



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION
ALLEN COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 03-16188

Fac ID: 0302020012

DATE: 7/12/2005

Premcor Refining Group, Inc.
Tom Jettinghoff
1150 S. Metcalf Street
Lima, OH 45804

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

Sincerely,

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

CC: USEPA

NWDO



**Permit To Install
Terms and Conditions**

**Issue Date: 7/12/2005
Effective Date: 7/12/2005**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 03-16188

Application Number: 03-16188
Facility ID: 0302020012
Permit Fee: **\$500**
Name of Facility: Premcor Refining Group, Inc.
Person to Contact: Tom Jettinghoff
Address: 1150 S. Metcalf Street
Lima, OH 45804

Location of proposed air contaminant source(s) [emissions unit(s)]:
**1150 South Metcalf Street
Lima, Ohio**

Description of proposed emissions unit(s):
Administrative modification to hydrogen plant pti.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

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

1. Monitoring and Related Recordkeeping and Reporting Requirements

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

the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.8 below if no deviations occurred during the quarter.

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

2. Scheduled Maintenance/Malfunction Reporting

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

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

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

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

permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

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

8. Federal and State Enforceability

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

9. Compliance Requirements

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

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substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

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

10. Permit-To-Operate Application

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

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available

Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

12. Air Pollution Nuisance

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.

13. Permit-To-Install

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

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

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

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

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3. Permit Transfers

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

4. Authorization To Install or Modify

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

5. Construction of New Sources(s)

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

6. Public Disclosure

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

7. Applicability

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

8. Construction Compliance Certification

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

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

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

C. Permit-To-Install Summary of Allowable Emissions

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	7.88
SO ₂	16.99
NO _x	45.57
CO	30.53
VOC	11.92

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

1. This PTI involves installation of a diesel hydrotreater unit (DHT) and hydrogen plant to accommodate production of federally mandated low sulfur diesel fuel. The DHT point source emissions are from the reactor feed furnace, emissions unit B029. The hydrogen plant point source emissions are from the reformer heater, and de-aerator vent, emissions unit P042. The remainder of the emissions from the DHT and hydrogen plant are fugitive VOC.

Fugitive VOC emissions from the DHT and hydrogen plant are subject to the appropriate provisions (including operational restrictions, monitoring and record keeping, reporting, and testing) of OAC rule 3745-21-09(T) - Leaks from petroleum refinery equipment, OAC rule 3745-21-09(DD) - Leaks from process units that produce organic chemicals, 40 CFR 60 Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry), 40 CFR 60 Subpart GGG (Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries, 40 CFR 63 Subpart CC (Petroleum Refinery MACT Standards), and 40 CFR 61 Subpart V (National Emission Standard for Equipment Leaks - Fugitive Emission Sources).

The permittee has submitted an alternative leak detection and repair (LDAR) monitoring plan pursuant to OAC rule 3745-21-09(T)(4) and 40 CFR 63, Subpart CC. The permittee shall include the fugitive VOC emission sources for the DHT and hydrogen plant into the alternative LDAR plan, which has been incorporated into Part II - Specific Facility Terms and Conditions, State and Federally Enforceable Section of the facility's Title V permit.

2. The permittee shall include the DHT in the current site benzene waste operations program. The program shall comply with the appropriate provisions (includes operational restrictions, monitoring and record keeping, reporting, and testing) of 40 CFR 61 Subpart FF.
3. This PTI includes three new process vent emission sources that are subject to regulations in 40 CFR Part 63, Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. These process vents include the vacuum dryer, sour water flash drum, and amine stripper flash drum. Each of the three vents is considered a Group 1 miscellaneous process vent, as defined in 40 CFR 63.641: Group 1 miscellaneous process vent means a miscellaneous process vent for which the total organic HAP concentration is greater than or equal to 20 parts per million by volume, and the total volatile organic compound emissions are greater than or equal to 33 kilograms per day for existing sources and 6.8 kilograms per day for new sources at the outlet of the final recovery device (if any) and prior to any control device and prior to discharge to the atmosphere. The permittee shall comply with the following

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requirements:

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§ 63.643 Miscellaneous process vent provisions.

(a) The owner or operator of a Group 1 miscellaneous process vent as defined in §63.641 shall comply with the requirements of either paragraphs (a)(1) or (a)(2) of this section.

(1) Reduce emissions of organic HAP's using a flare that meets the requirements of §63.11(b) of subpart A of this part.

(2) Reduce emissions of organic HAP's, using a control device, by 98 weight-percent or to a concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent. Compliance can be determined by measuring either organic HAP's or TOC's using the procedures in §63.645.

(b) If a boiler or process heater is used to comply with the percentage of reduction requirement or concentration limit specified in paragraph (a)(2) of this section, then the vent stream shall be introduced into the flame zone of such a device, or in a location such that the required percent reduction or concentration is achieved. Testing and monitoring is required only as specified in §63.644(a) and §63.645 of this subpart.

§ 63.644 Monitoring provisions for miscellaneous process vents.

(a) Except as provided in paragraph (b) of this section, each owner or operator of a Group 1 miscellaneous process vent that uses a combustion device to comply with the requirements in §63.643(a) shall install the monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, depending on the type of combustion device used. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) Where a flare is used, a device (including but not limited to a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Any boiler or process heater with a design heat input capacity greater than or equal to 44 megawatt or any boiler or process heater in which all vent streams are introduced into the flame zone is exempt from monitoring.

(4) Any boiler or process heater less than 44 megawatts design heat capacity where the vent stream is not introduced into the flame zone is required to use a temperature monitoring device in the firebox equipped with a continuous recorder.

(b) An owner or operator of a Group 1 miscellaneous process vent may request approval to monitor parameters other than those listed in paragraph (a) of this section. The request shall be submitted according to the procedures specified in §63.654(h). Approval shall be requested if the owner or operator:

(1) Uses a control device other than an incinerator, boiler, process heater, or flare; or

(2) Uses one of the control devices listed in paragraph (a) of this section, but seeks to monitor a parameter other than those specified in paragraph (a) of this section.

(c) The owner or operator of a Group 1 miscellaneous process vent using a vent system that contains bypass lines that could divert a vent stream away from the control device used to comply with paragraph (a) of this section shall comply with either paragraph (c)(1) or (c)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, pressure relief valves needed for safety reasons, and equipment subject to §63.648 are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. Records shall be generated as specified in §63.654(h) and (i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

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(d) The owner or operator shall establish a range that ensures compliance with the emissions standard for each parameter monitored under paragraphs (a) and (b) of this section. In order to establish the range, the information required in §63.654(f)(3) shall be submitted in the Notification of Compliance Status report.

