



5/20/2014

Paul Logsdon  
 Lima Refining Company  
 1150 South Metcalf Street  
 Lima, OH 45804

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
 Facility ID: 0302020012  
 Permit Number: P0116161  
 Permit Type: Administrative Modification  
 County: Allen

Certified Mail

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

Dear Permit Holder:

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

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

**How to appeal this permit**

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

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

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

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

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

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

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

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

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)3528461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
Ohio EPA-NWDO; Indiana



## Response to Comments

Facility ID:	0302020012
Facility Name:	Lima Refining Company
Facility Description:	Petroleum Refinery and Storage
Facility Address:	1150 South Metcalf Street Lima, OH 45804 Allen County
Permit:	P0116161, Permit-To-Install - Administrative Modification
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Lima News on 04/15/2014. The comment period ended on 05/15/2014.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

**1. Topic: The permit applicant, Lima Refining Company, submitted a total of two written comments, with suggested language changes.**

Comment #1: Permit Strategy Write-Up, Section 2. Source Description: The heaters and boilers that are being modified are referred to as “covered heaters and boilers” in the Consent Decree. LRC would like to propose that the language used in this PTI is consistent with the Consent Decree and that the language is changed to say “covered heater and boilers” also.

Response #1: Ohio EPA concurs with the applicant and inserted the word “covered” in the permit strategy write-up, Section 2. Source Description in each phrase describing the heaters and boilers.

Comment #2: Part C. Emissions Units Terms and Conditions – term 1.b)(2): Revisions to the NO<sub>x</sub> emissions limitations on select covered heaters and boilers is being requested to meet a system-wide average. Included in this PTI is emissions unit (EU) B001. The NO<sub>x</sub> limit requested in this PTI is an interim limit for B001. A final NO<sub>x</sub> limit will be achieved when construction is completed on B001 pursuant to issued permit P0114527 (COF permit). LRC is proposing an additional term and condition (Part C. 1. b) (2) f.) is included in this permit identifying the NO<sub>x</sub> limit for B001 as just a temporary limit until construction is completed.



**Response to Comments**  
Lima Refining Company  
**Permit Number:** P0116161  
**Facility ID:** 0302020012

Response #2: Ohio EPA concurs with the applicant and added the final limit of 0.03 lbNO<sub>x</sub>/million Btu of actual heat input, based upon a 365-day rolling average to permit term 1.b)(1)h. and added the new term 1.b)(2)f. for this limit. The same NO<sub>x</sub> limit was also added to permit term 1.f)(1)f.



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Lima Refining Company**

Facility ID:	0302020012
Permit Number:	P0116161
Permit Type:	Administrative Modification
Issued:	5/20/2014
Effective:	5/20/2014





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Lima Refining Company

**Table of Contents**

Authorization .....	1
A. Standard Terms and Conditions .....	3
1. Federally Enforceable Standard Terms and Conditions .....	4
2. Severability Clause .....	4
3. General Requirements .....	4
4. Monitoring and Related Record Keeping and Reporting Requirements.....	5
5. Scheduled Maintenance/Malfunction Reporting .....	6
6. Compliance Requirements .....	6
7. Best Available Technology .....	7
8. Air Pollution Nuisance .....	8
9. Reporting Requirements .....	8
10. Applicability .....	8
11. Construction of New Sources(s) and Authorization to Install .....	8
12. Permit-To-Operate Application .....	9
13. Construction Compliance Certification .....	10
14. Public Disclosure .....	10
15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations .....	10
16. Fees.....	10
17. Permit Transfers .....	10
18. Risk Management Plans .....	10
19. Title IV Provisions .....	10
B. Facility-Wide Terms and Conditions.....	11
C. Emissions Unit Terms and Conditions .....	13
1. Emissions Unit Group - Process Heaters Group #1: B001, B003, B006, B007 .....	14
2. B004, Process Heater .....	26
3. B008, Process Heater .....	37
4. B016, Process Heater .....	47
5. Emissions Unit Group - Process Heaters Group #4: B022, B024 .....	53
6. B026, Steam Generating Unit .....	60
7. B027, Process Heater .....	71



8. B032, Nebraska Boiler ..... 78



## Authorization

Facility ID: 0302020012  
Facility Description: Petroleum Refinery and Storage  
Application Number(s): M0002504, M0002583  
Permit Number: P0116161  
Permit Description: Administrative modification to revise NOx emissions limitations based on final voluntary limits to meet a system-wide average NOx performance level of 0.044 lb per million Btu.  
Permit Type: Administrative Modification  
Permit Fee: \$4,175.00  
Issue Date: 5/20/2014  
Effective Date: 5/20/2014

This document constitutes issuance to:

Lima Refining Company  
1150 South Metcalf Street  
Lima, OH 45804

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

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

Ohio EPA DAPC, Northwest District Office  
347 North Dunbridge Road  
Bowling Green, OH 43402  
(419)352-8461

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



## Authorization (continued)

Permit Number: P0116161  
Permit Description: Administrative modification to revise NOx emissions limitations based on final voluntary limits to meet a system-wide average NOx performance level of 0.044 lb per million Btu.

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

<b>Emissions Unit ID:</b>	<b>B001</b>
Company Equipment ID:	Process Heater
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B003</b>
Company Equipment ID:	Process Heaters
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B006</b>
Company Equipment ID:	Process Heaters
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B007</b>
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B016</b>
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B022</b>
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B024</b>
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B027</b>
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install**  
Lima Refining Company  
**Permit Number:** P0116161  
**Facility ID:** 0302020012  
**Effective Date:** 5/20/2014

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



## **1. Federally Enforceable Standard Terms and Conditions**

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

## **2. Severability Clause**

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

## **3. General Requirements**

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



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

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

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



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

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

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

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

## **6. Compliance Requirements**

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



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

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

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

## **7. Best Available Technology**

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



**8. Air Pollution Nuisance**

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

**9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

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

**10. Applicability**

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

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

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



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

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

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

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

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

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



**13. Construction Compliance Certification**

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

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

**14. Public Disclosure**

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

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

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

**16. Fees**

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

**17. Permit Transfers**

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

**18. Risk Management Plans**

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

**19. Title IV Provisions**

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



**Final Permit-to-Install**  
Lima Refining Company  
**Permit Number:** P0116161  
**Facility ID:** 0302020012  
**Effective Date:**5/20/2014

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



**Final Permit-to-Install**  
Lima Refining Company  
**Permit Number:** P0116161  
**Facility ID:** 0302020012  
**Effective Date:**5/20/2014

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



**Final Permit-to-Install**  
Lima Refining Company  
**Permit Number:** P0116161  
**Facility ID:** 0302020012  
**Effective Date:** 5/20/2014

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



**1. Emissions Unit Group - Process Heaters Group #1: B001, B003, B006, B007**

EU ID	Operations, Property and/or Equipment Description
B001	Refinery fuel gas or natural gas fired Vacuum unit II heater with ultra low NOx burners, 102.3 million Btu/hr maximum heat input (PR 175151)
B003	Refinery Fuel Gas or natural gas fired ISO I & II Heaters, 74.7 million Btu/hr maximum heat input (PR 175152/PR 175153)
B006	Refinery Fuel Gas or natural gas fired U/F PRE, 1, 2, & 3 Heater, 843.4 million Btu/hr maximum, combined heat input (PR 175156 through 175159)
B007	Refinery Fuel Gas or natural gas fired Reformer Regenerator Heater, 85.3 million Btu/hr maximum heat input (PR 175162)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-10(B)(1)	0.020 lb of particulate emissions (PE) per million Btu of actual heat input
b.	OAC rule 3745-18-08(C)(1)	0.15 lb of sulfur dioxide (SO <sub>2</sub> ) per million Btu of actual heat input [See b)(2)d.]
c.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/control requirements specified in this section.]	See b)(2)a., and c)(2) through c)(5)  63.7500(a) Table 3 requirements



e.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
f.	40 CFR, Part 60, Subpart J	See b)(2)b. and b)(2)c.
g.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
h.	OAC rule 3745-31-05(D)	<p>B001 – 0.133 lb nitrogen oxides (NOx)/million Btu of actual heat input based upon a 3-hour block average [See b)(2)f.]</p> <p>B001 – 0.03 lb of NOx/million Btu of actual heat input, based upon a 365-day rolling average [See b)(2)f.]</p> <p>B003 – 0.009 lbNOx/million Btu of actual heat input based upon a 365-day rolling block average</p> <p>B006 - 0.008 lbNOx/million Btu of actual heat input based upon a 365-day rolling block average</p> <p>B007 - 0.116 lbNOx/million Btu of actual heat input based upon a 3-hour block average</p> <p>See b)(2)e.</p>

(2) Additional Terms and Conditions

- a. These emissions unit are subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).
- b. 40 CFR, Part 60 - Subpart J is an applicable rule for these emissions units. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.



