

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

4/14/2014

Certified Mail

Mr. Joseph Morgan
CRAWFORD COMPRESSOR STATION
1700 MacCorkle Avenue
Charleston, WV 25314

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0123000137
Permit Number: P0116355
Permit Type: Administrative Modification
County: Fairfield

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

Dear Permit Holder:

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

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

How to appeal this permit

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

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

How to save money, reduce pollution and reduce energy consumption

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

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

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

If you have any questions, please contact Ohio EPA DAPC, Central District Office at (614)728-3778 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
Ohio EPA-CDO; Kentucky



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
CRAWFORD COMPRESSOR STATION**

Facility ID:	0123000137
Permit Number:	P0116355
Permit Type:	Administrative Modification
Issued:	4/14/2014
Effective:	4/14/2014



Division of Air Pollution Control
Permit-to-Install
for
CRAWFORD COMPRESSOR STATION

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Authorization

Facility ID: 0123000137
Facility Description: Compressor Station
Application Number(s): M0002628, M0002629, M0002689, M0002690, M0002692, M0002693
Permit Number: P0116355
Permit Description: Administrative Modification to adjust emission limitations and associated compliance methods.
Permit Type: Administrative Modification
Permit Fee: \$1,400.00
Issue Date: 4/14/2014
Effective Date: 4/14/2014

This document constitutes issuance to:

CRAWFORD COMPRESSOR STATION
Environmental Health and Safety
1700 MacCorkle Avenue, S.E.
Greenfield Twp., OH 25314

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

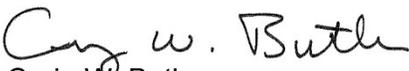
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0116355

Permit Description: Administrative Modification to adjust emission limitations and associated compliance methods.

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

Emissions Unit ID:	B013
Company Equipment ID:	TEG DEHY #1
Superseded Permit Number:	01-6343
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B025
Company Equipment ID:	RECIP ENGINE/GENERATOR #099G3
Superseded Permit Number:	01-5741
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B026
Company Equipment ID:	TEG DEHY #2
Superseded Permit Number:	01-6343
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B027
Company Equipment ID:	RECIP ENGINE/AIR COMPR. #099A1
Superseded Permit Number:	01-6402
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B032
Company Equipment ID:	TEG DEHY #3
Superseded Permit Number:	01-6835
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	GLYCOL RECLAIMER #2
Superseded Permit Number:	01-08232
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	GLYCOL RECLAIMER #3
Superseded Permit Number:	01-08634
General Permit Category and Type:	Not Applicable



Final Permit-to-Install
CRAWFORD COMPRESSOR STATION
Permit Number: P0116355
Facility ID: 0123000137
Effective Date:4/14/2014

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

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

2. Severability Clause

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

3. General Requirements

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



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

4. Monitoring and Related Record Keeping and Reporting Requirements

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



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

5. Scheduled Maintenance/Malfunction Reporting

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

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

6. Compliance Requirements

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



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

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

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

7. Best Available Technology

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



8. Air Pollution Nuisance

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

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

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

10. Applicability

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

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

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



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

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

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

12. Permit-To-Operate Application

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



13. Construction Compliance Certification

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

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

14. Public Disclosure

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

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

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

16. Fees

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

17. Permit Transfers

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

18. Risk Management Plans

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

19. Title IV Provisions

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



Final Permit-to-Install
CRAWFORD COMPRESSOR STATION
Permit Number: P0116355
Facility ID: 0123000137
Effective Date: 4/14/2014

B. Facility-Wide Terms and Conditions



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.

2. The Ohio EPA has determined that this facility is subject to the requirements of 40 CFR Part 63 Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Although Ohio EPA has determined that this Maximum Achievable Control Technology NESHAP (MACT) applies to the pre-NSPS engine(s) identified in this permit, at this time Ohio EPA is not accepting delegation for area sources subject to MACT requirements. Instead, U.S. EPA will retain the authority to enforce this standard for area sources. Please be advised, that all requirements associated with Part 63 Subpart ZZZZ are in effect and shall be enforced by U.S. EPA. The complete requirements of this rule (including the Part 63 General Provisions) may be accessed via the Internet from the Electronic code of Federal Regulations (e-CFR) website <http://www.ecfr.gov/> or by contacting the appropriate Ohio EPA District Office or Local Air Agency.



Final Permit-to-Install
CRAWFORD COMPRESSOR STATION
Permit Number: P0116355
Facility ID: 0123000137
Effective Date: 4/14/2014

C. Emissions Unit Terms and Conditions



1. B013, TEG DEHY #1

Operations, Property and/or Equipment Description:

NATCO 250 mmscf/day NATURAL GAS DEHYDRATOR SYSTEM : TWO ABSORBER TOWERS & REGENERATOR STILL W/ BOILER.TEG DEHY #1

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-6343)	<p>Sulfur dioxide (SO₂) emissions shall not exceed 0.0862 lb/hr and 0.005 ton/yr.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 0.86 lb/hr and 3.78 tons/yr.</p> <p>Nitrogen oxide (NO₂) emissions shall not exceed 0.11 lb/hr and 0.48 ton/yr.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.45 lb/hr and 1.97 tons/yr.</p> <p>Particulate (PM) emissions shall not exceed 0.003 lb/hr and 0.013 ton/yr.</p>
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-10(B)(1)	Particulate (PE) emissions from the boiler stach shall not exceed 0.020 lb/mmBtu actual heat input.
d.	OAC rule 3745-18-06(G)	This emissions unit is exempt from this requirement pursuant to OAC rule 3745-18-06(A).



- (2) Additional Terms and Conditions
 - a. The emissions unit shall be equipped with a flare to control organic compound emissions. The flare shall be fired with natural gas.
 - b. The flare shall be designed and operated in a manner that will ensure no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, as determined by Method 22 referenced in 40 CFR 60.18 (f).
 - c. The flare shall be operated at all times when organic compound emissions may be vented to it.
 - d. The flare shall be used only when the net heating value of the gas being combusted is 200 Btu/scf or greater. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f).
 - e. The flare shall be designed with an exit velocity that satisfies the requirements of 40 CFR 60.18(f).
- c) Operational Restrictions
 - (1) The permittee shall burn only natural gas in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The flare shall be monitored for the presence of a pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame.
 - (2) The permittee shall record the following information each month:
 - a. All periods during which there was no pilot flame; and
 - b. The operating times for the flare, monitoring equipment, and the associated emissions unit.
 - (3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and the quantity of fuel burned in this emissions unit.
- 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 report the use of any material other than glycol in this emissions unit within 30 days after the occurrence.



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:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

PE from the boiler stack shall not exceed 0.020 lb PE/MMBtu of actual heat input.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(9).

c. Emission Limitation:

NOx emissions shall not exceed 0.11 lb/hr and 0.48 ton/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rate using an emission factor of 0.068 lbNOx/MMBtu (AP-42, Tbl 13.5-1, 1/95) multiplied by the 1.15 MMBtu/hr NAO flare plus the product of an emission factor of 0.098 lbNOx/MMBtu (AP-42, Tbl 1.4-1, 7/98) multiplied by 0.35 MMBtu/hr NATCO reboiler burner.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated..