(e) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum and/or maximum operating parameter value or procedure required to be monitored under paragraphs (a) and (b) of this section. Operation of the control device in a manner that constitutes a period of excess emissions, as defined in §63.654(g)(6), or failure to perform procedures required by this section shall constitute a violation of the applicable emission standard of this subpart.

§ 63.645 Test methods and procedures for miscellaneous process vents.

(a) To demonstrate compliance with §63.643, an owner or operator shall follow §63.116 except for §63.116 (a)(1), (d) and (e) of subpart G of this part except as provided in paragraphs (b) through (d) and paragraph (i) of this section.

(b) All references to §63.113(a)(1) or (a)(2) in §63.116 of subpart G of this part shall be replaced with §63.643(a)(1) or (a)(2), respectively.

(c) In §63.116(c)(4)(ii)(C) of subpart G of this part, organic HAP's in the list of HAP's in table 1 of this subpart shall be considered instead of the organic HAP's in table 2 of subpart F of this part.

(d) All references to §63.116(b)(1) or (b)(2) shall be replaced with paragraphs (d)(1) and (d)(2) of this section, respectively.

(1) Any boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(2) Any boiler or process heater in which all vent streams are introduced into the flame zone.

(e) For purposes of determining the TOC emission rate, as specified under paragraph (f) of this section, the sampling site shall be after the last product recovery device (as defined in §63.641 of this subpart) (if any recovery devices are present) but prior to the inlet of any control device (as defined in §63.641 of this subpart) that is present, prior to any dilution of the process vent stream, and prior to release to the atmosphere.

(1) Methods 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter in diameter.

(f) Except as provided in paragraph (g) of this section, an owner or operator seeking to demonstrate that a process vent TOC mass flow rate is less than 33 kilograms per day for an existing source or less than 6.8 kilograms per day for a new source in accordance with the Group 2 process vent definition of this subpart shall determine the TOC mass flow rate by the following procedures:

- (1) The sampling site shall be selected as specified in paragraph (e) of this section.
- (2) The gas volumetric flow rate shall be determined using Methods 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.
- (3) Method 18 or Method 25A of 40 CFR part 60, appendix A shall be used to measure concentration; alternatively, any other method or data that has been validated according to the protocol in Method 301 of appendix A of this part may be used. If Method 25A is used, and the TOC mass flow rate calculated from the Method 25A measurement is greater than or equal to 33 kilograms per day for an existing source or 6.8 kilograms per day for a new source, Method 18 may be used to determine any non-VOC hydrocarbons that may be deducted to calculate the TOC (minus non-VOC hydrocarbons) concentration and mass flow rate. The following procedures shall be used to calculate parts per million by volume concentration:
 - (i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.
 - (ii) The TOC concentration (CTOC) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation if Method 18 is used:



where:

CTOC=Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

C_{ji}=Concentration of sample component j of the sample i, dry basis, parts per million by volume.

n=Number of components in the sample.

x=Number of samples in the sample run.

- (4) The emission rate of TOC (minus methane and ethane) (ETOC) shall be calculated using the following equation if Method 18 is used:

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where:

E=Emission rate of TOC (minus methane and ethane) in the sample, kilograms per day.

K2 = Constant, 5.986×10^{-5} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram per gram) (minute per day), where the standard temperature (standard cubic meter) is at 20 °C.

C_j=Concentration on a dry basis of organic compound j in parts per million as measured by Method 18 of 40 CFR part 60, appendix A, as indicated in paragraph (f)(3) of this section. C_j includes all organic compounds measured minus methane and ethane.

M_j=Molecular weight of organic compound j, gram per gram-mole. Q_s=Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

Q_s = Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

(5) If Method 25A is used, the emission rate of TOC (ETOC) shall be calculated using the following equation:

$$ETOC = K_2 C_{TOC} M Q_s$$

where:

ETOC=Emission rate of TOC (minus methane and ethane) in the sample, kilograms per day.

K₂=Constant, 5.986×10^{-5} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram per gram)(minute per day), where the standard temperature (standard cubic meter) is at 20 °C.

C_{TOC}=Concentration of TOC on a dry basis in parts per million volume as measured

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by Method 25A of 40 CFR part 60, appendix A, as indicated in paragraph (f)(3) of this section.

M=Molecular weight of organic compound used to express units of CTOC, gram per gram-mole.

Qs=Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

(g) Engineering assessment may be used to determine the TOC emission rate for the representative operating condition expected to yield the highest daily emission rate.

(1) Engineering assessment includes, but is not limited to, the following:

(i) Previous test results provided the tests are representative of current operating practices at the process unit.

(ii) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(iii) TOC emission rate specified or implied within a permit limit applicable to the process vent.

(iv) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(A) Use of material balances based on process stoichiometry to estimate maximum TOC concentrations;

(B) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(C) Estimation of TOC concentrations based on saturation conditions.

(v) All data, assumptions, and procedures used in the engineering assessment shall be documented.

(h) The owner or operator of a Group 2 process vent shall recalculate the TOC emission rate for each process vent, as necessary, whenever process changes are

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made to determine whether the vent is in Group 1 or Group 2. Examples of process changes include, but are not limited to, changes in production capacity, production rate, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment.

For purposes of this paragraph, process changes do not include: process upsets; unintentional, temporary process changes; and changes that are within the range on which the original calculation was based.

(1) The TOC emission rate shall be recalculated based on measurements of vent stream flow rate and TOC as specified in paragraphs (e) and (f) of this section, as applicable, or on best engineering assessment of the effects of the change. Engineering assessments shall meet the specifications in paragraph (g) of this section.

(2) Where the recalculated TOC emission rate is greater than 33 kilograms per day for an existing source or greater than 6.8 kilograms per day for a new source, the owner or operator shall submit a report as specified in §63.654 (f), (g), or (h) and shall comply with the appropriate provisions in §63.643 by the dates specified in §63.640.

(i) A compliance determination for visible emissions shall be conducted within 150 days of the compliance date using Method 22 of 40 CFR part 60, appendix A, to determine visible emissions.

§ 63.654 Reporting and recordkeeping requirements.

[Note: sections § 63.654(a), (b), (c) and (d) are not applicable for the three process vents in this PTI]

§ 63.654 (e) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (e)(1) through (e)(3) of this section except as provided in paragraph (h)(5) of this section, and shall keep records as described in paragraph (i) of this section.