- c. The permittee shall not burn any refinery fuel gas in these emissions units that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume of H<sub>2</sub>S). This H<sub>2</sub>S 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).
- d. The SO<sub>2</sub> emissions limitation established in OAC rule 3745-18-08(C)(5) is less stringent than the hydrogen sulfide (H<sub>2</sub>S) concentration limit of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) established by Subpart J, 40 CFR 60.104(a)(1). Therefore, compliance with the SO<sub>2</sub> limit is ensured by compliance with the H<sub>2</sub>S limit.
- e. The NO<sub>x</sub> emissions limitations are established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07. Pursuant to paragraph No. 17 of the consent decree addendum, emissions units B003 and B006 are two of the four emissions units (B002, B003, B006 and B008) chosen by the company for installation of NO<sub>x</sub> control equipment. Selective catalytic reduction was installed on B003 and B006 on December 17, 2011 to meet this requirement.

As required by the consent decree addendum, the NO<sub>x</sub> emissions limitations are established to reflect the final voluntary limits to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

- f. **This permit term is applicable only to emissions unit B001:** The Vac II heater (B001) will be reconstructed as part of the Lima Refinery's Crude Oil Flexibility (COF) project. Lima Refining Company is requesting that the limit proposed (0.133 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 3-hour block average) in this administrative permit modification (PTI No. P0116161) apply to B001 only until it is reconstructed. After B001 is reconstructed with ultra-low NO<sub>x</sub> burners, the lower BACT limit of 0.03 lb of NO<sub>x</sub>/million Btu of actual heat input, based upon a 365-day rolling average established in the issued COF PTI No. P0114527 will replace the limit in this permit to install.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit. The sulfur content of the refinery fuel gas or natural gas burned in this emissions unit shall comply with the allowable SO<sub>2</sub> emission limitation specified in section b)(1)b.
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.



- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
  - (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
  - (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.
- d) 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 (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)c. above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 425 mg/dscm of H<sub>2</sub>S.
    - 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 H<sub>2</sub>S in the fuel gas being burned.
    - c. The performance evaluations for this H<sub>2</sub>S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR, Part 60, Appendix B. The permittee shall conduct a relative accuracy test audit (RATA) for the H<sub>2</sub>S continuous emission monitoring equipment at a minimum frequency of once every three years. Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the RATAs.
  - (3) A statement of certification of the existing H<sub>2</sub>S 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 H<sub>2</sub>S 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 H<sub>2</sub>S CEMS including, but not limited to, parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

- (5) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

A logbook dedicated to the monitoring systems must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 121 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the H<sub>2</sub>S CEM at a minimum frequency of once every three years; and
  - b. Conduct cylinder gas audits on the H<sub>2</sub>S CEM during each quarter when a relative accuracy test audit is not conducted.
- (6) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall install, operate, and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from these emissions units, in units of parts per million by volume, on a dry basis. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to:

- a. emissions of NO<sub>x</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO<sub>x</sub> in all units of the applicable standard(s) in the appropriate averaging period;



- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NOx monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NOx monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NOx monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in d)(6)g. and d)(6)h.

- (7) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NOx monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 2. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (8) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall maintain a written quality assurance/quality control plan for the continuous NOx monitoring system designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

The quality assurance/quality control plan and a logbook dedicated to the continuous NOx monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:



- a. Conduct a relative test audit of the NO<sub>x</sub> CEM at a minimum frequency of once every three years; and
  - b. Conduct cylinder gas audits on the NO<sub>x</sub> CEM during each quarter when a relative accuracy test audit is not conducted.
- (9) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall install, operate and maintain equipment to continuously monitor and record oxygen (O<sub>2</sub>) emitted from these emissions units, in units of percent O<sub>2</sub>. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR, Part 60.

The permittee shall maintain records of data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to:

- a. percent O<sub>2</sub> for each cycle time of the analyzer, with no resolution less than one data point per minute required;
  - b. results of quarterly cylinder gas audits;
  - c. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
  - d. results of required relative accuracy test audit(s);
  - e. hours of operation of the emissions unit, continuous O<sub>2</sub> monitoring system;
  - f. the date, time, and hours of operation of the emissions unit without the continuous O<sub>2</sub> monitoring system;
  - g. the date, time, and hours of operation of the emissions unit during any malfunction of the continuous O<sub>2</sub> monitoring system; as well as,
  - h. the reason (if known) and the corrective actions taken (if any) for each such event in d)(9)f. and d)(9)g.
- (10) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous O<sub>2</sub> monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 3. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.



- (11) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall maintain a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard(s).

The plan shall follow the requirements of 40 CFR, Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the O<sub>2</sub> CEM at a minimum frequency of once every three years; and
- b. Conduct cylinder gas audits on the O<sub>2</sub> CEM during each quarter when a relative accuracy test audit is not conducted.

- (12) **This permit term is applicable only to emissions units B003 and B006:** Pursuant to the approval letter from U.S. EPA dated July 28, 2010, the permittee shall install and operate monitoring equipment in the selective catalytic reduction bypass stack to continuously monitor the temperature and draft pressure in the selective catalytic reduction bypass stack, subject to the following condition:

- a. The permittee must measure, report and comply with the temperature and pressure readings obtained in the bypass stack during normal operation as measured when stack testing the main stack to demonstrate initial compliance with applicable limits (i.e. – ambient temperature and a slight negative pressure in the bypass stack when the selective catalytic reduction induced draft fan is operating). The temperature and pressure readings are hereby incorporated into this permit as a means to assure compliance.

e) 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 these emissions units. 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 H<sub>2</sub>S 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) 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) **This permit term is applicable only to emissions units B003 and B006:** 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 NO<sub>x</sub> 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.

- (6) **This permit term is applicable only to emissions units B003 and B006:** 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 O<sub>2</sub> 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.

- (7) **This permit term is applicable only to emissions units B003 and B006:** The permittee shall include in its quarterly excess emission reports each period of time when the selective catalytic reduction bypass dampers are not 100 percent closed, the reason why they were not 100 percent closed and the actions taken to prevent such occurrence from happening again.



f) Testing Requirements

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

a. Emission Limitation:

0.020 lb of PE per million Btu of actual heat input

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate particulate emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the process heater. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 1 through 4, and 5 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(9).

b. Emission Limitation:

0.15 lb of SO<sub>2</sub> per million Btu of actual heat input

Applicable Compliance Method:

This limit is less stringent than firing refinery fuel gas (or combined fuel stream, if applicable) with a maximum H<sub>2</sub>S content of 230 mg/dscm (0.10 grain/dscf) in this emissions unit. As long as the permittee maintains compliance with the H<sub>2</sub>S operational restriction in section 1.b)(2)c., compliance with the SO<sub>2</sub> limitation will be assumed. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the methods and procedures specified in 40 CFR, Part 60, Appendix A, Methods 1 through 4, and 6 and the requirements specified in OAC rule 3745-18-04(E)(1).

c. Emission Limitation:

Visible PE 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 Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).



d. Emission Limitation:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(2) through d)(5) for this emissions unit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

e. Emission Limitations:

B001 - 0.133 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 3-hour block average

B001 - 0.03 lb of NO<sub>x</sub>/million Btu of actual heat input, based upon a 365-day rolling average

B007 - 0.116 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 3-hour block average

Applicable Compliance Method:

Compliance with the lb of NO<sub>x</sub> per million Btu emissions limitations have been demonstrated by past stack testing.

If required, the permittee shall determine compliance with the NO<sub>x</sub> emissions limitations by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

f. Emission Limitations:

B003 – 0.009 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 365-day block average

B006 - 0.008 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 365-day block average

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(6) through d)(12) for this emissions unit. If required, the permittee shall determine compliance with the NO<sub>x</sub> emission limitation by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.