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.



d. Emission Limitation:

CO emissions shall not exceed 0.45 lb/hr and 1.97 tons/yr

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rates using an emission factor of 0.37 lb CO/MMBtu (AP-42, Tbl 13.5-1, 1/95) multiplied by 1.15 MMBtu/hr NAO flare plus the product of an emission factor of 0.0824 lb CO/MMBtu (AP-42, Tbl 1.4-1, 7/98) multiplied by 0.35 MMBtu/hr NATCO reboiler burner.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

e. Emission Limitation:

VOC emissions shall not exceed 0.8623 lb/hr and 3.78 tons/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the Gas Research Institute simulation program, GLYCalc version 3, based on wet gas analyses of the gases assuming a dehydrator gas feed rate of 250 MMscf/day multiplied by 0.02 representing 98% flare destruction efficiency (0.84 lb VOC/hr controlled emissions) plus the product of an emission factor of 0.014 lb VOC/MMBtu (AP-42 Tbl 13.5-1, 1/95; 10% of THC assumed to be VOC) multiplied by 1.15 MMBtu/hr NAO flare burner rate plus the product of an emission factor of 0.005 lb VOC/MMBtu (AP-42 Tbl 1.4-2, 7-98) multiplied by 0.35 MMBtu/hr NATCO reboiler burner.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated. Emission tests may be required, in accordance with test procedures approved by the Director, to demonstrate compliance with the hourly emission limitations.

f. Emission Limitation:

PE shall not exceed 0.003 lb/hr, 0.013 ton/yr, and 0.020 lb/mmBtu actual heat input.



Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rates using an emission factor of 0.00186 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98; filterable component only) multiplied by the 1.15 MMBtu/hr NAO flare plus the product of an emission factor of 0.00186 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98; filterable component only) multiplied by 0.35 MMBtu/hr NATCO reboiler burner.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

g. Emission Limitation:

SO₂ emissions shall not exceed 0.086 lb/hr and 0.005 ton/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rate using an emission factor of 0.057 lb SO₂/MMBtu (20 gr S/100scf) multiplied the 1.15 MMBtu/hr NAO flare plus the product of an emission factor of 0.057 lb/MMBtu (20 g S/100 scf) multiplied by 0.35 MMBtu/hr NATCO reboiler burner.

The annual limitation was established based on an average annual sulfur concentration of 0.25 grains S per 100 cubic feet of natural gas. Therefore, compliance with the annual emission limitation shall be determined based on the emission factor of 0.000714 lb SO₂/MMBtu for the flare and reboiler. The annual limitation was established by multiplying this annual average hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6C.

g) Miscellaneous Requirements

- (1) None.



2. B025, RECIP ENGINE/GENERATOR #099G3

Operations, Property and/or Equipment Description:

4SRB Waukesha F817G Recip Engine GEN #099G3 213 Brake HP, Product Rating 194 HP.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-5741)	Nitrogen oxides (NO _x) emissions shall not exceed 5.00 lbs/hr. Carbon monoxide (CO) emissions shall not exceed 8.41 lbs/hr. Volatile organic compound (VOC) emissions shall not exceed 0.067 lb/hr. Particulate emissions (PE) shall not exceed 0.044 lb/hr.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as specified by rule.
c.	OAC rule 3745-17-11(B)(5)(a)	The particulate emissions from the engine's exhaust stack shall not exceed 0.310 lb/mmBtu of actual heat input.
d.	OAC rule 3745-18-06(G)	This emissions unit is exempt from this requirement pursuant to OAC rule 3745-06(A).
e.	40 CFR Part 63 Subpart ZZZZ (40 CFR 63.6580 to 63.6675) In accordance with 40 CFR 63.6585, this emissions unit is a stationary reciprocating internal combustion engine (RICE) subject to the National Emissions Standards for	The existing, natural gas, stationary 4SRB spark ignition (SI) RICE, located at a major source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ no later than October 19, 2013.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	
f.	40 CFR 63.6602 Table 2c #11 to Subpart ZZZZ	Following the compliance date of 10/19/13, emissions of formaldehyde shall not exceed 10.3 ppmvd at 15% O ₂ .

(2) Additional Terms and Conditions

- a. Following the compliance date of the NESHAP, the permittee shall limit the concentration of formaldehyde from the stationary RICE exhaust to 10.3 ppmvd or less at 15% O₂ at the outlet of the control device or from the exhaust stack of the engine.
- b. The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6595(a)(1)	The compliance date for Part 63 Subpart ZZZZ for existing SI RICE is 10/19/13.
Applicable Tables from Part 63, Subpart ZZZZ	Following the compliance date, comply with: emission limit in Table 2c #11; performance test methods in Table 4 #3; initial compliance demonstration in Table 5 #13; reporting requirements/frequency in Table 7; general provision from Subpart A in Table 8.
40 CFR 63.6602	Following the compliance date, maintain compliance with the emission limitation in Table 2c #11 (limit formaldehyde to 10.3 ppmvd at 15% O ₂) to Part 63 Subpart ZZZZ.
40 CFR 63.6602; 40 CFR 63.6612; and 40 CFR 63.6620	Conduct an initial performance test within 180 days following the compliance date or by 4/19/14, to demonstrate compliance with the formaldehyde emission standard and in accordance with the requirements specified in Tables 4 and 5 to the subpart.
40 CFR 63.6665	Meet all of the general provisions of Subpart A, from Sections 63.1 through 63.15, that apply to the SI RICE, as identified in Table 8 to Subpart ZZZZ.

c) Operational Restrictions

- (1) The maximum annual natural gas usage for the RICE shall not exceed 1000 hours per rolling, 12-month period.
- (2) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:



Applicable Rule	Requirement
40 CFR 63.6605	General duty to minimize emissions, with good air pollution control practices for minimizing emissions; and compliance required at all times.
40 CFR 63.6625(h)	Minimize idle and startup time, not to exceed 30 minutes.

d) Monitoring and/or Recordkeeping Requirements

- (1) This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the hours of operation, upon issuance of this permit. The maximum annual operating hours for this emissions unit shall not exceed 1000 hours, based upon a rolling, 12-month summation of the operating hours.
- (2) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6635	Except for monitor malfunctions, associated repairs, and required quality assurance activities, must continuously monitor that the RICE is operating. Must use all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) in calculations used to report emissions or operating levels.
40 CFR 63.6655(a)	Keep records of: 1. each notification and report submitted to comply with Subpart ZZZZ; 2. the occurrence and duration of each malfunction of the RICE and any control or monitoring equipment; 3. corrective actions taken during each period of malfunction to minimize emissions and restore normal operations; 4. records of performance tests; and 5. all required maintenance performed on air pollution control and monitoring equipment.
40 CFR 63.6625(h)	Maintain a record of each idle and/or startup time that exceeded 30 minutes.
40 CFR 63.6660	Records readily available and retained for at least 5 years after the date of occurrence or date of report according to 63.10(b)(1).

e) Reporting Requirements

- (1) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6602, shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.
- (2) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:



Applicable Rule	Requirement
40 CFR 63.6640(b)	Submit a report of each instance in which the emission limitation in Table 2c was not met; these deviations to be reported according to the requirements of 63.6650.
40 CFR 63.6640(e)	Submit a report of each instance in which the applicable requirements in Table 8 to Subpart ZZZZ, the general provisions from Subpart A, were not met.
40 CFR 63.6645(a)(1)	Submit all notifications required per 63.7(b) and (c); 63.8(e), (f)(4), and (f)(6); and 63.9(b) through (e), (g), and (h) that apply to the SI RICE.
40 CFR 63.6645(g)	Submit a Notification of Intent to conduct a performance test at least 60 days before the test is scheduled to begin, as required by 63.7(b)(1).
40 CFR 63.6645(h); 40 CFR 63.6630(c); and OAC rule 3745-15-04(A)	Submit a Notification of Compliance Status for each initial compliance demonstration required in Table 5 to Subpart ZZZZ, including the performance test results, before the close of business on the 60 th day following the completion of the test; or within 30 days of the initial compliance demonstration if the demonstration does not include a performance test. OAC rule 3745-15-04(A) requires performance test results to be submitted within 30 days of the test date unless additional time is requested.
40 CFR 63.6650(a)	Submit each applicable report in Table 7 of Subpart ZZZZ.
40 CFR 63.6650(b)(1) to (5) and Part 63 Subpart ZZZZ Table 7 #1	Following the initial compliance date, submit Semiannual Compliance Reports to include the information identified in 63.6650(c) through (f), as applicable to the SI RICE. Following the initial compliance report, each subsequent report shall cover the reporting period from January 1st through June 30th and July 1st through December 31st. The Semiannual Compliance Reports must be postmarked or delivered no later than July 31st and January 31st.
40 CFR 63.6675 and Subpart ZZZZ Table 7 #1.a.ii	Definition of "limited use stationary RICE". Include in each Annual Compliance Report any exceedance of 100 hours of operation during the year.
40 CFR 63.6650(c)	63.6650(c) contains the required information to be submitted in each compliance report.
40 CFR 63.6650(d)	63.6650(d) contains the required information to be submitted for each deviation from an emission or operating limitation not monitored by a continuous monitoring system (CMS).

- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR, Part 60, Appendix A.

b. Emission Limitation:

PE shall not exceed 0.044 lb/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 0.019 lb PE/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 213 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

c. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon visible particulate emission observations performed in accordance with the method and procedures specified in OAC rule 3745-17-03(B)(1).

d. Emission Limitation:

NOx emissions shall not exceed 5.00 lbs/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 2.21 lbNOx/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 213 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.



e. Emission Limitation:

VOC emission shall not exceed 0.067 lb/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 0.03 lb VOC/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 213 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

f. Emission Limitation:

CO emissions shall not exceed 8.41 lbs/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 3.72 lbs CO/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 213 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

g. Emission Limitation:

PE emission from the engine exhaust stack shall not exceed 0.310 lb/hr.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.0095 lb PE₁₀/MMBtu of heat input. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.2, Table 3.2-3 (7/00).

If required, the permittee shall demonstrate compliance with the emission limitations in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

h. Emission Limitations:

10.3 ppmvd formaldehyde at 15% O₂



Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 4/19/14, to demonstrate compliance with the formaldehyde limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted.

The performance test shall consist of 3 separate test runs and each test run shall last a minimum of 1 hour and shall be conducted during normal operations. The engine percent load, during the performance test, shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load and the estimated percent load shall be included in the notification of compliance.

The following test methods shall be employed to demonstrate compliance with the emission limitation for formaldehyde:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00: to measure O₂ at the inlet and outlet of the control device if demonstrating compliance through the percent control of CO or to determine the O₂ concentration of the stationary RICE exhaust to normalize the CO concentration.
- iii. Method 4 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D6348-03 to measure the moisture content at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure the moisture content of the stationary RICE exhaust.
- iv. Method 320 or Method 323 of 40 CFR Part 63,, Appendix A; or ASTM D 6348-03 to measure formaldehyde at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure formaldehyde at the exhaust of the stationary RICE.
- v. The following equation shall be used to normalize the formaldehyde concentrations to a dry basis and to 15 percent oxygen (O₂)**:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

Where:

C_{adj}= calculated formaldehyde concentration adjusted to 15 percent O₂.

C_d= measured concentration of formaldehyde, uncorrected.



$5.9 = 20.9 \text{ percent } O_2 - 15 \text{ percent } O_2$, the defined O_2 correction value, percent.

$\%O_2$ = measured O_2 concentration, dry basis, percent.

** Optionally, the pollutant concentrations can be corrected to 15% O_2 using a CO_2 correction factor, by calculating the fuel factor (F_o value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).

The permittee shall notify the Ohio EPA Central District Office Division of Air Pollution Control in writing of the scheduled performance test date at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

Personnel from the Ohio EPA Central District Office Division of Air Pollution Control 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.

[40 CFR 63.7(a)(2), (b)(1), and (e)(3)], [40 CFR 63.6602], [40 CFR 63.6612], [40 CFR 63.6620], [40 CFR 63.6630], [40 CFR 63.6645(a)(1)], [Part 63, Subpart ZZZZ, Table 2c #11; Table 4 #3; and Table 5 #13], and [OAC rule 3745-15-04(A)]

g) Miscellaneous Requirements

(1) None.



3. B026, TEG DEHY #2

Operations, Property and/or Equipment Description:

NATCO 125 mmscf/day NATURAL GAS DEHYDRATOR SYSTEM : TWO ABSORBER TOWERS & REGENERATOR STILL W/ BOILER. TEG DEHY #2 (1.0 MMBtu/hr boiler (BLR4), and 1.33 MMBtu/hr flare (FLLP2)).

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-6343)	Sulfur dioxide (SO ₂) emissions shall not exceed 0.13 lb/hr and 0.007 ton/yr Volatile organic compound (VOC) emissions shall not exceed 0.77 lb/hr and 3.37 tons/yr. Nitrogen oxides (NO _x) emissions shall not exceed 0.19 lb/hr and 0.83 ton/yr. Carbon monoxide (CO) emissions shall not exceed 0.57 lb/hr and 2.50 tons/yr Particulate (PE) emissions shall not exceed 0.004 lb/hr and 0.018 ton/yr
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC 3745-17-10(B)(1)	Particulate (PE) emissions from the boiler stach shall not exceed 0.020 lb/mmBtu actual heat input.
d.	OAC rule 3745-18-06(G)	This emissions unit is exempt from this requirement pursuant to OAC rule 3745-18-06(A).