(1) A Notification of Compliance Status report as described in paragraph (f) of this section;

(2) Periodic Reports as described in paragraph (g) of this section; and

(3) Other reports as described in paragraph (h) of this section.

§ 63.654 (f) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status report within 150 days after the compliance dates specified in §63.640(h) with the exception of Notification of Compliance Status reports submitted to comply with §63.640(l)(3) and for storage vessels subject to the compliance schedule specified in §63.640(h)(4). Notification of Compliance Status reports required by §63.640(l)(3) and for storage vessels subject to the compliance dates specified in §63.640(h)(4) shall be submitted according to paragraph (f)(6) of this section. This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three.

If the required information has been submitted before the date 150 days after the compliance date specified in §63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in §63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.

(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(ii) through (f)(1)(iv) of this section. **[Note: sections § 63.654(f)(1)(i) and (f)(1)(v) are not applicable for the three process vents in this PTI]**

(ii) For miscellaneous process vents, identification of each miscellaneous process vent subject to this subpart, whether the process vent is Group 1 or Group 2, and the method of compliance for each Group 1 miscellaneous process vent that is not included in an emissions average (e.g., use of a flare or other control device meeting the

requirements of §63.643(a)).

(iii) For miscellaneous process vents controlled by control devices required to be tested under §63.645 of this subpart and §63.116(c) of subpart G of this part, performance test results including the information in paragraphs (f)(1)(iii)(A) and (B) of this section. Results of a performance test conducted prior to the compliance date of this subpart can be used provided that the test was conducted using the methods specified in §63.645 and that the test conditions are representative of current operating conditions.

(A) The percentage of reduction of organic HAP's or TOC, or the outlet concentration of organic HAP's or TOC (parts per million by volume on a dry basis corrected to 3 percent oxygen), determined as specified in §63.116(c) of subpart G of this part; and

(B) The value of the monitored parameters specified in table 10 of this subpart, or a site-specific parameter approved by the permitting authority, averaged over the full period of the performance test,

(iv) For miscellaneous process vents controlled by flares, performance test results including the information in paragraphs (f)(1)(iv)(A) and (B) of this section;

(A) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.645 of this subpart and §63.116(a) of subpart G of this part, and

(B) A statement of whether a flame was present at the pilot light over the full period of the compliance determination.

§ 63.654 (f)(2) If initial performance tests are required by §63.643 through 63.653 of this subpart, the Notification of Compliance Status report shall include one complete test report for each test method used for a particular source.

(i) For additional tests performed using the same method, the results specified in paragraph (f)(1) of this section shall be submitted, but a complete test report is not required.

(ii) A complete test report shall include a sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(iii) Performance tests are required only if specified by §63.643 through 63.653 of this subpart. Initial performance tests are required for some kinds of emission points and controls. Periodic testing of the same emission point is not required.

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§ 63.654 (f)(3) For each monitored parameter for which a range is required to be established under §63.120(d) of subpart G of this part for storage vessels or §63.644 for miscellaneous process vents, the Notification of Compliance Status report shall include the information in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.

(i) The specific range of the monitored parameter(s) for each emission point;

(ii) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range ensures compliance with the emission standard.

(A) If a performance test is required by this subpart for a control device, the range shall be based on the parameter values measured during the performance test supplemented by engineering assessments and manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values.

(B) If a performance test is not required by this subpart for a control device, the range may be based solely on engineering assessments and manufacturers' recommendations.

(iii) A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

§ 63.654 (f)(4) Results of any continuous monitoring system performance evaluations shall be included in the Notification of Compliance Status report.

[Note: section § 63.654(f)(5) is not applicable, since emissions averaging is not applicable]

§ 63.654 (f)(6) Notification of Compliance Status reports required by §63.640(l)(3) and for storage vessels subject to the compliance dates specified in §63.640(h)(4) shall be submitted no later than 60 days after the end of the 6-month period during which the change or addition was made that resulted in the Group 1 emission point or the existing Group 1 storage vessel was brought into compliance, and may be combined with the periodic report. Six-month periods shall be the same 6-month periods specified in paragraph (g) of this section. The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1) through (f)(5) of this section. This information may be submitted in an operating permit application, in an amendment to

an operating permit application, in a separate submittal, as part of the periodic report, or in any combination of these four.

If the required information has been submitted before the date 60 days after the end of the 6-month period in which the addition of the Group 1 emission point took place, a separate Notification of Compliance Status report is not required within 60 days after the end of the 6-month period. If an owner or operator submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.

§ 63.654 (g) The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occur. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of this section. **[Note: sections § 63.654(g)(1) through (g)(5) are not applicable for the three process vents in this PTI]**

§ 63.654 (g)(6) For miscellaneous process vents for which continuous parameter monitors are required by this subpart, periods of excess emissions shall be identified in the Periodic Reports and shall be used to determine compliance with the emission standards.

(i) Period of excess emission means any of the following conditions:

(A) An operating day when the daily average value of a monitored parameter, except presence of a flare pilot flame, is outside the range specified in the Notification of Compliance Status report. Monitoring data recorded during periods of monitoring system breakdown, repairs, calibration checks and zero (low-level) and high-level adjustments shall not be used in computing daily average values of monitored parameters.

(B) An operating day when all pilot flames of a flare are absent.

(C) An operating day when monitoring data required to be recorded in paragraphs (i)(3) (i) and (ii) of this section are available for less than 75 percent of the operating hours.

(D) For data compression systems approved under paragraph (h)(5)(iii) of this section, an operating day when the monitor operated for less than 75 percent of the operating hours or a day when less than 18 monitoring values were recorded.

(ii) For miscellaneous process vents, excess emissions shall be reported for the operating parameters specified in table 10 of this subpart unless other site-specific parameter(s) have been approved by the operating permit authority.

(iii) Periods of startup and shutdown that meet the definition of §63.641, and malfunction that meet the definition in §63.2 and periods of performance testing and monitoring system calibration shall not be considered periods of excess emissions. Malfunctions may include process unit, control device, or monitoring system malfunctions.

§ 63.654 (g)(7) If a performance test for determination of compliance for a new emission point subject to this subpart or for an emission point that has changed from Group 2 to Group 1 is conducted during the period covered by a Periodic Report, the results of the performance test shall be included in the Periodic Report.