**Final Permit-to-Install**  
Lima Refining Company  
**Permit Number:** P0116161  
**Facility ID:** 0302020012  
**Effective Date:** 5/20/2014

g) Miscellaneous Requirements

(1) None.



**2. B004, Process Heater**

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

Refinery Fuel Gas or Natural Gas Fired Crude II Heater with Low Nitrogen Oxide Burners, 615.4 million Btu/hr, maximum heat input (PR 175150)

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-10(B)(1)	0.020 lb of particulate emissions (PE) per million Btu of actual heat input
b.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
c.	OAC rule 3745-18-08(C)(2)	1.0 lb of sulfur dioxide (SO <sub>2</sub> ) per million Btu of actual heat input
d.	OAC rule 3745-31-05(A)(3)	24.62 lbs of carbon monoxide (CO)/hr, 107.82 tons of CO/yr  See b)(2)a.
e.	OAC rule 3745-31-05(D)	0.035 lb of nitrogen oxides (NO <sub>x</sub> ) per million Btu of actual heat input, based upon a 365-day rolling block average  See b)(2)f.
f.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/ control requirements specified in this	See b)(2)b., and c)(2) through c)(5)  63.7500(a) Table 3 requirements



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	section.]	
g.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
h.	40 CFR, Part 60, Subpart J	See b)(2)d. and b)(2)e.
i.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19

(2) Additional Terms and Conditions

- a. In a previously issued PTI No. P0107906, the permittee requested federally enforceable limitations for NOx of 0.10 lb per million Btu of actual heat input, 269.55 tons NOx/yr, 24.62 lbs CO/hr, and 107.82 tons CO/yr. The federally enforceable limitations were established in accordance with OAC rule 3745-31-05(A)(3). The permittee originally requested federally enforceable NOx and CO emission limitations for purposes of avoiding Prevention of Significant Deterioration (PSD) permitting by emissions netting, as established in PTI No. 03-13794, which was superseded by PTI No. P0107906. PTI No. P0109701 established a new NOx emission limitation of 0.035 lb per million Btu of actual heat input, consistent with the requirements in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- b. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).
- c. 40 CFR, Part 60 - Subpart J is an applicable rule for this emissions unit. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- d. The permittee shall not burn any refinery fuel gas in this emissions unit that contains H2S in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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).



- e. The SO<sub>2</sub> emissions limitation established in OAC rule 3745-18-08(C)(5) is less stringent than the hydrogen sulfide (H<sub>2</sub>S) concentration limit of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) established by Subpart J, 40 CFR 60.104(a)(1). Therefore, compliance with the SO<sub>2</sub> limit is ensured by compliance with the H<sub>2</sub>S limit.
- f. The NO<sub>x</sub> emissions limitation is established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF which became effective on 11/20/07.

As required by the consent decree addendum, the NO<sub>x</sub> emissions limitations are established to reflect the final voluntary limits to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

This permit establishes the following federally enforceable emission limitations for the purpose of representing the potentials to emit of this emissions unit:

- i. 0.035 lb of NO<sub>x</sub> per million Btu of actual heat input, based upon a 365-day rolling block average.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit. The sulfur content of the refinery fuel gas or natural gas burned in this emissions unit shall comply with the allowable SO<sub>2</sub> emission limitation specified in section b)(1).
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
- (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
- (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.



d) 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 (0.10 grain/dscf) (the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)f. above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 425 mg/dscm of H<sub>2</sub>S.
  - 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 H<sub>2</sub>S in the fuel gas being burned.
  - c. The performance evaluations for this H<sub>2</sub>S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR, Part 60, Appendix B. The permittee shall conduct a relative accuracy test audit (RATA) for the H<sub>2</sub>S continuous emission monitoring equipment at a minimum frequency of once every three years. Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the RATAs.
- (3) A statement of certification of the existing H<sub>2</sub>S 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 H<sub>2</sub>S 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 H<sub>2</sub>S CEMS including, but not limited to, parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
- (5) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.



A logbook dedicated to the monitoring systems must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 121 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the H<sub>2</sub>S CEM at a minimum frequency of once every three years; and
  - b. Conduct cylinder gas audits on the H<sub>2</sub>S CEM during each quarter when a relative accuracy test audit is not conducted.
- (6) Pursuant to the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee shall by December 31, 2013 install, operate, and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from this emissions unit, in units of parts per million by volume, on a dry basis. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to:

- a. emissions of NO<sub>x</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO<sub>x</sub> in all units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NO<sub>x</sub> monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO<sub>x</sub> monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO<sub>x</sub> monitoring system; as well as,



- i. the reason (if known) and the corrective actions taken (if any) for each such event in d)(6)g. and d)(6)h.
- (7) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NOx monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 2. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (8) The permittee shall maintain a written quality assurance/quality control plan for the continuous NOx monitoring system designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

The quality assurance/quality control plan and a logbook dedicated to the continuous NOx monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative test audit of the NOx CEM at a minimum frequency of once every three years; and
  - b. Conduct cylinder gas audits on the NOx CEM during each quarter when a relative accuracy test audit is not conducted.
- (9) Pursuant to the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee shall by December 31, 2013 install, operate and maintain equipment to continuously monitor and record oxygen (O2) emitted from this emissions unit, in units of percent O2. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR, Part 60.

The permittee shall maintain records of data obtained by the continuous O2 monitoring system including, but not limited to:

- a. percent O2 for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. results of quarterly cylinder gas audits;



- c. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
  - d. results of required relative accuracy test audit(s);
  - e. hours of operation of the emissions unit, continuous O2 monitoring system;
  - f. the date, time, and hours of operation of the emissions unit without the continuous O2 monitoring system;
  - g. the date, time, and hours of operation of the emissions unit during any malfunction of the continuous O2 monitoring system; as well as,
  - h. the reason (if known) and the corrective actions taken (if any) for each such event in d)(9)f. and d)(9)g.
- (10) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous O2 monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 3. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (11) The permittee shall maintain a written quality assurance/quality control plan for the continuous O2 monitoring system designed to ensure continuous valid and representative readings of O2 emissions in units of the applicable standard(s).

The plan shall follow the requirements of 40 CFR, Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous O2 monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the O2 CEM at a minimum frequency of once every three years; and
- b. Conduct cylinder gas audits on the O2 CEM during each quarter when a relative accuracy test audit is not conducted.



e) 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 H<sub>2</sub>S 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) 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 submit reports within thirty (30) days following the end of each calendar quarter to the Ohio EPA, Northwest District Office documenting any NO<sub>x</sub> 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.

- (6) 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 O<sub>2</sub> 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.

f) Testing Requirements

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

a. Emission Limitation:

0.020 lb of PE per million Btu of actual heat input

Applicable Compliance Method:

The permittee may demonstrate compliance with this limitation by dividing the appropriate particulate emission factor of 1.9 lbs per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the heat content of 853 Btu per standard cubic foot for the refinery fuel gas fired in this emissions unit.

If natural gas is solely being fired, the permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly natural gas combustion rate, in million standard cubic feet per hour, by the appropriate particulate emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the process heater.

If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in OAC rule 3745-17-03(B)(9).

b. Emission Limitation:

Visible PE 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 PE limitation above in accordance with the methods and procedures specified in Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).

c. Emission Limitation:

1.0 lb of SO<sub>2</sub> per million Btu of actual heat input

2.0



Applicable Compliance Method:

This limit is less stringent than firing refinery fuel gas (or combined fuel stream, if applicable) with a maximum H<sub>2</sub>S content of 230 mg/dscm (0.10 grain/dscf) in this emissions unit. As long as the permittee maintains compliance with the H<sub>2</sub>S operational restriction in section c)(1), compliance with the SO<sub>2</sub> limitation will be assumed.

d. Emission Limitation:

24.62 lbs of CO/hr, 107.82 tons of CO/yr

Applicable Compliance Method:

Compliance with the hourly mass emission limitation has been demonstrated by past performance testing. Per Engineering Guide No. 16, periodic testing is no longer required. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

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:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(2) through d)(5) for this emissions unit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

f. Emission Limitation:

0.035 lb of NO<sub>x</sub> per million Btu of actual heat input, based upon a 365-day rolling block average

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(6) through d)(11) for this emissions unit. If required, the permittee shall determine compliance with the NO<sub>x</sub> emission



limitation by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g) Miscellaneous Requirements

- (1) None.