- (2) Additional Terms and Conditions
 - a. The emissions unit shall be equipped with a flare to control organic compound emissions. The flare shall be fired with natural gas.
 - b. The flare shall be designed and operated in a manner that will ensure no visible emissions, as determined by 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
 - c. The flare shall be operated at all times when emissions may be vented to it as determined by methods specified in 40 CFR 60.18(f).
 - d. The flare shall be used only when the net heating value of the gas being combusted is 200 Btu/scf or greater. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f).
 - e. The flare shall be designed for and operated with an exit velocity that satisfies the requirements of 40 CFR 60.18(f).
- c) Operational Restrictions
 - (1) The permittee shall burn only natural gas in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The flare shall be monitored for the presence of a pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame.
 - (2) The permittee shall record the following information each month:
 - a. All periods during which there was no pilot flame; and
 - b. The operating times for the flare, monitoring equipment, and the associated emissions unit.
 - (3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and the quantity of fuel burned in this emissions unit.
- 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 report the use of any material other than glycol in this emissions unit within 30 days after the occurrence.



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:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

NO_x emissions shall not exceed 0.19 lb/hr and 0.83 ton/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rate using an emission factor of 0.068 lbNO_x/MMBtu (AP-42, Tbl 13.5-1, 1/95) multiplied by the 1.33 MMBtu/hr NAO flare plus the product of an emission factor of 0.098 lbNO_x/MMBtu (AP-42, Tbl 1.4-1, 7/98) multiplied by 1.0 MMBtu/hr NAO reboiler burner.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

c. Emission Limitation:

CO emissions shall not exceed 0.57 lb/hr and 2.50 tons/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rates using an emission factor of 0.37 lb CO/MMBtu (AP-42, Tbl 13.5-1, 1/95) multiplied by 1.33 MMBtu/hr NAO flare plus the product of an emission factor of 0.0824 lb CO/MMBtu (AP-42, Tbl 1.4-1, 7/98) multiplied by 1.0 MMBtu/hr NAO reboiler burner.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and



dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

d. Emission Limitation:

VOC emissions shall not exceed 0.77 lb/hr and 3.37 tons/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the Gas Research Institute simulation program, GLYCalc version 3, based on wet gas analyses of the gases assuming a dehydrator gas feed rate of 125 MMscf/day multiplied by 0.02 representing 98% flare destruction efficiency (0.74 lb VOC/hr controlled emissions) plus the product of an emission factor of 0.014 lb VOC/MMBtu (AP-42 Tbl 13.5-1, 1/95; 10% of THC assumed to be VOC) multiplied by 1.33 MMBtu/hr NAO flare burner rate plus the product of an emission factor of 0.005 lb VOC/MMBtu (AP-42 Tbl 1.4-2, 7-98) multiplied by 1.0 MMBtu/hr NAO reboiler burner.

e. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22 and the procedures specified in 40 CFR Part 60.18(f). No visible emission observations are specifically required to demonstrate compliance with these emission limitations but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A).

f. Emission Limitation:

PE emissions shall not exceed 0.004 lb/hr, 0.018 ton/yr and 0.020 lb/mmBtu actual heat input.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rates using an emission factor of 0.00186 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98; filterable component only) multiplied by the 1.33 MMBtu/hr NAO flare plus the product of an emission factor of 0.00186 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98; filterable component only) multiplied by 1.0 MMBtu/hr NAO reboiler burner.



The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

g. Emission Limitation:

SO₂ emissions shall not exceed 0.13 lb/hr and 0.0073 ton/yr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rate using an emission factor of 0.057 lb SO₂/MMBtu (20 gr S/100scf) multiplied the 1.33 MMBtu/hr NAO flare plus the product of an emission factor of 0.057 lb/MMBtu (20 g S/100 scf) multiplied by 1.0 MMBtu/hr NAO reboiler burner.

The annual limitation was established based on an average annual sulfur concentration of 0.25 grains S per 100 cubic feet of natural gas. Therefore, compliance with the annual emission limitation shall be determined based on the emission factor of 0.000714 lb SO₂/MMBtu for the flare and reboiler. The annual limitation was established by multiplying this annual average hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6C.

g) Miscellaneous Requirements

- (1) None.



4. B027, RECIP ENGINE/AIR COMPR. #099A1

Operations, Property and/or Equipment Description:

4SRB Waukesha F817G Recip Engine COMPR #099A1 118 Brake HP, Product Rating 107 HP. ACP

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-6402)	Nitrogen oxides (NO _x) emissions shall not exceed 2.76 lbs/hr. Carbon monoxide (CO) emissions shall not exceed 4.64 lbs/hr. Volatile organic compound (VOC) emissions shall not exceed 0.04 lb/hr. Sulfur dioxide emissions (SO ₂) shall not exceed 0.07 lb/hr. Particulate emissions (PE) shall not exceed 0.024 lb/hr.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
c.	OAC rule 3745-17-11(B)(5)(a)	Particulate emissions (PE) from the engines exhaust stack shall not exceed 0.310 lb/MMBtu of actual heat input.
d.	OAC rule 3745-18-06(G)	This emissions unit is exempt from this requirement pursuant to OAC rule 3745-18-06(A).



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	40 CFR Part 63 Subpart ZZZZ (40 CFR 63.6580 to 63.6675) In accordance with 40 CFR 63.6585, this emissions unit is a stationary reciprocating internal combustion engine (RICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing, natural gas, stationary 4SRB spark ignition (SI) RICE, located at a major source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ no later than October 19, 2013.
f.	40 CFR 63.6602 Table 2c #11 to Subpart ZZZZ	Following the compliance date of 10/19/13, emissions of formaldehyde shall not exceed 10.3 ppmvd at 15% O ₂ .

(2) Additional Terms and Conditions

- a. Following the compliance date of the NESHAP, the permittee shall limit the concentration of formaldehyde from the stationary RICE exhaust to 10.3 ppmvd or less at 15% O₂ at the outlet of the control device or from the exhaust stack of the engine.
- b. The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6595(a)(1)	The compliance date for Part 63 Subpart ZZZZ for existing SI RICE is 10/19/13.
Applicable Tables from Part 63, Subpart ZZZZ	Following the compliance date, comply with: emission limit in Table 2c #11; performance test methods in Table 4 #3; initial compliance demonstration in Table 5 #13; reporting requirements/frequency in Table 7; general provision from Subpart A in Table 8.
40 CFR 63.6602	Following the compliance date, maintain compliance with the emission limitation in Table 2c #11 (limit formaldehyde to 10.3 ppmvd at 15% O ₂) to Part 63 Subpart ZZZZ.
40 CFR 63.6602; 40 CFR 63.6612; and 40 CFR 63.6620	Conduct an initial performance test within 180 days following the compliance date or by 4/19/14, to demonstrate compliance with the formaldehyde emission standard and in accordance with the requirements specified in Tables 4 and 5 to the subpart.
40 CFR 63.6665	Meet all of the general provisions of Subpart A, from Sections 63.1 through 63.15, that apply to the SI RICE, as identified in Table 8 to Subpart ZZZZ.