(i) Results of the performance test shall include the percentage of emissions reduction or outlet pollutant concentration reduction (whichever is needed to determine compliance) and the values of the monitored operating parameters.

(ii) The complete test report shall be maintained onsite.

[Note: section § 63.654(g)(8) is not applicable, since emissions averaging is not applicable]

§ 63.654(h) Other reports shall be submitted as specified in subpart A of this part and as follows:

§ 63.654(h)(1) Reports of startup, shutdown, and malfunction required by §63.10(d)(5). Records and reports of startup, shutdown, and malfunction are not required if they pertain solely to Group 2 emission points, as defined in §63.641, that are not included in an emissions average. For purposes of this paragraph, startup and shutdown shall have the meaning defined in §63.641, and malfunction shall have the meaning defined in §63.2; and

[Note: sections § 63.654(h)(2) and (h)(3) are not applicable, since these sections are for storage vessels and emissions averaging, which are not applicable]

§ 63.654(h)(4) The owner or operator who requests approval to monitor a different parameter than those listed in §63.644 for miscellaneous process vents or who is required by §63.653(a)(8) to establish a site-specific monitoring parameter for a point in an emissions average shall submit the information specified in paragraphs (h)(4)(i) through (h)(4)(iii) of this section. For new or reconstructed sources, the information shall be submitted with the application for approval of construction or reconstruction required by §63.5(d) of subpart A and for existing sources, and the information shall be submitted no later than 18 months prior to the compliance date. The information may be

submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.

(i) A description of the parameter(s) to be monitored to determine whether excess emissions occur and an explanation of the criteria used to select the parameter(s).

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter can be used to determine excess emissions and the schedule for this demonstration. The owner or operator must certify that they will establish a range for the monitored parameter as part of the Notification of Compliance Status report required in paragraphs (e) and (f) of this section.

(iii) The frequency and content of monitoring, recording, and reporting if: monitoring and recording are not continuous; or if periods of excess emissions, as defined in paragraph (g)(6) of this section, will not be identified in Periodic Reports required under paragraphs (e) and (g) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.

§ 63.654(h)(5) An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in paragraph (i) of this section.

(i) Requests shall be submitted with the Application for Approval of Construction or Reconstruction for new sources and no later than 18 months prior to the compliance date for existing sources. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal. Requests shall contain the information specified in paragraphs (h)(5)(iii) through (h)(5)(iv) of this section, as applicable.

(ii) The provisions in §63.8(f)(5)(i) of subpart A of this part shall govern the review and approval of requests.

(iii) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every hour) but records all values that meet set criteria for variation from previously recorded values.

(A) The requested system shall be designed to:

(1) Measure the operating parameter value at least once every hour.

(2) Record at least 24 values each day during periods of operation.

(3) Record the date and time when monitors are turned off or on.

(4) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(5) Compute daily average values of the monitored operating parameter based on recorded data.

(B) The request shall contain a description of the monitoring system and data compression recording system including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria of paragraph (h)(5)(iii)(A) of this section.

(iv) An owner or operator may request approval to use other alternative monitoring systems according to the procedures specified in §63.8(f) of subpart A of this part.

§ 63.654(h)(6) The owner or operator shall submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted in the initial Notification of Compliance Status report. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by §63.5(d) of subpart A of this part. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.

(i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units.

[Note: section § 63.654(h)(6)(ii) is not applicable, since this section is for storage vessels]

(iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year.

§ 63.654(i) Recordkeeping

[Note: section § 63.654(i)(1) is not applicable, since this section is for storage vessels]

§ 63.654(i)(2) Each owner or operator required to report the results of performance tests under paragraphs (f) and (g)(7) of this section shall retain a record of all reported results as well as a complete test report, as described in paragraph (f)(2)(ii) of this section for each emission point tested.

§ 63.654(i)(3) Each owner or operator required to continuously monitor operating parameters under §63.644 for miscellaneous process vents or under §63.652 and 63.653 for emission points in an emissions average shall keep the records specified in paragraphs (i)(3)(i) through (i)(3)(v) of this section unless an alternative recordkeeping system has been requested and approved under paragraph (h) of this section.

(i) The monitoring system shall measure data values at least once every hour.

(ii) The owner or operator shall record either:

(A) Each measured data value; or

(B) Block average values for 1 hour or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.

(iii) Daily average values of each continuously monitored parameter shall be calculated for each operating day and retained for 5 years except as specified in paragraph (i)(3)(iv) of this section.

(A) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per day if operation is not continuous.

(B) The operating day shall be the period defined in the Notification of Compliance Status report. It may be from midnight to midnight or another daily period.

(iv) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status report, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that day. For these days, the records required in paragraph (i)(3)(ii) of this section shall also be retained for 5 years.

(v) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control

device operation when monitors are not operating.

§ 63.654(i)(4) All other information required to be reported under paragraphs (a) through (h) of this section shall be retained for 5 years.

40 CFR 63, Appendix to Subpart CC, Table 10 - Miscellaneous Process Vents - Monitoring, Recordkeeping and Reporting Requirements for Complying With 98 Weight-Percent Reduction of Total Organic HAP Emissions or a Limit of 20 Parts Per Million by Volume

Control device	Parameters to be monitored ^a	Recordkeeping and reporting requirements for monitored parameters
Thermal incinerator.....	Firebox temperature ^b (63.644(a)(1)(i))	1. Continuous records ^c 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS ^d . 3. Record the daily average firebox temperature for each operating day ^e . 4. Report all daily average temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected - PR ^g .
Catalytic incinerator.....	Temperature upstream and downstream of the catalyst bed (63.644(a)(1)(ii))	1. Continuous records ^c . 2. Record and report the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test - NCS ^d . 3. Record the daily average upstream temperature and temperature difference across the catalyst bed for each operating day ^e . 4. Report all daily average upstream temperatures that are outside the range established in the NCS or operating permit - PR ^g .

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5. Report all daily average temperature differences across the catalyst bed that are outside the range established in the NCS or operating permit - PR^g.
6. Report all operating days when insufficient monitoring data are collected^f.