**3. B008, Process Heater**

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

Refinery Fuel Gas or natural gas fired HDS Heater, with low nitrogen oxide burners, 156.4 million Btu/hr, maximum heat input (PR 175169)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-10(B)(1)	0.020 lb of particulate emissions (PE) per million Btu of actual heat input
b.	OAC rule 3745-18-08(C)(1)	0.15 lb of sulfur dioxide (SO <sub>2</sub> ) per million Btu of actual heat input
c.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/ control requirements specified in this section.]	See b)(2)a., and c)(2) through c)(5)  63.7500(a) Table 3 requirements
e.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
f.	40 CFR, Part 60, Subpart J	See b)(2)b. and b)(2)c.
g.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19



h.	OAC rule 3745-31-05(D)	0.050 lb of nitrogen oxides (NOx) per million Btu of actual heat input, based upon a 365-day rolling block average  See b)(2)f.
----	------------------------	---

(2) Additional Terms and Conditions

- a. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).
- b. 40 CFR, Part 60 - Subpart J is an applicable rule for this emissions unit. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- c. The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). This H<sub>2</sub>S 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).
- d. PTI No. P0106732 which was previously issued, involved installation of new continuous emission monitors (CEMS) for nitrogen oxides (NOx) and oxygen (O<sub>2</sub>) for this emissions unit, as listed in paragraph Nos. 29, 30 and 292 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.

The CEMS were installed on 5/3/10 and certification testing was completed on 5/18/10, and a certification letter was issued to the permittee on 7/1/10 stating that the CEMS certification date is 5/18/10.

- e. The SO<sub>2</sub> emissions limitation established in OAC rule 3745-18-08(C)(5) is less stringent than the hydrogen sulfide (H<sub>2</sub>S) concentration limit of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) established by Subpart J, 40 CFR 60.104(a)(1). Therefore, compliance with the SO<sub>2</sub> limit is ensured by compliance with the H<sub>2</sub>S limit.
- f. The NOx emissions limitation is established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.



As required by the consent decree addendum, the NO<sub>x</sub> emissions limitations are established to reflect the final voluntary limits to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit. The sulfur content of the refinery fuel gas or natural gas burned in this emissions unit shall comply with the allowable SO<sub>2</sub> emission limitation specified in section b)(1).
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
- (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
- (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.

d) 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 (0.10 grain/dscf) (the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)c. above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 425 mg/dscm of H<sub>2</sub>S.



- 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 H<sub>2</sub>S in the fuel gas being burned.
  - c. The performance evaluations for this H<sub>2</sub>S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR, Part 60, Appendix B. The permittee shall conduct a relative accuracy test audit (RATA) for the H<sub>2</sub>S continuous emission monitoring equipment at a minimum frequency of once every three years. Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the RATAs.
- (3) A statement of certification of the existing H<sub>2</sub>S 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 H<sub>2</sub>S CEMS including, but not limited to, parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

- (5) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

A logbook dedicated to the monitoring systems must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 121 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the H<sub>2</sub>S CEM at a minimum frequency of once every three years; and



- b. Conduct cylinder gas audits on the H<sub>2</sub>S CEM during each quarter when a relative accuracy test audit is not conducted.
- (6) The permittee shall operate, and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from this emissions unit, in units of parts per million by volume, on a dry basis. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to:

- a. emissions of NO<sub>x</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
  - b. emissions of NO<sub>x</sub> in all units of the applicable standard(s) in the appropriate averaging period;
  - c. results of quarterly cylinder gas audits;
  - d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
  - e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
  - f. hours of operation of the emissions unit, continuous NO<sub>x</sub> monitoring system, and control equipment;
  - g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO<sub>x</sub> monitoring system;
  - h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO<sub>x</sub> monitoring system; as well as,
  - i. the reason (if known) and the corrective actions taken (if any) for each such event in d)(6)g. and d)(6)h.
- (7) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NO<sub>x</sub> monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 2. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (8) The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and



representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative test audit of the NO<sub>x</sub> CEM at a minimum frequency of once every three years; and
  - b. Conduct cylinder gas audits on the NO<sub>x</sub> CEM during each quarter when a relative accuracy test audit is not conducted.
- (9) The permittee shall operate and maintain equipment to continuously monitor and record oxygen (O<sub>2</sub>) emitted from this emissions unit, in units of percent O<sub>2</sub>. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR, Part 60.

The permittee shall maintain records of data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to:

- a. percent O<sub>2</sub> for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. results of quarterly cylinder gas audits;
- c. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- d. results of required relative accuracy test audit(s);
- e. hours of operation of the emissions unit, continuous O<sub>2</sub> monitoring system;
- f. the date, time, and hours of operation of the emissions unit without the continuous O<sub>2</sub> monitoring system;
- g. the date, time, and hours of operation of the emissions unit during any malfunction of the continuous O<sub>2</sub> monitoring system; as well as,
- h. the reason (if known) and the corrective actions taken (if any) for each such event in d)(9)f. and d)(9)g.



- (10) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous O<sub>2</sub> monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 3. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (11) The permittee shall maintain a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard(s).

The plan shall follow the requirements of 40 CFR, Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the O<sub>2</sub> CEM at a minimum frequency of once every three years; and
- b. Conduct cylinder gas audits on the O<sub>2</sub> CEM during each quarter when a relative accuracy test audit is not conducted.

e) 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 H<sub>2</sub>S 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) 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 submit reports within thirty (30) days following the end of each calendar quarter to the Ohio EPA, Northwest District Office documenting any NO<sub>x</sub> 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.

- (6) 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 O<sub>2</sub> 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.

f) Testing Requirements

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

a. Emission Limitation:

0.020 lb of PE per million Btu of actual heat input



Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate particulate emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the process heater. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the methods and procedures specified in 40 CFR, Part 60, Appendix A, Methods 1 through 4, and 5 and the requirements specified in OAC rule 3745-17-03(B)(9).

b. Emission Limitation:

0.15 lb of SO<sub>2</sub> per million Btu of actual heat input

Applicable Compliance Method:

This limit is less stringent than firing refinery fuel gas (or combined fuel stream, if applicable) with a maximum H<sub>2</sub>S content of 230 mg/dscm (0.10 grain/dscf) in this emissions unit. As long as the permittee maintains compliance with the H<sub>2</sub>S operational restriction in section 1.b)(2)c., compliance with the SO<sub>2</sub> limitation will be assumed. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the methods and procedures specified in 40 CFR, Part 60, Appendix A, Methods 1 through 4, and 6 and the requirements specified in OAC rule 3745-18-04(E)(1).

c. Emission Limitation:

Visible PE 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).

d. Emission Limitation:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(2) through d)(5) for this emissions unit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission



limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

e. Emission Limitation:

0.050 lb of NO<sub>x</sub> per million Btu of actual heat input, based upon a 365-day rolling block average

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(6) through d)(11) for this emissions unit. If required, the permittee shall determine compliance with the NO<sub>x</sub> emission limitation by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g) Miscellaneous Requirements

(1) None.



**4. B016, Process Heater**

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

Refinery Fuel Gas or Natural Gas Fired FCC Furnace, 76.8 million Btu/hr maximum heat input (PR 175025)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-10(B)(1)	0.020 lb of particulate emissions (PE) per million Btu of actual heat input
b.	OAC rule 3745-18-08(C)(1)	0.15 lb of sulfur dioxide (SO <sub>2</sub> ) per million Btu of actual heat input
c.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/control requirements specified in this section.]	See b)(2)a., and c)(2) through c)(5)  63.7500(a) Table 3 requirements
e.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
f.	40 CFR, Part 60, Subpart J	See b)(2)a., b)(2)c., d)(2) through d)(5), e)(3) and e)(4)
g.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19



h.	OAC rule 3745-31-05(D)	0.150 lbNOx/million Btu of actual heat input based upon a 3-hour block average  See b)(2)e.
----	------------------------	---

(2) Additional Terms and Conditions

- a. 40 CFR, Part 60 - Subpart J is an applicable rule for this emissions unit. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- b. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).
- c. The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). This H<sub>2</sub>S 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).
- d. The SO<sub>2</sub> emissions limitation established in OAC rule 3745-18-08(C)(5) is less stringent than the hydrogen sulfide (H<sub>2</sub>S) concentration limit of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) established by Subpart J, 40 CFR 60.104(a)(1). Therefore, compliance with the SO<sub>2</sub> limit is ensured by compliance with the H<sub>2</sub>S limit.
- e. The NO<sub>x</sub> emissions limitations are established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.

