8

Toxic Contaminant: Xylene TLV (mg/m<sup>3</sup>): 434.192  
 Maximum Hourly Emission Rate (lbs/hr): 0.6678

**Columbia Gas- Lucas Compressor Station**

DTI Application: 02-17412

**Facility ID: 0370000164**

Emissions Unit ID: P001

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 16.81  
MAGLC ( $\mu\text{g}/\text{m}^3$ ): 10337.9

The permittee, has demonstrated that emissions of benzene, toluene and xylene, from emissions units P001 and P002, is calculated to be less than eighty per cent of the 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).

2. 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

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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 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 Statue" 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 Statue", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

3. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statue", 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 MAGLC for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statue", ORC 3704.03(F);

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- 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 Statue", 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 Statue", 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.
4. 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 Statue", 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.

#### **IV Reporting Requirements**

1. The permittee shall submit annual reports to the appropriate Ohio EPA District Office of local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the "Toxic Air Contaminant Statue", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

#### **Testing Requirements**

None

#### **Miscellaneous Requirements**

None

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

**Operations, Property, and/or Equipment -(P002) - Triethylene glycol natural gas dehydrator no. 2 with regeneration boiler (2.9 MMBtu/hr) and flare (4.4 MMBtu/hr)**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
45-31-05(A)(3)(b)	See A.I.2.a and A.I.2.b
45-31-05(C)	2.10 pounds of volatile organic compounds (VOC) per hour; 4.60 tons of VOC per year (See A.I.2.c)  0.0198 lb of benzene per million standard cubic foot (MMscf) of natural gas processed; 0.36 tons of benzene per year (See A.I.2.d)
45-17-10(B)	0.02 lbs of particulate emissions (PE) per MMBtu of actual heat input from natural gas combustion in regenerator
45-17-07(A)	Visible particulate emissions from the regenerator combustion exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule
45-17-11(B)	See A.I.2.f (for flare)
45-17-07(A)	See A.I.2.g (for flare)
45-18-06(A)	See A.I.2.i
45-18-06(E)	See A.I.2.e
45-21-08(B)	See A.I.2.h

**2. Additional Terms and Conditions**

- 2.a The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable rule limit of 0.02 pounds of particulate per million Btu of actual heat input under OAC rule 3745-17-10(C)(1).
- 2.b The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the nitrogen oxide (NOx), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and emissions of particulate matter less than ten microns in size (PM<sub>10</sub>) from this air

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contaminant source since the uncontrolled potential to emit for NO<sub>x</sub>, CO, SO<sub>2</sub>, and PM<sub>10</sub> is each less than ten tons per year.

**2.c** Permit to Install 03-17413 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

- i. use of a flare achieving a 98% destruction efficiency for VOC emissions from the regenerator.

The potential to emit for VOC emissions from the flare is 4.60 tons VOC/year and was determined by adding natural gas combustion emissions and the 2% uncontrolled emissions from the flare. Natural gas combustion emissions were determined by multiplying the AP-42 emission factor from Table 13.5-1 (reformatted 1/1995), of 0.14 lb VOC/MMBtu, by the maximum firing capacity (4.40 MMBtu/hr). Uncontrolled flare emissions were determined by employing the GRI's GLYCalc, Version 4.0 computer program taking into account a flare control efficiency of 98 percent, by weight for the dehydrator emissions. The resulting hourly emission rate of combustion and uncontrolled emissions (2.10 lbs/hr) was multiplied by a maximum operating schedule of 4,380 hours per year. The maximum operating schedule is based on a physical constraint associated with dehydration demands.

VOC emissions from natural gas combustion from the regenerator are considered negligible for permitting purposes.

**2.d** Permit to Install 03-17413 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of establishing legally and practically enforceable requirements representing the potential to emit for emissions of benzene

- i. 0.0198 pound of benzene per MMscf of natural gas processed based on a 98 percent destruction efficiency for the flare.

The annual emission rate for benzene from this emissions unit is 0.36 ton per year and was determined by multiplying the emission limitation of 0.0198 pound of benzene per MMscf of natural gas processed by a maximum annual throughput of 36,364 MMscf of natural gas.