Control device	Parameters to be monitored ^a	Recordkeeping and reporting requirements for monitored parameters
Boiler or process heater with Firebox temperature ^b a design heat capacity less (63.644(a)(4)). than 44 megawatts where the performance test vent stream is not introduced into the flame zone ^{h,i} .		<ol style="list-style-type: none"> 1. Continuous records^c. 2. Record and report the firebox temperature averaged over the full period of the - NCS^d. 3. Record the daily average firebox temperature for each operating day^e. 4. Report all daily average firebox temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR^g.
Flare.....	Presence of a flame at the pilot light (63.644(a)(2)) flame was continuously present	<ol style="list-style-type: none"> 1. Hourly records of whether the monitor was continuously operating and whether a pilot flame was continuously present during each hour. 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination - NCS^d. 3. Record the times and durations of all periods when all pilot flames for a flare are absent or the monitor is not operating. 4. Report the times and durations of all periods when all pilot flames for a flare are absent or the monitor is not operating.
All control devices.....	Presence of flow diverted to the atmosphere from the control device [63.644(c)(1)]	<ol style="list-style-type: none"> 1. Hourly records of whether the flow indicator was operating and whether flow was detected at any time during each hour.

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or

2. Record and report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating - PR^g.

Monthly inspections of sealed valves [63.644(c)(2)]

1. Records that monthly inspections were performed.
2. Record and report all monthly inspections that show the valves are not closed or the seal has been changed - PR^g.

^a Regulatory citations are listed in parentheses.

^b Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

^c "Continuous records" is defined in § 63.641.

^d NCS = Notification of compliance status report described in § 63.654.

^e The daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.

^f When a period of excess emission is caused by insufficient monitoring data, as described in § 63.654(g)(6)(i) (C) or (D), the duration of the period when monitoring data were not collected shall be included in the Periodic Report.

^g PR = Periodic Reports described in § 63.654(g).

^h No monitoring is required for boilers and process heaters with a design heat capacity ≥ 44 megawatts or for boilers and process heaters where all vent streams are introduced into the flame zone. No recordkeeping or reporting associated with monitoring is required for such boilers and process heaters.

ⁱ Process vents that are routed to refinery fuel gas systems are not regulated under this subpart. No monitoring, recordkeeping, or reporting is required for boilers and process heaters that combust refinery fuel gas.

4. The permittee shall also comply with all applicable requirements of 40 CFR Part 63, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR Part 63, Subpart A and Subpart CC.

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

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B029 - refinery fuel gas/natural gas fired reactor feed furnace for diesel hydrotreater unit, equipped with low nitrogen oxide burners, 22.6 million Btu/hr maximum heat input	OAC rule 3745-31-05(A)(3)	40 CFR 60.104(a)(1)
	OAC rule 3745-17-07(A)	
	OAC rule 3745-17-10(B)(1)	
	OAC rule 3745-23-06(B)	
	OAC rule 3745-21-08(B)	
	OAC rule 3745-18-06(E)	

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Applicable Emissions
Limitations/Control
Measures

See Section A.I.2.f.

See Section A.I.2.b.

3.42 tons sulfur dioxide
(SO₂)/yr

0.06 lb of nitrogen oxides
(NO_x) per million Btu of
actual heat input (see
Section A.I.2.a)

5.96 tons NO_x/yr

1.86 lbs carbon monoxide
(CO)/hr,
8.15 tons CO/yr

0.12 lb volatile organic
compounds (VOC)/hr,
0.53 ton VOC/yr

0.17 lb particulate
emissions (PE)/hr,
0.74 ton PE/yr

See Section A.I.2.d.

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

See Section A.I.2.e.

See Section A.I.2.c.

See Section A.I.2.c.

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- 2.a** Best available technology (BAT) control requirements for this emissions unit has been determined to be use of low NO_x burners meeting 0.06 lb NO_x per million Btu of actual heat input.
- 2.b** The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H₂S) in excess of 230 mg/dscm (162 ppm). This H₂S standard in 40 CFR 60.104(a)(1) is also applicable if the permittee combines and combusts natural gas in any proportion with refinery fuel gas in this emissions unit, according to the fuel gas definition in 40 CFR 60.101(d).
- 2.c** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 (B) and the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.
- On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
- 2.d** The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 40 CFR 60.104(a)(1).
- 2.e** The emission limitation specified by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- 2.f** This emissions unit is fuel burning equipment which combusts refinery fuel gas or natural gas. When firing natural gas, the emissions unit is exempt from OAC rule 3745-18-06 per OAC rule 3745-18-06(A). When firing refinery fuel gas, OAC rule 3745-18-06(E) does not establish an emission limitation because the process weight rate is equal to zero. "Process weight" is defined in OAC rule 3745-18-01(B)(14).

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II. Operational Restrictions

1. The permittee shall burn only refinery fuel gas or natural gas in this emissions unit.

III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than refinery fuel gas or natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. In order to demonstrate compliance with the emission limitation of 230 mg/dscm (162 ppm) of H₂S in the refinery fuel gas (and if applicable, combined fuel firing as noted in Section A.I.2.b above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H₂S in the refinery fuel gas or combined fuel stream before being burned in this emissions unit. The monitoring shall be conducted in accordance with 40 CFR 60.105(a)(4), as follows:
 - a. The span value for this instrument is a ppm equivalent of 425 mg/dscm of H₂S.
 - b. Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H₂S in the fuel gas being burned.
 - c. The performance evaluations for this H₂S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR Part 60, Appendix B. The permittee shall conduct an annual relative accuracy test audit (RATA) for the H₂S continuous emission monitoring equipment. Method 11 of 40 CFR Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the annual RATAs.
3. A statement of certification of the existing H₂S continuous emission monitoring system (CEMS) shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 7. Proof of certification shall be made available to representatives of the Ohio EPA Northwest District Office upon request.
4. The permittee shall operate and maintain existing equipment to continuously monitor and record hydrogen sulfide from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

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The permittee shall maintain records of all data obtained by the H₂S CEMS including, but not limited to, parts per million of H₂S on an instantaneous (1-minute) basis, emissions of H₂S in units of the applicable standard as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

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IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than refinery fuel gas or natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit reports within thirty (30) days following the end of each calendar quarter to the Ohio EPA Northwest District Office documenting any H₂S CEMS downtime while the emissions unit was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of source and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included the quarterly report.
3. The permittee shall notify the Director (the Ohio EPA Northwest District Office) on a quarterly basis, in writing, of all rolling, 3-hour periods during which the average concentration of H₂S as measured by the H₂S CEMS under 40 CFR 60.105(a)(4) exceeded 230 mg/dscm (162 ppm). The rolling, 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. The notification shall include a copy of the record and shall be sent to the Director (the Ohio EPA Northwest District Office) by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during previous calendar quarters.
4. If there were no concentrations of H₂S in the refinery fuel gas (or combined fuel stream, if applicable) that exceeded the value specified in Section A.1.2.b during the calendar quarter, then the permittee shall submit a statement to that effect along with the emissions unit and monitor operating times. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during previous calendar quarters.
5. Pursuant to the New Source Performance Standards (NSPS), the permittee is hereby advised of the requirements to report the following at the appropriate times:
 - a. construction date (no later than 30 days after such date);
 - b. actual start-up date (within 15 days after such date); and
 - c. date of performance testing (if required, at least 30 days prior to testing).