As required by the consent decree addendum, the NO<sub>x</sub> emissions limitation is established to reflect the final voluntary limit to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit. The sulfur content of the refinery fuel gas or natural gas burned in this emissions unit shall comply with the allowable SO<sub>2</sub> emission limitation specified in section b)(1).



- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
  - (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
  - (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
  - (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.
- d) 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 (0.10 grain/dscf) (the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)c above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 in 425 mg/dscm of H<sub>2</sub>S.
    - 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 H<sub>2</sub>S in the fuel gas being burned.
    - c. The performance evaluations for this H<sub>2</sub>S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR, Part 60, Appendix B. The permittee shall conduct a relative accuracy test audit (RATA) for the H<sub>2</sub>S continuous emission monitoring equipment at a minimum frequency of once every three years. Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the RATAs.



- (3) A statement of certification of the existing H<sub>2</sub>S 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 H<sub>2</sub>S CEMS, including, but not limited to parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
- (5) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. 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.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60, except as noted below.

Pursuant to paragraph No. 30 of the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee is required to:

- a. Conduct a relative accuracy test audit of the H<sub>2</sub>S CEM at a minimum frequency of once every three years; and
  - b. Conduct cylinder gas audits on the H<sub>2</sub>S CEM during each quarter when a relative accuracy test audit is not conducted.
- e) 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 CEMS downtime while the emissions unit was on line (date, time, duration and reason), along with any corrective actions taken. The permittee shall provide the emission unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of source and CEMS 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 in 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) during the calendar quarter, then the permittee shall submit a statement to that effect along with the emission 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 the previous calendar quarters.

f) Testing Requirements

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

a. Emission Limitation:

0.020 lb of PE per million Btu of actual heat input

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by dividing the appropriate particulate emission factor of 7.6 pounds per million standard cubic feet, from AP-42 (7/98) by the standard natural gas heat content; 1,020 Btu per standard cubic feet, as specified by footnote 'a' from Table 1.4-1 for proper conversion from lb/MMscf to lb/MMBtu.

If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 1 through 4, and 5 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(9).

b. Emission Limitation:

0.15 lb of SO<sub>2</sub> per million Btu of actual heat input



Applicable Compliance Method:

This limit is less stringent than firing refinery fuel gas (or combined fuel stream, if applicable) with a maximum H<sub>2</sub>S content of 230 mg/dscm (0.10 grain/dscf) in this emissions unit. As long as the permittee maintains compliance with the H<sub>2</sub>S operational restriction in section c)(1), compliance with the SO<sub>2</sub> limitation will be assumed.

c. Emission Limitation:

Visible PE 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 Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).

d. Emission Limitation:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in sections d)(2) and d)(4) of this permit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

e. Emission Limitation:

0.150 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 3-hour block average

Applicable Compliance Method:

Compliance with the lb of NO<sub>x</sub> per million Btu emission limitation has been demonstrated by past stack testing.

If required, the permittee shall determine compliance with the NO<sub>x</sub> emission limitations by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g) Miscellaneous Requirements

(1) None.



**5. Emissions Unit Group - Process Heaters Group #4: B022, B024**

EU ID	Operations, Property and/or Equipment Description
B022	Refinery Fuel Gas or Natural Gas Fired Hot Oil Belt Heater - Aromatics, 201.1 million Btu/hr maximum heat input (PR 175102)
B024	Refinery Fuel Gas or Natural Gas Fired Isomerization Heater, 46.5 million Btu/hr maximum heat input (PR 175110)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	40 CFR, Part 60, Subpart J	See b)(2)a., b)(2)b., d)(1) through d)(4), e)(3) and e)(4)
b.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
c.	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
e.	OAC rule 3745-31-05(A)(3)	0.014 lb of PE per million Btu of actual heat input  0.024 lb of sulfur dioxide (SO <sub>2</sub> ) per million Btu of actual heat input, as a monthly average [See b)(2)c.]  0.082 lb of carbon monoxide (CO) per million Btu of actual heat input [See b)(2)d.]  See b)(2)e.



f.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/control requirements specified in this section.]	See b)(2)f., and c)(2) through c)(5)  63.7500(a) Table 3 requirements
g.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
h.	OAC rule 3745-31-05(D)	B022 – 0.084 lbNOx/million Btu of actual heat input based upon a 3-hour block average  B024 - 0.109 lbNOx/million Btu of actual heat input based upon a 3-hour block average  See b)(2)g.

(2) Additional Terms and Conditions

- a. 40 CFR, Part 60 - Subpart J is an applicable rule for these emissions units. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- b. The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). This H<sub>2</sub>S 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).
- c. The SO<sub>2</sub> emissions limitation established in OAC rule 3745-18-08(C)(5) is less stringent than the hydrogen sulfide (H<sub>2</sub>S) concentration limit of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) established by Subpart J, 40 CFR 60.104(a)(1). Therefore, compliance with the SO<sub>2</sub> limit is ensured by compliance with the H<sub>2</sub>S limit.



- d. The CO emission limitation is based on a revised emission factor published in AP-42, Fifth Edition, Section 1.4 (July 1998).
- e. 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).
- f. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).
- g. The NOx emissions limitations are established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF which became effective on 11/20/07.

As required by the consent decree addendum, the NOx emissions limitations are established to reflect the final voluntary limits to meet a system-wide average NOx performance level of 0.044 lb per million Btu.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit.
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
- (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
- (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.



d) Monitoring and/or Recordkeeping Requirements

- (1) In order to demonstrate compliance with the emission limitation of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)a. above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 425 mg/dscm of H<sub>2</sub>S.
  - 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 H<sub>2</sub>S in the fuel gas being burned.
  - c. The performance evaluations for this H<sub>2</sub>S 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 H<sub>2</sub>S continuous emission monitoring equipment. Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the annual RATAs.
- (2) A statement of certification of the existing H<sub>2</sub>S 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.
- (3) 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 H<sub>2</sub>S CEMS including, but not limited to, parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
- (4) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. 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.
- (5) 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.



e) 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 is 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 H<sub>2</sub>S 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 CEMS 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) 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.

f) Testing Requirements

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

a. Emission Limitation:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable



Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(1) and d)(3) for this emissions unit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

b. Emission Limitation:

Visible PE 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 PE limitation above in accordance with the methods and procedures specified in Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).

c. Emission Limitation:

0.014 lb of PE per million Btu of actual heat input

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate particulate emission factor, in pound(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the process heater. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 5 of 40 CFR, Part 60, Appendix A.

d. Emission Limitation:

0.024 lb of SO<sub>2</sub> per million Btu of actual heat input, as a monthly average

Applicable Compliance Method:

This limit is less stringent than firing refinery fuel gas (or combined fuel stream, if applicable) with a maximum H<sub>2</sub>S content of 230 mg/dscm (0.10 grain/dscf) in this emissions unit. As long as the permittee maintains compliance with the H<sub>2</sub>S additional term in section b)(2)b., compliance with the SO<sub>2</sub> limitation will be assumed.

If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.



e. Emission Limitation:

0.082 lb of CO per million Btu of actual heat input

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate CO emission factor, in pound(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the process heater. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

f. Emission Limitations:

B022 – 0.084 lbNOx/million Btu of actual heat input based upon a 3-hour block average

B024 – 0.109 lbNOx/million Btu of actual heat input based upon a 3-hour block average

Applicable Compliance Method:

Compliance with the lb of NOx per million Btu emission limitation has been demonstrated by past stack testing.

If required, the permittee shall determine compliance with the NOx emission limitations by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g) Miscellaneous Requirements

(1) None.