The voluntary restriction is being established to avoid the control requirements of 40 CFR, Part 63, Subpart HHH in accordance with 40 CFR 63.1274(d)(2). Hence, there

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are no requirements established pursuant to 40 CFR 63.1274(d)(2) because the benzene emissions from this emissions unit are limited to less than 1 ton per year.

- 2.e There are no sulfur dioxide emission limitations established by OAC rule 3745-18 for equipment associated with this emissions unit that is not considered "fuel burning equipment" because the process weight rate is less than 1000 pounds per hour and is therefore exempt pursuant to OAC rule 3745-18-06(C).
- 2.f The uncontrolled mass rate of particulate emissions 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. "Process weight" is defined in OAC rule 3745-17-01 (B)(17).
- 2.g 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.
- 2.h The "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08 (B) are satisfied by the design of the emissions unit.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. On June 24, 2003, that rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP), however, until the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.i The combustion emissions from the regenerator are exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

### Operational Restrictions

1. The flare shall be operated and maintained in accordance with the following:
  - a. The flare shall be designed and operated with no visible emissions as determined by "Method 22, 40 CFR, Part 60, Appendix A," except for periods not to exceed a total of five minutes during any 120 consecutive minutes.

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- b. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times. If an electric arc ignition system is employed, the arcing shall pulse continually.
  - c. The net heating value of the gas being controlled in the flare, as determined by the method specified in Paragraph (P)(2) of Rule 3745-21-10 of the Administrative Code, shall be 200 Btu/scf or greater.
  - d. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in Paragraph (P)(3) of Rule 3745-21-10 of the Administrative Code, less than 60 feet per second.
  - e. the permittee shall ensure the flare is operated and maintained in conformance with its design.
2. The permittee shall burn natural gas as the singular fuel supplement for this emissions unit.

### **Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a supplemental 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 flare shall be monitored with a thermocouple or any other equivalent device to detect the presence of a pilot flame. If an electric arc ignition system is employed, the arcing shall be monitored to detect any failure.
3. The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall record the following each day:

- a. All periods of time during which there was no pilot flame.
  - b. A log of the downtime for the flare and monitoring equipment when the associated emissions unit was in operation.
4. The permittee shall collect and record the following information each month for this emissions unit:
    - a. the amount of natural gas processed in this emissions unit;
    - b. the benzene emissions, in pounds, calculated using GRI's GLYCalc, Version 4.0 computer program based on the amount of natural gas processed and the 98%

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destruction efficiency; and

- c. the annual, year to date, benzene emissions from processed natural gas [sum of (a) for each calendar month to date from January to December].

### **Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all periods of time during which there was no pilot flame (the reports shall include the date, time, and duration of each such occurrence); and
  - b. all exceedances of the 0.0198 pound of benzene per MMscf of natural gas processed.

The quarterly deviation reports shall be submitted in accordance with paragraph the General Terms and Conditions of this permit.

2. The permittee shall submit deviation (excursion) reports that identify each day when a supplemental fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit annual written reports that summarize the actual annual OC (benzene) emissions. The reports shall be submitted by January 31 of each year, shall include the calculations, and shall cover the previous calendar year.
4. The permittee shall submit quarterly summaries that include a log of the downtime for the flare and monitoring equipment when the associated emissions unit was in operation.

### **Testing Requirements**

1. Compliance with the allowable emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
2.10 pounds of VOC per hour

#### Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly allowable VOC emission limitation by adding natural gas combustion emissions and the 2% uncontrolled emissions from the flare. Natural gas combustion emissions were determined by multiplying the AP-42 emission factor from Table 13.5-1 (reformatted 1/1995), of 0.14

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lb VOC/MMBtu, by the maximum firing capacity (4.40 MMBtu/hr). Uncontrolled flare emissions were determined by employing the GRI's GLYCalc, Version 4.0 computer program taking into account a flare control efficiency of 98 percent, by weight for the dehydrator emissions.