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Reports are to be sent to:

Ohio Environmental Protection Agency
 DAPC - Permit Management Unit
 Lazarus Government Center
 P.O. Box 1049
 Columbus, OH 43216-1049

and

Ohio EPA, Northwest District Office
 347 North Dunbridge Road
 Bowling Green, OH 43402

V. Testing Requirements

1. Compliance with the emissions limitations in Section A.I.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation
 3.42 tons SO₂/yr

Applicable Compliance Method

The annual emission limitation was established in accordance with the following equation:

$$\text{Tons SO}_2/\text{yr} = (0.10 \text{ gr H}_2\text{S}/\text{scf})(\text{lb H}_2\text{S}/7,000 \text{ gr H}_2\text{S})(64.1 \text{ lb SO}_2/34.1 \text{ lb H}_2\text{S})(29,200 \text{ cf/hr})(8760 \text{ hrs/yr})(\text{ton}/2000 \text{ lbs})$$

where:

- (0.10 gr H₂S/scf) = 40 CFR 60.104(a)(1) emission limitation
- (64.1 lb SO₂/34.1 lb H₂S) = conversion of hydrogen sulfide to sulfur dioxide assuming all H₂S is converted to SO₂
- (29,200 cf/hr) = maximum fuel flow rate
- (8,760 hrs/yr) = maximum operating schedule

All other values are conversion factors.

Compliance with the annual emission limitation will be shown as long as the permittee maintains compliance with the H₂S emission limitation in 40 CFR 60.104(a)(1).

- b. Emission Limitation
 0.06 lb NO_x per million Btu of actual heat input, 5.96 tons NO_x/yr

Applicable Compliance Method

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The emission limitation is based on the burner manufacturer's emissions data for low NOx burners to be installed on this emissions unit. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7.

The annual emission limitation was derived by multiplying the 0.06 lb of NOx per million Btu emission limitation times the maximum heat input capacity of 22.6 million

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Btu/hr for the process heater, then multiplying by 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the 0.06 lb of NO_x per million Btu emission limitation is maintained.

- c. Emission Limitation
1.86 lbs CO/hr, 8.15 tons CO/yr

Applicable Compliance Method

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate CO emission factor of 84 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,157 standard cubic foot/hr. If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with 40 CFR, Part 60, Appendix A, Methods 1 through 4, and 10.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

- d. Emission Limitation
0.12 lb VOC/hr, 0.53 ton VOC/yr

Applicable Compliance Method

The permittee may demonstrate compliance with this limitation by multiplying the appropriate VOC emission factor of 5.5 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,157 standard cubic foot/hr. If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with 40 CFR, Part 60, Appendix A, Methods 1-4, and 18, 25, or 25A, as appropriate.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

- e. Emission Limitation
0.17 lb PE/hr, 0.74 tons PE/yr

Applicable Compliance Method

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate particulate emission factor of 7.6 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,157 standard cubic foot/hr. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 - 5.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

f. Emission Limitation

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

Applicable Compliance Method

If required, the permittee shall demonstrate compliance with the visible particulate emission limitation above in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and the requirements specified in OAC rule 3745-17-03(B)(1).

g. Emission Limitation

The permittee shall not burn any refinery fuel gas in this emissions unit that contains H₂S in excess of 230 mg/dscm (162 ppm).

Applicable Compliance Method

Compliance with this emission limitation shall be demonstrated in accordance with the continuous emission monitoring requirements specified in Sections A.III.2 through A.III.4.

VI. Miscellaneous Requirements

1. Within one hundred eighty (180) days of the effective date of this permit, the permittee shall update the existing quality assurance/quality control plan for the refinery fuel gas H₂S continuous emission monitor designed to ensure continuous valid and representative readings of H₂S. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. A logbook dedicated to the monitoring system must be kept on site and available for inspection during regular office hours.

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B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B029 - refinery fuel gas/natural gas fired reactor feed furnace for diesel hydrotreater unit, equipped with low nitrogen oxide burners, 22.6 million Btu/hr maximum heat input	None	None

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

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None

VI. Miscellaneous Requirements

None

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P042 - Pressure Swing Absorption (PSA) purge gas/refinery fuel gas/natural gas fired reformer heater for hydrogen plant, equipped with low nitrogen oxide burners, 258.4 million Btu/hr maximum heat input and de-aerator vent. (Administrative modification of PTI No. 03-16188, issued on 9/7/04, to increase the burner capacity of the reformer heater and add a de-aerator vent).	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-10(B)(1)
		OAC rule 3745-23-06(B)
		OAC rule 3745-21-08(B)
		OAC rule 3745-18-06(E)
		40 CFR 60.104(a)(1)

Applicable Emissions <u>Limitations/Control</u> <u>Measures</u>	
emissions from reformer heater:	See Section A.I.2.g.
13.57 tons sulfur dioxide (SO ₂)/yr	See Section A.I.2.c.
0.035 lb of nitrogen oxides (NO _x) per million Btu of actual heat input (see Section A.I.2.a)	See Section A.I.2.f.
39.61 tons NO _x /yr	See Section A.I.2.b.
4.65 lbs carbon monoxide (CO)/hr, 20.37 tons CO/yr	
1.63 lbs volatile organic compounds (VOC)/hr, 7.14 tons VOC/yr	
1.63 lbs particulate emissions (PE)/hr, 7.14 tons PE/yr	
emissions from de-aerator:	
0.46 lb CO/hr, 2.01 tons CO/yr	
0.97 lb VOC/hr, 4.25 tons VOC/yr	
See Section A.I.2.d.	
Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.	
See Section A.I.2.e.	

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2. Additional Terms and Conditions

2.a Best available technology (BAT) control requirements for this emissions unit has been determined to be use of low NOx burners meeting 0.035 lb NOx per million Btu of actual heat input.