**6. B026, Steam Generating Unit**

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

Refinery Fuel Gas or Natural Gas Fired CE Power Boiler, 329.7 million Btu/hr maximum heat input (PR 175007)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	40 CFR, Part 60, Subpart Db	See b)(2)a.
d.	OAC rule 3745-31-05(A)(3)	2.86 lbs of PE per hour [See b)(2)b.]  31.65 lbs of carbon monoxide (CO)/hr [See b)(2)b.]  2.07 lbs of volatile organic compounds (VOC)/hr [See b)(2)b. and b)(2)c.]  10.12 lbs of sulfur dioxide (SO <sub>2</sub> )/hr  See b)(2)f.
e.	40 CFR, Part 60, Subpart J	See b)(2)d., b)(2)e., d)(2) through d)(5), e)(3) and e)(4)
f.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19



g.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/control requirements specified in this section.]	See b)(2)g., and c)(2) through c)(5)  63.7500(a) Table 3 requirements
h.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
i.	OAC rule 3745-31-05(D)	0.100 lbNO <sub>x</sub> /million Btu of actual heat input, based upon a 365-day rolling block average  See b)(2)h.

(2) Additional Terms and Conditions

a. 40 CFR, Part 60, Subpart Db is an applicable rule for this emissions unit, since the emissions unit was constructed after June 19, 1984 and the heat input capacity is greater than 100 million Btu per hour. Natural gas and/or a mixture of natural gas and refinery fuel gas are burned in this emissions unit. The NO<sub>x</sub> limitations listed in 40 CFR 60.44b are applicable as well as the performance test methods, monitoring, recordkeeping and reporting requirements for NO<sub>x</sub> listed under 40 CFR 60.46b, 60.48b and 60.49b. The NO<sub>x</sub> emission limitation of 0.20 lb/million Btu in 40 CFR 60.44b is less stringent than the NO<sub>x</sub> emission limitation of 0.13 lb/million Btu established by OAC rule 3745-31-05(A)(3) for this emissions unit.

Coal and oil are not burned in this emissions unit; therefore, the SO<sub>2</sub>, PE and visible PE limitations listed in 40 CFR 60.42b and 60.43b are not applicable; and performance test methods, monitoring, recordkeeping and reporting requirements in 40 CFR 60.45b and 60.47b are also not applicable.

b. The PE, CO and VOC emission limitations are based on revised emission factors published in AP-42, Fifth Edition, Section 1.4 (July 1998).



- c. The emission limitation of 2.07 lbs of VOC/hr includes fugitive VOC emissions.
- d. 40 CFR, Part 60 - Subpart J is an applicable rule for this emissions unit. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- e. The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). This H<sub>2</sub>S 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).
- f. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 40 CFR, Part 60, Subpart J.
- g. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).
- h. The NO<sub>x</sub> emission limitation of 0.100 lbNO<sub>x</sub>/million Btu of actual heat input, based upon a 365-day rolling block average is established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07, and is the long-term emission limitation.

The previously established emission limitation of 0.13 lbNO<sub>x</sub>/million Btu of actual heat input is less stringent than the emission limitation established pursuant to the federal consent decree addendum, and is retained in this permit as a short-term emission limitation.

As required by the consent decree addendum, the NO<sub>x</sub> emissions limitations are established to reflect the final voluntary limits to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit.
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.



- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
  - (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
  - (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.
- d) 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 (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)d. above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 425 mg/dscm of H<sub>2</sub>S.
    - 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 H<sub>2</sub>S in the fuel gas being burned.
    - c. The performance evaluations for this H<sub>2</sub>S 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 H<sub>2</sub>S continuous emission monitoring equipment. Method 15 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 H<sub>2</sub>S 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 H<sub>2</sub>S CEMS including, but not limited to, parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

- (5) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

A logbook dedicated to the monitoring systems must be kept on site and available for inspection during regular office hours.

- (6) In order to demonstrate compliance with the emission limitations of 0.13 lbNO<sub>x</sub>/million Btu of actual heat input and 0.100 lbNO<sub>x</sub>/million Btu of actual heat input based upon a rolling 365-day average, the permittee shall operate and maintain an instrument for continuously monitoring and recording NO<sub>x</sub> 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, as follows:

- a. The span value for this instrument is 200 parts per million of NO<sub>x</sub>.
- b. The performance evaluations for this NO<sub>x</sub> monitor under 40 CFR 60.13(c) shall use Performance Specification 2 of 40 CFR, Part 60, Appendix B. The permittee shall conduct an annual relative accuracy test audit (RATA) for the NO<sub>x</sub> continuous emission monitoring equipment. Method 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods shall be used for conducting the annual RATAs.

- (7) A statement of certification of the existing NO<sub>x</sub> 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 Specifications 2. Proof of certification shall be made available to representatives of the Ohio EPA, Northwest District Office upon request.

- (8) The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

- (9) The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and



representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR, Part 60, Appendix F.

The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60.

- (10) The permittee shall operate and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR, Part 60.

The permittee shall maintain records of data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to:

- a. emissions of NO<sub>x</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO<sub>x</sub> in all units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NO<sub>x</sub> monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO<sub>x</sub> monitoring system;
- h. malfunction of the control equipment and/or the continuous NO<sub>x</sub> monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

e) 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 is 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 H<sub>2</sub>S 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) 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 comply with the following quarterly reporting requirements for the emissions unit and its continuous NO<sub>x</sub> monitoring system:
  - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA Northwest District Office, documenting all instances of NO<sub>x</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR, Part 60; OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
  - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:



- i. the facility name and address;
- ii. the manufacturer and model number of the continuous NO<sub>x</sub> and other associated monitors;
- iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total NO<sub>x</sub> emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous NO<sub>x</sub> monitoring system while the emissions unit was in operation;
- viii. results and date of quarterly cylinder gas audits or linearity checks;
- ix. unless previously submitted, results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO<sub>x</sub> monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction\*\* of the continuous NO<sub>x</sub> monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime\*\* of the continuous NO<sub>x</sub> monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

\*\* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit



f) Testing Requirements

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

a. Emission Limitation:

Visible PE 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 PE limitation above in accordance with the methods and procedures specified in Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

2.86 lbs of PE/hr

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate particulate emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the CE power boiler.

If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 5 of 40 CFR, Part 60, Appendix A.

c. Emission Limitation:

0.13 lb of NO<sub>x</sub> per million Btu of actual heat input

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(6) through d)(10) for this emissions unit. If required, the permittee shall determine compliance with the NO<sub>x</sub> emission limitation by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.



d. Emission Limitation:

31.65 lbs of CO/hr

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate carbon monoxide emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the CE power boiler.

If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

e. Emission Limitation:

2.07 lbs of VOC/hr

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate volatile organic compound emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the CE power boiler. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 18, 25 or 25A of 40 CFR, Part 60, Appendix A.

f. Emission Limitation:

10.12 lbs of SO<sub>2</sub>/hr

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(1) through d)(3) for this emissions unit, based on use of CEM data for H<sub>2</sub>S. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable



Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(1) through d)(3) for this emissions unit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

h. Emission Limitation:

0.100 lbNO<sub>x</sub>/million Btu of actual heat input, based upon a 365-day rolling block average

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(6) through d)(10) for this emissions unit. If required, the permittee shall determine compliance with the NO<sub>x</sub> emission limitation by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g) Miscellaneous Requirements

(1) None.



**7. B027, Process Heater**

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

Refinery Fuel Gas or Natural Gas Fired Coker Furnace, 211.3 million Btu/hr maximum heat input (PR 170002)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	1.84 lbs of particulate emissions (PE) per hour [See b)(2)a.]  20.29 lbs of carbon monoxide (CO)/hr [See b)(2)a.]  1.33 lbs of volatile organic compounds (VOC)/hr [See b)(2)a.]  6.49 lbs of sulfur dioxide (SO <sub>2</sub> )/hr  See b)(2)b.
b.	40 CFR, Part 60, Subpart J	See b)(2)c., b)(2)d., d)(1) through d)(4), e)(3) and e)(4)
c.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
d.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
e.	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).



f.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/control requirements specified in this section.]	See b)(2)e., and c)(2) through c)(5)  63.7500(a) Table 3 requirements
g.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
h.	OAC rule 3745-31-05(D)	0.060 lb nitrogen oxides (NOx)/million Btu of actual heat input based upon a 3-hour block average  See b)(2)f.