c) Operational Restrictions

- (1) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6605	General duty to minimize emissions, with good air pollution control practices for minimizing emissions; and compliance required at all times.
40 CFR 63.6625(h)	Minimize idle and startup time, not to exceed 30 minutes.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6635	Except for monitor malfunctions, associated repairs, and required quality assurance activities, must continuously monitor that the RICE is operating. Must use all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) in calculations used to report emissions or operating levels.
40 CFR 63.6655(a)	Keep records of: 1. each notification and report submitted to comply with Subpart ZZZZ; 2. the occurrence and duration of each malfunction of the RICE and any control or monitoring equipment; 3. corrective actions taken during each period of malfunction to minimize emissions and restore normal operations; 4. records of performance tests; and 5. all required maintenance performed on air pollution control and monitoring equipment.
40 CFR 63.6625(h)	Maintain a record of each idle and/or startup time that exceeded 30 minutes.
40 CFR 63.6660	Records readily available and retained for at least 5 years after the date of occurrence or date of report according to 63.10(b)(1).

e) Reporting Requirements

- (1) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6602, shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.
- (2) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:



Applicable Rule	Requirement
40 CFR 63.6640(b)	Submit a report of each instance in which the emission limitation in Table 2c was not met; these deviations to be reported according to the requirements of 63.6650.
40 CFR 63.6640(e)	Submit a report of each instance in which the applicable requirements in Table 8 to Subpart ZZZZ, the general provisions from Subpart A, were not met.
40 CFR 63.6645(a)(1)	Submit all notifications required per 63.7(b) and (c); 63.8(e), (f)(4), and (f)(6); and 63.9(b) through (e), (g), and (h) that apply to the SI RICE.
40 CFR 63.6645(g)	Submit a Notification of Intent to conduct a performance test at least 60 days before the test is scheduled to begin, as required by 63.7(b)(1).
40 CFR 63.6645(h); 40 CFR 63.6630(c); and OAC rule 3745-15-04(A)	Submit a Notification of Compliance Status for each initial compliance demonstration required in Table 5 to Subpart ZZZZ, including the performance test results, before the close of business on the 60 th day following the completion of the test; or within 30 days of the initial compliance demonstration if the demonstration does not include a performance test. OAC rule 3745-15-04(A) requires performance test results to be submitted within 30 days of the test date unless additional time is requested.
40 CFR 63.6650(a)	Submit each applicable report in Table 7 of Subpart ZZZZ.
40 CFR 63.6650(b)(1) to (5) and Part 63 Subpart ZZZZ Table 7 #1	Following the initial compliance date, submit Semiannual Compliance Reports to include the information identified in 63.6650(c) through (f), as applicable to the SI RICE. Following the initial compliance report, each subsequent report shall cover the reporting period from January 1 st through June 30 th and July 1 st through December 31 st . The Semiannual Compliance Reports must be postmarked or delivered no later than July 31 st and January 31 st .
40 CFR 63.6650(c)	63.6650(c) contains the required information to be submitted in each compliance report.
40 CFR 63.6650(d)	63.6650(d) contains the required information to be submitted for each deviation from an emission or operating limitation not monitored by a continuous monitoring system (CMS).

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:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.



Applicable Compliance Method

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

PE shall not exceed 0.310 lb PE/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.0095 lb PM₁₀/MMBtu of heat input. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.2, Table 3.2-3 (7/00).

If required, the permittee shall demonstrate compliance with the emission limitations in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

c. Emission Limitation:

NO_x emissions shall not exceed 2.76 lbs/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 2.21 lbNO_x/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 118 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

d. Emission Limitation:

CO emissions shall not exceed 4.64 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 3.72 lb CO/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 118 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.



e. Emission Limitation:

VOC emissions shall not exceed 0.04 lb/hr.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 0.03 lb VOC/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 118 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 18.

f. Emission Limitation:

SO₂ emissions shall not exceed 0.07 lbs/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 0.057 lb SO₂/MMBtu (20 grains S per 100 cubic foot natural gas) multiplied times 118 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6, or 6c.

g. Emission Limitation:

PE emissions shall not exceed 0.024 lb/hr

Applicable Compliance Method:

Compliance with the hourly emission limitation may be derived from an emission factor of 0.019 lb PE/MMBtu (AP-42, table 3.2-3, 7/00) multiplied times 118 brake horsepower multiplied by 0.0106 MMBtu/hp-hr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

h. Emission Limitations:

10.3 ppmvd formaldehyde at 15% O₂

Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 4/19/14, to demonstrate



compliance with the formaldehyde limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted.

The performance test shall consist of 3 separate test runs and each test run shall last a minimum of 1 hour and shall be conducted during normal operations. The engine percent load, during the performance test, shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load and the estimated percent load shall be included in the notification of compliance.

The following test methods shall be employed to demonstrate compliance with the emission limitation for formaldehyde:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00: to measure O₂ at the inlet and outlet of the control device if demonstrating compliance through the percent control of CO or to determine the O₂ concentration of the stationary RICE exhaust to normalize the CO concentration.
- iii. Method 4 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D6348-03 to measure the moisture content at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure the moisture content of the stationary RICE exhaust.
- iv. Method 320 or Method 323 of 40 CFR Part 63, Appendix A; or ASTM D 6348-03 to measure formaldehyde at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure formaldehyde at the exhaust of the stationary RICE.
- v. The following equation shall be used to normalize the formaldehyde concentrations to a dry basis and to 15 percent oxygen (O₂)**:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

Where:

C_{adj}= calculated formaldehyde concentration adjusted to 15 percent O₂.

C_d= measured concentration of formaldehyde, uncorrected.

5.9 = 20.9 percent O₂ – 15 percent O₂, the defined O₂ correction value, percent.

%O₂ = measured O₂ concentration, dry basis, percent.

** Optionally, the pollutant concentrations can be corrected to 15% O₂ using a CO₂ correction factor, by calculating the fuel factor (F_o value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).



The permittee shall notify Ohio EPA Central District Office Division of Air Pollution Control in writing of the scheduled performance test date at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

Personnel from the Ohio EPA Central District Office Division of Air Pollution Control 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.

[40 CFR 63.7(a)(2), (b)(1), and (e)(3)], [40 CFR 63.6602], [40 CFR 63.6612], [40 CFR 63.6620], [40 CFR 63.6630], [40 CFR 63.6645(a)(1)], [Part 63, Subpart ZZZZ, Table 2c #11; Table 4 #3; and Table 5 #13], and [OAC rule 3745-15- 04(A)]

g) Miscellaneous Requirements

- (1) None.



5. B032, TEG DEHY #3

Operations, Property and/or Equipment Description:

Gas Conditioners Inc. 13 mmscf/day NATURAL GAS DEHYDRATOR SYSTEM : TWO ABSORBER TOWERS & REGENERATOR STILL W/ BOILER.TEG DEHY #3

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-6835)	Nitrogen oxides (NO _x) emissions shall not exceed 0.09 lb/hr. Carbon monoxide (CO) emissions shall not exceed 0.27 lb/hr. Volatile organic compound (VOC) emissions shall not exceed 0.09 lb/hr. Particulate (PM) emissions shall not exceed 0.002 lb/hr. Sulfur dioxide (SO ₂) emissions shall not exceed 0.064 lb/hr.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-10(B)(1)	Particulate (PE) emissions from the boiler stack shall not exceed 0.020 lb/mmBtu actual heat input.
d.	OAC rule 3745-18-06(G)	This emissions unit is exempt from this requirement pursuant to OAC rule 3745-18-06(A).