2.b The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H₂S) in excess of 230 mg/dscm (162 ppm). This H₂S standard in 40 CFR 60.104(a)(1) is also applicable if the permittee combines and combusts natural gas in any proportion with the PSA purge gas and/or refinery fuel gas in this emissions unit, according to the fuel gas definition in 40 CFR 60.101(d). and

The permittee shall not burn any Pressure Swing Absorption (PSA) purge gas in this emissions unit that contains hydrogen sulfide (H₂S) in excess of 4.26 mg/dscm (3.0 ppm).

2.c The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.

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

2.d The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 40 CFR 60.104(a)(1).

2.e The emission limitation specified by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2.f The reformer heater portion of this emissions unit is fuel burning equipment which combusts PSA purge gas, refinery fuel gas, and natural gas. When firing natural gas, the emissions unit is exempt from OAC rule 3745-18-06 per OAC rule 3745-18-06(A). When firing PSA purge gas or refinery fuel gas, OAC rule

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3745-18-06(E) does not establish an emission limitation because the process weight rate is equal to zero. "Process weight" is defined in OAC rule 3745-18-01(B)(14).

- 2.g** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 14, 2005, OAC rule 3745-23-06 was rescinded; therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the U.S. EPA approves the revision to OAC rule 3745-23-06, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The permittee shall burn only PSA purge gas, refinery fuel gas, and/or natural gas in this emissions unit.

III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than PSA purge gas, refinery fuel gas, or natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. In order to demonstrate compliance with the emission limitation of 230 mg/dscm (162 ppm) of H₂S in the refinery fuel gas (and if applicable, combined fuel firing as noted in Section A.I.2.b above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H₂S in the PSA purge gas or refinery fuel gas, or combined fuel stream before being burned in this emissions unit. The monitoring shall be conducted in accordance with 40 CFR 60.105(a)(4), as follows:
 - a. The span value for this instrument is a ppm equivalent of 425 mg/dscm of H₂S.
 - b. Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately

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represents the concentration of H₂S in the fuel gas being burned.

- c. The performance evaluations for this H₂S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR Part 60, Appendix B. The permittee shall conduct an annual relative accuracy test audit (RATA) for the H₂S continuous emission monitoring equipment. Method 11 of 40 CFR Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the annual RATAs.
3. A statement of certification of the existing H₂S continuous emission monitoring system (CEMS) shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 7. Proof of certification shall be made available to representatives of the Ohio EPA Northwest District Office upon request.
4. The permittee shall operate and maintain existing equipment to continuously monitor and record hydrogen sulfide from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of all data obtained by the H₂S CEMS including, but not limited to, parts per million of H₂S on an instantaneous (1-minute) basis, emissions of H₂S in units of the applicable standard as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

5. In order to demonstrate compliance with the emission limitation of 4.26 mg/dscm (3 ppm) of H₂S in the PSA purge gas, the permittee shall on a monthly basis, collect a sample of PSA purge gas and perform an analysis for H₂S content and heat content in accordance with appropriate ASTM methods or equivalent methods as approved by the Director (the appropriate District Office or local air agency) .

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than PSA purge gas, refinery fuel gas, or natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit reports within thirty (30) days following the end of each calendar quarter to the Ohio EPA Northwest District Office documenting any H₂S CEMS downtime while the emissions unit was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective

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action(s) taken for each time period of source and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included the quarterly report.

3. The permittee shall notify the Director (the Ohio EPA Northwest District Office) on a quarterly basis, in writing, of all rolling, 3-hour periods during which the average concentration of H₂S as measured by the H₂S CEMS under 40 CFR 60.105(a)(4) exceeded 230 mg/dscm (162 ppm). The rolling, 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages. The notification shall include a copy of the record and shall be sent to the Director (the Ohio EPA Northwest District Office) by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during previous calendar quarters.
4. If there were no concentrations of H₂S in the refinery fuel gas (or combined fuel stream, if applicable) that exceeded the value specified in Section A.I.2.b during the calendar quarter, then the permittee shall submit a statement to that effect along with the emissions unit and monitor operating times. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during previous calendar quarters.
5. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record which shows a deviation of the allowable H₂S content in the PSA purge gas as specified in Section A.I.2.b. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the deviation occurs.
6. Pursuant to the New Source Performance Standards (NSPS), the permittee is hereby advised of the requirements to report the following at the appropriate times:
 - a. construction date (no later than 30 days after such date);
 - b. actual start-up date (within 15 days after such date); and
 - c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
Lazarus Government Center
P.O. Box 1049

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Columbus, OH 43216-1049

and

Ohio EPA, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 180 days following start-up of the emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate for the reformer heater of 0.035 lb of NO_x per million Btu of actual heat input, and the allowable mass emission rate for CO, which is 4.65 lbs CO/hr.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates: for NO_x, Methods 1 through 4 and 7 of 40 CFR, Part 60,

Appendix A; for CO, Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A. Alternate U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
 - d. The test(s) shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA Northwest District Office.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA Northwest District Office's refusal to accept the results of the emission test(s).
 - f. Personnel from the Ohio EPA Northwest District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the

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emissions unit and/or the performance of the control equipment.

- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northwest District Office within 30 days following completion of the test(s).
2. Compliance with the emissions limitations in Section A.I.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation
13.57 tons SO₂/yr from reformer heater

Applicable Compliance Method

The annual emission limitation was established in accordance with the following equation:

$$\text{Tons SO}_2/\text{yr} = \text{Tons SO}_2/\text{yr from refinery fuel gas (RFG)} + \text{Tons SO}_2/\text{yr from PSA purge gas}$$

$$\begin{aligned} \text{Tons SO}_2/\text{yr (from RFG)} &= (0.10 \text{ gr H}_2\text{S}/\text{scf})(\text{lb H}_2\text{S}/7,000 \text{ gr H}_2\text{S})(64.1 \text{ lb SO}_2/34.1 \text{ lb H}_2\text{S})(102,337 \text{ scf/hr})(8760 \text{ hrs/yr})(\text{ton}/2000 \text{ lbs}) \\ &= 12.04 \text{ tons SO}_2/\text{yr} \end{aligned}$$

where:

$$(0.10 \text{ gr H}_2\text{S}/\text{scf}) = 40 \text{ CFR } 60.104(a)(1) \text{ emission limitation } (0.10 \text{ gr}/\text{scf} = 230 \text{ mg}/\text{dscm} = 162 \text{ ppm})$$

$$(64.1 \text{ lb SO}_2/34.1 \text{ lb H}_2\text{S}) = \text{conversion of hydrogen sulfide to sulfur dioxide assuming all H}_2\text{S is converted to SO}_2$$

$$(102,337 \text{ scf/hr}) = \text{maximum fuel flow rate (based on a heating value of } 909 \text{ Btu}/\text{scf})$$

$$(8,760 \text{ hrs/yr}) = \text{maximum operating schedule}$$

All other values are conversion factors.