(2) Additional Terms and Conditions

- a. The PE, CO and VOC emission limitations are based on revised emission factors published in AP-42, Fifth Edition, Section 1.4 (July 1998).
- b. 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).
- c. 40 CFR, Part 60 - Subpart J is an applicable rule for this emissions unit. The permittee was required to comply with this New Source Performance Standard for fuel combustion by 1/18/08, per paragraph No. 115 of the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.
- d. The permittee shall not burn any refinery fuel gas in this emissions unit that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). This H<sub>2</sub>S 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).
- e. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).



- f. The NO<sub>x</sub> emission limitation is established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07.

As required by the consent decree addendum, the NO<sub>x</sub> emissions limitation is established to reflect the final voluntary limit to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

c) Operational Restrictions

- (1) The permittee shall burn only refinery fuel gas or natural gas in this emissions unit.
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
- (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
- (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.

d) 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 (0.10 grain/dscf) (the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)c. above), the permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S 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 425 mg/dscm of H<sub>2</sub>S.
- 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 H<sub>2</sub>S in the fuel gas being burned.
- c. The performance evaluations for this H<sub>2</sub>S 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 H<sub>2</sub>S continuous emission monitoring equipment. Method 15 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 H<sub>2</sub>S 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 H<sub>2</sub>S CEMS including, but not limited to, parts per million of H<sub>2</sub>S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H<sub>2</sub>S in units of the applicable standard (grain/dscf and parts per million by volume) as a rolling, 3-hour average, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

- (5) The permittee shall maintain a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of H<sub>2</sub>S. 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.

e) 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 is 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 H<sub>2</sub>S 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 H<sub>2</sub>S as measured by the H<sub>2</sub>S CEMS under 40 CFR 60.105(a)(4) exceeds 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume). 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 are no concentrations of H<sub>2</sub>S in the refinery fuel gas (or combined fuel stream, if applicable) greater than 230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) 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.

f) **Testing Requirements**

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

- a. Emission Limitation:

Visible PE 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 Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitation:

1.84 lbs of PE/hr

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million



standard cubic feet per hour, by the appropriate particulate emission factor, in lb(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the coker furnace. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 5 of 40 CFR, Part 60, Appendix A.

c. Emission Limitation:

20.29 lbs of CO/hr

Applicable Compliance Method:

The permittee has demonstrated compliance with this emission limitation through past emission testing. Per Engineering Guide No. 16, periodic testing is no longer required. 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 through 4, and 10.

d. Emission Limitation:

1.33 lbs of VOC/hr

Applicable Compliance Method:

The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly refinery fuel gas or natural gas combustion rate, in million standard cubic feet per hour, by the appropriate volatile organic compound emission factor, in pound(s) per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), and then dividing by the maximum heat input to the coker furnace. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 18, 25 or 25A of 40 CFR, Part 60, Appendix A.

e. Emission Limitation:

6.49 lbs of SO<sub>2</sub>/hr

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(1) and d)(3) for this emissions unit, based on use of CEM data for H<sub>2</sub>S. If required, the permittee shall demonstrate compliance with this emission limitation by conducting emission testing in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.



f. Emission Limitation:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H<sub>2</sub>S in the refinery fuel gas, or combined fuel stream if applicable

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in sections d)(2) and d)(4) for this emissions unit. If required, the permittee shall determine compliance with the H<sub>2</sub>S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g. Emission Limitation:

0.060 lbNO<sub>x</sub>/million Btu of actual heat input based upon a 3-hour block average

Applicable Compliance Method:

Compliance with the lb of NO<sub>x</sub> per million Btu emission limitation has been demonstrated by past stack testing.

If required, the permittee shall determine compliance with the NO<sub>x</sub> emission limitations by using Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

g) Miscellaneous Requirements

(1) None.



**8. B032, Nebraska Boiler**

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

247.7 mmBtu/hr Natural Gas-Fired Steam Boiler

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	0.075 lb of carbon monoxide (CO)/mmBtu of actual heat input  See b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	0.0075 lb of particulate matter 10 microns less than in size (PM <sub>10</sub> )/Btu of actual heat input and 8.14 tons PM <sub>10</sub> /yr  0.0054 lb of volatile organic compounds (VOC)/mmBtu of actual heat input and 5.86 tons VOC/yr  0.0006 lb sulfur dioxide (SO <sub>2</sub> )/mmBtu and 0.66 ton SO <sub>2</sub> /yr  See b)(2)b., b)(2)c. and b)(2)d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)e.
d.	OAC rule 3745-31-05(D)	0.035 lb of nitrogen oxides (NO <sub>x</sub> )/mmBtu of actual heat input, based upon a 365-day rolling block average [See b)(2)l.]
d.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-10(B)(1)	0.020 lb of PE/mmBtu of actual heat input [See b)(2)f.]
f.	OAC rule 3745-18-06	Exempt [See b)(2)g.]



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	OAC rule 3745-110-03	See b)(2)h.
h.	40 CFR, Part 60, Subpart Db	No permittee shall cause to be discharged into the atmosphere any gases that contain NOx in excess of 0.20 lb/mmBtu [See b)(2)h.]
i.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
j.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575)  [In accordance with 63.7575, this emissions unit is in the 'unit designed to fire Gas 1 fuels' subcategory existing process heater located at a major source of HAP emissions and subject to the applicable emissions limitations/control requirements specified in this section.]	See b)(2)i., and c)(2) through c)(5)  63.7500(a) Table 3 requirements
k.	40 CFR 63.1 through 63.15	Table 10 to 40 CFR, Part 63, Subpart DDDDD – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under ORC 3704.03(T) have been determined to be compliance with the emission limitation of 0.035 lb of NOx/mmBtu of actual heat input, based upon a 365-day rolling block average established under OAC rule 3745-31-05(D) and the emission limitation of 0.075 lb of CO/mmBtu of actual heat input.
- b. The mass emission rate limitations in b)(1)a. and b)(1)b. above represent the potential to emit (PTE) (defined as the maximum capacity to emit an air pollutant under the physical and operational design). Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with the CO emission limitation. For NOx emissions, the permittee is required to operate a continuous emission monitor pursuant to paragraphs 29 and 29.a. in the federal consent decree addendum, civil action No. SA07CA0683RF, which became effective on 11/20/07, since the NOx emission limit is less than 0.06 lb/million Btu of actual heat input.
- c. The BAT requirements under OAC rule 3745-31-05(A)(3) have been determined to be and compliance with the emission limitations of 0.0075 lb of PM<sub>10</sub>/mmBtu of actual heat input, 0.0054 lb of VOC/mmBtu of actual heat input and 0.0006 lb SO<sub>2</sub>/mmBtu.



- d. The permittee has satisfied the BAT requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by state regulations for NAAQS pollutants less than ten tons per year.

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

- e. OAC rule 3745-31-05(A)(3)(a)(ii) applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of SO<sub>2</sub>, VOC, and PM<sub>10</sub> from this air contaminant source since the uncontrolled potential to emit for SO<sub>2</sub>, VOC, and PM<sub>10</sub> are each less than 10 tons per year.

- f. This emission limitation established by this rule is less stringent than the PM<sub>10</sub> limitation established pursuant to OAC rule 3745-31-05(A)(3), as effective 11/30/01. All emissions of particulate matter from this emissions unit are PM<sub>10</sub>.

- g. This emission unit is exempt from the requirements of OAC rule 3745-18-06 in accordance with OAC rule 3745-18-06(A).

- h. The requirements of this rule are less stringent than those required under ORC 3704.03(T).

- i. This emissions unit is subject to the initial notification requirements of 40 CFR, Part 63, Subpart DDDDD (Boiler MACT) as outlined in 63.9(b) (i.e., these are not subject to the emission limits, performance testing, monitoring, or site-specific monitoring plan requirements of Subpart DDDDD or any other requirements in 40 CFR, Part 63, Subpart A).

- j. Each continuous NO<sub>x</sub> monitoring system shall be certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 2. Prior to the certification testing of the continuous NO<sub>x</sub> monitoring system(s) required by permit term C.8.f)(3), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR, Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.



The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR, Part 60 and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR, Part 60.