- (2) Additional Terms and Conditions
 - a. The emissions unit shall be equipped with a flare to control organic compound emissions. The flare shall be fired with natural gas.
 - b. The flare shall be designed and operated in a manner that will ensure no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, as determined by Method 22 referenced in 40 CFR 60.18 (f).
 - c. The flare shall be operated at all times when emissions may be vented to it as determined by methods specified in 40 CFR 60.18(f).
 - d. The flare shall be used only when the net heating value of the gas being combusted is 200 Btu/scf or greater. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f).
 - e. The flare shall be designed with an exit velocity that satisfies the requirements of 40 CFR 60.18(f).
- c) Operational Restrictions
 - (1) The permittee shall burn only natural gas in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The flare shall be monitored for the presence of a pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame.
 - (2) The permittee shall record the following information each month:
 - a. All periods during which there was no pilot flame; and
 - b. The operating times for the flare, monitoring equipment, and the associated emissions unit.
 - (3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and the quantity of fuel burned in this emissions unit.
- 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 report the use of any material other than glycol in this emissions unit within 30 days after the occurrence.



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:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

NO_x emissions shall not exceed 0.09 lb/hr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rate using an emission factor of 0.068 lbNO_x/MMBtu (AP-42, Tbl 13.5-1, 1/95) multiplied by the 0.623 MMBtu/hr NAO flare plus the product of an emission factor of 0.098 lbNO_x/MMBtu (AP-42, Tbl 1.4-1, 7/98) multiplied by 0.5 MMBtu/hr NAO reboiler burner.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

c. Emission Limitation:

CO emissions shall not exceed 0.27 lb/hr.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rates using an emission factor of 0.37 lb CO/MMBtu (AP-42, Tbl 13.5-1, 1/95) multiplied by 0.623 MMBtu/hr NAO flare plus the product of an emission factor of 0.0824 lb CO/MMBtu (AP-42, Tbl 1.4-1, 7/98) multiplied by 0.5 MMBtu/hr NAO reboiler burner.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.



d. Emission Limitation:

VOC emissions shall not exceed 0.09 lb/hr.

Applicable Compliance Method:

The hourly emission rate was derived using the Gas Research Institute simulation program, GLYCalc version 3, based on wet gas analyses of the gases assuming a dehydrator gas feed rate of 13 MMscf/day multiplied by 0.02 representing 98% flare destruction efficiency (0.08 lb VOC/hr controlled emissions) plus the product of an emission factor of 0.014 lb VOC/MMBtu (AP-42 Tbl 13.5-1, 1/95; 10% of THC assumed to be VOC) multiplied by 0.623 MMBtu/hr NAO flare burner rate plus the product of an emission factor of 0.005 lb VOC/MMBtu (AP-42 Tbl 1.4-2, 7-98) multiplied by 0.5 MMBtu/hr NAO reboiler burner.

e. Emission Limitations:

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

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22 and the procedures specified in 40 CFR Part 60.18(f). No visible emission observations are specifically required to demonstrate compliance with these emission limitations but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A).

f. Emission Limitation:

Particulate emissions (PE) shall not exceed 0.002 lb/hr and 0.020 lb/mmBtu actual heat input.

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rates using an emission factor of 0.00186 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98; filterable component only) multiplied by the 0.623 MMBtu/hr NAO flare plus the product of an emission factor of 0.00186 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98; filterable component only) multiplied by 0.5 MMBtu/hr NAO reboiler burner.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.



g. Emission Limitation:

SO₂ emissions shall not exceed 0.064 lb/hr

Applicable Compliance Method:

The hourly emission rate was derived using the maximum hourly waste gas and natural gas combustion rate using an emission factor of 0.057 lb SO₂/MMBtu (20 gr S/100scf) multiplied the 0.623 MMBtu/hr NAO flare plus the product of an emission factor of 0.057 lb/MMBtu (20 g S/100 scf) multiplied by 0.5 MMBtu/hr NAO reboilerburner. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6C.

g) Miscellaneous Requirements

(1) None.



6. P002, GLYCOL RECLAIMER #2

Operations, Property and/or Equipment Description:

Glycol Reclaimer Unit #2 0.39 mmBtu/hr , Consists of 0.19 MMBtu/hr boiler/preheater and 0.20 MMBtu/hr vacuum reboiler.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-08232)	Carbon monoxide (CO) emissions shall not exceed 0.032 lb/hr and 0.14 TPY. Nitrogen oxides (NO _x) emissions shall not exceed 0.038 lb/hr and 0.17 TPY. Sulfur dioxide (SO ₂) emissions shall not exceed 0.022 lb/hr and 0.001 TPY. Particulate emissions (PE) shall not exceed 0.003 lb/hr and 0.013 TPY. Volatile organic compound (VOC) emissions shall not exceed 6.26 lb/hr and 3.51 TPY.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. None.



c) Operational Restrictions

- (1) The maximum annual process rate for this emissions unit shall not exceed 126,500 gallons of triethylene glycol and 28,750 gal of diethylene glycol.
- (2) The maximum glycol processing rate will not exceed 90 gallons per hour.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each batch of material processed by emissions unit P002 the permittee shall perform a wet analysis of each batch of material processed for benzene, toluene, ethylbenzene, and xylene (BTEX).
- (2) The permittee shall maintain the following daily records for material processed by emissions unit P002:
 - (i) Unique identification number and type of glycol (TEG or DEG) for each batch.
 - (ii) Results of BTEX analysis for each batch.
 - (iii) Number of gallons of glycol processed.
 - (iv) Number of operating hours.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports which identify each day during which any of the allowable hourly OC emission rate was exceeded and the actual hourly emissions for each day. Each report shall be submitted to the Central District Office within 30 days of the deviation.
- (2) The permittee shall submit annual reports that identify any exceedances of the annual process rate limitation, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.

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 Limitations:

CO emissions shall not exceed 0.032 lb/hr and 0.14 ton/yr.

Applicable Compliance Method:

Compliance with the allowable mass emission rate for CO shall be determined by the summation of the CO emissions from the boiler/preheater and the vacuum boiler. Compliance with the allowable mass emission rate for carbon monoxide shall be determined by summation of the product of 0.39 MMBtu/hr (combined



preheater/vacuum boiler rating) multiplied times an emission factor of 0.08235 lb CO/MMBtu (AP-42 Table 1.4-1 7/98). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 10.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

NOx emissions shall not exceed 0.038 lb/hr and 0.17 ton/yr.

Applicable Compliance Method:

Compliance with the allowable mass emission rate for NOx shall be determined by the summation of the NOx emissions from the boiler/preheater and the vacuum boiler. Compliance with the allowable mass emission rate for NOx shall be determined by summation of the product of 0.35 MMBtu/hr (combined preheater/vacuum boiler rating) multiplied times an emission factor of 0.09804 lbNOx/MMBtu (AP-42 Table 1.4-1 7/98). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 7E.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitations:

SO2 emissions shall not exceed 0.022 lb/hr and 0.0012 ton/year.