$$\begin{aligned} \text{Tons SO}_2/\text{yr (from PSA purge gas)} &= (0.002 \text{ gr H}_2\text{S}/\text{scf})(\text{lb H}_2\text{S}/7,000 \text{ gr H}_2\text{S})(64.1 \text{ lb SO}_2/34.1 \text{ lb H}_2\text{S})(651,087 \text{ scf/hr})(8760 \text{ hrs/yr})(\text{ton}/2000 \text{ lbs}) \\ &= 1.53 \text{ tons SO}_2/\text{yr} \end{aligned}$$

where:

$$(0.002 \text{ gr H}_2\text{S}/\text{scf}) = \text{emission limitation in Section A.I.2.b } (0.002 \text{ gr}/\text{scf} =$$

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4.36 mg/dscm = 3 ppm)
 (64.1 lb SO₂/34.1 lb H₂S) = conversion of hydrogen sulfide to sulfur dioxide assuming all H₂S is converted to SO₂
 (651,087 scf/hr) = maximum fuel flow rate (based on a heating value of 254 Btu/scf)
 (8,760 hrs/yr) = maximum operating schedule

All other values are conversion factors.

Tons SO₂/yr = 12.04 tons SO₂/yr + 1.53 tons SO₂/yr = 13.57 tons SO₂/yr

Compliance with the annual emission limitation will be shown as long as the permittee maintains compliance with the H₂S emission limitations of 162 ppm in 40 CFR 60.104(a)(1) for RGF and 3ppm for PSA purge gas.

b. Emission Limitation

0.035 lb NO_x per million Btu of actual heat input, 39.61 tons NO_x/yr from reformer heater

Applicable Compliance Method

The emission limitation is based on the burner manufacturer's emissions data for low NO_x burners to be installed on this emissions unit. Compliance with the lb of NO_x per million Btu emission limitation shall be demonstrated by the performance testing required in condition A.V.1.

The annual emission limitation was derived by multiplying the 0.035 lb of NO_x per million Btu emission limitation times the maximum heat input capacity of 258.4 million Btu/hr for the process heater, then multiplying by 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the 0.035 lb of NO_x per million Btu emission limitation is maintained.

c. Emission Limitation

4.65 lbs CO/hr, 20.37 tons CO/yr from reformer heater

Applicable Compliance Method

Compliance with the lbs CO/hr emission limitation shall be demonstrated by the performance testing required in condition A.V.1.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

d. Emission Limitation

1.63 lbs VOC/hr, 7.14 tons VOC/yr from reformer heater

Applicable Compliance Method

The emission limitation is based on the burner manufacturer's guaranteed emission rate of 0.0063 lb VOC/mmBtu heat input. The permittee may demonstrate compliance with this limitation by multiplying the emission rate of 0.0063 lb VOC/mmBtu by a maximum heat input of 258.4 mmBtu/hr. If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with 40 CFR, Part 60, Appendix A, Methods 1-4, and 18, 25, or 25A, as appropriate.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

- e. Emission Limitation
1.63 lbs PE/hr, 7.14 tons PE/yr from reformer heater

Applicable Compliance Method

The emission limitation is based on the burner manufacturer's guaranteed emission rate of 0.0063 lb PE/mmBtu heat input. The permittee may demonstrate compliance with the hourly limitation by multiplying the emission rate of 0.0063 lb PE/mmBtu by a maximum heat input of 258.4 mmBtu/hr. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 - 5.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

- f. Emission Limitation
0.46 lb CO/hr, 2.01 tons CO/yr from de-aerator

Applicable Compliance Method

The emission limitation is based on the manufacturer's emission rate warranty of 0.39 lb CO/hr at a normal operating mode of 221 mmBtu/hr for the reformer heater multiplied by a conversion factor of 1.17, derived from the maximum firing rate of 258.4 mmBtu/hr for the reformer heater. If required, the permittee shall

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demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1-4, and 10.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

- g. Emission Limitation
0.97 lb VOC/hr, 4.25 tons VOC/yr from de-aerator

Applicable Compliance Method

The emission limitation is based on the manufacturer's emission rate warranty of 0.831 lb VOC/hr (total) at a normal operating mode of 221 mmBtu/hr for the reformer heater multiplied by a conversion factor of 1.17, derived from the maximum firing rate of 258.4 mmBtu/hr for the reformer heater. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1-4, and 18, 25, or 25A, as appropriate.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and dividing by 2,000 lbs/ton. Compliance with the annual limitation shall be shown as long as compliance with the hourly emission limitation is maintained.

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

Applicable Compliance Method

If required, the permittee shall demonstrate compliance with the visible particulate emission limitation above in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and the requirements specified in OAC rule 3745-17-03(B)(1).

i. Emission Limitation

The permittee shall not burn any PSA purge gas or refinery fuel gas in this emissions unit that contains H₂S in excess of 230 mg/dscm (162 ppm).

Applicable Compliance Method

Compliance with this emission limitation shall be demonstrated in accordance with the continuous emission monitoring requirements specified in Sections A.III.2 through A.III.4.

VI. Miscellaneous Requirements

1. Within one hundred eighty (180) days of the effective date of this permit, the permittee shall update the existing quality assurance/quality control plan for the refinery fuel gas H₂S continuous emission monitor designed to ensure continuous valid and representative readings of H₂S. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. A logbook dedicated to the monitoring system must be kept on site and available for inspection during regular office hours.

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B. State Only Enforceable Section**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P042 - Pressure Swing Absorption (PSA) purge gas/refinery fuel gas/natural gas fired reformer heater for hydrogen plant, equipped with low nitrogen oxide burners, 258.4 million Btu/hr maximum heat input and de-aerator vent. (Administrative modification of PTI No. 03-16188, issued on 9/7/04, to increase the burner capacity of the reformer heater and add a de-aerator vent).	See B.III.1	See B.III.1

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P042) was evaluated based on the actual emissions and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methanol

TLV (mg/m³): 262

Maximum Hourly Emission Rate (lbs/hr): 0.90

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m³): 251

MAGLC (ug/m³): 6,228

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
2. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above

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changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None