- k. The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- l. The NO<sub>x</sub> emissions limitation is established pursuant to requirements in the federal consent decree addendum, civil action No. SA07CA0683RF which became effective on 11/20/07.

As required by the consent decree addendum, the NO<sub>x</sub> emissions limitation is established to reflect the final voluntary limits to meet a system-wide average NO<sub>x</sub> performance level of 0.044 lb per million Btu.

This permit establishes the following federally enforceable emissions limitation for the purpose of representing the potential to emit of this emissions unit:

- i. 0.035 lb of NO<sub>x</sub> per million Btu of actual heat input, based upon a 365-day rolling block average.

c) Operational Restrictions

- (1) The permittee shall only burn natural gas in this emissions unit.
- (2) A process heater or boiler in the Gas 1 subcategory with heat input capacity of 10 million Btu per hour or greater shall conduct an annual tune-up of the boiler or process heater as specified in 40 CFR 63.7540(a)(10)(i) through 63.7540(a)(10)(vi). This tune-up frequency does not apply to limited-use boilers and process heaters, as defined in 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
- (3) A process heater or boiler in the Gas 1 subcategory that has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or meets the definition of limited-use boiler or process heater in 40 CFR 63.7575, shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR 63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. You may delay the burner inspection specified in 40 CFR 63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
- (4) Pursuant to 40 CFR 63.7540(a)(13), if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.
- (5) The permittee shall have a one-time energy assessment performed by a qualified energy assessor, pursuant to work practice standards 4.a through 4.h in Table 3 of 40 CFR, Part 63, Subpart DDDDD. The subsequent report associated with this assessment shall be submitted no later than January 31, 2016.



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
- (2) Pursuant to the federal consent decree addendum, civil action No. SA07CA0683RF, dated 11/20/07, the permittee shall by December 31, 2013 install, operate, and maintain equipment to continuously monitor and record NOx emissions from this emissions unit, in units of parts per million by volume, on a dry basis. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee has installed this CEM previously to meet requirements for monitoring in 40 CFR, Part 60, Subpart Db.

The permittee shall maintain records of data obtained by the continuous NOx monitoring system including, but not limited to:

- a. emissions of NOx in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
  - b. emissions of NOx in all units of the applicable standard(s) in the appropriate averaging period;
  - c. results of quarterly cylinder gas audits;
  - d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
  - e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
  - f. hours of operation of the emissions unit, continuous NOx monitoring system, and control equipment.
  - g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NOx monitoring system.
  - h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NOx monitoring system; and
  - i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h). [40 CFR Part 60.13 and 40 CFR, Part 60, Appendices B &F]
- (3) A copy of the NOx CEM letter/document of certification shall be maintained on-site and shall be made available to the Northwest District Office upon request. [40 CFR Part 60.13 and 40 CFR, Part 60, Appendix B]

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and



transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (4) The permittee is subject to the monitoring requirements specified in 40 CFR Part 60.48b and the recordkeeping requirements specified in 40 CFR Part 60.49b.

e) Reporting Requirements

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

- (2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NOx monitoring system:

- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Northwest District Office, documenting all instances of NOx emissions in excess of any applicable limit specified in this permit, 40 CFR, Part 60, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement, and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).

- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:

- i. the facility name and address;
- ii. the manufacturer and model number of the continuous NOx and other associated monitors;
- iii. a description of any change in the equipment that comprises the continuous emissions monitoring system (CEMS), including any changes to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total NOx emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous NOx monitoring system while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits;



- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NOx monitor out of control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any downtime\*\* of the continuous NOx monitoring system and/or control equipment while the emissions unit was in operation; and
- xii. the reason (if known) and the corrective actions taken (if any) for each event in b.xi. and xii.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report.

\*\* each downtime and malfunction event shall be reported regardless if there is an exceedance of the applicable limit.

Each report shall address the operations conducted and data obtained during the previous calendar quarter. [40 CFR Part 60.7]

- (3) The permittee is subject to the reporting requirements specified in 40 CFR Part 60.49b.

f) Testing Requirements

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

- a. Emission Limitation:

0.035 lb of NOx/mmBtu of actual heat input, based upon a 365-day rolling block average

Applicable Compliance Method:

Compliance shall be based upon the monitoring and record keeping requirements specified in sections d)(2) and d)(3) for this emissions unit.

If required, the permittee shall demonstrate compliance with this emission limitation pursuant to Methods 1 – 4 and 7 of 40 CFR, Part 60, Appendix A.

- b. Emission Limitation:

0.075 lb of CO/mmBtu of actual heat input



Applicable Compliance Method:

This emission limitation represents the potential to emit of this unit and is based on manufacturer's data.

If required, the permittee shall demonstrate compliance with this emission limitation pursuant to Methods 1 – 4 and 10 of 40 CFR, Part 60, Appendix A.

c. Emission Limitation:

0.0075 lb of PM<sub>10</sub>/mmBtu

Applicable Compliance Method:

This emission limitation represents the potential to emit. The PTE is based on a heat content of 1020 Btu/scf and a PM<sub>10</sub> emission factor of 7.60 lbs/mmft<sup>3</sup> (AP-42 Table 1.4-2 [7/98]).

If required, the permittee shall demonstrate compliance with this emission limitation pursuant to Methods 201 or 201A of 40 CFR, Part 51, Appendix M.

d. Emission Limitation:

8.14 tons PM<sub>10</sub>/yr

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/mmBtu limitation, the maximum heat input capacity of 247.7 mmBtu/hr and the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Therefore, provided compliance is shown with the lb/mmBtu limitation, compliance with the annual limitation shall also be demonstrated.

e. Emission Limitation:

0.0054 lb of VOC/mmBtu

Applicable Compliance Method:

This emission limitation represents the potential to emit. The PTE is based on a heat content of 1020 Btu/scf and a VOC emission factor of 5.50 lbs/mmft<sup>3</sup> (AP-42 Table 1.4-2 [7/98]).

If required, the permittee shall demonstrate compliance with this emission limitation pursuant to Methods 1 – 4 and 18, 25, or 25A of 40 CFR, Part 60, Appendix A.

f. Emission Limitation:

5.86 tons VOC/yr



Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/mmBtu limitation, the maximum heat input capacity of 247.7 mmBtu/hr and the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/mmBtu limitation, compliance with the annual limitation shall also be demonstrated.

g. Emission Limitation:

0.0006 lb SO<sub>2</sub>/mmBtu

Applicable Compliance Method:

This emission limitation represents the potential to emit. The PTE is based on a heat content of 1,020 Btu/scf and a SO<sub>2</sub> emission factor of 0.60 lb/mmft<sup>3</sup> (AP-42 Table 1.4-2 [7/98]).

If required, the permittee shall demonstrate compliance with this emission limitation pursuant to Methods 1 – 4 and 6 of 40 CFR, Part 60, Appendix A.

h. Emission Limitation:

0.66 ton SO<sub>2</sub>/yr

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/mmBtu limitation, the maximum heat input capacity of 247.7 mmBtu/hr and the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Therefore, provided compliance is shown with the lb/mmBtu limitation, compliance with the annual limitation shall also be demonstrated.

i. Emission Limitation:

No permittee shall cause to be discharged into the atmosphere any gases that contain NO<sub>x</sub> in excess of 0.20 lb/mmBtu

Applicable Compliance Method:

If required, compliance with the limitation above shall be determined in accordance with Methods 1 – 4 and 7 of 40 CFR, Part 60, Appendix A.

j. Emission Limitation:

Visible PE shall not exceed 20% opacity as a six-minute average except as provided by rule



Applicable Compliance Method:

If required, compliance with the visible emission limitation above shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

k. Emission Limitation:

0.020 lb of PE/mmBtu of actual heat input

Applicable Compliance Method:

The permittee may demonstrate compliance with this limitation by multiplying the maximum hourly gas consumption rate (245,000 ft<sup>3</sup>/hr) by the emission factor from AP-42, Table 1.4-2 (7/98) of 1.90 lbs of PE (filterable)/mmft<sup>3</sup>, and then dividing by the maximum heat input capacity of the boiler (247.7 mmBtu/hr).

If required, compliance with the lb/mmBtu limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(9).

g) Miscellaneous Requirements

(1) None.