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- b. Emission Limitation:  
4.60 tons of VOC per year

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable VOC emission limitation by multiplying the hourly emission limitation by a maximum operating schedule of 4,380 hours per year. The maximum operating schedule is based on a physical constraint associated with dehydration demands

- c. Emission Limitation:  
0.02 lbs of PE per MMBtu of actual heat input from natural gas combustion in regenerator

Applicable Compliance Method:

The permittee shall demonstrate compliance by multiplying the AP-42 emission factor from Table 1.4-2 (revised 7/1998), of 7.6 lbs PE/MMscf by the heat content of scf/1020 Btu. If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

- d. Emission Limitation:  
0.0198 lbs of benzene per million standard cubic foot of natural gas processed

Applicable Compliance Method:

The permittee shall demonstrate compliance with the allowable benzene emission limitation by employing the GRI's GLYCalc, Version 4.0 computer program utilizing a flare control efficiency of 98 percent, by weight, in addition to the amount of natural gas processed.

- e. Emission Limitation:  
0.36 ton of benzene per year

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable benzene emission limitation through the recordkeeping requirements specified in section A.III.4 of the terms and conditions of this permit.

- f. Emission Limitation:  
Visible PE emissions from the regenerator combustion exhaust stack shall not exceed 20 percent opacity, as a six-minute average, except as otherwise provided by rule.

Applicable Compliance Method:

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If required, the permittee shall demonstrate compliance with the visible PE limitation in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

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**Miscellaneous Requirements**

None

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**State Only Enforceable Section**

**Applicable Emissions Limitations and/or Control Requirements**

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

**Operations, Property, and/or Equipment - (P002) - Triethylene glycol natural gas dehydrator no. 2 with regeneration boiler (2.9 MMBtu/hr) and flare (4.4 MMBtu/hr)**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
3(F)(3)(c) 45-114-01	See A.III. and A.IV.

**2. Additional Terms and Conditions**

2.a None

**Operational Restrictions**

None

**Monitoring and/or Recordkeeping Requirements**

1. The permit to install for emission units P001 and P002 was evaluated based on the actual materials and the design materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to these emissions units 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 (in addition to benzene that emits less than one ton per year) using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results 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 Toxics Emissions, Option A", as follows:
  - a. the exposure limit, expressed as time-weighted average concentration for a

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conventional 8-hour workday and a 40-hour workweek, for each toxic compound emitted from the emission units, (as determined from the raw materials processed 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 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 units, 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 MAGLC:

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

- 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: Benzene TLV (mg/m<sup>3</sup>): 1.5973  
 Maximum Hourly Emission Rate (lbs/hr): 0.3306  
 Predicted 1-Hour Maximum Ground-Level Concentration (µg/m<sup>3</sup>): 8.317  
 MAGLC (µg/m<sup>3</sup>): 38.03

Toxic Contaminant: Toluene TLV (mg/m<sup>3</sup>): 188.405  
 Maximum Hourly Emission Rate (lbs/hr): 0.4810  
 Predicted 1-Hour Maximum Ground-Level Concentration (µg/m<sup>3</sup>): 12.10  
 MAGLC (µg/m<sup>3</sup>): 4485.8

Toxic Contaminant: Xylene TLV (mg/m<sup>3</sup>): 434.192  
 Maximum Hourly Emission Rate (lbs/hr): 0.6678  
 Predicted 1-Hour Maximum Ground-Level Concentration (µg/m<sup>3</sup>): 16.81  
 MAGLC (µg/m<sup>3</sup>): 10337.9

The permittee, has demonstrated that emissions of benzene, toluene and xylene, from emissions units P001 and P002, is calculated to be less than eighty per cent of the MAGLC; any new raw material or processing agent shall not be applied without

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evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statue", ORC 3704.03(F).

2. 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 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 Statue" 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 Statue", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

3. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statue", 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)

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modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

- b. the MAGLC for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statue", 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 Statue", 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 Statue", 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.
4. 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 Statue", 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.

### Reporting Requirements

1. The permittee shall submit annual reports to the appropriate Ohio EPA District Office of local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the "Toxic Air Contaminant Statue", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

### Testing Requirements

None

### Miscellaneous Requirements

None