Applicable Compliance Method:

Compliance with the allowable mass emission rate for SO2 shall be determined by the summation of the SO2 emissions from the boiler/preheater and the vacuum boiler. Hourly emissions from these sources shall be based on a maximum sulfur concentration of 20 grains S per 100 cubic feet of natural gas. Emissions from the boiler/preheater shall be determined by multiplying an emission factor of 0.0571 lb SO2/MMBtu by the boiler/preheater maximum hourly MMBtu rating (0.175 MMBtu/hr). Emissions from the vacuum boiler shall be determined by multiplying an emission factor of 0.0571 lb SO2/MMBtu by the vacuum boiler maximum hourly MMBtu rating (0.175 MMBtu/hr). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C.



The annual limitation was established based on an average annual sulfur concentration of 0.25 grains S per 100 cubic feet of natural gas. Therefore, compliance with the annual emission limitation shall be determined based on the emission factor of 0.000714 lb SO₂/MMBtu for the boiler/preheater and the vacuum boiler. The annual limitation was established by multiplying this annual average hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton.

d. Emission Limitations:

PE shall not exceed 0.003 lb/hr, 0.013 ton/yr, and 0.020 lb/MMBtu actual heat input.

Applicable Compliance Method :

Compliance with the allowable mass emission rate for PM shall be determined by the summation of the PM emissions from the boiler/preheater, and the vacuum boiler. Emissions from the boiler/preheater shall be determined by multiplying an emission factor of 0.007451 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98) by the boiler/preheater maximum hourly MMBtu rating (0.175 MMBtu/hr). Emissions from the vacuum boiler shall be determined by multiplying an emission factor 0.007451 lb PE/MMBtu (AP-42, Tbl 1.4-2, 7/98) by the vacuum boiler maximum hourly MMBtu rating (0.175 MMBtu/hr). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 5.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, provided compliance is maintained with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitations:

VOC emissions shall not exceed 6.26 lb/hr and 3.51 ton/yr.

Applicable Compliance Method-

Compliance with the hourly OC emissions from processing TEG can be determined by the following formula:

$$(1/1,000,000) \times \text{BTEX concentration(ppm)} \times 1.68(\text{OC/BTEX ratio}) \times 9.3 \text{ lbs/gal(glycol density)} \times \text{gal/hr processed} = \text{lbs OC/hr}$$

The 1.68 OC to BTEX ratio was derived from the hourly OC to BTEX emissions for a dehydration unit obtained from the Gas Research Institute simulation program GLYCalc Version 3.0 which was ran using the worst case TEG example of Holmes Compressor Station.



Compliance with the hourly OC emissions from processing DEG can be determined. Compliance with the hourly OC emissions from processing DEG can be determined by the following formula:

$$(1/1,000,000) \times \text{BTEX concentration(ppm)} \times 1.35(\text{OC/BTEX ratio}) \times 9.3 \text{ lbs/gal(glycol density)} \times \text{gal/hr processed} = \text{lbs OC/hr}$$

The 1.35 OC to BTEX ratio was derived from the hourly OC to BTEX emissions for a dehydration unit obtained from the Gas Research Institute simulation program GLYCalc Version 3.0 which was ran using the worst case DEG example of Adaline Compressor Station.

Compliance with the allowable hourly emissions limitation will be demonstrated provided that the hourly process rate limitation for both TEG and DEG is complied with and the total BTEX concentrations do not exceed 2,535 ppm and 5,510 ppm for TEG and DEG, respectively. Compliance with the annual emissions limitation will be demonstrated provided that the annual process rate limitation for both TEG and DEG are complied with and the total BTEX concentrations do not exceed 2,535 ppm and 5,510 ppm for TEG and DEG, respectively. Maximum annual VOC emissions shall be calculated using the sum of the annual emissions of TEG and DEG. The annual TEG emissions can be calculated using the maximum lbs TEG/gallon emission rate of .04 lb TEG/gallon (based upon the maximum BTEX concentration for TEG of 2,535 ppm) times the number of gallons of TEG processed per year. The annual DEG emissions can be calculated using the maximum lbs DEG/gallon emission rate of .069 lb DEG/gallon (based upon the maximum BTEX concentration for DEG of 5,510 ppm) times the number of gallons of DEG processed per year.

- f. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

- g) Miscellaneous Requirements
 - (1) None.



7. P003, GLYCOL RECLAIMER #3

Operations, Property and/or Equipment Description:

Glycol Reclaimer Unit #3 - 0.35 mmBtu/hr with 0.175 MMBtu/hr boiler/preheater, 0.175 MMBtu/hr vacuum reboiler, and 55 HP generator.

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 01-08634)	Carbon monoxide (CO) emissions shall not exceed 2.20 lbs/hr and 9.63 TPY. Nitrogen oxides (NO _x) emissions shall not exceed 1.32 lbs/hr and 5.79 TPY. Sulfur dioxide (SO ₂) emissions shall not exceed 0.053 lb/hr and 0.003 TPY. Particulate (PM) emissions shall not exceed 0.014 lb/hr and 0.061 TPY. Volatile organic compound (VOC) emissions shall not exceed 7.77 lbs/hr and 34.03 TPY.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC 3745-17-10(B)(1)	Particulate (PE) emissions from the boiler stack shall not exceed 0.020 lbs/mmBtu actual heat input.



- (2) Additional Terms and Conditions
 - a. The hourly and annual CO, NO_x, SO₂, and PE emissions limits are based on the emissions unit's potential to emit; therefore, record keeping and reporting is not required to demonstrate compliance with these emissions limitations.
- c) Operational Restrictions
 - (1) The maximum annual process rate for this emissions unit shall not exceed 150,000 gallons of Glycol.
 - (2) The maximum glycol processing rate will not exceed 90 gallons per hour.
 - (3) The permittee shall only burn natural gas in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) For each batch of material processed by emissions unit P003 the permittee shall perform a wet analysis of each batch of material processed for benzene, toluene, ethylbenzene, and xylene (BTEX).
 - (2) The permittee shall maintain the following daily records for material processed by emissions unit P003:
 - (a) Unique identification number and type of glycol (TEG or DEG) for each batch.
 - (b) Results of BTEX analysis for each batch.
 - (c) Number of gallons of glycol processed.
 - (d) Number of operating hours.
 - (3) 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.
- e) Reporting Requirements
 - (1) The permittee shall submit deviation (excursion) reports which identify each day during which any of the allowable hourly OC emission rate was exceeded and the actual hourly emissions for each day. Each report shall be submitted to the Central District Office within 30 days of the deviation.
 - (2) The permittee shall submit annual reports that identify any exceedances of the annual process rate limitation, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.



- (3) The permittee shall submit a "Notice of Intent to Relocate a Portable or Mobile Source" form 15 days prior to any planned relocation of this emissions unit, in accordance with OAC rule 3745-31-05(F)(6). (A copy of the form is attached to this permit.) Approval of the planned relocation must be obtained from the Ohio EPA, Central District Office prior to relocation.
 - (4) The permittee shall submit deviation (excursion) reports which identify each day during the allowable hourly process weight rate was exceeded and the actual hourly process weight rate for each such day. Each report shall be submitted to the Central District Office within 30 days of the deviation.
 - (5) The permittee shall submit quarterly 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.
- 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 Limitations:

CO emissions shall not exceed 2.20 lbs/hr and 9.63 tons/yr.

Applicable Compliance Method-

Compliance with the allowable mass emission rate for CO shall be determined by the summation of the CO emissions from the boiler/preheater, vacuum boiler and generator. Compliance with the allowable mass emission rate for carbon monoxide shall be determined by summation of the product of 0.35 MMBtu/hr (combined preheater/vacuum boiler rating) multiplied times an emission factor of 0.08235 lb CO/MMBtu (AP-42 Table 1.4-1 7/98) plus the product of 55 brake horsepower multiplied times 0.0106 MMBtu/hp-hr multiplied by an emission factor of 3.72 lbs CO/MMBtu (AP-42, Tbl3.2-3, 7/00). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 10.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the hourly emission limitation.



b. Emission Limitations:

NOx emissions shall not exceed 1.32 lbs/hr and 5.79 tons/yr.

Applicable Compliance Method-

Compliance with the allowable mass emission rate for NOx shall be determined by the summation of the NOx emissions from the boiler/preheater, vacuum boiler and generator. Compliance with the allowable mass emission rate for NOx shall be determined by summation of the product of 0.35 MMBtu/hr (combined preheater/vacuum boiler rating) multiplied times an emission factor of 0.09804 lbNOx/MMBtu (AP-42 Table 1.4-1 7/98) plus the product of 55 brake horsepower multiplied times 0.0106 MMBtu/hp-hr multiplied by an emission factor of 2.21 lbsNOx/MMBtu (AP-42, Table 3.2-3 (7/00)). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 7E.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the hourly emission limitation.

c. Emission Limitations:

SO2 emissions shall not exceed 0.05 lb/hr and 0.0029 ton/yr.

Applicable Compliance Method:

Compliance with the allowable mass emission rate for SO2 shall be determined by the summation of the SO2 emissions from the boiler/preheater, vacuum boiler and generator. Hourly emissions from these sources shall be based on a maximum sulfur concentration of 20 grains S per 100 cubic feet of natural gas. Emissions from the boiler/preheater shall be determined by multiplying an emission factor of 0.0571 lb SO2/MMBtu by the boiler/preheater maximum hourly MMBtu rating (0.175 MMBtu/hr). Emissions from the vacuum boiler shall be determined by multiplying an emission factor of 0.0571 lb SO2/MMBtu by the vacuum boiler maximum hourly MMBtu rating (0.175 MMBtu/hr). Emissions from the generator shall be determined by multiplying an emission factor of 0.0571 lb SO2/MMBtu by the generator maximum horsepower rating (55 brake horsepower) and the brake specific fuel consumption (0.0106 MMBtu/hp-hr). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 6C.

The annual limitation was established based on an average annual sulfur concentration of 0.25 grains S per 100 cubic feet of natural gas. Therefore, compliance with the annual emission limitation shall be determined based on the emission factor of 0.000714 lb SO2/MMBtu for the boiler/preheater, vacuum boiler, and generator. The annual limitation was established by multiplying this



annual average hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton.

d. Emission Limitations:

PM shall not exceed 0.014 lb/hr, 0.061 ton/yr, and 0.020 lb/MMBtu actual heat input.

Applicable Compliance Method-

Compliance with the allowable mass emission rate for PM shall be determined by the summation of the PM emissions from the boiler/preheater, vacuum boiler and generator. Emissions from the boiler/preheater shall be determined by multiplying an emission factor of 0.007451 lb PM/MMBtu (AP-42, Tbl 1.4-2, 7/98) by the boiler/preheater maximum hourly MMBtu rating (0.175 MMBtu/hr). Emissions from the vacuum boiler shall be determined by multiplying an emission factor 0.007451 lbPM/MMBtu (AP-42, Tbl 1.4-2, 7/98) by the vacuum boiler maximum hourly MMBtu rating (0.175 MMBtu/hr). Emissions from the generator shall be determined by multiplying an emission factor of 0.01941 lb PM/MMBtu (AP-42, Tbl 3.2-3, 7/00) by the generator maximum horsepower rating (55 brake horsepower) and the brake specific fuel consumption (0.0106 MMBtu/hp-hr). If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 5.

The annual limitation was established by multiplying the hourly emission limitation by the maximum possible annual operating hours (8760 hrs/yr) and dividing by 2000 lbs/ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the hourly emission limitation.

e. Emission Limitations:

VOC emissions shall not exceed 7.77 lbs/hr and 34.03 tons/yr.

Applicable Compliance Method-

Compliance with the allowable mass emission rate for VOC shall be determined by the summation of the VOC emissions from the boiler/preheater, vacuum boiler, generator, and TEG processing. The hourly emission rate shall be determined using the maximum hourly natural gas combustion rates using an emission factor of 0.005 lb VOC/MMBtu (AP-42, Tbl1.4-2, 7/98) multiplied by 0.35 MMBtu/hr (0.175 MMBtu/hr boiler/preheater plus 0.175 MMBtu/hr vacuum boiler) plus an emission factor of 0.0296 lbs VOC/MMBtu (AP-42, Tbl 3.2-3, 7/00) multiplied by 55 HP multiplied by 0.0106 MMBtu/hp-hr (55 HP generator) plus the maximum emissions from processing TEG based on 5,512 ppm BTEX, 90 gal/hr, and the following formula:

$$(1/1,000,000) \times \text{BTEX concentration(ppm)} \times 1.68(\text{OC/BTEX ratio}) \times 9.3 \text{ lbs/gal(glycol density)} \times \text{gal/hr processed} = \text{lbs OC/hr}$$



The 1.68 OC to BTEX ratio was derived from the hourly OC to BTEX emissions for a dehydration unit obtained from the Gas Research Institute simulation program GLYCalc Version 3.0 which was ran using the worst case TEG example of Holmes Compressor Station.

Compliance with the allowable hourly emissions limitation will be demonstrated provided that the hourly process rate limitation for TEG is complied with and the total BTEX concentrations do not exceed 5,512 ppm TEG.

Compliance with the annual emissions limitation will be demonstrated provided that the annual process rate limitation for TEG is complied with and the total BTEX concentrations do not exceed 5,512 ppm TEG. The annual TEG missions can be calculated using the maximum lbs TEG/gallon emission rate of 0.086 lb TEG/gallon (based upon the maximum BTEX concentration for TEG of 5,512 ppm) times the number of gallons of TEG processed per year.

f. Emissions Limitations-

Particulate emissions shall not exceed 0.061 ton/yr, NOx emissions shall not exceed 5.79 tons/yr, CO emissions shall not exceed 9.63 tons/yr and SO2 emissions shall not exceed 0.0029 ton/yr.

Applicable Compliance Method-

Compliance with the annual limitations shall be assumed as long as compliance with the hourly limitations is maintained (the annual limitations were calculated by multiplying the hourly limitation by 8760, and then dividing by 2000; SO2 annual limitation is based on 0.25 grains sulfur per 100 cubic foot of natural gas).

g. Emission Limitation-

Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method-

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) None.